

Price
Rs 200

**Featured
BAZAAR
Reviews**

Sony Alpha
330L



Acer Aspire
Revo



Samsung
Jet



Sony Walkman
NWZ-W202



A 9.9 Media
Publication

digit

YOUR TECHNOLOGY NAVIGATOR

Vol. 9 Issue 10

Diwali Special

Gifting ideas for Geeks

Buying tech gifts for others or yourself made simple

Personalise Everything

From PS3s, to phones, and computer cabinets to T-shirts, just be yourself

Workshops / DIY

- Anonymous browsing
- Staying safe with DriveBackup
- Make your own Font
- Make XP look like Windows 7

Tips n Tricks

16 pages of tips on MS Office, Windows 7, and more Cheatsheets for Google services

Welcome to GIZMOLAND

Find your way through all the product releases, offers and discounts this Diwali

How Stuff Works

- LED displays
- Flash memory

Keeping Track

Digitally track your entire life



thinkdigit.com

Web Exclusive: The latest Portable Media Players reviewed



0 74470 25140 8

Of mice and men



Robert Sovereign-Smith, Editor

Every month, from here on, in the form of Digit TV we're going to give you as much video content as we can, and try and share the knowledge and expertise that we are privileged to receive

At around this time every year, the festival season rolls around. Starting in October and running a little into the new year, these few months see an increase in activity by vendors and manufacturers. Everywhere you go you're bombarded with discounts, special offers, and other catchy and innovative alliterations that all basically say the same thing – buy me.

The consumer electronic and personal technology segment specifically, sees entire product ranges being refreshed, older stock being sold off at rock bottom prices and buzzwords flying about like nobody's business. For the everyday buyer, this amounts to being stuck in a maze of choices, with no clear indication of what's good, what's value for money, and what isn't.

You and I alike, spend the few precious holidays we get with our families at the local electronic mall, gawking at all the goodies, listening to all the sales pitches that every mall employee is only too eager to subject you to, getting more confused by the minute about which <insert product category here> to buy.

So how do we go from feeling like the little white mice that are made to run mazes in labs, to informed customers? Reading and surfing helps, but everything you'll find online is usually outdated in months, and sometimes weeks or days during festival season. All of us can Google for reviews and comparisons, visit sites like thinkdigit.com, or read magazines like Digit for information, but is that all we need?

Although we offer you the best information possible by rigorously testing products, to help you get value from every last Rupee you spend; it's still not enough. As I said last month in this space, we're not as committed to imparting information as we are to sharing knowledge. It's the same reason why today's newspaper is tomorrow's cupboard lining, but this issue of Digit will command a long shelf life in your home.

Over the past few years we've seen video become the desired form of, not just entertainment, but learning as well – the spike in video content online is testament to this. Some of you will have noticed that we've been carrying videos that have been made completely in-house by Digit over the past few months. Although this is still in a teething phase, and know we have a long way to go, we decided to launch "Digit TV". This is another in a long lists of "Firsts" that Digit has done over the years.

For those of you don't remember, Digit's other firsts include the first magazine in India to include DVDs, and later the first to dual-layer; we were

the first tech magazine (in the world, probably) to give away Hollywood blockbusters on DVD, the first to offer a CD magazine, and the first to start including a free book (Fast Track).


Every month, from here on, in the form of Digit TV we're going to give you as much video content as we can, and try and share the knowledge and expertise that we are privileged to receive. Like Digit 3.0, Digit TV will also evolve based on your feedback, so make sure to send us some.

This month, Digit TV is dedicated to buying guides, across multiple categories, to help you get out of the confusing maze and make informed decisions because you actually understand the underlying technology, instead of just parroting what people tell you. Plus, since it's a video DVD, you don't need a PC to view it – just pop it into any DVD player.

We also have a web exclusive, in the form of a PMP test online at thinkdigit.com, so we haven't forgotten our online patrons either.

With three more DVDs (Work, Play and Learn), all of you should have enough multimedia content for every aspect of your life that technology covers. There are a tonne of prizes to be won everyday of October, so make sure to find the contest page inside.

Last month, our career webinar generated a lot of interest, so we're going to make sure you get more of the same from here on – again, details inside.

I want to stress, however, that all of this comes to naught if you don't share feedback with us about the initiatives we're taking. There are two things I'd like to make sure of: one, that we continue to share knowledge, and two that we stay relevant by understanding your needs. So make sure you write in whenever you have something to say. 


editor@thinkdigit.com

Managing Director
Dr Pramath Raj Sinha
Printer and Publisher
Kanak Ghosh
Publishing Director
Asheesh Gupta

Editorial

Editor
Robert Sovereign-Smith
Editor-at-large and Online Architect
Ahmed Shaikh
Head - Copy Desk
Nash David

Writers
Aditya Madanapalle,
Siddharth Parwatay

Test Centre

Manager - Test Development and Sourcing
Michael Browne
Manager - Testing and Processes
Rossi Fernandes
Reviewer
Kumar Jhuremalani
Trainee Reviewer
Rohan Naravane

Design

Creative Head
Kabir Malkani
Art Director
Rohit A Chandwaskar
Lead Designer
Vijay Padaya
Senior Designer
MV Sajeev
Illustrators
Shrikrishna Patkar,
Chaitanya Surpur
Sr. Photographer
Jiten Gandhi

Multimedia

Project Head
Robert Sovereign-Smith
Content Head
Aditya Madanapalle

Sales and Marketing

VP
Naveen Chand Singh
Product Manager
Navneet Miglani
Business Manager
Chandan Sisodia
Assistant Brand Manager
Arpita Ganguli
Marketing Communication
Thomas Varghese
Co-ordinator, Scheduling,
MIS and Ad-sales
Aatish Mohite

Production and Logistics

Sr. GM - Operations
Shivshankar Hiremath
Production Executive
Vilas Mhatre
Logistics
M P Singh, Mohd. Ansari,
Shashi Shekhar Singh

Circulation and Subscription - Sales

GM - Circulation
Milind Prabhugate
Co-ordinator
Vijay Mhatre
Customer Service
Prerana Panchal,
Vrushi Londhe, Pushpa Mahar, Shabana Shariff

Customer Service:
+91-22-4078 9612/13/14

Head Office: Editorial, Marketing and Customer Service

Nine Dot Nine Interactive Pvt. Ltd
C/o KPT House, Plot 41/13, Sector 30,
Vashi (Near Sanpada Railway Station),
Navi Mumbai 400 703
Phone: +91-22-4078 9666
Fax: +91-22-4078 9540, +91-22-4078 9640

Cover Design
Jayan Narayanan Cover Photography
Manas Parekh

To advertise

South

Vinodh Kaliappan
Email: vinodh.k@9dot9.in
Mobile: +91-97407 14817
Phone: +91-80-2554 6370/73
Fax: +91-80-4151 8330

West

Sachin Nandkishore
Email: sachin.m@9dot9.in
Mobile: +91-99203 48755
Phone: +91-22-2437 2214/19
Fax: +91-22-2448 2059/1123

East

Jayanta Bhattacharyya
Email: jayanta.bhattacharyya@9dot9.in
Phone: +91-93318 29284
+91-33-2231 7344/46

North

Pranav Saran
Email: pranav.saran@9dot9.in
Phone: +91-93126 85289,
+91-11-4160 8655/56/57/58

International

Navin Chand Singh
Email: nc.singh@9dot9.in
Mobile: +91-99013 00772

Advertisers' index

Client	Page No		
Abacus	13	Kingston	17
Airtel	Back Cover	KYE-Genius	3
AOC	39	Leo Securities	129
Asus	19, 47	LIC	109
Bank Of India	11	Lipap	133
BSNL	9	Map my India	37
CareerNet	93	Mitashi	55
Chip Tech IT	43	RX Infotech	137
D-link	Inside Front Cover	Sagarmatha	153
Dell	5, 83, 89	Sandisk	31
Ebay	72, 73	Spice Jet	Inside Back Cover
KG Hosting	159	Sun Microsystems	21
Kingmax	27	Topgun	75
		Transcend	25

Products reviewed this month

Bazaar.....48	ASUS K40IJ	ASUS Rampage II Extreme
Cooler Master Elite 334 ATI	ASUS K50IJ	ASUS Rampage II Gene
Radeon Edition Cabinet	ASUS U6 Bamboo	ASUS Striker II NSE
Sony Walkman NWZ-W202	ASUS UX30	Biostar G41D-M7
2GB	Dell Adamo	Biostar TA785GE 128M
A-DATA Nobility NH92 250GB	Dell Studio XPS 1340	Biostar TA790GX A3+
External Hard Drive	Dell Studio XPS 1640	Biostar TPOWER I45
Acer F900 Smart-phone	Gateway ID 5801	Biostar Tpower X58
Seagate Barracuda LP	Gateway NV48	DFI UT X58 Lanparty
ST32000542AS 2TB	HCL Z39	ECS A785GM-M
Western Digital Scorpio Blue	HP EliteBook 2530P	ECS A790GXM-A
500GB	HP ProBook 4410S	ECS G41T-M2
APC Back-UPS RS 550	Lenovo IdeaPad Y550	Gigabyte EP43T-UD3L
CoolerMaster NotePal Color	Lenovo IdeaPad Y650	Gigabyte EP45-UD3R
Infinite	MSI GX620X	Gigabyte EX58-Extreme
Epson Stylus TX550W	MSI X400	Gigabyte EX58-UD3R
ASUS SDRW-08D1S-U	Sony Vaio VGN-SR46GD	GIGABYTE EX58-UD5
Linksys WRT320N	Sony Vaio VGN-Z48GD	Gigabyte MA785GM-US2H
Samsung Jet	Digital Camera test.....80	Gigabyte MA790GP-UD4H
Samsung Marine	Canon Digital IXUS 100 IS	Intel DX48BT2
Acer Aspire Revo R3600	Canon Digital IXUS 110 IS	Intel DX58SO
Philips GoGear Mix 2 GB	Canon Digital IXUS 95 IS	Jetway HA07 Ultra
Apacer AU380 MP3 player	Canon PowerShot A1100 IS	Jetway I43GM1-HG
SatGuide P360	Canon PowerShot A480	Jetway PN78VM2-LF
VU 40-inch Intelligent TV	Canon PowerShot SX120 IS	MSI 790GX-G65
LTV-40i	Canon PowerShot SX200 IS	MSI G43M2
Gigabyte GK-KM7500	Fujifilm Finepix A170	MSI K9N2 Diamond
iPod Shuffle	Fujifilm FinePix F200EXR	MSI K9N2 SLI Platinum
Sony A330 DSLR camera	Fujifilm FinePix J27	MSI KA780G
Laptop test.....62	Fujifilm Finepix S1500	MSI P43 Neo3
Acer Aspire 3810T	Nikon Coolpix L20	MSI P45 Diamond
Acer Aspire 4736	Nikon Coolpix P90	MSI P45 Neo2
Acer Aspire 5536	Nikon Coolpix S220	MSI X48C Platinum
Acer Aspire 5738G	Samsung ES55	MSI X58 PRO
Acer Aspire 5738Z	Motherboard test.....90	MSI X58M
Acer Aspire 5810T	ASUS M4A78-HTPC/RC	XFX 790i Ultra
Alienware M17x	ASUS M4A785TD-M EVO	XFX X58i
Apple Macbook Air	ASUS M4A785TD-V EVO	Zotac GeForce 8200
Apple Macbook Pro 13"	Asus M4A79T Deluxe	Zotac 790i Ultra SLI
Apple Macbook Pro 15"	ASUS Maximus II Gene	Zotac nForce 780i SLI
Apple Macbook Pro 17"	ASUS P5Q Premium	ZOTAC X58
ASUS F82Q	ASUS P5Q3 Deluxe WiFi @n	
ASUS G50	ASUS P6T Deluxe	

Tell us what you feel about Digit

Each month, *Digit* walks through the technology maze to bring you the most relevant, and the most researched stories. If you have an opinion about anything published in *Digit*, or about technology in general, please write to editor@thinkdigit.com

Product testing

Want your product reviewed by *Digit*?
Contact our Test Center at
testcenter@thinkdigit.com

Software on DVD

To submit and suggest software for inclusion in *Digit* DVDs, write to
dvd@thinkdigit.com

Help!

For subscription or copy-related issues,
send an e-mail to help@thinkdigit.com

Endorsements / reprints

Interested in ordering article reprints,
or using our logos? Contact
reprint@thinkdigit.com

Business enquiries

For any business-related enquiries, contact
business@thinkdigit.com

News and new product launches

To announce new product launches, and press releases,
email us at pressrelease@thinkdigit.com

Disclaimer: For every *Digit* contest, there will be only one winner, unless specified otherwise. In the event of a dispute, the Editor's decision shall be final.

Printed and Published by Kanak Ghosh, for Nine Dot Nine Interactive Pvt. Ltd. C/o KPT House, Plot 41/13, Sector 30, Vashi (Near Sanpada Railway Station), Navi Mumbai 400 703

Editor: **Sujay Nair**, C/o KPT House, Plot 41/13, Sector 30, Vashi (Near Sanpada Railway Station), Navi Mumbai 400 703

Printed at Printed at Silverpoint Press Pvt. Ltd, Plot No. A, 403, MIDC, TTC Industrial Area, Mahape, Navi Mumbai 400709



Welcome to Gizmoland

Find your way through all the product releases, offers and discounts this Diwali



Enter

8 Inbox

Readers' Letters

12 Industry Connect

Bala Parthasarathy, MD (APAC) – Snapfish

14 Buzz

HP's DreamScreen, Microsoft's open source initiative and more



Connections

24 Web Watch

From anonymous browsing to Monopoly, insights into your world online

Digital Life

32 Drool maal

36 Tech Treats

Groovy gifting ideas for Diwali

Sci Tech

40 How stuff Works

Flash drives and their working principle explained

44 How stuff Works

Get to know how LCD panels and the newer LED TVs work

Toolbox

Workshops

106 Anonymous Browsing

108 Backup your drive using Paragon Drive Backup

110 Make your own font using your handwriting

113 Tips and Tricks

- Microsoft Office 2007
- Ultra Explorer
- YouTube
- Google Cheat sheet
- Windows 7 and more...

16
page
Special

130 Q & A

Your questions, our answers

Street smart

138 Agent 001

The best gaming and HTPC casing and power supply options

142 Price watch

The latest prices for your reference

Esc

146 Pimp my gadget

Personalise your precious gadgets

Game Reviews:

150 Batman: Arkham Asylum

152 TRINE

154 G.I. Joe: The Rise of Cobra

156 Unwind

158 Community

Tried and Tested

120 products tested

48 Bazaar

Acer F900
A-DATA Nobility NH92
250 GB
Epson Stylus TX550
And many more...



Contents



62 Laptops

Dell Alienware Mx17
ASUS Bamboo U6V
MacBook Pro
And many more...



80 Digital Cameras

A total of 16 digital cameras were tested in the Digit labs this month



Young Indian Innovators

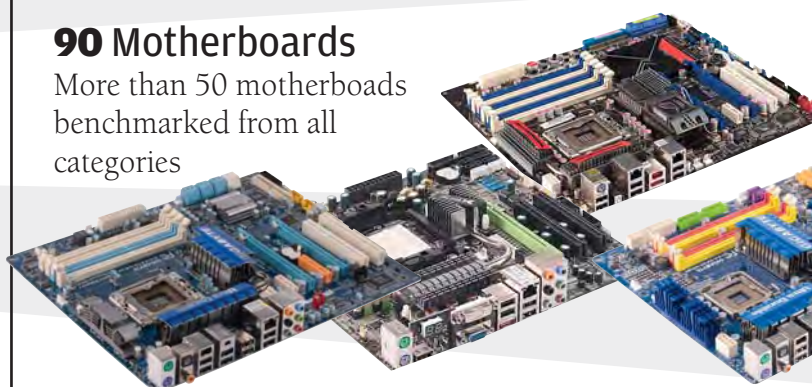
Enter

18 The smallest of innovations pile up today to create tomorrow's world.



90 Motherboards

More than 50 motherboards benchmarked from all categories



DISCOVER THE RANGE OF STYLISH
DELL™ LAPTOPS AND DESKTOPS
See Dell™ brochure with this issue

DELL™
YOUR IS HERE

DVD Contents



Entertainment

Music

- Universica
- CIA
- Last Spring
- Looking for a Way Out
- Namouche
- Occidente
- Galaxy
- 100 per cent Rush
- Mind Asylum
- Nights and Days
- 7 Improvisations
- Quiet Life Vol 3
- Binary Mind

HD Trailers

- Art & Copy
- Inception
- Legion
- The Blind Side
- The Fourth Kind
- The Wolfman

Videos

- **Lego Star Wars**
Experience the Star Wars universe in Lego animation



- 6 Days
- Gumbasia
- Neurosonics Audiomedical Labs
- Piece
- Tanzanian love story
- The Crossing Guard
- The Forest

Gaming

Video Games

- Anarchy Online
A Sci-Fi MMORPG
- Ashes 2009
- Darkest of Days
- Mini Ninjas
- F1 Racing 3.2



Game Trailers

- Assassin's Creed II
- DiRT 2
- Kingdom Under Fire II
- Mini Ninjas
- Spore Hero

Casual Games

- **Orbital Snake**
As an intelligent robotic "snake-ship", pick your way through abandoned space stations, feasting on scraps of debris

- Candy World Adventure The Fate of Lillians Tome I 1.01
- Creatrix
- Draw Fire 1.0
- Duck Dodgers 1.0
- Fire And Ice 1.0
- Germy Roundup 1.0
- HangARoo 2.052
- Mario Remix 1.0
- Mystery Island II
- Orbital Snake 2.0
- Ultimate Sonic 1.0
- Yetisports Gore 1.0
- Zelda Forever 1

Screensavers

- Free Fire Screensaver
- The Matrix Screen Saver 1.11
- Amazing Bubbles 3D Screen-saver 1.2
- Licking Dog Screen Cleaner Screen Saver 2.0
- Don't Touch My Computer Episode 2 1.22
- Sim Aquarium FreeTank 2.6
- Matrix Trilogy 3D Code Screen-saver 3.4
- Distant Suns - Grand Tour 3D Screensaver
- Digital Talking Parrot
- The Amazing Spider-Man 3D Screensaver
- The Space Travel Screensaver 1.0
- Super Mario World Screensaver 1
- Super Mario Kart Screensaver 1
- Flight over sea 3D
- Aquarium
- Dolphins and Whales
- Batman Begins 3D
- Electric Sheep 2.6.6
- Rain Cast 2.0
- gPhotoShow 1.6.3
- Moonlight City 1
- Living Marine Aquarium
- Dream Aquarium 3D
- Pac-Man
- Perfect Runaway 1

Digit Video Tutorials

3Dstudio Max

- Counter Strike
- DVDFlick
- Foobar2000
- Pictomio
- Quake3 Arena
- Windows Movie Maker

Tips & Tricks

- Last.fm Scrobbler
- Subtitle Workshop4
- ManicTime
- Productivity Meter
- TimeSnapper Professional

Educational Tools

- Stellarium 0.10.2



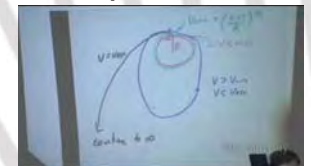
- Advanced Pathway Painter
- Asynx Planetarium 2.5
- BoneLab 1.0.2.46
- DeadLine 2.36
- Flash Card Factory 1.0
- FreeMind 0.8.1
- Geometry 2.8.2
- GraphCalc 4.0.1
- Guitar Chords 2.2
- MaxType Lite Typing Tutor
- MB Brain Teasers 1.10
- Power Tab Editor 1.7
- Rapid Typing Tutor 2.9.6
- Science Data Reference System
- Scratch
- The MagicBook 7.0
- Virtual Morse Key 2.5.39
- Voca 4.3
- WordWeb 5.52
- World Wind 1.4.0
- WorldWide Telescope 2.2
- Zero Spelling 5.0

Videos

TED

- Adjustable liquid eyeglasses
- Happy design
- Nature's designs
- Digging up dinosaurs
- Engineering and evolution
- Militant atheism
- "Mathemagic"
- How technology evolves
- The world's deepest caves
- Wiring a web for global good
- Wireless electricity
- Faux nostalgia

Astronomy 160



- Omega and the End of the Universe
- Dark Matter
- Dark Energy, the Accelerating Universe and the Big Rip

Introduction to Computer Science

- Binary Numbers, Programming Languages, Working in Linux, and Programming in C
- Secure File Transfer, Variable Types, and Arithmetic Operators
- Standard Input Functions, Boolean Expressions, and Loops

Game Theory

- Introduction to Game Theory
- Putting Yourself into Other People's Shoes
- Iterative Deletion and the Median-Voter Theorem

Aircraft Systems Engineering

- The Origins of the Space Shuttle
- Space Shuttle History
- Orbiter Sub-System Design



Operating Systems

Qimo

Qimo is a desktop operating system designed for kids. Based on Ubuntu, Qimo comes pre-installed with educational games for children aged 3 to 60



Tools

Multimedia

ArcSoft Total Media 3.5

A media hub that combines TV, video recording, photo editing, and media conversion in one easy-to-use program. You can watch and record TV shows, edit photos or video, listen to music, rip CDs to MP3 and much more. It's everything you need packed in one versatile and easy-to-use application



- ZWCAD 2009i
- Jamstix 2.5.2
- PDF Studio 6.0
- Delcam Exchange 6.0
- OSG Composer CAD 1.2.1
- DV Mixer Pro 1.5
- Photo Pos Pro 1.72
- Real-Draw Pro 5.2.3
- Flash Effect Site Builder Platinum 12.06
- Pzera Video Converters Suite
- PhotoShine 3.2
- Avant Media Player 3.4
- JetAudio Basic 7.5.4

Internet

- LuckyWire 1.0.0.2
- TomTom Home 2.7.0.1785
- CoffeeCup Photo Gallery
- Hermes P2P 3.0
- P2P Rocket 1.4
- SmartFTP Client 3.0.1043
- DAP 9.6
- TVTrigger 1.1
- Memeo Send 1.0
- Advanced OPC Data Logger
- Meteor Share 2.3
- FrostWire 4.18.1
- TubeMaster++ 1.2
- Hulu Downloader 2.3.8.21
- TurboFTP 6.00.735
- Web Site Maestro 7.6
- Email File Transfer Protocol Server 1.0.1.3
- BookmarkAssistPro 1.2.2
- VDownloader 1.0

System

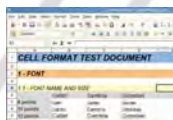
- OPTIsend Print 2.6.1
- CrashPlan 7.27.20009
- Hulbee Desktop Standard
- SilverFast Ai Epson 4870
- eWriterPro 2.0
- SilverFast Ai - Minolta
- eDocPrinter PDF Pro 6.48
- MooO RightClicker 1.31
- Photocopier Expert 6.59

Productivity

Enterprise

Go-OO 3.1-10

Go-OO is an OpenOffice.org fork that features faster load and response times, and several features not included in the standard version of oOo



- Corel WordPerfect Office X4
- Express Accounts 2.08
- Orange HRM
- Microsoft Office Accounting Express 2009
- BillQuick Lite 2009
- PortableApps Suite
- inFlow Inventory Software Free Edition 1.2.3
- OpenOffice.org Portable
- Microsoft OneNote 2003
- Adempiere ERP
- SmartDraw 2009 52
- OroTimesheet 6.12
- OrgPlus Professional 8.0
- EasyBilling 2.6.1
- SurveyGold 8.0
- 4ASoft Agenda 9.01
- Label Flow 4.3
- Nitro PDF Professional
- OneStep Accounting Standard Edition 4.0
- ProShow Producer
- PDF-XChange Viewer
- Proteus Lite 6.7
- PDFCreator 0.9.6
- Ultimate Business Plan
- Business Functions 1.52
- Project Engine Personal
- Ultra Hal Text-to-Speech Reader 1.0.5
- 3S Accounting 3.2
- ReadPlease 2003 1.1
- Microsoft Project 2000 Update SR-1 9.0
- RationalPlan Project Viewer 3.15.1
- Netpas Distance 2.5 build
- Fleet Maintenance Pro Deluxe 11.0.0.21
- Volutive Free Invoicing & Inventory 1.3
- Health and Safety Manager Lite Edition
- Speak 1.8.84
- CyberCafePro Client
- Buyertools Reminder
- Smartworks - Project Planner Reader 1
- FreeOCR 1
- OmniFormat 7.9
- Auction Sentry Standard
- PPPCD 1.51
- Abdio PDF Reader 5.4
- Label Designer Plus Deluxe 9.5.0.1
- 101 Clips 9.02
- Digital Dictation 7.5
- DoneEx XCell Compiler

- Atlantis Word Processor
- Text Suite Pro with M Player 1.1 3.5.5530
- PolyEdit Lite 5.4
- Jarte 3.3
- CrossLoop 2.51
- Effective Meetings 1.7.5.4
- EZ-Format for Excel 7.2

Developer

- Bat To Exe Converter 1.5
- WinPenPack Flash Web
- Open Xava
- 3D Developer Studio
- Web CEO Free Edition
- Silverfrost FTN95 5.30
- B*Gallery 3.2.1
- PersonalWebKit 3.3
- ActivePerl (Windows) 5.1
- JAlbum 8.4.1
- PHPTriad 2.2
- MoreMotion Web Express
- AceHTML Freeware build
- Bloodshed Dev-Pascal
- KompoZer 0.7.10Nvu 1
- PageBreeze HTML Editor
- Ghost Installer Free
- CSE HTML Validator Lite
- Web Dwarf 2.5
- MyGeneration 1.3.0.3
- Hex Edit Free 3.0F
- JCreator LE 4.50.010
- Source Edit 4.0 revision 3
- SiteGenWiz 1.5
- XMLBuddy 2.0.72
- Notepad++ 5.4.5
- HTML-Kit Build 292
- PHP Designer 2007
- Install Creator 2 build 28
- WordPress 2.8.4

Mac

Artlantis Studio

Artlantis Studio is the fastest stand-alone 3D rendering application developed especially for architects and designers

- NeoOffice 3.0 Patch 7
- Google SketchUp
- MacJournal 5.1.4
- Blender 2.49b
- Canon 3.9
- Hoecker-Plot 0.8.1
- Art of Illusion 2.7.2
- Paintbrush 2.0.1
- Geo3D 2.5.8

Operating Systems

- React OS
- Ultimate Boot CD
- Back Track



DIGIT TV 10 Visual Buying Guides

- Mobile Phones
- HDTVs
- Cameras
- PMPs
- External Storage
- Laptops
- Netbooks
- Camcorders
- Graphic Cards
- Motherboards & CPUs



Catching more fish

Bala Parthasarathy, MD -
Europe and APAC, Snapfish

Microsoft going open source?

To find out more, read Buzz for technology
news doing the rounds

✉ I have been reading Digit for the past 3 years but this is the first time I am writing to you. You are doing a great feat by publishing this magazine every month. I heartily appreciate your efforts. Yours is the best tech magazine in India. I have read other magazines, but I find yours the most fascinating. I have a few complaints and I hope you would take care of them:

1. Your idea of providing Unboxing Videos is very good. But the videos themselves look very amateurish. Sometimes the camera goes out of focus. Sometimes the presenter's face is visible reflecting on the polished surfaces of the products. Sometimes the video gets blurred and it gets unstable. I didn't expect such quality from you professionals!
2. Please change the DVD interface. It is boring.
3. Please provide a stable version of Digit Software Archive as soon as possible (one like the 2006 version).
4. In the Price Watch section, the pictures of the components are mismatched with the text in the previous versions. Please take care of that.
5. And finally, I want to know the name of the person who deals with the Agent 001 section. I want to congratulate him for those brilliant recommendations. Keep up the good work.

L. Chandras

📧 Thanks for the feedback. I hope you'll like the ones we've given this month, and we will continue to improve.

Robert

✉ The September issue was really great right beginning from the Editorial strongly supporting "Understanding comes from challenges not the ease offered by info at fingertips" was excellent and the cover story about "Web awards 2009" also remarkable. As a reader



of five years I have few suggestions such as please provide big fonts and make the fonts darker and I beg you to do this because the font now is making too stressful to read the article and when referring "readers letters section" in Digit for past few months I noticed complaints about fonts to be changed but the problem still persists! I suggest you to provide fonts as in August 2008 issue...

I also want you to bring back sections like "crossword" and "take a crack" which are really Digit's unique features and it makes zero cost to bring back in Digit. I was shocked to see Digit Reader's Meet held at Coimbatore because since my hometown is Kangayam for past five years. I'm studying in Coimbatore only. I also registered at "Digit reader's meeting at SMSGUPSHUP referring coimbatore only" but the meeting was held without me!

Sathiya Moorthy

📧 We are constantly striving to improve our content, and

how it is presented. If you like tech contests, flip over to page 141 for a chance to win loads of prizes over the course of this month. You will have to answer one tech question a day. There must have been some freak mix-up with the database, and you are the first and only casualty thus far. Medic!

Robert

✉ I bought the latest September 2009 issue. I had the DVD containing Graphics Applications Pack virus checked through Avast and it reported the presence of a Virus in your DVD. I am sorry to inform you about this Virus. Your DVDs were of use till now. Now I am afraid of them. Please render service to society by providing Virus-free software.

N.S.

📧 The "Customization" section in the DVD is responsible for the virus alert. Some of the software (eg: bcclean) are explorer.exe shell replacements for Windows. As many viruses start by disabling explorer.exe,

some anti-virus applications flag the software as a virus. This is known as a false positive. Anti-Virus software with very sensitive heuristic scanning will flag a number of viruses on the DVD. The other

DVD with the virus updates is another source for false positives. Anti-Virus software with poor registry matching mechanisms, is liable to flag perfectly innocent software as being infected. This is likely to happen when any source with a large number of software interfaces with the computer. We download the contents of the DVD on secure machines, from reputable web sites, and scan the contents before burning. We suggest that you report the false positives to your Anti-Virus provider.

Aditya

✉ Thanks for this issue. I think of 'more' you guys provide 'more and more'. Web awards just made surfing more easier. Face recognition technologies just stole my heart. CPUs were good priced, better performing and best tested. Thanks for Tips and Tricks on Browsers. Netbooks were awesome and cheap. I agree with Editor's view on WWW. It just gave all information but made everyone lazy. It just like spoon feeding. Thanks for reviews on Wolfenstein. Digit has tested almost everything. I think it is time to go bigger. Can you guys test different OSes please? Please can you provide Fasttrack on languages like Fortran, Cobol etc. Can you please revisit the Gaming Special issue? I will eagerly wait for next issue.

Mayur Gaikwad

📧 The Fast Track to Freeware had a big comparison of the different distros. Testing OSes does not make sense because of the suitability for each of these OSes. Each OS is meant for particular purposes, and it is not really an apples to apples comparison. We do include developer related content in the magazine, try out the Developer section on the Work DVD.

Rossi

✉ In June 2006 I got my first Digit only by accident.



Since then I never missed any issue. At that time I didn't have PC at home. In 2007 I brought PC and then as you said somewhere in Digit Fast Track, installed Windows XP as its Free in India just like Linux. I used all those great softwares (free in India only), many cracks, tricks. But during that time Digit was only magazine who made me to use freeware and stop using those other Free softwares, by giving alternatives to all proprietary softwares, and telling the importance to use of it.

Finally in June 2009, three years after my first Digit, I completely removed Win XP, Photoshop, CorelDraw, Media encoders and many others from my hard disk and also from backup CD and installed Linux MINT 7 GLORIA from June 09 DVD. Credit is only yours. Thanks a Lot. Last month it was a great issue for new bee like me in the world of Linux. I was very happy. But what about this issue. Completely disappointing. Nothing is there. Not a single software, or even a article related to Linux. I know you'll say there is gOS, Moblin but in 16 GB it's nothing. You are again tempting me to try all that 16 GB software stuff by installing Windows xp. I am thinking that do I made mistake by shifting to Linux. I don't have internet connection at home. Its very difficult to install any new software and update system. What about the "Digit Software archive". Please give it, the original not V2. Sun Virtual Box was also for windows platform and what about me. I think you are biased about OSes. Please give some more space to Open peoples also. BTW you are great. All the best.

Pravin Vibhute

d I am yet another fan of Digit. One thing I like most about Digit is diversity in content. With each issue you get information about lots of things. Your september issue is awesome. Content in the DVD is also great. I think you wasted a lot of pages in

LETTER OF THE MONTH

✉ I am a long time admirer and reader of Digit and am glad to say a very satisfied one at that. Over the years I have seen Digit evolve in accordance with the current technologies, the specific needs of the existing scenarios and most importantly the views of its readers. This has made Digit my (and I am sure many others) best choice for a complete and satisfying technological review.

The introduction of Fast Track was another milestone innovation from Digit. Comprehensive and Compact, it gave us readers an in-depth knowledge of a particular topic every month. By far, for me, Digit has always been in the forefront of its genre with Fast Track backing it up adequately. Digit has continued to deliver the goods this month too, especially the Web Awards and the articles on various web browsers, but this month's Fast track was absolutely fabulous. The "Fast Track to Wireless Technologies" blew my mind away. It has answered every question I ever had about wireless technologies especially mobile phones. It was very helpful and informative, and it most

definitely going into my all time favorites. It was prepared and presently in such a manner that even a novice like me could get the most from it. I would like to extend my heartfelt gratitude to the entire team at Digit for a job superbly done.

I wish the entire team best of luck for the future and keep up the fantastic work. I'm a big fan.

Syed Faheemuddin

d Thanks for the vote of confidence; it's always nice to get positive feedback.

Robert



the web awards. I am using Windows Vista home basic. Now i want to use Linux. As I am new to all this can you just help me out. I want to use both Linux and Vista simultaneously. Can I install Linux over Vista? Please provide sufficient information along with setup for Linux.

I also faced problems in using distros such as Moblin and Android. I dont know how to use them. I think you should provide sufficient literature to use softwares you provide with DVD. I also want to make partition in my hard disk. Is there any software like partition magic for Vista. Please cover wireless mobile broadband services in your issue. I am still waiting for a detailed article on windows 7.

I want to thank team digit from bottom of my heart for doing great work. There is no doubt that you guys are amazing. I am very excited about October issue. Fast track is superb and is of great help to ones with non-technical backgrounds. I am very impressed by your fight against piracy. I am doing my level best to promote it. Keep it up.

**Rohit Tripathi
Kanpur**

d First burn the contents of a .iso file to a CD in case of a live distro such as Moblin, Android, or in this month's case, ReactOS, BackTrack or Qimo. Place the CD in the DVD drive, restart the computer and hit [F12] to load the Live CD. The distro should boot in, and usually you can install the distro if you like it using a GUI installer from the desktop. To dual boot a distro, go to Start > Run > discmgmt.msc on your Vista system, and use the GUI to create around 2 GB of free space - more if you plan to use the Linux distro regularly. Then, when selecting a target partition for the Linux installation, choose the partition you just created. The last issue's Tips and Tricks section has a detailed feature walkthrough of Moblin. Thanks for writing in.

Aditya

✉ I have a few complaints:
1. You have stopped printing Month of Publication on DIGIT Cover. Is there any reason for that? This gives a chance to the sellers to dupe a customer. (The culture of troubling and cheating each other in round robin fashion is rampant now a days in

Indian culture and it is still thriving.) Please print the Month of publication in Big fonts at a particular location, say at the right top corner and print it there itself at this fixed place for every issue. Make the life simple and reduce time wastage.

2. Bring back the old Digit Archive search, the job of a novice is not worth finding a place in your SW. Have you not tried before offering this to your readers? Readers are finding it useless.
3. Avoid printing in too small a font size. Those who wear specs or having visual impairments find it difficult to read.

Thank God, you have discontinued printing Digit on glossy paper.

It is surprising how these escaped consideration of a person of Information society.

RS Bhattacharya

d Digit should be bought when relevant, regardless of the month. The archive is on it's way back, and we've made some changes in the font. Hope you'll notice the differences.

Robert

Catching more fish

We spoke to Bala Parthasarathy, Managing Director - Europe and APAC, Snapfish, Hewlett-Packard on its plans for the Indian market.

Nash David

nash.david@thinkdigit.com

What has Snapfish planned for India in the near future?

Anyone who has been keeping a close watch on the online photography space in India would acknowledge that Snapfish has etched out an enviable success story within its inaugural year in India. With a robust economy despite the meltdown, an unprecedented internet penetration rate and the express globalisation of the Indian consumer, Snapfish had always envisioned an all-digital-photography landscape for India. We indeed have ambitious growth plans for the Indian market that comprises business alliances, interesting product integrations and emphasis on product innovation in order to deliver distinguished service to our customers.

We have recently launched the Snapfish application on two of the latest imaging phones by Sony Ericsson - C903 and C510 Cyber-shot. Both the phones come with the pre-installed Snapfish application, which allows users to click pictures and directly upload them on www.snapfish.in from the phone. Moreover, the application also allows users to order prints of their pictures and get them delivered at their doorstep. We have also partnered with eBay India, the leading eCommerce marketplace in the country, in our attempt to enrich the user experience of the online shoppers by offering them the convenience of uploading and sharing their memories as well as creating personalised products instantly.

Tell us more about your print labs and how you deliver prints to the end user?

We have state of the art photo printing labs that house HP's Indigo, Design Jet and RPS printers. We have tied up with leading logistics companies to have the orders shipped to anywhere in India.

Is the model for Snapfish India specific to India or does it follow the global HP network?

Snapfish follows the same business model globally.

What do consumers do if they are not pleased with the print quality?

As part of the HP family, impeccable print quality is in the Snapfish DNA. All the photos at Snapfish are printed using printers and have a shelf life of over 100 years if kept exposed and over 200 years if they are kept protected in an album or in a glass-protected photo frame. However, consumer feedback is very valuable to us as it gives us an opportunity to continually




upgrade and enhance our product and service offerings. Hence, we have a mechanism on our web site through which customers can share their feedback.

What is unique about Snapfish that you expect users to be drawn? Especially with Google Picasa and Yahoo Flickr for storage and numerous others allowing print, what is Snapfish's USP?

Being one of the early players in the industry, Snapfish has been an integral part of the industry evolution for over a decade. Hence, Snapfish is in the best position to understand and address the needs of the digital consumer today and is therefore the leading player in the online photography space globally. Further, operating under the aegis of HP we have been able to scale down our costs considerably. We don't anticipate any major competition since we offer the best quality products at the best price and also have the largest array of products in the online photography space comprising over 25 photo products. Some of our popular products include greeting cards, canvas prints, collage posters, photobooks, collage photo mug and photo calendars.

Tell us some interesting consumer trends in the recent past. How do you see consumers responding in the near future?

Never relying on the crystal ball, Snapfish has always taken cues from consumer and market research data in order to predict future trends. With the handset industry witnessing a mega pixel explosion, camera phones are becoming the digital cameras of the future and the number of people relying on their camera phones to click spontaneous pictures is bewildering. Moreover, the basic premise of our business is to help people share, print and store their photos no matter what type of gadgets they use to click pictures. Hence, we have already started work in this direction, initiating interesting partnerships with handset manufacturers such as Sony Ericsson for Snapfish application integration into their phones. This would address the needs of the digital consumers who have already started looking for ways to integrate the click, share and print phenomenon into a single device. 

Pehle aap

The internet is buzzing with rumors that the Sony Ericsson Xperia 3 will be available in January 2010, and might be out before even the Xperia 2

Small is beautiful

LG has introduced a new nettop - XPION X30 which is based on the NVIDIA ION platform and is priced very competitively at approximately Rs. 23,500

HP DreamScreen

brings Facebook, wireless media and Pandora to any corner of your home

HP has launched a new PC-companion media player, the DreamScreen, which connects easily to a wireless or wired network to bring photos, music and video into any area of the home. The screen also transforms social media and web information into consumable, bite-sized pieces.

Before moving on into the press release, here's our own bite-sized piece of what you need to know: It comes in two models with 10-inch and 13-inch screens respectively, has 2 GB of built-in memory, touch-sensitive controls on the frame, Wi-Fi connectivity, USB ports, memory card reader, built-in speakers, a 3.5-mm audio jack, and a remote control. The software available includes Snapfish for photos, Pandora for internet radio, Facebook, a media player and a clock as well.



HP's DreamScreen

Systems Group, HP. "With HP DreamScreen, social media, web services and digital entertainment can be enjoyed in more areas of the home."

The HP DreamScreen features a piano-black design with a vibrant, flush glass widescreen display. The DreamScreen 100 (measuring 10.2 inches) was designed to fit perfectly on a nightstand or dresser. The HP DreamScreen 130 (measuring 13.3 inches) is ideal for kitchen counters and coffee tables.



To read the complete story visit <http://thinkdigit.com/d/67432/>

Without further ado, here's the full press release from HP:

People now can stay current with Facebook friends and photos, listen to Pandora Internet radio, share Snapfish personal photos and enjoy their music and pictures from home networked PCs(1) with a new category of connected screens from HP. The HP DreamScreen, a companion to the PC, connects easily to a wireless or wired network to bring photos, music and video into any area of the home. The screen also transforms social media and web information into consumable, bite-sized pieces.

"Constant, always-on access to friends, information and entertainment is a common expectation today," said Satjiv S. Chahal, senior vice president, worldwide marketing, Personal

Pricing and availability

The 10-inch HP DreamScreen 100 is available today in the United States for \$249 (Rs. 12,000 approx), while the 13-inch DreamScreen 130 is expected to be broadly available later this year for \$299 (Rs. 14,500 approx).

Google acquires reCAPTCHA

reCAPTCHA, another one of the internet's most innovative projects in now in Google's grasp.

Not only is reCAPTCHA an effective device for security against spam, it also manages to accomplish a mission, to convert a large volume of printed literature to text.

While most such services automatically generate distorted letters, making them difficult for anyone but a human to discern, reCAPTCHA goes about it differently.

With reCAPTCHA, every time you prove that you are a human you are effectively helping the process of digitising printed documents. Instead of using better and better algorithms to generate better distortions which can only be recognised by humans, reCAPTCHA instead uses portions of scanned documents which failed to get recognised by the OCR (Optical Character Recognition) algorithms used to digitise it. Many times these can easily be recognised by humans.

With the support and resources of Google behind reCAPTCHA, it is possible for the project to reach an even higher gear. With all Google services using reCAPTCHA, and with more resources from Google to make reCAPTCHA more easily available and implementable, it is bound to see an increase in adoption.

Projects such as Google Books and Google News Search already use reCAPTCHA to help in digitising a great volume of scans of old books, magazines and newspapers. Word by word, reCAPTCHA aims to digitise a large part of past documents which right now only exist in print, making more and more of our history indexable, searchable, and accessible to a greater public.

Microsoft unveils new open-source initiative If you can't beat them, join them!

Seems to be the new Microsoft strategy. After coming to the spotlight recently for donating around 20,000 lines of code to the open source community, (to help Windows run on Linux virtualisation platforms), they have now started a new open source foundation CodePlex, not to be confused with their open source code sharing web site of the same name.

Their new foundation it seems is an effort to get more commercial companies to participate in open source ventures. As they state on their FAQ page:

"We believe that commercial software companies and the developers that work for them under-participate in open source projects."

Sounds familiar. Isn't that exactly what Microsoft did with its own open source submission? As taken from the blog of a Linux kernel developer about Microsoft's Hyper-V kernel drivers code submission:

"Over 200 patches make up the massive cleanup effort needed to just get this code into a semi-sane kernel coding style (someone owes me a bit bottle of rum for that work!) Unfortunately the Microsoft developers seem to have disappeared, and no one is answering my emails. If they do not show back up to claim this driver soon, it will be removed in the 2.6.33 release. So sad..."

The open source community is one of instant feedback and continuous change, where projects continually get forked and die out. Microsoft just jumped into the deep end of the pool.

Their new foundation is aimed to be an organisation much like Mozilla, Gnome and KDE, however one which caters to a much broader spectrum of software projects.

Another citation from their FAQ, which seems almost satirical, Poe's law could have come in here:

"Specifically we aim to work with particular projects that can serve as best practice exemplars of how commercial software companies and open source communities can effectively collaborate."

The cojones! While the foundation does include members of the open source community, it is questionable how much experience Microsoft could possibly have gained about collaborating with open source communities during its singular code dump which it failed to maintain.



To read the complete story visit <http://thinkdigit.com/d/15767/>

A new hope

Star Ocean: The Last Hope was a game that was launched for the Xbox 360, but will now see the light of day on the PS3 in Feb 2010, as it was announced by Square Enix, the developers

The affordable quad

AMD has released the first of its kind sub \$100 quad core processors. The Athlon II X4 620 and 630 are 45nm manufactured quad-core processor, previously codenamed Propus

Indian govt plans to block all Internet telephony for security purposes

Cheap international calls over VoIP (Voice Over Internet Protocol) may soon be a thing of the past for Indians as the Intelligence Bureau has asked the premier telecom body, the Department of Telecommunications (DoT), to block all Internet telephony until security systems to trace the same are in place.

The Intelligence Bureau is of the view that currently, India does not have the capabilities to track internet telephony calls – both domestic & international – and had asked the DoT find an “early solution to this issue in the interest of national security”.

The ‘recommendation’ comes in the wake of last year’s 26/11 attacks in Mumbai, where the terrorists used this medium for communication.

“The terrorists used net telephony as they were aware that India did not have the technological capabilities to do a live trace of such calls,” Cyber security expert Vijay Mukhi told Economic Times. “In the US and Europe, all players who offer

cheaper, the sound quality is also much better. The government could work out an agreement with the main players in this regard. Consumers should not suffer as a result of government’s inaction,” Mukhi added.

The jury is still out on the necessity of such an extreme step. On the one hand, the important of security cannot be taken lightly any more in the light of recent events across the world; on the other hand, curbing advances in technology that enable better communications do not benefit anyone. What’s your take?

It’s official: Indians love Google, Gmail, Orkut, Google Maps, YouTube and Blogger

Here at Digit, we are all absolutely addicted to Google products. Everyone uses Gmail as their default client, Google Maps is the default mapping engine for us and let’s not even get into the realms of actual search and video-sharing. We all know who dominates there!

So it doesn’t come as a huge surprise to us when ComScore says that Google and its product constitute

with it accounting for a mere 16.2 per cent.

Out of all the statistics, the only one which caught us off guard was how dominant Orkut was. We had no doubt that it would be the market leader, but the amount of share it has is staggering, considering how few people we know who prefer it to Facebook now.

Apart from India, only Brazil shares such high Google usage, with it topping the list at 29.8 per cent of all Internet usage in that country.

So why is Google so popular in these two emerging economies? ComScore has a possible explanation.

“As it turns out, there are interesting similarities between Brazil and India as emerging Internet markets,” Alex Banks, managing director of comScore Latin America. “Google’s prevalence in these markets can perhaps best be explained by the fact that the time at which these markets really began to develop and flourish was around the same time that Google was becoming a major player in the search landscape. As a result, Google became the dominant Internet brand in these markets and its success appears to have bled from search into other areas of the Web like social networking.”

It’s Go time for PSP Go

The guys at GameSpot UK got their hands on the new PlayStation Portable Go – the latest version of the handheld console from Sony – and have just posted a detailed unboxing video of the same on their site.

A couple of things stand out in the video, with the most promising new feature being the inclusion of the ability to pause your game. In the old PSP-3000 and all previous versions, the best you could do was quit the game if you wanted to perform some other task, such as watching a video. But in the new PSP Go, you can simply pause the game (although it takes a lot of time to do so), go back to the

XrossMediaBar and head over to the videos section to watch a movie.

This feature could be especially handy for games with checkpoints that are too far and few in-between. We have also found ourselves sometimes wishing for a feature like this when travelling in a crowded train. As playing the game becomes impossible, the option of pausing it to listen to music and then resume the game later, right where we left off, is absolutely fantastic in our books. Round of applause here, please?

Apart from that, the other big change is that the PSP Go comes with a proprietary cable now. Gone are the days of using just any micro-USB cable you have handy with your PSP; Sony



is back to its ‘use our cables and make us rich’ nonsense again.

Part of the reason for this might be the fact that the PSP Go does not come with a TV-out port like the older versions. The GameSpot reviewers surmised that the new proprietary port might double up as a TV-out port – with another proprietary cable that you will have to buy, of course.

Both the reviewers were also impressed with the build quality of the PSP Go, noting that the slider mechanism feels good, the analog nub has more resistance, the chrome buttons on the edge feel better than the plastic ones of old, and overall, the console has a ‘solid, but lighter’ feel to it.

One line in the review did bother us though: Apparently the PSP Go can be synced up to only PCs and not Macs. Is this Sony’s way of welcoming the iPod Touch to the world of handheld video game consoles? **d**



Post your comments at <http://thinkdigit.com/d/98531/>

VOIP services have provisions that allow governments to track these calls. Many of them have also installed equipment at their premises to monitor VOIP calls upon orders from governments.”

According to a report by telecom regulator TRAI, consumers used over 130 million minutes of Internet telephony in the January-March quarter of this year. This report also adds that 34 ISPs in India offer net telephony services in India legally.

“This is a good move and it will also make the ISPs compliant to law,” Mukhi told rediff.com. “We cannot obviously stop all the players as there are thousands of them but it can help to a large extent by blocking all the main players.”

“This will hit consumers very badly. Not only are the calls

an amazing 28.9 per cent of the share of total time that Indians spend online. Apparently, of the total 21,799 minutes that Indians (aged over 15) spent on the Internet (at work or home) in July 2009, 6,294 of those were used on navigating Google sites.

Google accounted for 88.4 per cent of all searches conducted, and had commanding share of time spent in social networking with Orkut (68.2 per cent), maps with Google Maps (63.9 per cent) and multimedia with YouTube (82.8 per cent). It also commanded slightly less than half of all time spent in the blogs category with Blogger (47.6 per cent) and email with Gmail (46.8 per cent).

The one disappointment for Google would be the fact that its photo-sharing service Picasa has simply not taken off in India,



Check out the PSP Go video at <http://thinkdigit.com/d/47687/>



With the advent of the internet, the very concept of freedom is something that has undergone significant change. Concepts such as open source software, and copy-left licences are certainly no invention of the internet, yet without it, their very model becomes infeasible. Today, most popular web sites, be it Wikipedia, Flickr, YouTube or even Twitter, are populated with user-generated content.

Technology advances freedom and nurtures it. Your computer alone can be the source of information, entertainment, and even income. Yet, we are still constrained by the physical world we live in, and even the best internet connections cannot assuage a hostile government.

In August, this year, we celebrated the 62nd anniversary of our Independence Day. To commemorate this occasion, we decided to compile a list of some of India's youngest innovators. Some of India's brightest and youngest minds, who have unveiled innovations that are bound to influence the shape of things to come.

Our goal was to introduce to you (our readers), some of

the brightest minds from this country and to garner your opinion on the most influential innovation. As such, we conducted a poll at <http://www.thinkdigit.com/yii>, allowing you to browse through profiles, and vote for your most deserving candidate.

No innovation is insignificant; in today's world, the inventor of the socket is as responsible for our computers switching on, as the one who discovered the transistor. The smallest of innovations pile up today to create tomorrow's world.

Here are some of the participants:

Anand Agarawala

As operating systems progress, we tend to see a move towards interfaces that emulate the real world. Anand's software BumpTop takes it several steps forward in this regard, and turns your desktop into a realistic 3D physical-desktop-like environment.

We are used to interpreting the reality around us as physical objects, and by displaying objects inside your computer. BumpTop removes extraneous layers of interpretation. Objects on your BumpTop desktop obey similar rules of placement, and interaction, by allowing



Anand Agarawala

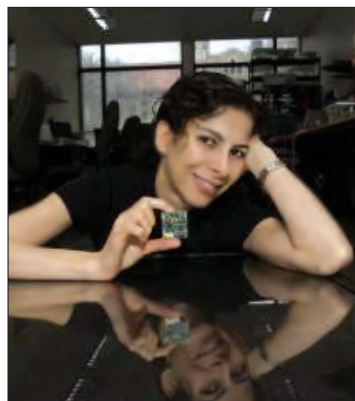
stacking of objects, and tossing documents to a printer, or USB drive; commonly used files can even grow in size, making them easier to find.

Agarawala's application, created as a Masters' project, has even been presented at TED Talks and has significantly evolved ever since.

Farinaz Koushanfar

With rampant piracy brewing around us, it's quite easy to duplicate software – with or without the internet. Yet, hardware piracy, although a lesser-known phenomenon, can be perhaps much more damaging. ICs could be used anywhere from innocent video players to high grade weapons.

Koushanfar's technique uses a unique ID to lock each chip so that it cannot be used without either a redesign, or a code from the designer of the circuit, making hardware piracy a tough nut to crack. Her method uses inherent manufacturing imperfections, as a base for creating the



Farinaz Koushanfar

unique code. Tiny deviations in the circuit, which have no effect on the device otherwise are encoded as a binary sequence (1s and 0s) and makes each IC unique.

Priti Ranadive

Even as the number of computing cores increase, software applications are slow to catch up. With dual and quad-core computers becoming commonplace, a lot of thought and effort needs to be put into designing a software to take full advantage of the performance increases which come with parallelism.

Ranadive's tool enables software to keep up with the multi-core revolution. This automatic parallelization tool helps convert legacy source code to parallel code and exploit the advantages offered



Priti Ranadive

by multi-cores. Arguably, this tool's best feature is that it requires little or no manual effort, and stands to offer great performance gains and reduce the execution time of the code. This can be successfully implemented in the field of bioinformatics in applications such as protein folding, weather prediction, mathematical simulations among others. Such fields stand to gain a lot by being optimised for parallel processing.

The young Indian innovator with the most innovative and influential creation is...

Pranav Mistry

This young innovator has already garnered much fame and attention around the world

Our other candidates

Trilokya and Champak Bora	Transmitting music signals through normal house wiring.
Sudhakar Sah	Efficient load-balancing of phases in 3-phase power supply units.
Mansukh Prajapati	"Mitti Cool", a refrigerator made entirely of clay.
Sendhil Mullianathan	A new model of economics based on consumer psychology.
Tanzeem Choudhury	Device for analysing an automatic social networking connection by recording and interpreting data from multiple sensors.
Sumeet Singh	Better heuristic detection of viruses based on how they spread.
Prithwish Basu	Algorithms for decentralised ("ad hoc") networks that can operate without the need for a base station.
Anurag Dod	Founder of first Indian crawler based search engine: guruji.com
Sanjit Biswas	Cheap Wi-Fi routers that can adjust to changing network environments for best performance.
Prem Singh	Automated remote-controlled robot called "BSF Robot" that can help in search and rescue operations.
Tapan Parikh	Information services for small business owners that are centred around mobile phones instead of computers.
Krishnan Kutty	Solutions to make driving safer using multiple sensors.
Vijay Krishnan	Founder of Infoaxe, a web memory search engine that allows you to make your web browsing history (and thus your habits) accessible and searchable across computers.
Sundar Iyer	Cheaper and better caching solutions for routers.
Anand Raghunathan	A mobile security co-processor to make data and communication on mobile phones safer.
Harimohan and Manoj Saini	Optimised car designs eliminating differential gears by adding a fifth wheel.
Ashok Maliakal	Next generation, low-powered flexible displays.
Master Moxad Pinakin Thaker	Model for utilising waste sewage for useful purposes such as generating electricity.
Shetal Shah	Safer ambulances and military transport vehicles for people with head trauma.
T. Sony Roy	Cheque authentication system using 'inkless' fingerprint; ErPaper, erasable and reusable paper; Cool imager, instant photograph development device for use in photo-vending machines.
Suhas V. Shinde	A novel new architecture of delay line resulting in 95 per cent power saving and 65 per cent area saving.



Pranav Mistry

be done in person. While the internet may be teeming with the latest information, it's often beyond reach. Whether you are shopping at a store, or on the way home, there are many times when the plentiful information on the internet can be of real use, but it's just not available.

The 'SixthSense' device, aims to make everything you see around you an intractable interface. When you pick up a carton of milk at a store, it can tell you its fat content, and how well it'll go with your diet, or when you pick up a book at the store, it will project its rating from Amazon, along with comments, and references. If you're on vacation and need to snap a picture, you need not worry, just form the right gesture and it will take a photograph. Draw an '@' symbol in the air and check your email. The best part is that the device would not cost much more than a mobile phone in the future.

In most demonstrations of amalgamated reality, we see artefacts superimposed and blended with the live world. Pranav's vision takes augmentation to the world outside computers. We see many films depicting a future where every device is a computer embedded, where newspapers show flexible displays, and your retina is the key to your entire life. This vision in comparison is much more real. Why wrap every toilet paper in an OLED touch-screen when instead the gestures can be recognised by a computer with a camera? Why upgrade the world when you can upgrade yourself? **d**

for "SixthSense" which he calls a "wearable gestural interface."

Some of the most brilliant innovations we see today have to do with changing the way we interact with devices. As technology becomes a larger part of life, and gets a larger share of our income, it becomes even more important how we interact with technology, as we now do so more often.

In this respect,

SixthSense takes a backwards approach. A previously mentioned innovation, BumpTop tries to mimic the

way we interact with physical objects, making it easier for people to adjust to a computer interface. 'SixthSense' on the

other hand turns your physical world into one large interactive entity, redefining not only the way we interact with technology, but with everything.

While technology has entered every field of our life, many tasks such as acquiring daily-use consumables, for example, still need to



Your web

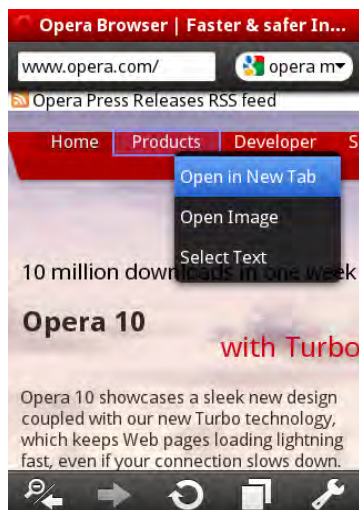
From anonymous browsing, Bing to Monopoly, insights into your world online

Track your digital life

Get to know where you spent all your time, from web sites visited, applications used, to the games you played

Opera Mini v5 released

More than 30 million people use Opera Mini as the mobile browser of their choice to browse more than 12 billion web pages. Undoubtedly, if there is an award in this category, it would go to this browser. Opera Mini offers a near desktop browsing experience and is taking this a step further with its latest version that includes a variety



Tabbed browsing now on your mobile phone

of features, including tabbed browsing and speed dial. Version 5 beta also has some interesting UI improvements.

The overall look and feel of Opera Mini has changed quite a bit and is now optimised for both keypads as well as touchscreens. We tried the browser on the Samsung Jet (S8000) touch phone and were impressed with the browsing experience. You'll find a Google search bar next to the navigation bar which is convenient. The speed dial and tabbed browsing work fabulously well and the response of the on-screen QWERTY keyboard was impressive too. Web pages are rendered quite well and only require a double tap to zoom in. The cursor was a little buggy; it appeared one character before



To read more on the Hero, go to <http://www.thinkdigit.com/d/hero/>

the actual point of typing, a minor irritant. To get the browser on your phone, simply direct your phone's existing web browser to <http://m.opera.com/next> to download Opera Mini 5 beta.

HTC's Hero debuts

The most promising Android handset, the HTC Hero has finally arrived. Considering the recent hike in taxes, you'll have to dig deeper into your pocket to get one, especially if you're in Maharashtra. While it will be priced at Rs. 31,990 across India, Maharashtra users will have to shell out Rs. 34,600 (that's an extra Rs. 2,600).

If you're not on Airtel's network and you're in Maharashtra, it would be a double blow to know that Airtel is offering its subscribers 100 MB download free of charge for six months. Services such as portfolio manager, hello tunes, weather channel and mobshare will also be available to the users of HTC Hero on the Airtel network.

The phone features bevelled edges with an angled bottom and is contoured to fit comfortably in your hand. It's designed to ensure a convenient conversation too. It fits perfectly along your face. The HTC Hero is built to last and has an anti-fingerprint screen coating for improved smudge resistance and a longer lasting, clearer display. The white HTC Hero includes an industry-first, Teflon coating, resulting in an improved, durable white surface.

With its 3.2-inch HVGA display, the HTC Hero is optimised for web, multimedia and other content while maintaining a small size and weight. It also boasts a broad variety of hardware features



HTC's Hero powered by Android

including A-GPS, gravity-sensor, 3.5-mm stereo headset jack, a 5-MP autofocus camera and expandable microSD memory.



For more on the Samsung Pixon, go to <http://www.thinkdigit.com/d/pixon/>

HTC Hero also includes a dedicated Search button that goes beyond basic search, providing you with a more natural, contextual search experience that enables you to search through Twitter,

locate people in your contact list, find emails in your inbox or search in any other area in Hero. Its SenseUI focuses on three primary principles: Make it Mine, Stay Close and Discover the Unexpected. That's just R&D fluff for widget customisation and easy access.

Camera or phone?

We've seen many ridiculous specifications in our time. Add to that another one. Why anyone would need a 12-MP camera in the first place, and that too in a phone, is well beyond us. Understandable, if it's a DSLR, but in a point-and-shoot or a cellphone, it's just an overkill. Yet, here we have the new Samsung M8910 Pixon 12, all ready to dazzle the Indian audience.

"Speedy access to the camera mode, fast shutter speed and quick browsing, face tag and photo tag sorting are some of the key factors that consumers are looking for in their mobile phone cameras. Samsung Pixon 12 holds the answer to these pressing consumer needs and more,"



A camera you can call from

said Sunil Dutt, Country Head, Samsung Telecom Division. The 12-MP CMOS sensor is ably supported by a 28-mm wide-angle lens with autofocus, xenon flash and power LED flash. Almost every feature you



For a feature tour, go to <http://www.thinkdigit.com/d/opera5/>

Statutory warning

Tech addiction 'harms' learning, according to researchers at Cranfield School of Management

DLDC

Nokia-Siemens Networks' Downlink dual carrier upgrade gives upto 0.6 Mbps transfer rates on existing EDGE connections

Mobile Watch

can think of is thrown into this lot, including tracking touch autofocus, geo-tagging, wide dynamic range, Smart Auto mode, image stabilisation, Beauty Shot, and face, smile and blink detection. It can't cook your meals yet, but a little training should get it there too. As for video recording,

indicated. Funnily, the press release talked a lot about what the company is doing with Windows Mobile, given the occasion! But first, the new phone: The LG-GW620 features a 3-inch resistive touchscreen (320 x 480 pixels, 256k colours) and slide-out QWERTY



LG's GW620 powered by Android

the Pixon 12 can handle 720 x 480 pixels at 30 frames per second. All of this data can be stored onto a microSD card of up to 16 GB. The screen is another impressive aspect of the phone: The 3.1-inch AMOLED resistive touchscreen renders 16 million colours at a resolution of 480 x 800 pixels and comes with an accelerometer for auto-rotation purposes. The 'resistive' part is a bit of a put-off, but Samsung's TouchWiz 2.0 UI does run pretty well on those. Overall, for a price of Rs. 29,990, this one seems like a good camera with a phone attached to it.

LG marries Android in a Win Mo hangover

It's been a long time coming, but LG's love for Windows Mobile phones has finally waned enough for it to feel the itch and stray to Google's Android OS. The company has officially debuted its first Android-based mobile phone, the GW620, which comes with a touchscreen and slider keyboard. The phone will be released soon, but the price has not been

keypad to meet the growing needs of consumers who rely on their mobile phones for more than just making calls. The device benefits from an

operating system that was created from the ground up to take advantage of the many mobile applications and services developed by search leader Google. "The LG-GW620 will appeal to first-time smartphone customers by offering a new and different kind of user experience," said Dr. Skott Ahn, President and CEO of LG Electronics Mobile Communications Company. "Our objective is to provide a wide selection of smartphones to satisfy the diverse preferences of today's consumers. This Android phone is just one of many smartphone models we plan to introduce worldwide in the years ahead." And this stress on diversity throughout the press release makes us wonder why LG is so adamant on making sure people know it still loves MS. Take this



Watch an exciting video on the twitter phone at <http://www.thinkdigit.com/d/twitphone/>

statement, for instance: "The announcement of LG's first Android-powered smartphones comes only a week after the world's third largest mobile phone company announced that it would be introducing three new Windows Mobile smartphones in the next few weeks. These developments underscore LG's commitment to offering greater consumer choice in the expanding smartphone category".

Twitter Calls

Twitter has managed to garner significant publicity in recent times. If India's *junta* didn't know what Twitter is, Shashi Tharoor did let them know. Move over 140 characters, you'll soon be able to talk over Twitter, that too without spending a fortune. On one hand where the Indian government plans to block all internet telephony for security purposes, a telecom service provider in the US is

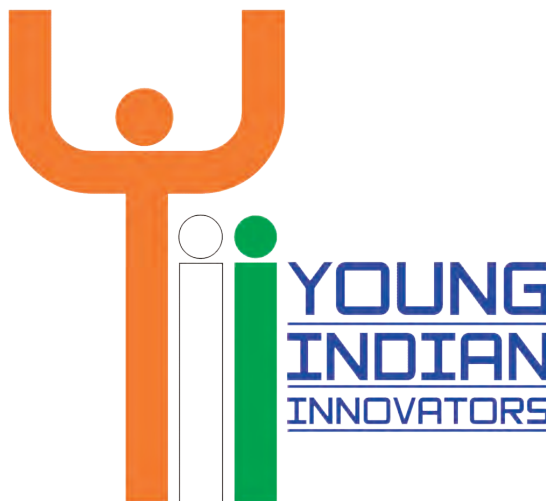
US telco could soon allow users to call each other over Twitter. "Twitter's popularity demonstrates that people are looking for simple, short ways to connect globally.

Now in beta, Jajah's new @Call service allows you to tweet your way to a call," wrote Jajah's Hadara in a blog post. To initiate a call, you simply tweet a reply to the person you want to talk with and add the @call. For example, if you would like to call @username, tweet: @call @username. Make sure there is a space between the two user names and that no additional text is added to your message. Jajah will call you and your friend and connect the call. The @Call service is currently restricted only to US numbers and requires users to be eligible for the Beta. To check if you're one of them, log in to your Jajah account. Under 'My Services' in 'My Account' page, you will see 'Twitter Calls'. If this doesn't appear, and you would like an invitation, send an email to twitter@jajah.com. The service has maintained the twitter shorty spirit here too by imposing a 2-minute talk limit on the @Call service. **d**



Follow this story at <http://www.thinkdigit.com/d/LGGW620/>

busy bringing phone calls to Twitter. A new beta service being launched by Jajah – a



Twitter Granny

104-year old Ivy Bean from the UK has over 45,000 followers on Twitter!

Rememberthemilk.com

An Adode Air notifier and an effective to-do list. It works in sync with various mobile platforms and Google Calendar

A curious case for anonymity

Traditionally darknets have always been regarded as the dark underbelly of the internet, but now it seems as if accessing a darknet will be as simple as having a web browser. HP researchers recently demonstrated a darknet - essentially a closed private network - that can be accessed through a browser. Some earlier darknets such as Freenet, Tor and WASTE have gained notoriety for having all sorts of objectionable content supported by the veil of anonymity they provide. These darknets need a client to access them. Finding such clients installed on laptops would often raise alarm bells for security authorities as they can be used for virtually untraceable communication aiding even terrorists.

The HP researchers however say darknets have their legitimate uses. Their creation aptly named 'Veiled' can be used for anonymous whistle blowing and will also bring anonymous communication to the mainstream. Darknets maintain anonymity by scattering files as fragments across thousands of servers. They also use something known as onion routing that tunnels communication through a network of relays so web sites can't determine your location. In a podcast with Security Wire Weekly, Matt Wood one of the developers of Veiled said, "We're leveraging what browsers have become lately, to access some of the functionality offered by darknets".

A simple PHP file is supposed to connect the client to the rest of the darknet. The user on the other hand has to just go to a URL. The PHP file downloads Javascript code into the browser. To understand this concept imagine a whole bunch of servers with this one PHP file on them. All of these PHP files together create the infrastructure for the Veiled darknet. Clients will then connect to each

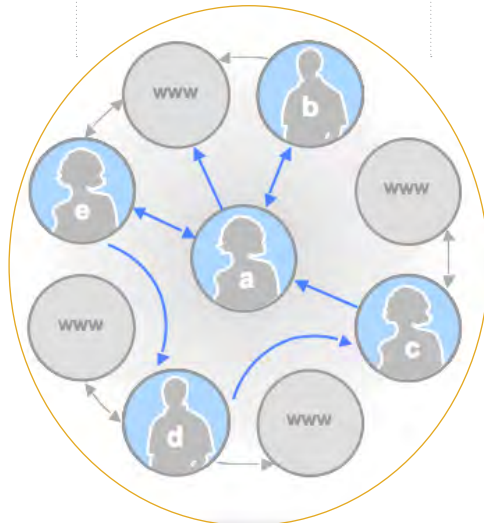
one of those nodes. The PHP files act as repeaters to all the Javascript clients out there. The Javascript is the one doing all the communication between clients. If, for instance, a chat were to be sent out, it would be dispersed among the darknet users. There is going to be encryption involved too. The best part is once you close your browser, your footprint vanishes instantly. It should be interesting to keep an eye on this to see if any productive applications do come out of it.

People research simplified

An interesting Firefox extension we came across a while back was Identity whose description is at once scary and promising; depending on which side of the fence you look at it. The extension is a social media marketer or compulsive social networker's dream come true. But this means it may be a cyber stalker's punching bag as well. The extension can amazingly track identities of individuals across various social network / media sites and create a profile

about just about anyone.

Consider you access a random Twitter profile. After installing the add-on, all you need to do is hit [Ctrl] + [I] and it will build a detailed profile comprising various identities



Identify using 'me' links to track profiles

of that person on other social networking web sites. How does it do this? It uses two APIs. The first is the Google Social Graph API. This Google project started more than a year ago identifies pages that form profiles of people and tracks linkages between pages connected to a

single person. The Yahoo Query Language API manages the extension's data backend.

Identify is therefore programmed to look up info for any page that has the rel="me" code in the source.

The 'me' annotation is part of the XFN (XHTML Friends Network) and FOAF (Friend of a Friend) markups, which are crawled by the Google Social Graph API. The tool can be very useful to learn more about people and their trademark internet handles. Running it on your own profile can be shocking or perhaps even disappointing if it fails to get the lowdown on you. This way, it helps you fine tune your profile if you want a more integrated web presence. Or help people in disassociating profiles that they don't want linked together. The

only hitch is that it requires some work by the developers and doesn't work really well currently.

Monopoly in the sky

No, we're not talking about Airline Moguls. We're talking about one of the world's most



Monopoly city streets

Webapp for making charts

Head over to lovelycharts.com and make everything from flowcharts, process diagrams, mind maps, network diagrams or just about any kind of chart

popular board games has been virtually recreated into a mega-sized masterpiece as Google and Hasbro teamed up to launch *Monopoly City Streets*. The game allows users to compete in a live, worldwide version of the popular game, creating the biggest Monopoly tournament ever played. And yes, you can theoretically buy any street in the world! However within the first few days of launch (on September 9) there were hardly any streets available for us to buy. A new player will start off with a whopping three million Monopoly dollars – it seems like inflation has caught on in the board games too. With this, you can initially buy a street or make an offer to a street owner to buy it off him. The huge money to start off obviously means that the streets will cost a lot too: Downing Street in the UK will cost 231,000 Monopoly Dollars, while Pennsylvania Avenue will cost 2 million. Pedder Road an upmarket Mumbai road was last valued at 400,000. Yikes! Of course, you can always offset those prices by collecting rent from hotels, football stadiums, skyscrapers, castles, etc.

There is a bit of a weird rule thrown in, though, where if someone makes you an offer and you don't reply within seven days, the offer is automatically accepted no matter how low it is. So potentially, you will have to log in every day and if someone spams you with a lot of offers, you might just stand to lose your property. Hopefully, there will be a fix or some workaround for this. The interface too is buggy, but thousands are already addicted. So go ahead and join the game that has turned the globe into one giant game board!

Chrome 3 in one year

On September 2, Google Chrome finished a whole year

since it launched to the world in that unexpected comic book format. To celebrate the occasion – albeit two weeks late – Google has unveiled the new stable version of their browser, Chrome 3.0. The version numbers seem to be ticking by faster than we can report them, with Chrome 2.0 being launched just four months ago; still, who's complaining?

According to StatsCounter, the browser already has 7.39 per cent of the market share in India, making it a force to reckon with. So what does the new version have in store for us? Google Chrome Product Manager Anthony Laforge wrote a long post on the official blog about the same, and here are the salient points: Faster browsing: This new release of Google Chrome is faster than ever, improving by more than 150 per cent in Javascript performance since the very first beta, and by more than 25 per cent since the most recent stable release. New Tab Page: The speed-dial on the New Tab page of Google Chrome has been one of its most popular features and now it's more customisable too. You can now rearrange thumbnails of your most-visited websites by simply clicking and dragging your mouse.

Additionally, you can pin thumbnails to a spot so they don't disappear even if your browsing habits change. What's more, you can hide parts of the page you don't want to see, or even opt for a simple list view of all your most visited web sites. Omnibox gets icons: The



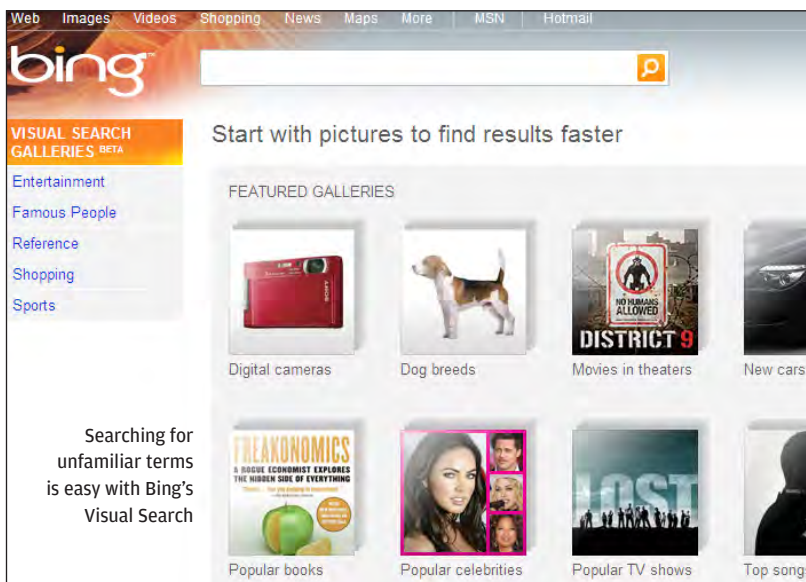
For more Bing's visual search feature, go to www.thinkdigit.com/d/bing

address-cum-search bar 'Omnibox' of Google Chrome has gotten a much-needed tweak to help users distinguish a search result from a Wiki page and a site you entered from a bookmark in its drop-down menu. The solution? A simple little icon at the start of the URL. The one big disappointment, of course, is the lack of extensions in this new release. Looks like Google still has some creases to iron out.

Bing goes visual

Microsoft has launched a new feature in Bing that couldn't have come at a better time. We were trying hard to remember the name of a movie about an African-American cop who is

Silverlight installed. What you are presented with first is a list of different categories such as movies, cars and US presidents. In our case, we went for 'Greatest Movies' and were taken to the next page. Here, we were shown a grid of 9-columned thumbnails of various movie posters. It's got a nice CoverFlow kind of feel to it and feels very Apple in most ways. The scroll bar, funnily, starts at the bottom and you have to scroll upwards, where the columns are fading into. Scrolling upwards, felt a bit like scrolling albums on HTC's TouchFLO interface or Win+Tabbing through Windows Aero, where you can see the current item clearly and check



sent to investigate a murder in a racist town, but couldn't even remember who the actor was. Visual Search basically puts up a whole bunch of images related to different categories, making it easy for you to locate those 'It's on the tip of my tongue' things that you just can't recall. The feature has not been activated for Indian users yet, but if you just change your location to US (top right corner), you will be able to access it for now at www.bing.com/visualsearch. And yes, make sure you have

out obscured previews of the upcoming items. Pretty soon, we found what we were looking for: *In The Heat Of The Night*. Hovering the cursor over it and at the top of the page – under the search bar – gave the related info: name, genre, rating and release date. One click and the regular search results page for the movie opened up. Pretty impressive. The same kind of visual search is possible for various other things, such as products search, books and cars. **d**



For more on the browser, go to www.thinkdigit.com/d/21123

Track your digital life

Find out how you spend your time in the digital sphere – the web sites you visit, your computer usage pattern, the applications you used most

Siddharth Parwatay

siddharth.parwatay@thinkdigit.com

No one can debate the fact that most of us spend half our lives in front of a computer screen. We play, socialise, interact and occasionally do a bit of work among other things in the digital world. But often at the end of the day we find ourselves complaining “where has all the time gone?” When you rewind your day it literally seems like you got up, got some work done, read some stuff and suddenly. Before you realize, it's 10 pm!

What happens when our pastimes

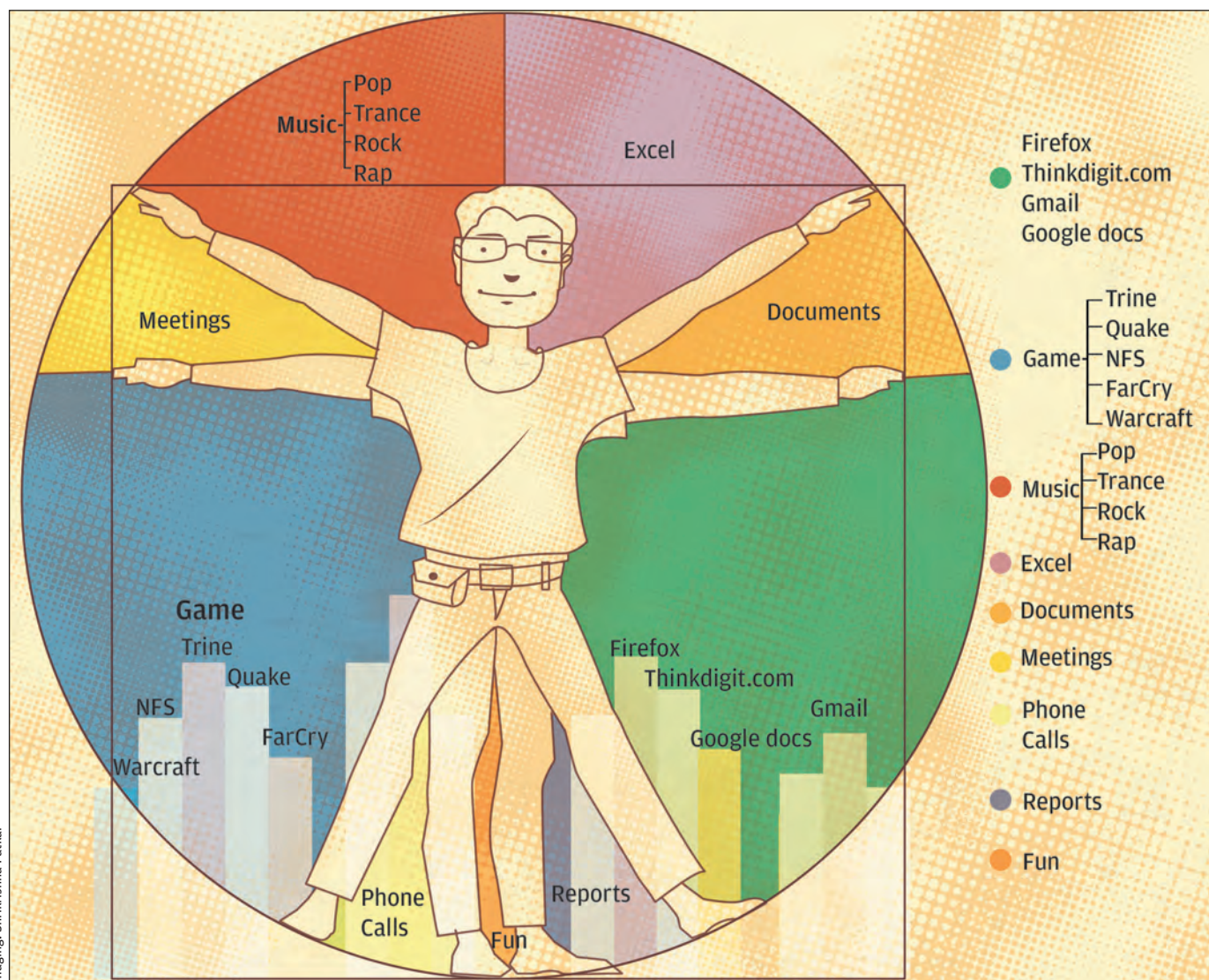
start eating into our mainstay? There is a tremendous loss of productivity that happens due to unstructured time management. Whether you are a student, blogger, tech enthusiast, or a professional who works from home, knowing where you spend your time is very important.

Time Tracking

You can now keep track of your time by using a host of applications and online services. These applications sit in the background and keep track of your activities. The applications will generate contextual reports comprising graphs and tags to help you get a handle on how you spend your time.

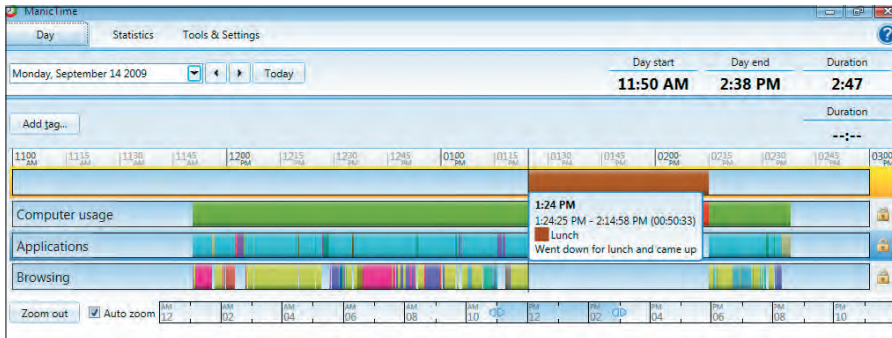
Fruitful Time Productivity Meter

The Productivity Meter application stores information locally as opposed to Rescue Time which sends info to remote servers – suitable if you want your data to be close at hand. The reports are generated on a local server at <http://127.0.0.1:7885> and the interface can be accessed through a web browser. The software lets you track data for different users on the same computer. Most of us browse as part of our work, and so just knowing that a browser was running for a specified time doesn't really tell you much. With tagging domains, you can tell productivity meter that the thinkdigit.com and intel.com domains are for “research” on processors. Apart from domains, you can tag



An ideal tool for small businesses that bill by the hour, it's a powerful web-based project management tool that combines time tracking and task management with powerful reporting

This nice little app built on the Adobe Air platform works as a great time tracking tool for project management

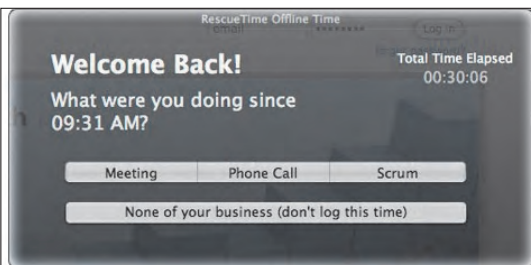


ManicTime in action

specific programmes and even window titles. The interface is pretty simple and lets you view your activity by time periods ranging from a day to a month. You can even choose to view activities within a specified selection within each day, say 9 am to 8 pm. This way you'll know the active and idle time (overall and per hour), time distribution between applications and web sites, and lastly tagged time data. To try the application head over to fruitfultime.com.

Rescue Time solo

Rescue Time has a cloud based interface. Its client is called the Data collector, so users who are touchy about their data being sent to remote servers will cringe at this one. Unlike other applications, this one is certainly easy to set up. While configuring your profile, you can specify productive and distractive activities. It also lets you set goals. For instance, "I should



Rescue Time being nosy about what you were upto

spend more than 4 hours per weekday on very productive time. If I exceed 4 hours, send me an email at the end of the day". One of the advantages of having your data sent across is the ability for rankings and comparisons with other users, which can be fun. Rescue time will tell you where you stand in terms of efficiency when compared to average users. The tool can also be configured to ask you what you were up to in your idle time.

Manic Time

Manic Time has all the functionality with a decent interface. One drawback is that the application depends heavily on user input. ManicTime's interface is broken up into four time lines viz. Browsing, Application, Computer Usage and Tags. By rolling the

mouse over any of the fragments in the timeline a more detailed note pops up. However, you need to keep tagging the activities in the tags timeline to make any sense of how your time was spent. You also have the option to Tag away time, which is interesting as it lets you track time spent on taking calls or going for lunch. All tweaking such as how much time idle should be considered away etc. can be done in the Tools & Settings tabs. The statistics tab allows for pulling up a wide range of custom stats.

The software consumed around 30 MB of memory even while running in the background, which was considerably higher than any of the other tools. You can download ManicTime from manictime.com, or find it on this month's DVD.



Send your feedback at www.thinkdigit.com/d/oct09

Games Tracking

For many a large part of "playtime" consists of playing games. Two popular applications to track your gaming pattern are Xfire and Gamespy Comrade and perform a host of different functions. You can keep tab of games you play on your PC and also other associated information. The software creates auto-generated profile codes that show of your gaming hours, rig config, and other stats that you can embed into signatures on gaming forums. Since Xfire has a community associated with it, the application can be used not only to view your statistics, you can see interesting stats about your friend network, your favourite servers, uploaded screenshots, friend's game play statistics, private messages from Xfire's

Record keystrokes

Want to find out how many keystrokes you make in a day? We found this impressive app that lets you do exactly that. Head over to <http://www.thinkdigit.com/d/debuggable/>. The application rests in your taskbar and shows you a little pop-up of how many keystrokes you make in a day. If this gets annoying, simply turn off notifications. Turn notifications on when you want to keep track!



Make a movie of your day's activities


With Time Snapper Professional, you can take automated periodic screen captures of your activity all day. The software runs in the background and keeps taking screenshots at intervals which you specify. The default is every 10 seconds. During playback, TimeSnapper even allows you to flag notes for certain patches of activity. You can choose to filter by certain programmes such as Winamp or Firefox. The software also tells you how productive you have been. To do this, specify the applications, domains and window titles you consider productive. So, if you tag Wikipedia.org as productive, it will calculate the percentage of time spent on Wikipedia as your productivity. But the most fun part is watching your day unfold in video. Go try it out!

forums, top games being played on Xfire and top downloads.

Games for Windows Live (GfWL) also lets you follow your game trend. If you're an Xbox

360 gamer and want to port your GamerCard data to forum signatures, you can use mygamercard.net or similar other services.

Music Tracking

If you're one of those who listens to an obscene amount of music, you probably know what the value of music tracking software is. Those of you who don't, well then it's about time you discover. With music tracking software such as scribbler from Last.fm, you'll know details of your listening habits. The application will tell your favourite artists and tracks among other things. The data can be sliced and diced further to show overall charts or by specific time periods such as last three months or last one week. So the next time someone asks you what your favourite song is, all you have to do is look up which track has the highest play count. The only catch is that you need to register with the web site before you can begin scrobbling your music tastes. Still, registering has its own benefits like the aspects of social networking that are found on the web site. If you have been using a dedicated music player for listening to your music, the scrobber will pick up your listening history instantly and post it on your profile. Apart from just tracking, the web interface will give you useful recommendations for music based on the songs you scrobble. Many of the generated charts can be embedded on other web pages. Also there is the option of doing fun stuff with the RSS feed of your music listening for example putting the feed onto your blog or twitter account. 

Nokia N900

The Nokia N900 is designed to bringing mobile and desktop computers closer, in terms of experience. One of the primary focuses in this device is the ability to heavily multi-task, so the device does not slow down if you get a call while surfing the internet and want to dig into the contacts you have to message. There is a touchscreen interface, as well as a full QWERTY keyboard that slides out. Under the hood is an ARM Cortex-A8 processor, 32 GB of RAM with 768 MB of virtual memory that essentially gives applications over 1 GB of memory to work with. The device will use a customised version of the Linux OS called Maemo, on the heels of Google's adoption of Android, another Linux-based mobile OS. The device is available at around €500 (Rs. 35,200)



Surface Tension

The Surface Tension Arcade Table is an innovative approach to furniture. Surface Tension manufactures tables with a large touch screen interface, and a computer built in to the table itself. The Arcade edition of this coffee table has two set of full arcade controls and comes with over 60 retro games, and any game that is compatible with MAME can be installed later on. Windows XP is used on the machine, so you can install any software you want and use the table as a regular computer. Additionally, you can play movies, browse through photos and surf the internet all with a great 1200 by 700 mm touch interface. The Arcade edition is available for £2,999 or Rs. 2,39,690 from www.surfacetension.net



Canon Powershot SX20IS

The Canon PowerShot SX20 IS is a follow up on the well received Canon Powershot SX10, which they released last year. The camera brings pro features to the point and shoot domain, with easy to use functionality, but leaving the option for a pro to manipulate settings manually. The camera packs in a 1 by 2.3 inch sensor with a 12.1 MP count, a staggering 20X optical zoom, 1280 x 720 full HD movie recording, and an continuous shoot feature that let's you shoot till you fill up the card. The camera is priced at \$400 (Rs. 19,300)



Fender 57 Champ Custom

Fender is bringing back an old classic amp, that would put any buyer in the same league as the best of rock legends. Eric Clapton, no less, used this particular model to record Layla. The materials used for the amp are the same used when the amp was originally made, and the entire piece is hand-wired. This is not an imitation, or a mass-produced abomination, you can own an authentic piece of rock history for \$1,000 (Rs. 48,500)

Samsung LN65B650

This astonishingly large (65-inch) CCFL backlit LCD TV from Samsung is sure to give those large Plasma screens a run for their money. The TV boasts of a propriety Auto Motion Plus 120Hz refresh rate and a 4 millisecond response time, with a full HD 1080p resolution. This reduces blur during the action scenes of a movie, but users can customize the blur settings. The Medi@2.0 suite can stream wireless content, or play clips off YouTube, among other connectivity options. What is really appealing is the power consumption, as the device meets the latest Energy Star standards, something that not too many Plasma screens can claim. The TV is available for \$6,000 (Rs. 29,300)



Next generation Wii

Rumoured to have HD graphics and a brand new motion controller

Zune update

Microsoft recently released the Zune 4.0 software update that features quickplay and smart DJ

GigaPan Epic 100

The GigaPan is a set of robotic systems that lets users take astoundingly large images using an automated robot. The device is a mount with a clicker that carefully moves a camera, and takes as many shots as the user specifies, in a grid, and stitches the photos together resulting in large, very detailed panoramas, with tremendously large megapixel counts (called GigaPixel by the site). GigaPan systems was teasing the world with some amazingly detailed shots put up on their website, and a product is finally out in the market. The GigaPan Epic 100 is available for \$449 (Rs. 21,720)

**PSPGo**

Sony's rationale for making the PSP Go seems to be to make a smaller, more compact and lighter device for pocket gaming. The PSP Go, which has hit the American markets early this month, sports a 16GB flash drive instead of the UMD memory, and a screen that slides up to reveal the controls beneath. The only means of distribution of games however, is the official PSP store, a new mini-game section of which has opened along with the launch of the PSP Go. The PSP Go sells for \$250 (Rs. 12,130)

**Compo del Cielo Meteorite Fragment**

Meteoritemarket.com sells a lot of space rock fragments. Most of the pieces for sale are tiny slices of a rock, that have been cut out from bigger stones. While those may be rare, hard to find and therefore expensive, if you just want to show off a big chunk of space rock, pick the Campo del Cielo fragments, which don't look like they have been cut out from a larger piece, and there are pretty big pieces on sale too. This is a particularly large piece (over 5 KG) that is available for \$700 (Rs. 33,980)

Blood-powered lamp

A mysterious blood-powered lamp that debuted on the internet requires you to break off its top, and let few drops of blood trickle to emit an eerie glow

Solar Bluetooth

A solar Bluetooth head set released by Brando, stays on standby for infinity

Drool maal



JVC LT-32WX50

JVC is debuting in the backlit LCD market and how. The LT-32WX50 is just 7 mm thin at its thickest point, and goes down to 6.4mm at its thinnest. This particular screen wouldn't look ugly or intrude into space when mounted on a wall. The screen weighs just around 5 KG. The LT-32EX50 offers full 1080p HD resolution, a 4000:1 contrast ratio, and displays 90% of Adobe's RGB colour space. Be prepared to shell out US \$ 3,000 (Rs. 1,45,711) though



Leica M9

The Leica M9 is a spectacular piece of craftsmanship. The M series has a long history, and this is one of the world's smallest rangefinder cameras. Although the body is tiny, at 139x37x80 mm, the Leica M (manages to pack in a large 24x36mm sensor. The large and chunky dials make it easy for photographers to adjust the settings, and the M9 has a dial just for the ISO settings. The Leica M9 includes a license for Adobe Lightroom in the package. You can pick one up for £4,850 (Rs. 3,93,300)





iPod Nano

The latest iPod Nano has a radio, video camera and microphone



Nokia Netbooks

The Nokia Booklet 3G will sell for less than \$500, have a 10-inch screen and built in GPS navigation chip

Tech Treats

Groovy gifting ideas for Diwali

Madhusudan Mukerjee

readersletters@thinkdigit.com

It's that time of the year when the air is filled with festivities. Come Diwali, and you're bombarded with discounts and offers. So, if you have geeks for friends who prefer gadgets to sweets, here's a list of technological thingamajigs categorised according to your buying power.

Starters (Less than Rs. 1,000)

USB pen drives

Flash drives start from Rs. 200 (1 GB) all the way to Rs. 4,000 (32 GB) and above. They are bare necessity and can be stuff to show around. One that stands out makes for a cool gift. The recently launched JetFlash V70 by Transcend, with eco-friendly rubber makes it



Rubber drives are trendy and almost indestructible

highly durable, shock-resistant and dust and water-proof. These are available in different colours too – 4 GB (Purple), 8 GB (Orange) and 16 GB (Red) – and, best of all the prices are highly competitive – Rs. 600, Rs. 900 and Rs. 1,600 respectively.

Pop-Up Toaster

Here's one for the kitchen and whether your mom works or not, it'll be a welcome convenience. Usha Lexus toasters come for Rs. 900 or less while Inalsa ones hover around the Rs. 1,000-mark. In fact, considering that it is not just moms who toast bread, you can gift your dad one.



Get your daily bread faster

Battery operated mobile charger

An emergency cell phone charger is what travellers always need. You can get one for less than Rs. 160 in time for the Diwali holiday travel. These are pocket-sized, lightweight and use 4 AAA batteries/pencil cells and are compatible with most cell phone brands. Visit your local mobile store for the best deals on this one.

Electric Kettle

It's amazing how cheap kitchen accessories have got. The Bajaj Cordless Electric Kettle comes between Rs. 799 to 899. Plug it in and you can make tea, boil milk or water in a moment. Give your mom one, and then settle for a Kettle



Settle for a Kettle

Hair Dryer

There was a time when hair dryers were only meant for women. Although you can still gift your sister one, these days, even males sporting long hair use them. Hair dryers are way within budget – while the Philips HP 4823 is less than Rs. 700, Panasonic and Remington hair dryers are a little below Rs. 1000.



The Philips HP 4823 even comes in feminine colours

TV Video Game

If you're on a shoestring budget and you want to please kids less than age 12 this Diwali, gift them the good old TV video game that you get at every local toy shop. It comes with joysticks, a 'gun' and lots of games that can be played on the television – all for less than Rs. 500. Just pray that the kid hasn't heard of the Xbox or PlayStation yet.

Getting your wallet (Rs. 1,000 to Rs. 2,500)

MP3/MP4 Player

Every time you think everyone's got one, just remind yourself that everyone who has already got one usually wants another, better one. Innumerable brands – Chinese *et al.* – clutter the market and spoil you for choice. Some of these are even below Rs. 1,000. And then there's the quintessential iPod. The 1 GB iPod Shuffle is priced below the Rs. 2,500 threshold and is going to make your friends flip. You can even change the skin to the stereotypical pink for your sister or girl friend. Or get it for your younger siblings to finally let them have their own private listening device. Cheaper players are available for much less, if you're not fussy about brands.



The Shuffle still rules

Cell Phone

If there's someone who hasn't got a mobile phone yet, or has an old style one – give him/her a colour screen cell phone. The Nokia 1209 (Rs. 1,500) and the Nokia 1650 (Rs. 1,765) not only have colour screens, but offer other features



Cell phones for starters

Five things to remember when going hunting for gadget gifts

1. Make a List: First thing you could do is make a list of exactly how many people you would like to gift something this Diwali – and who they are.
2. Choose the right Gift: Everyone in your list will probably have different tastes. If you like something, it doesn't mean the one you are gifting would like it.
3. Budget: Make a total of how much money you are going to spend on gifts – in fact it would help if you came up with a definite figure for how much you are definitely not going to spend this season. Don't forget Christmas and New Year are fast approaching and credit card interest rates are still nasty in our country.
4. Finding the best prices: This is the toughest part. The most obvious thing to do would be to leg it to a dozen shops and compare them for discounts and competitive prices. But then, not all shops have everything. Something more sensible would be to check the various internet shopping sites. Check out online shopping portals.
5. Wrap them up: This may sound inane but the truth is that gifts often lose their effect when not wrapped up – or not wrapped up well enough. And for some reason, we tend to gift gadgets as we buy them – in shopping mall plastic bags. Don't lose out on the element of surprise – cover it up and watch them brighten up as it unravels.





Smartphone radiation

A recent study on smartphone radiation found that T-Mobile's MyTouch 3G, an HTC smartphone topped the list of the worst radiation offenders. The Nokia 9300i was found to be the least guilty of the lot

such as FM radio, speaker phone and a torch light. Samsung even has a flip phone with colour, radio and Bluetooth (E1310) that comes for a little less than Rs. 2,500. Sony Ericsson has some economical models too and the best buy is the K330i (for Rs. 2,499) that has features such as MP3 player, Bluetooth, FM and a camera! Don't forget to check out the new Nokia Xpress Radio 5030, which looks great and costs just Rs. 2,300.

Portable DVD Player

DVD players are now priced way below the Rs. 2,000 mark and if you don't want to gift one of those, there are a variety of portable DVD players that play MP3, MP4 - and even have USB slots provided. A definite asset for the teens and tweens who are active on the party circuit.

Emptying your wallet (Rs. 2,500 to Rs. 5,000)

Wearable MP3 Player

Music players you can wear are all the rage these days. Two years ago, Sandisk launched the Sansa Clip - a wearable MP3 player in 1 GB and 2 GB sizes and in a variety of different colours.

Sony's NWZ - W202 is an MP3 player built into the headset, with 13.5mm EX Headphones and soft silicon ear buds. Two features make it special:

- Zappin - You can zap through songs really fast, listening to 4 to 10-second-clips to check out if there's a song you want to hear.
- Jog Dial - Once you reach an interesting track, just press the 'Jog' button and you'll be able to hear the full song.

It supports various audio formats, has a capacity of 2 GB and can be charged within 3 minutes. Here's one gift that cuts across all ages and genders - and is priced at Rs. 4,999.



No dangling wires, no Bluetooth contraptions

Digital Photo Frame

Why put everything on Flickr? Why not show off all the dozens of pictures you took of your favourite people, your last pleasure trip and your treasured memories up for display in your own home? Digital photo frames make great gifts for shutterbugs. Transcend's T-Photo 710C 7-inch digital photo frame costs Rs. 4,399, has a 7-inch TFT display, 1 GB memory and



This Diwali, gift them with digital memories

even plays MP3 tracks. You can plug it into your PC, hang it on a wall or mount it on a shelf. This makes a good family gift; especially, your mom, dad and grandparents.

Food Processor

A good food processor can work like a charm to make kitchen work less tedious. Homemakers would always welcome a multi-purpose chopper, grinder, mixer, juicer and slicer. Fortunately, they've all become remarkably economical. The Bajaj Platina PX 80F, for example, does all these and costs just Rs. 4,990. Another brand, Kenstar sells theirs for less Rs. 4,580 - and this one even has an *atta* kneader.

Need the ATM? (Rs. 5,000 to Rs. 10,000)

Digital Camera

Kodak has a couple of great cams up for grabs - the Kodak Easyshare C140 (8.2 Megapixel, 3x optical zoom with face detection) and the Kodak Easyshare C160 (9.2 Megapixel, 3x optical zoom, face detection and a 2 GB memory card) for Rs. 5,490 and Rs. 6,590 respectively. Sony's S930 is pretty good too, at Rs. 7,800. Turn to page number 80 for the Digital Camera test where you can find even more options.



For people to remember you better

Digital Photo Printer

Save your friends and family the task of lugging their cameras to the nearest studio. Buy them a photo printer that gives them studio-quality prints right in the comfort of their homes. Two great options in the market today are the Sony DPP-FP67 which gives you 4x6 digital quality prints with auto red-eye correction, exposure correction and a 2.5 inch LCD preview screen for Rs. 6,990. A cheaper version of the same is Sony's DPP-FP65 for Rs. 5,990.

Canon photo printers such as the Pixma IP1200 comes for as less as Rs. 1,855 while the better Canon CP 760 comes for Rs. 5,390.



For amateur photographers who can't wait for their prints

Sony PlayStation 2

So what if the PS3 is out. The Sony PlayStation is guaranteed to send kids and teenagers into throes of happiness. It is now available in less than Rs. 7,000 and is great for a first taste of what gaming is really all about.

Indulge... (Rs. 10,000 and above)

3G Phone

Since the government is ushering in the 3G era into India, there's nothing better than giving your loved ones a 3G enabled phone, packed with all their favourite features.

The Nokia 5630 (for Rs. 13,000), Nokia 5800 Xpress Music (at Rs. 14,350), the Sony Ericsson W995 (for about Rs. 25,000), the Samsung F480 (at Rs. 15,200) - all give you great value for your money and are gifts to be remembered by.



Since you can't afford a PS3 yet

Gaming Console

If you've got deep pockets - and they're all full - the Sony PlayStation 3 (at less than Rs. 25,000) and the Microsoft Xbox 360 (between Rs. 12,000 and Rs. 15,000 as the rates have recently been slashed) are awesome gifts for your game-crazy cousins and friends. Put in a few games with it and they'll never forget the Diwali.



Their vacation will fly by once they get hooked on to one of these

Netbook

Smaller and more convenient than a laptop yet a netbook is packed with all the features of a laptop and more. For almost anyone today, whether student or professional, young or old, male or female, a netbook could be a life-changing gift. The Dell Studio 14 (for Rs. 41,970), the Samsung NC10 (for Rs. 25,249), the ASUS S101H (for Rs. 30,500), the Acer Aspire at Rs. 21,820 - these are only some of the options you could choose from. The HP Mini 1129TU is another cool one for just Rs. 24,700. For a detailed evaluation of the pros and cons of netbooks available in the market today, just pick up the September edition of Digit Magazine and you'll know exactly which one to buy for your significant other. One great thing about buying gadgets that are a little expensive is that almost everybody allows payment in equated monthly instalments these days. **d**



Acer, Asus and HP rule the Netbook market in terms of worldwide

Flash Forays

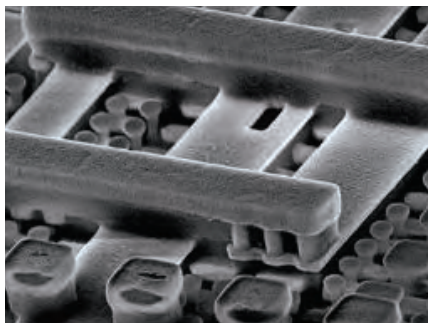
Madhusudan Mukerjee

readersletters@thinkdigit.com

In 1984, Dr. Fujio Masuoka of Toshiba announced flash to the world. Today, flash memory is everywhere – pen drives, thumb drives, MP3/MP4 players, digital cameras, PDAs, and virtually all portable electronic devices that need to store data. In fact, they're slated to replace hard disk drives pretty soon.

Inside a flash drive

Flash drives basically store data on an electronically erasable programmable read only memory (EEPROM) chip. This has a lattice of columns (bitlines) and rows (wordlines). Each point of intersection is a cell. A typical flash chip contains billions of such cells. Each cell is made of a transistor

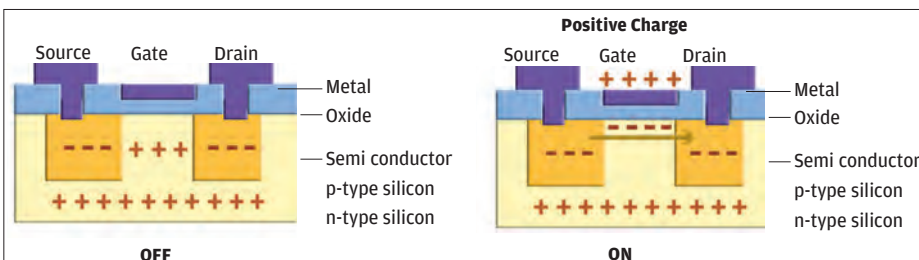


Peeking into a Flash Drive

– a MOSFET, to be precise – which has an additional gate called a 'floating' gate added on to it.

MOSFETs

A MOSFET (Metal Oxide Semiconductor Field Effect Transistor) is midway between a diode (two p and n type semiconductor layers) and a transistor (sandwiched layers of p-type and n-type semiconductor layers). An n-type semiconductor releases electrons more readily, while p-type semiconductors allow electrons to flow into them easily. The MOSFET, however, is set up a little differently from the typical bipolar diode with a base coated with a layer of metal and oxide. The holes in the p-type layer prevent the excess electrons from passing from one n-type semiconductor (source) to the other (drain). But if we just let a positive voltage flow in from the gate, this creates an electric field. Now electrons start moving through



How MOSFETs work

the channel from the source to the drain. This makes it *unipolar* because a single electric charge is enough to get the electrons moving.

The difference between the flash memory transistor and the typical MOSFET is the floating gate. Flash drives use FG MOS cells (Floating Gate Metal Oxide Semiconductor FETs) that are basically MOSFETs with an additional gate. This is an electrically isolated gate, with one or more secondary gates deposited above it, also electrically isolated from it. This floating gate is surrounded by resistive material. This way it is difficult for electrons to pass into the gate. Once they have entered, it also ensures they stay trapped until the bias is reversed. If

you apply a positive potential to the control gate, electrons (being negatively charged) are thrust through the layer of oxide (usually silicon dioxide) between the p-type substrate. Some of these are pushed into the floating gate and the electrons are then trapped there until forced out again.

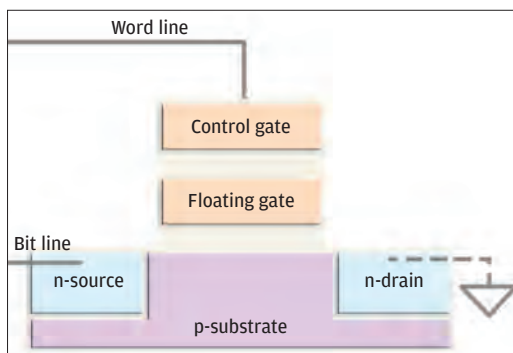
The electrons enter the floating gate in two ways:

- **Fowler-Nordheim Tunneling:** This is a phenomenon where electrons are emitted from a semiconductor into a dielectric or a vacuum when persuaded by a powerful electric field. Unlike other forms of emission, electrons pass through a barrier – instead of working around it – because it has not yet lost its wave function and, decaying into the barrier, thus heightening the probability of it emerging on the other side.

- **Hot Carrier Injection:** If an electron or a 'hole' (an absent electron) in a semiconductor can be made to gain sufficient kinetic energy to pass through a barrier, the process is known as 'Hot Carrier Injection'.

NAND and NOR flash Memory

The two most common kinds of flash memory are NAND and NOR. The terms are from Boolean logic and



Parts of an FG MOS transistor

HOW TO PROTECT YOUR FLASH DRIVE

Never lost your pen drive or got a virus infection in it? You're kidding me. Given that they're featherweight and getting tinier by the day, chances of your flash memory device getting into the wrong hands are increasing day by day. And everybody knows how the 'Autoplay' function in Windows gets trojans and worms into the works. Here are a few tips to safeguard your flash data:

1. Buy a write protected flash drive: Once a flash drive is write protected, data will only get written if you disable the 'write protect' function.

2. Put in a password: There's plenty of freeware on the web which allows you to password protect your flash drive, thus ensuring that only you have access to the data in it.

3. Encrypt the data: If you do this, even after somebody cracks your password, the data will only look like gobbledygook to him.

4. Anti-virus: Clean your flash drive of malicious software every time you plug it into a computer, using reliable anti-virus software.



Brave

Jennifer Lopez's new album titled Brave will be sold on a chick-looking 1-GB flash drive

NAND mass production

Toshiba and SanDisk plan to mass produce NAND flash chips on 20nm-class process technology

How stuff works

NAND		
IN	IN	OUT
0	0	1
0	1	1
1	0	1
1	1	0

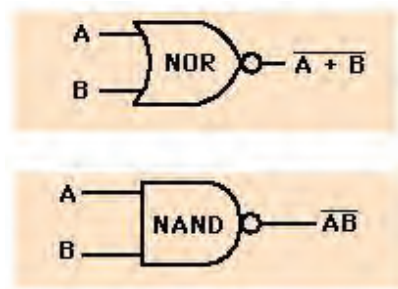
NOR		
IN	IN	OUT
0	0	1
0	1	0
1	0	0
1	1	0

NAND and NOR functions permit a variety of Boolean operations

are immensely useful for the creation of universal Boolean operations.

NAND – which is short for 'Not AND' refers to the Boolean logic operation that says that if any one input is false, the conclusion is true. Since computers only understand zeroes and ones, in the language of electronics, if any one input is a 0 (zero), the output must be a 1 (one). NOR (short for 'Not OR') is a Boolean which is true if none of the inputs are true – i.e. if any – or both – of the two inputs is a one (1), the result is a zero. Both of these can be used to make NOT, AND, OR XOR or XNOR, and so they're called 'Universal Gates' – and that's what makes them useful.

NAND and NOR gates are so designed as to function in the above manner. As you can see in the figure, the Control Gate in every



NOR and NAND gates

cell is connected to the horizontal 'Word Line' (WL). The 'Bit Line' (BL) connects all the drains together – which is actually the data bus of the chip. The Source Line (SL) connects all the sources to the ground.

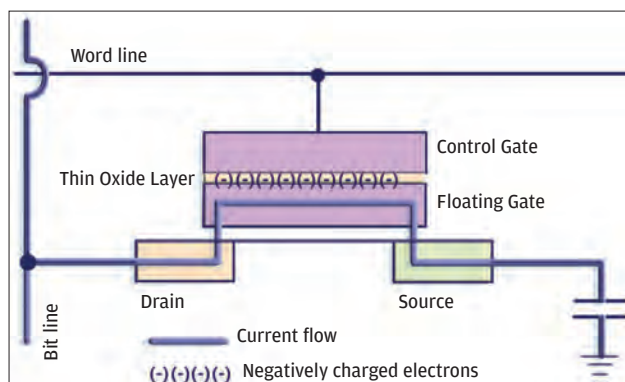
NAND vs NOR

NAND and NOR basically differ in architecture and they both have their pros and cons. NAND has its cells arranged in a series – like a NAND gate – and therefore lets you erase and write data faster, uses less space (about 60 per cent of a NOR flash) because it doesn't need so many 'grounds', cuts down on costs and is more robust than a NOR flash. NOR-flash memory, on the other hand, has every cell connected to the ground in parallel to the bit lines and another end to a bit line. This parallel connection is an advantage as every byte can be addressed individually. Yet, NOR is slower in writing and erasing but quicker than NAND in reading data. NAND flash requires that you read, erase or write data

on a block wise basis, where a collection of bytes makes a 'page' and a collection of pages makes a 'block'. Actions are performed in chunks and therefore NAND is unsuitable as a replacement for the ROM in your PC which needs random access at the byte level.

How flash drives work

Any data storage device must be able to perform the three basic actions of Write, Read and Erase. Whether it's NAND or NOR, reading, writing or erasing are all controlled entirely by the voltage combination applied to the WL and the BL. In the case of flash drives, it's all about setting the status of a cell to 'charged' or 'not charged' – or alternatively, sensing whether the floating gate in individual cells is set to 0 or 1. If a floating gate has electrons, it hinders the flow of electrons through the transistor (from the control gate to the silicon element), thereby allowing less than 50 per cent of the current to pass through – implying a zero (0). Similarly, if there is no negative charge in the Floating Gate impeding the flow of current, more than 50 per cent is allowed to pass through – indicating a one (1). This can be controlled by deliberately manipulating the voltage applied at the Source, Drain or Control gate to change the delta value. If the drive hasn't been used at all – or if it's blank – all the cells are set to '1' because the flow of electrons is unhindered. Thus the state of the flash cell is determined by whether or not the Floating Gate contains electrons or not. If it does it's programmed, if it doesn't, it's erased or blank. The changing voltage at every cell is measured by a flash Memory Sense Amplifiers which use a differential amplifier to measure the disparity between the voltage generated by a particular cell current (the flash Bit line voltage) and a reference voltage value. If the Bit Line voltage is higher, it implies that the 'Data Out' signal is pulled to a logic high (binary digit 1) and conversely, if it is lower, the 'Data Out' signal is pulled to a logic low (binary digit 0). Having understood this,



This one is set to zero

let's figure out how flash drives perform their individual tasks.

Erasing

Since none of the Floating Gates (FG) contain negative charge to begin with, all the bits will be set to '1'. Ergo, if you want to erase a programmed cell, you'll need to set it back to '1' – or rather, compel the FG to empty itself of electrons. Applying a voltage (between about 9V and 12V) from the source to the control gate along a Word Line would cause the electrons trapped in the Floating Gate to break out and 'tunnel' to the Source and the p-type substrate. The Floating Gate is now free of electrons and set again to '1'.

Programming

Given that all the cells are already at '1', programming a blank flash memory device becomes restricted to setting a cell to the binary '0' value. To write into a flash drive, then, a high voltage (about 7V) is applied to the Bit Line (the Drain) and a higher one (around 12V) to the Word Line (the Source). Electrons will now flow from the Source to the Drain. Typically, some over-excited electrons will jump and tumble into the FG (remember the 'Hot Carrier Injection' process?), getting trapped there, giving a negative charge. Turn the power off and the electrons still stay there, thanks to the insulation of the oxide around the FG. Thus, entire blocks of cells can be programmed into millions of sequences of zeroes and ones, literally, at the speed of light.

Reading

When a current is passed from the Control Gate (about 5V) to the Drain (about 1V), the current begins to flow between the two. The voltage is not high enough to bump electrons into the FG if it is not negatively charged but high enough to detect insulation or conduction at every cell. The cell sensor tracks the current flow and identifies whether a particular cell is conducting or remains insulating.

Accordingly, it arrives at a binary code of ones (1s) for every conducting cell and zeroes (0s) for every insulating one.

Types of flash drives

When it comes to flash storage devices these days, NOR flash takes a back seat and it seems to NAND all the way. Two basic forms of NAND are the preferred form of storage in solid state



Wafer thin

Kingmax unveils the world's smallest flash drive with a maximum capacity of 4 GB

Say hello to mSATA

The new standard geared towards near wafer-thin drives, it will support 1.5 Gbps and 3.0 Gbps transfer rates

devices today: Single-Level Cells (SLC) and Multi-Level Cells (MLC).

Single-Level Cells

An SLC flash is so designed as to store only one bit-value per cell. So, for example, if the memory is being read, each cell can provide either of two values, depending on the voltage level – 0 (zero) if the cell is programmed or 1 (one) if the cell is blank or erased. Thus, the cell sensor in SLCs has only two voltage levels to bother about.

MLC, it is even possible to store more bits than two in a single cell. As the sensitivity to voltage deltas gets better, the flash drive simply needs to be able to detect 2N states in the cell (where N = the number of desired per cell). So, for example, if you want each cell to hold 4 bits, you'll need to be able to identify 24 (or sixteen) voltage states in the cell – viz. 0000, 0001, 0010, 0011, 0100, 0101, 0110, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1110, 1111.

SLCs vs. MLCs

Let's take a better look at the differences between SLC and MLC flash drives.

MLCs take longer time to read and write data because it needs to track more minute gradations. SLCs can read and write data much faster. However, an MLC flash can hold double the number of transistors on the same wafer size as compared to an SLC flash. This allows greater density and thus, more memory on the same size chip bringing down the cost per MB. Cheap thumb drives or pen drives, therefore, prefer MLC.

SLCs, however, score on one parameter – lifespan. Every flash drive has a limited number of erase/programme cycles. This is because the silicon oxide material that is used to separate the Floating Gate from other parts of the cell suffers wear and tear with the repeated 'tunnelling' of electrons during erasure or programming. By and by, the material dissipates and electrons don't move about the way they should. Note that reading does not reduce life of the flash memory because the process does not involve the passage of electrons through the oxide, only detection of voltage difference.

All SSDs erase in blocks (groups of pages) and write in pages (groups of cells).



Send your feedback at www.thinkdigit.com/d/oct09

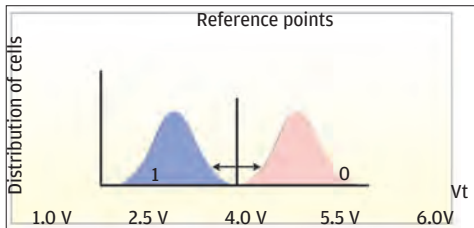
At the rate we go about juggling data in our flash drives, the average drive should wear out really fast. Luckily, SLC flash drives deteriorate only after about 100,000 write/erase cycles – which could last decades, unless you insist on rewriting all day and night for several years at a stretch (MLCs last for only about 10,000 such cycles). Deleting data is different. When you erase data, the drive doesn't really erase it, but only marks a set of pages as 'invalid' and stops showing them up when you open the drive folder on your screen. It then waits until you write in some data, removes the data from the 'erased' cells and puts the new bit values into them. This reduces the wear and tear and increases the lifespan of the drive.

Of course, not all drives delete the same way. Some poorly built flash drives have high Write Amplification factors – which is a technical way of talking about how much 'writing' actually happens.

Therefore, if you want to change just a few pages of data, the drive will erase the entire block that contains those pages, make the changes and write the new block in, thus increasing the number of times 'tunnelling' happens. This reduces the lifespan of the drive.

To put it briefly, MLCs have a high density and can hold more data at cheaper costs and smaller sizes, while SLCs need less power, are more durable and allow faster writing and erasing of data. Choice a particular kind of drive would depend on your requirements.

Flash memory is not without its drawbacks. Some cells get unintentionally programmed while programming other adjacent ones (a phenomenon called 'Program Disturb'). Sometimes the threshold value is misread and a '1' is recorded instead of a '0' (called 'Read Disturb'). Charge may leak out of the FG, affecting data retention. Some question the ability of flash drives to store information when it comes to less than 30 nanometres. Manufacturers all over the world are working to better the existing technology and eliminate the drawbacks of both, MLCs as well as SLCs. For all practical purposes, NAND will do for the average consumer for the next few years at least. Flash is the future. **d**



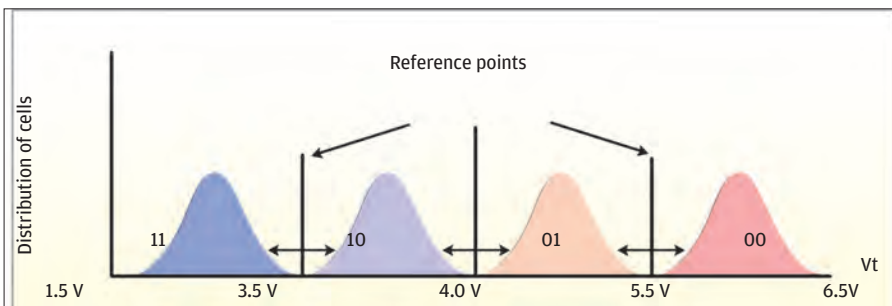
The SLC Flash detects a zero or a one based on the Threshold Voltage of the cell

Multi-Level Cells

Manufacturers, like Intel, use the same transistors for their SLC and MLC flash. The difference is in how data is stored or read. In the case of a Multi-Level Cell, every cell can represent four states:

- a) 00 (two zeroes) indicate that the cell is fully programmed
- b) 01 (a zero and a one) represent a partially programmed cell
- c) 10 (a one and a zero) show that the cell is partly erased
- d) 11 (two ones) indicate that the cell is fully erased

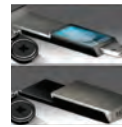
In short, an MLC can store two bits of information with no difference in requirements of space or power. While the minimum and maximum voltage stay the same in SLCs and MLCs, there are more gradations between the two voltage levels, making the drive sensitive to smaller variations in voltage, allowing it to register two bits per cell. This, of course, would entail better programming algorithms, exact placement of charge and better charge sensing to detect the amount of charge on the floating gate more precisely. In an



MLCs give you two bits for the price of one



A 4-inch flexible OLED display of QVGA resolution with a curvature radius of 2 inches was showcased at CES



Ennova announced a USB flash drive that packs a OLED screen which also doubles up as a fingerprint scanner

How LCD panels work

Terry Relph-Knight

readersletters@thinkdigit.com

Liquid Crystal Displays (LCDs) have their advantages for both TVs and computer monitors. However, there are two things they haven't done as well as CRT; high contrast and colour depth/accuracy.

This however is set to change with the introduction of LED back-lights. To see why requires a look at how 'traditional' LCDs work.

LCD panels use the variable polarisation of electronically controlled liquid crystal cells to vary the amount of polarised light that will pass through the panel. In other words, an LCD panel is composed of a large number (a typical 1,600 by 1,200 computer monitor has 5,760,000 cells) of tiny, voltage controlled, light valves. The cells themselves are neutral density; they pass or block all frequencies of visible light more or less equally. To provide the sensation of variable colour each pixel consists of three of these cells, with individual red, green and blue filters placed in front of each group of three cells. A wide range of colours can be produced by varying the relative amounts

RGB LED backlights deliver brighter, darker and more colourful displays

of light passing through each of the three cells making up a pixel. Ambient light can be reflected from a plate behind the cells, or a back-light can be used for a brighter, emissive, display. Most displays used these days have a back-light and until recently this would have been a Cold Cathode Fluorescent Lamp (CCFL)

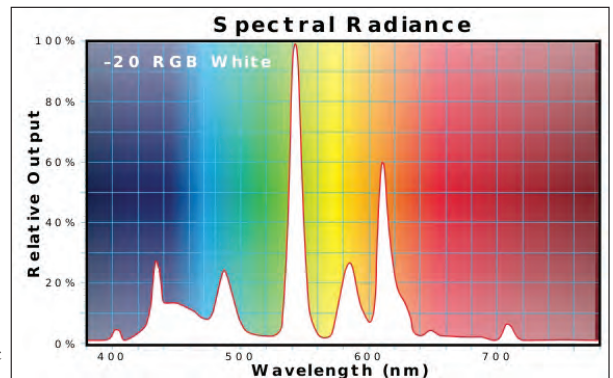
One of the weaknesses of LCDs is low contrast. When the liquid crystal cells are fully open (in the off state with no voltage applied), they do not transmit all of the light from the back-light, for one thing the light passes through a polarising filter, so

at least half of the original light from the back-light is blocked. However, more significantly, when the cells are closed they do not block all of the light. The ratio of light passed, between the on and off state defines the displays contrast ratio (note – contrast is always a ratio, not an absolute measurement). In the older type of LCD panel the CCFL back-light remains on at a fixed brightness all the time (it may turn off during power saving) and has no effect on the contrast ratio, which is determined entirely by the on/off ratio of the liquid crystal panel (ignoring the effect of ambient light reflected from the internal structure of the LCD for the moment).

The Fluorescent lamp

Fluorescent lamps for general lighting were introduced commercially in 1938 and were first used in large quantities to light factories during the Second World War (commercial LEDs became available in 1968 and blue LEDs were not introduced until the late 1990's). Fluorescent lamps are significantly more efficient than incandescent lamps and small fluorescent lamps (Compact Fluorescent Lamps with electronic ballasts – CFL) have been heavily marketed in recent years as 'energy saving' lamps. Conversion efficiency of electrical power to radiant power varies between 17 and 21 per cent compared to less than 5 per cent for the filament incandescent lamp. The luminous efficiency of CFL sources is typically 60 to 72 lumens per watt, compared to 8 to 17 lumens per watt for incandescent lamps.

In back-light applications, efficiency (regardless of the type of light source) is low because a lot of light is lost passing through the diffusers, polarisers and colour filters, perhaps only 5 per cent of the light from the



Spectral plot of a CCFL back-light taken from the manufacturers brochure. The light output is extremely uneven with large spikes at various frequencies

back-light reaches the viewer.

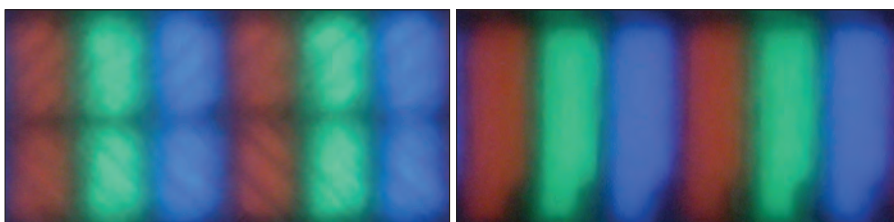
Very recently there has been something of a backlash against fluorescent lamps since they contain mercury, which is poisonous and tends to get released into the environment when old lamps are thrown away.

Fluorescent lamps work by ionising a column of low pressure gas (mercury vapour) causing it to glow with ultra-violet light. The inside of the glass tube containing the gas is coated with a mixture of phosphors that react to the ultra-violet light by emitting light in the visible spectrum. Various mixtures of phosphors are used in the tubes to give an approximation of 'white' light with some variation. For example "Warm White" tubes have more red while "Cool White" tubes have more blue. The spectral output of a fluorescent lamp is surprisingly uneven.

The CCFLs used for LCD back-lights use a high voltage to start the ionisation of the gas while the tubes used for general lighting run at lower voltages and use a momentary heating coil. As far as the colour range or gamut of LCDs is concerned, it is the uneven spectral response and the range of light frequencies emitted by the tube phosphors that limit performance. Early CCFLs used similar phosphors to the

Jargon Buster

- Polarization - a property of waves that describes the orientation of their oscillations.
- Ionization - is the physical process of converting an atom or molecule into an ion by adding or removing charged particles such as electrons or other ions.
- Dead pixels - They could occur on LCDs when the screen is damaged or put under pressure.



Photomicrographs of two pixels from two LCD panels from different manufacturers. The images are blurred because they are shot through the anti-glare front diffuser. Nevertheless it is still possible to see that the two panels use different cell geometries

BenQ monitors in India

To read more about BenQ's LED monitors, go to www.thinkdigit.com/d/60724/



Flexible displays

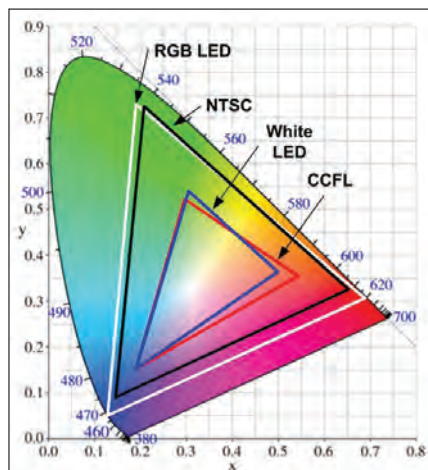
LG showcased a 11.5-inch sheet of flexible e-paper

phosphor formulations used on the tubes used for general lighting. Recently CCFLs have appeared with modified phosphors to give a greater display gamut, for example Sony's Wide Color Gamut - CCFL (WCG-CCFL) with a claimed gamut 30 per cent larger than a conventional CCFL, but it looks like these are going to be eclipsed by the new RGB LED back-lights, at least in part because using LED back-lights reduces the amount of mercury released into the environment.

By comparing the spectral output graphs of the two types of back-light it is easy to see that RGB LED produces higher peaks for red, green and blue and covers more of the visible spectrum. This results in a considerable improvement in gamut can be seen from looking at the gamut area plots.

RGB back-lights save the planet

RGB LED back-lights offer great advantages in terms of power saving and a longer service life than CCFL. According to Sharp, for example, their RGB displays consume 40 per cent less power and offer a back-light service life of 100,000 hours, about two thirds longer than regular LCD



This diagram shows the various gamuts of different display types plotted as 2D areas using the XYZ colour space

TVs. To put this in perspective - if the display is turned on for 5 hours a day, this is 20,000 days or over 57 years.

Back-light layout

The older panel designs with fluorescent back-lights normally use edge lighting where a CCFL is mounted near one edge of the display. Light from the lamp is guided and spread across the back of the display using a narrow wedge shaped light-guide. The light is further disbursed using a translucent diffusion panel and a prismatic panel that helps reflected light to bounce around. Some displays may use two CCFLs top and bottom, or even on large displays a number

of tubes may be mounted in parallel behind the panel.

There are several ways to arrange and drive the LEDs in a LED back-light and these are known as 0D, 1D and 2D.

0D simply uses a number of LEDs and a diffuser system to evenly back-light the entire LCD panel, a direct replacement of the CCFL without any added functionality.

In a 1D back-light the LEDs are arranged in horizontal rows behind the panel and can be brightness modulated to achieve a crude degree of contrast enhancement.

Lastly, in a 2D back-light the LEDs can be arranged in groups (for an RGB back-light also in sub-groups of red, green and blue) that can be individually brightness modulated, an improvement in contrast over different areas of the display (as shown in the two photographs of an RGB back lit television display).

Colour temperature

Previously the only way to adjust display colour temperature was to adjust the individual gain of the red, green and blue colour channels driving the display. RGB back-lights provide the opportunity to change the colour temperature of the back-light itself. In other words, the shade of the



Two photographs of identical LCD back lit televisions driven with the same signal. On the left the LCD as well as the modulated 2D back-light is being driven with the image signal while on the right only the LED back-light is brightness modulated

'white' light provided by the back-light can easily be varied, for example from a 'warmer' reddish white - 5,000K, to a 'cooler' blue-white - 9,300K.

Contrast improvement using LED back-lights

LCD panel contrast can be hugely improved by turning the back-light off. In this case the idea of representing contrast as a ratio gets a bit silly because the ratio of - some light - to - no light - is infinite. However this really only applies in a completely dark room. In practice there is often a high level of ambient light, which is reflected by the internal structure of the display, degrading contrast.

LED back-lights can be turned on and off very rapidly and they can also be brightness modulated over a wide range, neither of which can easily be done with CCFL

back-lights. LED brightness modulation is usually performed by driving them with a square wave and modulating the duty ratio of the wave (pulse width modulation). This technique does introduce its own problems of RF radiation and the difficulty of actually transitioning to a true off state.

Of course, if a small high resolution panel could be made with a set of RGB LEDs at every pixel, the LCD panel would not be needed since the image could be reproduced entirely by brightness modulated LEDs. Large LED-only displays, where each group of three LEDs is small compared to the overall display size, do exist and are used for applications such as advertising hoardings. However, at the moment it isn't practical to produce smaller high resolution displays in this way, so the LCD panel is retained to provide the required resolution and LED back-lights are used to enhance the contrast (and improve the colour gamut). This is achieved by dividing the display up into quite low resolution segments, typically around 128 segments may be used. Within each of these segments, contrast may be enhanced by modulating the brightness of all the LEDs in that segment. This does mean there is some light spill or haloing in the areas where the image on the LCD

changes abruptly from light to dark. Using more segments will result in smoother contrast changes across an image. At the moment, the marketing departments of most display manufacturers are keeping quite about the exact details of their RGB backlit displays, Sony for example will not say how many LEDs they use or in how many segments. Sony do say they use 2 green with 1 red and 1 blue LED in their LED clusters. This compensates for the generally lower light output of green LEDs compared to red and blue.

With computer monitors that are used primarily to display business graphics its debatable that there is any advantage in using the area based back-light dimming that is being employed in the current crop of LED back-light TV's for contrast enhancement. This really only comes in to its own for photo



LG's Jazz

LG adds Jazz Theatre and Jazz Atom its Jazz series LCD TVs



OLED screens

Samsung reports around half the world's cellphones will have OLED screens in the next five years

How stuff works

realistic images where there are large areas of light and shade.

Contrast measurement - the specification game

Marketing people love numbers they can stretch or misrepresent to make their products look better and for displays, contrast ratio is one of those numbers. It would seem that measuring contrast should be straight forward, as mentioned contrast is the ratio between peak white and black. However, as the 'black' level falls to lower and lower amounts of light it becomes more and more difficult to measure accurately. It is possible to claim huge contrast ratios simply by measuring black levels in a very dark room with the display or at least the back-light, literally turned off.

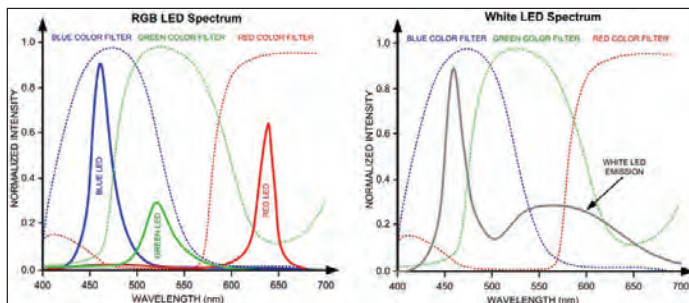
Measuring with a checker board pattern of black and white rather than with the entire screen black and white, allows for internal screen reflection and produces a more realistic result. As does measuring with a known amount of ambient light.

Typical contrast ratios for LCD panels are on the order of 200 to 400 to 1, although more recent developments in PVA (Patterned Vertical Alignment) and S-PVA (Super Patterned Vertical Alignment) panels provide claimed contrast ratios of over 3,000 to 1 (i.e. better black levels). The old CRTs provided good contrast because, when properly adjusted, black level means the display emits no light.

Colour stability and temperature compensation

All colour displays have suffered from colour instability due to temperature change. With CRT and the CCFL back lit LCD panels the approach, certainly before colour calibrating a display, was to leave the display switched on and displaying an image for between half an hour, to an hour, to allow it to 'warm up' and for the colour to stabilise. There was no attempt in these designs to apply corrective feedback for colour/temperature changes.

The light output of LEDs does vary markedly with ambient temperature and in an RGB LED back-light this can result in



Spectral plot of an RGB back lit display compared to a white LED back lit display. The RGB plot shows clear peaks for red, green and blue while the white LED plot has a sharp peak at around 450nm and a lower, broader, peak from 500 to 600nm - i.e. blue and yellow

colour drift as the temperature characteristics of red, green and blue LEDs do differ.

White LED back-lights and comparative gamuts

Perhaps an obvious and relatively simple step in display design evolution is to take a conventional LCD panel and simply replace the Cold Cathode back-light with a white-light, LED back-light system. The advantage of doing this is that the electronics are simplified because the high voltage converter required by the CCFL isn't needed and the environmental impact is at least modified because LEDs don't contain mercury.

White LED back-light displays often

where BLU stands for Back Light Unit.

Typically, a blue plus yellow phosphor LED back-light will only manage a 71.6 per cent comparative gamut (relative to NTSC). Experiments have also been done using a blue LED with distinct red and green phosphors. When this LED design is combined with the typical LCD filter sets and colour matching functions, a reasonably wide gamut of 91.9 per cent of the NTSC standard gamut is obtained.

In comparison manufacturers using back-light designs with discrete red, green and blue LEDs are claiming gamuts as large as 123 per cent compared to the NTSC standard.



Give us your feedback at www.thinkdigit.com/d/oct09

do not provide the best in wide gamut photo-realism. This is because the spectral output of the "white" light from the LEDs is not very smooth and does not provide sufficient energy over a wide range of frequencies. Most white LEDs are blue, or ultra-violet light LEDs, with the addition of a yellow phosphor in the lens cap, which converts some of the blue light into light at other frequencies, in the same way that a fluorescent tube phosphor converts the ultra-violet wavelengths into visible light. This is evident in the spectral plot (see - white LED spectral plot) where the blue

Unfortunately, companies offering LED back-light displays use different designs and don't want to reveal exactly how their products work, it may be difficult for the consumer to tell with certainty what the differences are between the various products available in order to make sensible choices. There is for example the significant difference between a 'white' LED back-light and an RGB back-light. A display may even use an RGB LED back-light and as a result offer a better colour gamut, but not apply segmented brightness control to provide the improvement in contrast. **d**

ASUS Ultra-Slim Designo **MS246H** LCD Monitor
Be the envy of those around you

love at first sight



ASUS
Inspiring Innovation • Persistent Perfection

Ergo-Fit
Easy angle adjustment

50000:1
High Contrast

2ms
Trace Free

40%
Power Saving

Full HD
1080

HDMI

Splendid

For more details visit www.asus.in | Toll Free No.: 1800-2090-365

Cooler Master Elite 334 ATI Radeon Edition Cabinet

A standard cabinet with fancy stickers!

Contact

Cooler Master

Phone: +91-9422501592

Email:

Tanmay.L@cooler-master.com

Web site: www.cooler-master.com

Price: Rs. 5,650

Specifications

Dimensions: 485 (L) x 187 (W) x 421 (H) mm

Weight: 6 kg

5.25-inch Drive Bays: 4

3.5-inch Drive Bays: 7

I/O Panel: USB 2.0 x 2, 3.5mm audio in/out (HD Audio supported)

Expansion Slots: 7

Power Supply: Cooler Master RS500-PCARA3 (500W)

On one side of Cooler Master's Elite cabinet, we have Ruby – a character many will associate with. On the other side, we have a semi-transparent red acrylic sheet.

Like many Cooler Master cabinets, there's a meshed grill with a dust filter on the front, which can be easily removed. The build quality is above average. Oddly, only one side panel has a screwless design. On the inside, there are screwless panels with

RATINGS

Features	7
Performance	6.5
Build quality	6.5
Value for money	6
Overall	6.5

knobs to keep the drives in place, but in vain. There's a 120-mm fan placed in the front, but none at the rear – a little disappointing. The cabinet is bundled with a 500-W power supply from Cooler Master's eXtreme series, that is known as a cheaper alternative to their Real Power series of power supplies. Even then, this power supply should be able to handle a power mid-ranged graphics card such as a GeForce 9800 GTX easily.

It sells for Rs. 5,650, which is a little over the top in our opinion. If you are the kind



Photographs: Manas Parekh, Jiten Gandhi

of person who just wants a cabinet to show off, this could be your pick. If you are meticulous about your power supply, look elsewhere.

Acer Tempo F900

Acer's entry into the smartphone market

The F900 marks Acer's entry into India's smartphone market with a somewhat utilitarian look. Its most striking feature is the 3.8-inch 480 x 800 resolution screen. It works fine under sunlight, but isn't very accurate when used with fingers. It takes some time getting used to. Its touch-sensitive buttons at the bottom give a nice vibrating feedback. The phone won't easily fit into any pocket owing to its large dimensions.



Acer's implementation of their custom interface on Windows Mobile 6.1 has a somewhat hit-and-miss affair. It isn't very responsive and multi-tasking with more than three applications can make it sluggish. There were a few occasions where the operating system locked up. Internet Explorer is simply unusable to browse full fledged web sites. The accelerometer is not very accurate either. The on-board GPS chip works well with Google Maps. The audio quality using

the bundled earphones was about average, but we missed a 3.5-mm audio jack. The 3.2-MP camera gives decent results of photos shot in day light.

The call quality is average. The high capacity battery belts out a decent life of a day and a half with moderate usage. At Rs. 30,000, the F900 has nothing substantial other than the large screen.

RATINGS

Features	6.5
Performance	5.5
Build quality	6
Value for money	5
Overall	6

Contact

Acer India Pvt Ltd.

Phone: +91-9818316575

Email: charu.mishra@vdp.in

Web site: www.acer.co.in

Price: Rs. 29,995

Specifications

Network: Quad-band GSM, HSDPA at 7.2 Mbps

Screen: 3.8-inch 480 x 800 pixel
Processor: Samsung S3C 6410 533 MHz processor

Memory: 128MB RAM, 256MB ROM
OS: Windows Mobile 6.1 Professional

Connectivity: Wi-Fi 802.11 b/g, Bluetooth 2.0, HSDPA, A-GPS

Camera: 3.2 Megapixel

Battery: 1530 mAh

Dimensions: 117.5 x 63.5 x 12.9 mm

Weight: 150 g



Seagate Barracuda LP

A eco-friendly drive with mammoth capacity

The Seagate Barracuda LP is a regular 3.5-inch desktop hard drive that packs a punch with its 2 TB of space. It spins at an odd 5900 rpm, which is a lot slower than the typical 7200 rpm desktop drives. This slower speed should mean better power efficiency and also better

HDtch 32MB file	
Average Read (MBps)	95.6
Average Write (MBps)	85.7
CPU Utilization (%)	5
Random Access Time (ms)	14.8
Read Burst Speed (MBps)	224.2
SiSoft Sandra 2008	
Drive Index, Read (MBps)	90.05
Access Time, Read (ms)	14
Drive Index, Write (MBps)	81.19
Access Time, Write (ms)	5

reliability. Seagate positions this drive to for low-power PCs for home use and office networks as an internal storage solution.

We observed no difference in vibration on this drive as compared to the Seagate Barracuda 7200.11 drive. The noise levels were under acceptable range.

In real world tests, the drive took 43 seconds to copy a 4 GB file and 57 seconds to copy an assorted 4 GB folder. It took the same 43 seconds to read the 4 GB file from the drive. But a 4 GB assorted file was read slowly at 90 seconds. The drive did not perform really well in the internal file copy test – which means copying data from one partition to another on the same drive. It logged 197 seconds for a single file and 259

seconds for a 4 GB folder of assorted files.

The Seagate ST32000542AS drive sells for Rs. 16,700. A 2 TB drive from Western Digital costs a few thousand rupees less. This drive probably will help you save in the long run on electricity bills, but you'll be shelling out quite a sum to buy it now.

RATINGS

Features7
Performance6
Build quality6
Value for money6
Overall6



Contact

Fortune Marketing
Phone: +91-11-26414468
Email: sales@fortune-it.com
Web site: www.fortune-it.com
Price: Rs. 16,700

Specifications

Capacity: 2 TB
Size: 3.5-inch
Rotational Speed: 5900 rpm
Buffer Size: 32 MB
Interface: SATA 3.0 Gb/s
Dimensions: 147 x 102 x 26.1 mm
Weight: 655 g

Sony Walkman NWZ-W202 2GB

Sony's wireless formula to their audio players

Contact

Sony India
Phone: 1800-11-11-88
Email:

sonyindia.care@ap.sony.com

Web site: www.sony.co.in

Price: Rs. 4,990

Specifications

Capacity: 2 GB
Device Interface: USB 2.0 (mini-USB port on player)
Weight: 35 g
File Format support: MP3, WMA, AAC

RATINGS

Features6
Performance7
Build quality6
Value for money5
Overall6

Sony recently introduced the NWZ-W202. Advertised as the "Walkman Unwired", it's a music player designed like a stereo bluetooth headset. Looks-wise, it's surely a head-turner. The player is controlled by means of a 'jog-dial'-esque clickable roller. The dial is pretty tactile.

We observed what we think might be a flaw, while using it in motion. The in-earphones would tend to slip out of their 'sweet-spot' position; thus increasing ambient noise. Hence, we kept adjusting the player back in its place from time to time. Secondly, swiping the jog-dial repetitively is irritating while

skipping through many songs. The 'Zappin' feature helps by automatically shuffling through song clips, but you'll have to be patient since each clip plays for 5-7 seconds.

The sound quality of this player is decent. The highs and mids were pretty clear. The bass wasn't very impressive. The output isn't as good as higher-end Walkmans, but very acceptable. Data transfer rates via the PC are average. It surpassed its specified 12-hour continuous playback mark by almost two hours – a good thing in our opinion.

At Rs. 4,990, the W202 is definitely expensive when compared to other screen-less players. The new 4 GB iPod Shuffle sells for around that



price, or a Samsung S2 2GB sells for half of that price. And with the flaws mentioned above, we really don't feel like recommending this one over the latter two.



ASUS introduces P7P55D series motherboards for the Core i5 and i7 processors



ASUS launches the SV1T skype videophone with wi-fi and a touchscreen

Samsung Jet

A multimedia powerhouse

The Jet is Samsung's attempt at enticing people enthused about getting a multimedia touch phone. At first sight, the Jet looks very cool in its black avatar and holographic back panel. Its shape and size make it quite comfortable to hold as well as to slip into the pocket. Unlike many metal-bodied Samsung phones, this one does not give that feel of toughness; it feels somewhat delicate. The phone has a vibrant 3.1-inch AMOLED display. The pixel-packed 480 x 800 pixel resolution makes the content played on it look crisp. Although the display is of resistive nature, the OS is optimized to be used entirely by fingers. There's no stylus provided with the package. The display's vibrance suffers under direct sunlight; you can just about read the text on the screen. The front bears call answer/end keys and an odd hexagonal three-way button. It oddly does not help navigate through menus but rather, it is used to switch between running applications. The buttons on the phone are tactile. The phone gives a vibrating feedback to every press registered on the display.

The phone runs Samsung's proprietary TouchWiz 2.0 OS. Its interface design is quite attractive. The interface performs flawlessly thanks to the Jet's fast processor. The home screen bears many pre-installed widgets like world clock, calendar, Facebook etc. that can be customised further. Multiple widgets can be placed across three home screen windows. The Internet browser renders full-blown websites quite nicely. The browser gets sluggish at times lag at times depending on the site you visit. There isn't a cut-copy-paste functionality. The high resolution screen can be disadvantageous at



times. For example, while using Google Maps, the text appeared very small. The touch interfacing system works well and has fewer hits-and-misses than other touch devices. The phone is quite narrow, so Samsung chose to fit a full QWERTY keyboard only in landscape mode. It takes time to get typing quickly and accurately on it. There's also handwriting recognition, but we doubt anybody would want to use their fingernails to scribble characters. At the end of the day, the Samsung Jet is not a smartphone. Installing applications is only limited to Java applications. People who would like to extend the functionality of their phone by installing a lot of third-party programs will be put off by this.

The call quality was pretty clear and signal reception good. Audio delivered by the bundled in-earphones is satisfactory. Better ones can be connected to the 3.5mm

headphone jack. The phone also plays back DivX and XviD files. We transferred some standard resolution AVI files without any downscaling and they played flawlessly. The video quality is also quite nice; this phone can easily double up as a good portable video player. The loudspeaker is quite audible as well. The onboard camera takes pretty good snaps. Smile detection works as advertised. It can also record video at a DVD-like resolution. Recording high resolution video can be a problem as the file size for a minute of video is roughly 12 MB.

At Rs. 24,150, the Samsung Jet is priced a lot above our liking. At this price, one would get a phone with an advanced and highly configurable OS than the Jet's. The phone handles multimedia tasks rather well and we would have definitely recommended it if the price was closer to Rs. 15,000 to Rs. 17,000.

Contact

Samsung India Electronics Pvt Ltd

Phone: +91-22-41511234

Email: sarfraz.s@samsung.com

Web site: www.samsungmobile.com

Price: Rs. 24,150

Specifications

Network: Quad-band GSM, HSDPA at 3.6 Mbps

Screen: 3.1-inch (480 x 800 pixel AMOLED)

Processor: Qualcomm MSM6246 800Mhz

Memory: 2 GB internal, microSD card slot (up to 16GB)

OS: Samsung Proprietary OS

Connectivity: Wi-Fi 802.11 b/g, Bluetooth 2.1, HSDPA, A-GPS, USB 2.0

Camera: 5 mega-pixel auto-focus with LED flash, Video at 720x480 resolution @ 15 fps
Battery: 1100 mAh

Dimensions/Weight: 108.8 x 53.5 x 11.9 mm / 110 g

RATINGS

Features	8
Performance	7
Build Quality	6
Value for Money	6
Overall	7



CM Storm introduces Sentinel Advance gaming mouse with an OLED display

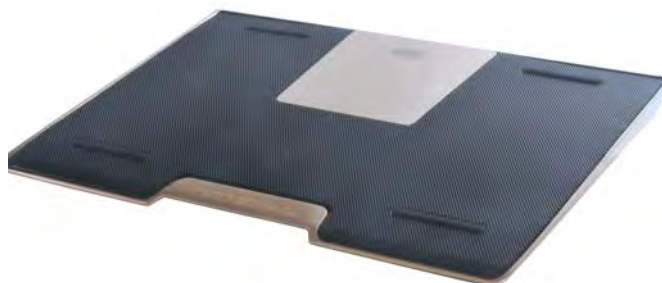


Creative launches the Zen Mozaic EZ300 media player in 4 GB and 8 GB capacities

CoolerMaster NotePal Color Infinite

A breath of fresh air

The 'color infinite' name tag probably refers to the variety of colours this notebook cooler is available in. From sober greys to a pastel pink; the colours add much of the style element to this sleek notebook cooler. We got a golden mat finish piece which was certainly nice looking. To see how effective it was at cooling, we used one of the slightly more hotter running laptops. We let 3DMark06 run to heat up the system and gauged temperatures with and without the cooler. The laptop chassis definitely was less hot while on the cooler. The groove pattern visible through the mesh is designed for optimum air flow. The fan takes in air through the back intake and pushes it through the mesh. The pattern is such that you get a smooth flow of cool air underneath your palms. The fan runs very silent and sans vibrations on all



three speed settings. It draws power through a USB port and compensates for it by providing another one on the cooler body. Additional features include hooks on the back panel of the cooler to manage wires as well as guide grooves on the bottom for the same. In terms of usage scenarios, you can use this on your lap, bed as well as on a desk. The mesh has stoppers to prevent slipping and in fact the whole aluminium body is anti skid. The cooler's

angle perfectly compensates for the downward gradient of normal sitting posture. The four rubberised knobs the bottom however can get irritating. Its footprint is quite large (as much as a 17-inch notebook) but it's quite lightweight; weighing in at 700 grams. Laptop coolers are certainly a niche line of products and so can command that inflated pricing. At Rs. 2,300 this one may still be worth a buy but a little cheaper and buying it would've been a no brainer.

Contact

Cooler Master

Phone: +91-94225-01592

Email:

Tanmay_L@coolermaster.com

Web site:

www.coolermaster.com

Warranty: 1 Year Replacement

Price: Rs. 2,300

Specifications

Dimension: 380 x 300 x 10-50 mm

Weight: 700 g

Fan Dimension: 90 x 90 x 25 mm

Max Fan Speed: 2000 rpm

RATINGS

Features6
Performance7.5
Build Quality7
Value for Money5
Overall6.5

APC Back-UPS RS 550

Small fry

Contact

Elizabeth Jacob

Phone: +91-80-39872000

Email:

elizabeth.jacob@apcc.com

Web site: www.apc.com

Price: Rs. 2,475

Specifications

Battery: 12V, 40 Watts/5min

Frequency: 45-65 Hz

Dimensions: 18.55 x 11.5 x 31.3 cm

Surge protection: 160 Joules

Weight: 5.1 kg

RATINGS

Features6
Performance5.5
Build quality7
Value for money6
Overall6

This is a UPS that is positioned as a battery backup and surge protection solution for business desktops. It has a rating of 550 VA which comes out to an output capacity of 300 Watts. Therefore it can easily handle basic home or office systems. Gaming systems are slightly out of reach for this UPS since gaming rigs would require a more beefier output capacity. To test the UPS we ran it on a standard office set up to check runtime on battery and also to check if the switch to battery is seamless. The documentation boasted of a 36 minute backup time, but it delivered 7 minutes. The two output ports available are standard 3-pin (India) 6A;

both have surge protection. In terms of features there aren't many as compared to some UPSs nowadays that come with an LCD screen to display status and change settings. There is however a resettable circuit breaker in case the UPS shuts down due to an overload. There's an alarm when output is on battery and a distinctive low battery alarm. The UPS has three sensitivity settings which can be used in case you find it switching to battery power too often. Sensitivity settings can also be used specific to the equipment connected to it. For instance equipment that cannot handle even minor voltage waveform distortions can be put on the 'high' setting which operates between a



limited spectrum of 165 to 270V. However switching between the sensitivity settings is difficult since you need to operate with just one button. Still, at Rs. 2,475, it's not extremely expensive and as an utility that gives you enough backup time to save all your work, it's well worth the money.



Google's Android 1.6 a.k.a Donut has CDMA support, Quicksearch and a text-to-speech API



Gyratation launches the Air Mouse Elite that senses wrist movements performed in the air

A-DATA Nobility NH92 250GB

A slim drive with an eye-catching design



A-DATA's Nobility NH92 is a portable hard drive with a USP to brag. According to their website, it is the 'slimmest' drive in the market today and the 'lightest' drive in an aluminum case. It looks very sleek; at 12mm, its thickness is on-par with many of the slender mobile-phones available today. It is also quite light-weight and weighs a little more than 150 grams. Its dimensions allow it to be carried easily in a cargo pocket or a purse. The feel of the texture reminds us of the etched backplate of the Nokia E71. Aluminum also gives it a decently sturdy feel; better than the plastic casings found on

drives by other manufacturers. It is available in three metallic shades.

The drive we've got for test was sized at 250 GB. A 320 GB and 500 GB version is available too. The drive has a widely-used miniUSB port, which ensures that a replacement cable will be easy to find, in case you lose the original. After putting it through the tests, it is shown that the drive performs at par with other drives in its segment.

At Rs. 3,300, the A-DATA NH-92 has a very fair pricing, too. If you're looking for a sleek portable drive, then this drive will fit your needs.

Contact

A-DATA

Phone: +91-33-40105500

Email: jerry_lu@adata.com.tw

Web site: www.

technocratinfotech.com

Price: Rs. 3,300

Specifications

Capacity: 250 GB

Device Interface: USB 2.0

HDD Interface: 2.5" SATA

Dimensions: 114 x 75.8 x 12 mm

Weight: 152 g

Real world tests	
File Write 4 GB Single File (sec)	173
File Write Assorted 4GB files (sec)	217
File Read Test 4GB Single File (sec)	126
File Read Test Assorted 4GB Files (sec)	132
Internal File Read Test Single 4GB File (sec)	331
Internal File Read Test Assorted 4GB Files (sec)	312
Photoshop CS2 Image Load (1GB File) (Sec)	88

RATINGS

Features7
Performance7
Build quality7.5
Value for money6.5
Overall7

Gigabyte GK-KM-7500

Surprisingly decent kit...



Contact

Priya Ltd.

Email: sales@priyagroup.com

Web site: www.gigabyte.com.tw

Phone: +91-22-42203100

Price: Rs. 2,199

Specifications

Frequency: 2.4 GHz RF

Dimensions: 463 x 160 x 20 mm

(keyboard), 100 x 60 x 36.5 mm

(mouse)

Weight: 700 g

RATINGS

Features7.5
Build Quality6
Performance7
Value for money6.5
Overall7

Gigabyte's been known for its motherboard and graphics cards and recently, they've entered the peripheral market with cases.

This wireless keyboard mouse combo are powered by AA batteries and come with no charging dock. The design of the keyboard is good - it's thin and light-weight. So, if you're using it while sitting on a couch away from the display or TV, you can easily rest it on your lap without any hassles. The mouse with the AA battery feels pretty light but the performance and range of the keyboard is slightly better than the mouse. The keyboard works fine through some obstacles in between it and the PC but the mouse is more

problematic. With a direct line of sight, we were easily able to use the keyboard and mouse at a distance of some 10 ft.

The keys don't have a particularly nice feedback and have little travel. There are multimedia buttons at the top of the keyboard and a volume control dial on the right top. These kind of features

are makes us believe that this product makes good sense for those with HTPCs. The battery ran perfectly fine for well over two weeks with average use of some three hours a day.

At Rs. 2,199, it's a tiny bit expensive for a basic wireless keyboard and mouse. Still, if you spend on it anyway, you won't regret it.



Western Digital Scorpio Blue 500GB

High-capacity storage coupled with a high price-tag!



Western Digital joins the race of the ever-expanding portable notebook hard drives with its Scorpio Blue 500 GB. All this space is packed into a 9.5 mm height body; making it compatible with most of the laptops. It uses WD's anti-shock protection measures to reduce chances of damage. During the testing, the drive ran silently and vibrations were at a bare minimum.

It took the drive just 50 seconds to write a 4 GB single file and 61 seconds for a 4 GB folder with assorted files. It read a 4 GB file at 75 seconds and the 4 GB assorted folder at 81 seconds. In the internal file copy

test, it took 186 seconds and 204 seconds for a 4 GB single file and 4 GB assorted folder respectively. Comparing it to the Seagate Momentus 5400.6 500GB drive, there are tests where both of them have. But in general, the performances

of these drives aren't drastically different.

We were almost shocked to find that maximum retail price of this drive is a whopping Rs. 10,950. The Seagate Momentus 5400.6 in comparison is for nearly half that price. The Scorpio Blue may be a decent performer but the difference in price difference doesn't make very good sense.

HDtch 32MB	
Average Read (MBps)	67.9
Average Write (MBps)	63.3
CPU Utilization (%)	4
Random Access Time (ms)	16.1
Read Burst Speed (MBps)	228.3
SiSoft Sandra 2008 Engineer's Edition	
Drive Index, Read (MBps)	63.8
Access Time, Read (ms)	14
Drive Index, Write (MBps)	64.41
Access Time, Write (ms)	5

RATINGS

Features.....	7
Build Quality	7.5
Performance.....	7
Value for money	4
Overall	6.5

Contact

Western Digital Corporation
Email: Amarjeet.singh@wdc.com
Web site: www.wdc.com
Phone: +91-93210 29204
Price: Rs. 10,950

Specifications

Capacity: 500GB
Size: 2.5 inches
Rotational Speed: 5400 RPM
Buffer Size: 8 MB
Interface: SATA
Dimensions: 100 x 69.85 x 9.5 mm
Weight: 117 g

ASUS SDRW-08D1S-U

Optical companion for your netbook

Contact

ASUS Technology Pvt. Ltd.
Phone: +91-22-67668800
Email: media_india@asus.com
Web site: www.asus.in
Price: Rs. 3,500

Specifications

Maximum Write speed:
 8x (DVD), 24x (CD)
Data Buffer: 2 MB
Dimensions: 156.4 x 140.8 x 21 mm
Weight: 412 g

RATINGS

Features	7
Performance	6
Build quality	7
Value for money	6.5
Overall	6.5

The Asus SDRW-08D1S-U is a slim, portable external DVD-writer. It comes in a two cool looking colours - black and white. It compliments the look of Asus's Eee PC netbooks. Because of its thin profile, it can be slid into a side-pocket of a bag. The build quality is pretty decent and the eject button is tactile. Closing the tray gave a firm affirmation of our action. The drive can be used either horizontally or mounted vertically on the provided mounting stand. It has a miniUSB port at the back and is supplied with a Y-type USB cable. The drive comes bundled with Cyberlink's CD authoring software; it is not the full-blown version though. It will let you

write only data discs and rip audio CDs to MP3 - nothing that freely available software out there can't do.

To test it, we burnt a single 4.3 GB file onto a DVD which took eleven-and-a-half minutes. Then, we copied an assortment of files amounting to 4.3 GB. It took almost exactly the same time as the single file. According to our read tests, it took take around ten minutes to copy an entire 4.3 GB DVD onto the test PCs hard drive. Being a laptop optical drive on the inside, an average performance from this device is expected and that's what we got. At Rs. 3,500, the drive's price is somewhat okay. This product can be handy for people owning netbooks or nettops where



no DVD writers are provided. It might also work for HTPCs where the case doesn't have enough space to hold a large DVD drive. It's not very easy to find something this compact either. We give it our thumbs up.



MSI Wind U210 featuring an AMD Athlon Neo processor starts shipping in the US



MSI's ultra-slim X410 swaps out an Intel CULV for AMD's Athlon Neo processor with ATI Radeon X1250 GPU

SatGuide P360

Find your way

The mapping software on this GPS navigation device is created by SatGuide while the underlying device is the Mio P360 Digiwalker. The device is compact enough to easily fit into a pocket while the build quality is solid. It sure looks sleek with a large 3.5-inch touch screen and metal body. Now let's get on to the software which is essentially what makes this PDA a GPS navigator. The software navigation is not very intuitive and takes a bit of getting used to. Finger touch is fine but we noticed that in many cases the stylus works out better. Searching for locations is via browsing POIs (points of interest) or searching for streets. The search function is painful as each time, it asks for city and then drills down

further. A separate category for 'locality' would've been nice. Once you've selected a POI or Street it opens the maps to chart out the route. The turn-by-turn directions are voice assisted and work quite well in both pedestrian and car mode. The voice over is available in several Indian languages. However, the POI database was not very impressive in some of the categories; particularly ATMs. The QWERTY keyboard is not available by default and needs to be activated from settings; but is not at all comfortable to type on since one button carries two keys requiring a double tap. The interface is not very smooth when it comes to zooming or scrolling the maps. The lag is surprising high considering it has a fairly powered CPU.



Accessories include a car charger and a windscreen suction car stand. Overall it's a robust GPS Navigator that will take you from point A to point B but the database could certainly use some improvements.

Contact

SatNav Technologies

Phone: +91-92233 87281

Email: jayaprakash@satnavtech.com

Web site: www.satguide.in

Price: Rs. 19,999 for India maps and international regions

Specifications

CPU: Samsung 2443 400MHz

GPS Chipset: SiRF Star III

Display Resolution: 320x240

Dimension: 17.8 x 72 x 115 mm

Weight: 170 g

RATINGS

Features	6.5
Performance	5.5
Build Quality	7
Value for money.....	4
Overall	6

Apacer Steno AU380

An average pocket-friendly player

The Apacer AU380 is a spartan feature MP3 player. Its dimensions are comparable to a small matchbox. The plastic body has a decent build and a detachable clip allows you to hang the player on you like a pen. Its looks aren't anything to talk about; the copper-black color combination will not appeal to some. The front bears a tiny, non-bright 1.1-inch color screen that feels just a bit too small for say, viewing long song titles. Navigation isn't very intuitive and the UI design isn't going to win any awards. There's no categorisation of music according to artist, genre, album etc. Audio quality using the provided earphones is pretty good for a player in this price range. The FM reception is pretty good. A miniUSB port on the player

allows for connectivity to a PC. Transferring songs from the PC to the player is really simple and requires no proprietary software. It also supports viewing photos, but we really doubt anybody would want to do that on such a tiny screen. There's a direct voice recording button on the player itself, but it also records a lot of unwanted

noise while using this feature. Bottom line, the player has acceptable sound quality but one does not get the feel-good factor from this player. At the selling price of Rs. 2,999 for this one, there are many other worthwhile players out there which you can go for instead of this one.



Contact

Apacer Technologies Pvt Ltd

Phone: +91-80-41529061

Email: india@apacer.com

Web site: www.apacer.com

Price: Rs. 1,999

Specifications

Screen: 1.1-inch CSTN color

Audio Formats: MP3, WAV, WMA

Photo formats: JPEG, BMP

Built-in memory: 2 GB

Other features: FM Radio, Voice Recorder, FM recording

Playtime on internal battery:

Up to 25 hours

RATINGS

Features	7
Performance	6
Build quality	6
Value for money.....	6.5
Overall	6



Nokia N86 update to bring face and smile detection features to its camera



OCZ packs 256 GB, 512 GB and 1 TB worth space on their Z-Drive SSDs that connect to a PC via the PCIe slot

Acer Aspire Revo

An Intel Atom nettop with NVIDIA firepower

The Acer Aspire Revo R3600 is the first nettop, i.e. a small, low-power PC to include NVIDIA's ion platform on board. That means its got an Intel Atom paired with a moderately powerful GeForce 9400M graphics. The diamond-shaped casing looks really cool and is portable. The build quality's just about decent.

The Revo bundle includes a wireless keyboard-mouse set that's pretty comfortable to use. The 2 GB RAM is just about sufficient, since it runs the resource-hungry Windows Vista. In our use, the OS ran smoothly as long as it wasn't put under heavy load. We would not reckon using this machine for heavy multi-tasking or running processor intensive applications. Running Doom 3 at medium detail on a low resolution gave playable frame-rates. But the

Atom processor will serve as a bottleneck – so forget playing the latest games in full glory.

The Revo's main intention of high-definition movie playback isn't as simple as 'plug-and-play'. You'll need to use a media player that supports GPU acceleration for videos. A 1080p WMV file

under Windows Media Player played quite smoothly. The cute-looking web-cam delivers a pretty decent video quality. It would have been nice if the Revo had an optical drive built in.

At Rs. 23,000, the Revo is a little expensive. If you're looking for a compact, power-saving download rig that supports full HD, the Revo could fit your requirements.



PC Mark05	
CPU Score	1370
Memory Score	2352
Graphics Score	2060
HDD	4426
Overall	1919
3D Mark 2006	
CPU Score	492
Overall Score	1312
Doom 3 640x480, medium detail (fps)	26.6
DivX to VOB video conversion (secs)	1097

Contact

Acer India Pvt Ltd.

Phone: +91-80-40708700

Email: dinesh_nair@acer.co.in

Price: Rs. 22,999

Web-site: www.acer.co.in

Specifications

Processor: Intel Atom 230

RAM: 2GB DDR2

Hard Disk: 160GB

Graphics: nVidia GeForce 9400

Ports: 6 USB, 1 e-SATA, Card

reader, VGA, HDMI

Power supply: 65 W adapter with power cord

Dimensions: 180 x 180 x 30 mm

RATINGS

Features7
Performance7
Build quality6
Value for money6
Overall6.5

Philips GoGear Mix MP3 player

Shaped like a pen drive

Contact

Philips Electronics India Ltd.

Phone: 1860-1801111

Email: customercare.India@philips.com

Web site: www.india.philips.com

Price: Rs. 2,999

Specifications

Screen: 128 x 64 pixel, 4 line LCD

Audio Format: MP3, WAV, WMA

Built-in memory: 2 GB

Other features: FM Radio, Voice Recorder, FM recording

Playtime on internal battery: Up to 25 hours

RATINGS

Features7
Performance6
Build Quality6
Value for Money6.5
Overall6

The Philips GoGear Mix is a digital audio player that's shaped like a flash drive. The tiny dimensions makes it easy to carry it around. It is built well and looks neat. The front face of the player bears a screen that could prove to be a bit small for some. The navigation buttons are fairly tactile but felt a bit flimsy. A dedicated volume control and hold switch lie to the side. A switch to the other side brings out the seemingly delicate USB head.

The user interface has a simple look-and-feel. Songs are categorized according to artist, album and play-list. There is also a folder view available. The UI is pretty swift to operate. The audio quality from the bundled earphones



can be described as average. Audio quality is decent. The expected punch from the bass is missing. There are a couple of equalizer presets as well as the ability to have your custom setting. The data transfer rates from the PC to the player ranged at a pretty decent 3.5 MB/s. FM reception is pretty decent. It supports FM recording for a maximum of about two hours in the player's memory.

At Rs. 2,999, the GoGear Mix is priced in range. But similarly designed players like the Samsung YP-U5Q offer everything that this can, with better audio quality and at the same price. This player does not offer anything that's really out of the box for us to go ahead and recommend it.



Seagate launches world's first 6 Gbps SATA hard drive, the Barracuda XT



Sony Ericsson's MH907 headsets automatically play when worn, and pause when one earbud is removed

Bazaar

Epson Stylus TX550W

For those not willing to spend the least.

In the world of multi-functionality devices, probably one of the best marriages of two individual devices have to be the printer and the scanner. The Epson Stylus TX550W represents the latest breed of such MFDs. The device looks a lot like 'office furniture' due to its black colored plasticky body. Its not very heavy to carry around, but has somewhat large dimensions as compared to competitor models. To point out some of its USPs, it has a adequately-sized 2.5-inch LCD screen that tilts to an easily viewable angle. It also accepts multi-format memory cards. Other than the typical USB connectivity, you also have wireless connectivity. This will make it very easy to use this MFD with portable devices such as laptops.

The bundled software makes configuration over wireless very simple. After printing a variety of test pages in the



economy mode, we think that pages appear too faint. While they appear pretty decent in quality under normal mode. Under high quality, the photo prints came out fairly well. Colors seemed natural and the level of detail was pretty good. Scanning an image revealed that the image quality, although slightly washed out, is pretty decent overall.

At Rs. 9000, the TX550W is on par with the HP Photosmart C4588 MFD in terms of price. This model is quite easy to use, delivers decent results and has nifty features like the LCD screen and Wi-Fi. If you're looking for an MFD under the 10k range, the TX550W can definitely be considered worth buying.

Contact

Epson India

Phone: +91-80-30515000

Email: think@eid.epson.co.in

Web-site: www.epson.co.in

Price: Rs. 8,999

Specifications

Printing Method: On-demand ink jet (Piezoelectric)

Maximum resolution: 5760 x 1440 dpi

Scanner type: A4 Flatbed Colour Image Scanner, CIS type sensor, 2400 x 2400 dpi resolution

Display: 2.5 TFT Colour LCD

Memory card slots: CF Type II, Memory Stick, SD/MMC, xD-Picture Card

Interface: USB 2.0, Ethernet, Wi-Fi 802.11b/g

RATINGS

Features	7.5
Performance	7
Build quality	6
Value for money	6.5
Overall	7

Contact

Samsung India Electronics Pvt Ltd.

Phone: +91-22-41511234

Email:

kunal.a@samsung.com

Web site: www.samsungmobile.com

Price: Rs. 7,030

Specifications

Band: Quad band GSM

Dimensions: 113 x 48.9 x 17.4 mm

Display: 120 x 160 pixels, 1.77-inch, 256K Colors TFT

Connectivity: EDGE, Bluetooth 2.1 with A2DP, USB

Camera: 1.3 mega-pixel

RATINGS

Features	6
Performance	7
Build quality	8
Value for money	7
Overall	7

Samsung Marine

Tough nut to crack

The Samsung B2100 Marine is a tough phone with a spartan feature set. A completely rubberised body gives a feeling of solidity and grip. The back panel stays in place thanks to a circular lock and can't be easily pulled out like most phones.

The buttons, aside from being slightly hard to press, have a tactile feel. At just over a 100 grams, the phone is quite light-weight. The phone conforms to the IP57 industry standard for robustness and is water, dust and shock resistant. Overall, the phone does feel as tough as it is advertised.

While the meager feature set is acceptable, some of the

inferior components used in the phone are a put-off. The B2100 has a low resolution display that's low for our liking. It has unsatisfying sunlight legibility and the camera is pretty bad. It uses a yesteryear 1.3 mega-pixel sensor. The on board torch is pretty powerful for a phone. The 1000 mAh battery gives a pretty decent up-time.

During calls, there were problems of not proper transmission of audio. Other than that, the network reception was pretty decent. At Rs. 7,030, the phone is a little overpriced. The fact that it does not have modern-day features like GPS or a fitness application will probably not



entice the elite adventurer. But for people who have a habit of dropping their phone by mistake and damaging it, this might be for you.



The latest 8-GB iPod Nano with a built-in camera is priced at Rs. 9,400



Once released, Windows Mobile 6.5 will be found on Samsung's Omnia series of smartphones

Linksys WRT320N Wireless Router

A futuristic looking dual-band router



The Linksys WRT320N router is part of the modern design series that parent company Cisco envisioned. The WRT320N maintains the slim profile of its predecessor, the WRT310N, as well as the futuristic styling. The build is sturdy yet it looks great. This is one of the few routers available today that comes without antennas protruding. It supports the latest Draft-N Wi-Fi standard. The main difference in this revised model is the addition of a dual band – which operates at 2.4 GHz and 5 GHz as well. The router has a easy-to-use firmware interface. It supports automatic bandwidth allocation depending on the application being used.

Coming to the performance, we connected a Dell XPS Studio 13 wirelessly to the router. A dedicated system

acted as the server and the router was connected to it by wire. Two separate zones were setup - one where the laptop was placed right next to the router and the other where the laptop was placed some 25ft away. From the tests we ran, we could conclude that the router is above average in

terms of performance. The range and reception isn't that great either.

At Rs. 8,999, it's an expensive router. Other than the sleek design, it does not bring any unique features to the table that could interest the casual user such as USB support for example.

Zone 1 (100 MB File transfer)	
Signal Strength in Zone 1 (Wireless Mon 3.0, %)	70
Sequential (MBps)	4
Assorted files (MBps)	2.08
Zone 2 (50 MB File transfer)	
Signal Strength in Zone 2 (Wireless Mon 3.0, %)	40
Sequential (MBps)	5
Assorted files (MBps)	4.77
Zone 3 (50 MB File transfer)	
Signal Strength in Zone 3 (Wireless Mon 3.0, %)	5
Sequential (MBps)	N/A
Assorted files (MBps)	N/A
Passmark Performance Test Zone 1 / Zone 2	54.32 / 20.86
Video Streaming (HD 1080p) Zone 1 / Zone 2	9 / 8
Video Streaming (DVD) Zone 1 / Zone 2	9 / 9

Contact

Linksys Corporation

Phone: +91-98204 29532

Email:

jdabrai@cisco.com

Web site: www.linksysbycisco.com

Price: Rs. 8,999

Specifications

LAN ports: WAN x 1, LAN x 4 RJ-45

Frequency: 2.4 GHz or 5 GHz

Standards: Draft 802.11n v2.0, 802.11g, 802.11b, 802.3, 802.3u, 802.3ab

Size: 202 x 34 x 160 mm

Weight: 300 g

RATINGS

Features	7
Performance	6
Build quality	7
Value for money	4
Overall	6

Apple iPod Shuffle

Shuffling around

It's that time again and new apples are beginning to fall from, well, Apple trees. This one is really compact and elongated, whereas the previous one was square. The full metal body has an anodised finish and the belt clip is rugged. Gone are the controls on the body and there's just one power switch that doubles as a

track shuffle. Sadly Apple has moved the volume controls to the earphone cord so you can kiss using other headphones goodbye – in our opinion this borders on arm-twisting users to use only Apples earphones. There's a nifty voice based navigation feature that can tell you the name of your playlist and can also tell you the name of the artist or the title of a song while it's playing – neat and obviously meant to make up for the lack of a screen. However you need to download a voice over pack for this via iTunes.

Because of the controls being on the earphones it's impossible to test the device with any other



headphones and quite frankly Apples own headphones are not for purists. However, the earphones do belt out a pretty high volume. At Rs. 4,900, the new iPod Shuffle 4 GB is for someone looking for a really tiny MP3 player for music and nothing else.

Contact

Apple India

Phone: 1800-425-0744

Email: indiasales@mac.com

Web site: www.apple.co.in

Price: Rs. 4,900

Specifications

Capacity: 4 GB

Weight: 10.7 g

Frequency response: 20 Hz to 20 KHz

Audio formats: AAC, MP3, WAV, ALAC, AIFF

RATINGS

Features	6
Performance	7.5
Build quality	8.5
Value for money	6.5
Overall	7



The Asus Eee PC 1201n is their first NVIDIA ion based netbook



Samsung's 12 mega-pixel Pixon12 camera phone comes to India at Rs. 30,000



Sony Alpha 330L

The Alpha...and the Omega? We think not..

Sony's hold over the camera market extends to the DSLR side of things. Sony cameras are finding a home in the Indian market and already the A200 has been a hit among those who always wanted a cheaper DSLR. Sony brings a mid-ranged camera for those who want to take it a step ahead.

The body isn't as robust as some of Canon and Nikon's costlier offerings but it's still a big step up from the Sony Alpha 200. It feels pretty light even though it's a slightly larger camera than the Alpha 200. The lens still has a somewhat loose feel like the A200. Other makes prefer to use a heavier-feel zoom ring. The handgrip isn't particularly great either. The little finger slips under the handgrip and you'll find it getting sore after spending some time with it.

The user interface looks similar to the ones in other DSLRs from Sony. It looks a bit more professional than the Cyber-Shot range of point-and-shoot cameras. Still, it doesn't feel like it's geared towards serious photographers but just

photography enthusiasts. The live view feature means you can focus using the 2.7-inch screen instead of having to use the optical viewfinder. There's one jogdial which means you're left to depend on the buttons to navigate and access some of the functions.

Image quality is very good with little grain in well-lit scenes. There's a visible difference in image quality when you go from an Alpha 200 to something like this. The detail is crisp and colours a tiny bit emphasised are good for the most part. There is fine noticeable noise with ISO sensitivity set to 800 and above especially against dark surfaces. The stock lens kit can be used for decent macro photography with a little bit of zoom. The stock lens is an 18-55mm which is more or less 3x of optical zoom in layman terms.

Sony products and many of their DSLRs use the Memory Stick format but fortunately, this one can use both MS and also SD memory cards. There's a small toggle switch which one you want to use in the bay.

Some things haven't

changed. Sony still uses the traditional Minolta mount for flash so you can't purchase any flash unit and fix it to the camera. The flash on this camera raises well above the camera so you won't ever have the problem of the shadow of the lens barrel falling on your photos.

Until now, we've recommended the Nikon D60 as a solid DSLR for a budget over Rs. 30,000. Those who willing to push that budget close to Rs. 40,000 can be given an easy recommendation. The Sony Alpha 330 can be bought for Rs. 39,990.

Contact

Sony India

Phone: 1800-11-11-88

Email:

sonyindia.care@ap.sony.com

Web site: www.sonystyle.com

Price: Rs. 39,990

Specifications

Sensor resolution: 10.2 MP, APS-C size sensor - 23.5 x 15.7 mm, 2.7-inch LCD display, 18-55mm lens, Memory Stick/SD/SDHC memory cards supported
Dimensions: 128 x 97 x 71.4 mm
Weight: 491 g

diGiT OCTOBER SHOPPING FIESTA



Strontium Technology

Product	MRP (Rs)	Discount
2GB Pen Drive	499	30%
4GB Pen Drive	649	30%
8GB Pen Drive	999	20%
16GB Pen Drive	1799	20%
1GB Micro SD	399	20%
2GB Micro SD	449	20%

diGiT OCTOBER SHOPPING FIESTA



Gigabyte

Product:

GA-P55UD6, GA-P55UD3R, GA-MA78GM-US2H
GA-MA785GM-US2H, GA-P43T-UD3L, GA-G41M-E52L
GA-G41MF-US2H, GA-GC230D

RATINGS

Features.....	8
Build Quality.....	7
Performance.....	7
Value for money.....	7
Overall.....	7



The NEC's xHCI host controller becomes the world's first certified USB 3.0 product

Core i7

Intel announces Core i7 Extreme and Core i7 processors for laptops

digit OCTOBER SHOPPING FIESTA

OFFER VALID ONLY AT

North: KBC Computech
Mr. Kapil - +91 9899246861

South: Velocity Technology
Mr. Guruchandar - +91 9843242958

East: Shree Infotek
Mr. Manish Lunia - +91 9831155806

West: Hundia Infosolution
Mr. Kunal - +91 22 23887345

* Conditions apply

digit OCTOBER SHOPPING FIESTA

TO CLAIM:
call 91-22-40633211, or email
sales@gigabyte.in

Gigabyte will guide you to the nearest dealer where you can avail of this offer

* Conditions apply



VU Intelligent TV LTV-40i

HDTV with a built-in PC!

VU's LTV-40i Intelligent TV is like any other 40-inch VU TV model but this one comes with a PC integrated within it. The system specifications are similar to net tops or low-power computers. There is no internal Wi-Fi module on that computer. The display adapter is connected to the TV using a VGA port. The onboard GMA950 graphics solution can't handle HD content and the VGA link won't let you use the TV's native resolution of 1920x1080 on the computer. A much lower resolution has to be used. Even then, with that resolution, content on the panel is readable when you sit at a distance.

Benchmarks show the performance of the PC to be in the same range as an Atom based netbook. It's a shame that the PC can't handle HD content. The bundled iBall wireless keyboard-mouse combo gets the job done.

To judge the panel, we tried playing high-definition content on the TV. We

also used the Spyder3Elite colorimeter to measure the TV's luminance and contrast ratio, and got a result of 403.5 cd/m2 and 975.65:1 respectively. This panel is just about decent but nothing spectacular.

At Rs. 69,990, the TV is a little too expensive. A 40-inch VU TV can be bought for roughly Rs. 50,000. The built-in PC is good enough for basic computing needs such as working on documents, browsing the internet and downloading. For anything more, we suggest purchasing a HDTV and then setting up your own HTPC. It would be a cheaper proposition.

VU TV Benchmarks

PC Mark05

CPU Score	1497
Memory Score	2408
Graphics Score	671
HDD	4799
Overall	1628

3D Mark 2006

CPU Score	491
Overall Score	92
WinRAR benchmark	376

Contact

VU Technologies Pvt. Ltd.

Phone: +91-22-28377300

Email: manjari@technologies.vu

Web site: www.technologies.vu

Price: Rs. 69,990

Specifications

TV Resolution: 1920x1080

(1080p)

Aspect Ratio: 16:9

Contrast Ratio: Native - 8,000:1

Dynamic - 50,000:1

Brightness: 500 cd/m2

Colours: 16.7 million

Viewing Angle (Horizontal & Vertical): 178°/178°

Response Time: 5 ms

Ports: 2 HDMI, 1 S-video, 1 D-sub

(VGA), coaxial, component,

composite ports.

PC Specs: Intel Atom N230

1.6GHz, 1GB RAM, 160GB HDD, 4

USB, Windows XP Home edition

RATINGS

Features	6
Performance	6.5
Build Quality	6
Value for money	6.5
Overall	6

Dell going Z

Dell's new line of high-end Latitude Z notebooks to feature wireless charging

Where's the mouse?

Logitech's Lapdesk N315 has a nifty slide-out mouse pad

Michael Browne

michael.browne@thinkdigit.com

If anything, our notebook test this year is testament to change – an evolution of sorts, we're the reason. Not us as in Digit, but every one of us users. Notebooks have walked the product life cycle in this country, from being playthings of the rich, to the drool-worthy devices of the new millennium to what they are today. Their design ethos has evolved – jack-of-all-trades no longer. Manufacturers no longer try to get cover every possible

usage pattern when they create a notebook. Different product lines have spawned catering to the needs of a specific faction of people. Corporate users, college goers, gamers, road warriors, entertainment junkies – there's a unique fix for everyone. And this is a good thing – for one you have a plethora of choices. Secondly, you get exactly what you want. A handful of vendors also offer custom configurations these days and this is, perhaps, the most significant telling point of the change of market focus from producer to consumer. Sure

people in the US have been enjoying their custom Dells for a long time, but for a choice deprived nation we're new to all this and we're gleefully happy to report an ever increasing user base hopping aboard this bandwagon.

This time we also awarded two Best Performers, which is unusual. However, we felt that the gaming notebooks deserved a Best Performer award of their own since the testing parameters and weights assigned were quite different from the other notebooks.

There were quite a few

brands that could not / did not participate in this test such as Samsung, LG, Fujitsu, Toshiba and Zenith for a variety of reasons. Despite this we got a good number of models – 31 in all – and as unique a bunch as we'd hope to get. From David to Goliath, from the proverbial tortoise to the hare, from Playboy Playmate-grade stuff to the mundane, there's truly something for everyone.

DESKTOP REPLACEMENTS UP TO RS. 40,000:

Buy me, I'm better than your desktop...really!

Most people buying a laptop look to spend around Rs. 35,000 to Rs. 40,000. This is where the bulk of the shopping happens; volume games are always fun for manufacturers and competition is fierce. There is diversity to be had as well; some notebooks have basic builds and mediocre looks but better, more powerful components under the hood and vice versa. If you're looking for an affordable stunner Acer's Aspire 5810T might be down your alley – a superb looking notebook from Acer's new Travel Line series of notebooks with brushed aluminium livery in silver-gray. It's slim and the exteriors are exceptionally well built. It has a nice, large, matte-finished, 15.6-inch display that has nice brightness levels but poor viewing angles. Acer uses Intel's Laminar Wall Jet cooling technology that claims to keep your lap cool, not we said your lap and not the notebook. This system uses parallel layers of jets of air, and is the same concept used to keep the outer walls of a jet engine cool. Since its processor

Notebooks have emerged from the shroud of generality and become more specialised towards specific purposes. In short they've evolved to become about as varied as the human beings using them. The adage 'something for everyone' is an understatement as manufacturers rush to provide tailor-made solutions

Laps, notes and books

Imaging: Vijay Padaya
Photographs: Manas Parekh



Healthy Li-ion

Laptop makes advice users to not constantly keep their laptops plugged to keep battery healthy

Dual-display notebooks

gScreen plans to produce high-end laptops with two 15.4-inch displays that cost approximately 1.5 lakh rupees

13", 15" MacBook Pro Owners Still Plagued with SATA II Issues, and can only avail of speeds up to 1.5 Gbps which equates to SATA 1 performance

Laptop test

is pretty basic we don't figure it'll heat up much anyways. The floating keypad is good with nice feedback and a positive feel to keystrokes but the keypad itself was uneven and in the centre – there was something of a wave. This is probably due to misalignment of the material below the keypad on which it rests. Key spacing is absolutely spot-on. The other three Acer Aspire notebooks share a common design – a nice glossy blue covered lid with matte black on the inside. Quite frankly Acer has upped their game since the last time we tested their notebooks – the current crop of models have good looking, well-finished lids and the floating keypads which although delicate (judging by an incident where a key got detached for no apparent reason) are very comfortable to use. Ergonomics is also very good. The Aspire 5536 and the 5738Z have 15.6-inch LED displays while the Aspire 4736 makes do with a 14-inch display. This also makes its lid feel sturdier i.e. smaller size, less flex. This also means the shortcut buttons



Illustrations: Chaitanya Surpur

DESKTOP REPLACEMENTS BETWEEN RS. 40,001 AND RS. 60,000:

For the upwardly mobile

When one spends more than Rs. 40,000 on a notebook certain things are a given – lasting build quality, faster and more powerful components, good usability as well as reasonable compactness. That's not to say that one should have lower expectations from cheaper notebooks but let's face it – you get exactly what you pay for and a higher price gives the manufacturer more leeway to play with internal components, chassis materials and so on. A generic desktop notebook is generally between 14 and 16 inches in size, anything smaller and it can qualify as an ultra compact. Of course the distinguishing line is thin.

Gateway is a new entrant to our market courtesy Acer who acquired Gateway and all its assets. Their NV48 and ID 5801 are two very

and the dark grey colour along with the graphics on the lid looks neat. Sadly their trackpads are some of the worst you will come across – poor feedback, poor tracking and the dimples on the surface are abrasive to the pads of ones fingers. It was good to see every notebook in this category with a healthy 320 GB of storage – plenty of space. We were

also pleased to see at least three USB ports on all notebook, some had as many as four – plenty of connectivity options for add-on peripherals. As expected only the Acer Aspire 5536 makes a splash in any of the graphics tests with its ATI Radeon video solution. The Aspire 5810T loses out here. It's combination

of integrated graphics and a Core 2 Solo U3500 CPU is not enough for it to

handle many multimedia heavy tasks and we see it lagging in the video encoding test where all the other dual core options outshine it. It does have an ace up its sleeve however, when it comes to the battery test – a 15.6-inch display that can play videos for 273 minutes is pretty much unheard of in this price segment – obviously power consumption figures are very low, especially since its sleekness belies a large battery pack.

When it comes to bang for buck, however, nobody could hold a candle to the Acer Aspire 5738Z, its great combination of performance, features and battery backup means it wins our Digit Best Buy award in this category. If you're looking for a powerful notebook with a good mix of features we reckon the 5738Z is a great deal at Rs. 30,999. If you're looking for something really attractive looking and sleek for under Rs. 40,000 check out the Aspire 5810T – at Rs. 38,401 it's stylish enough to make an impression in any company. If you want something for playing HD movies without skipping a beat look at the Acer Aspire 5536 – not only is it the cheapest notebook in our test (Rs. 29,099) but its Radeon HD 3200 solution packs a decent punch.



Acer Aspire 5738Z

placed above the keypad of the two larger models is now placed on the right side of the keypad on the Aspire 4736. The Aspire 4736 also has a good CPU although all notebooks other than the Acer Aspire 5536 (Radeon 3200) lack a dedicated graphics solution.

ASUS' K40IJ and K50IJ sport identical lid finishes



Acer Aspire 5810T



Acer Aspire 5738G

different beasts – one is built on traditional compact lines meant as a generic desktop replacement while the ID5801 comes across as a notebook for the multimedia fan; that is other than the gamer. The NV48 is built well looks good with a nice steel-grey coloured lid with a glossy finish but is slightly heavy. Inside the keypad is good and has nice feedback while being well laid out. Gateway did a splendid job on the trackpad – just the right mix of feedback and grip or rather slip – great tracking –



3D notebook screens?

Acer, Dell, HP, Lenovo and Sony to look forward to notebooks with Stereo 3D Screens

GT300 fab issues

NVIDIA receives first test samples of next-generation chip the GT300 family. But fab yields could be as low as 20 percent

accurate and fast. The left-click and right-click buttons are well placed and long therefore you can use them with thumb and little finger while your index finger is on the trackpad. The S/PDIF and audio out share a single smart detect port. The ID 5801 is larger, with a 15.6-inch display and has a very sleek, contoured profile when viewed from the side owing to the speaker being incorporated inside a casing that starts from the top of the keypad and slopes upwards with a gentle curve till it runs into the display. On a negative design note the bezel is wide and looks ugly compared to the rest of this beauty. Finished in navy blue with chrome trimming she is a beauty. Brawny too! – in every respect. A tank like build and great quality of materials on the exterior coupled with a fast Core 2 Duo processor, 4 GB of RAM and an NVIDIA GeForce G105M GPU mean the ID5801 has enough grunt to tackle anything, well almost anything.

The keys are nicely laid out and the keypad feels very comfortable to use. Key travel and feedback is also excellent albeit soft and we really liked its design. The trackpad is very responsive and tracks quite accurately. The mouse buttons feel a bit clicky. Shortcut keys are red LED backlit and work well, they're also ultra legible.

The slot loading optical drive has a neat eject button on the edge of the notebook face. A shocking omission is the exclusion of a dedicated Wi-Fi switch, although a keypad shortcut does exist. Acer's Aspire 5738G is identical in terms of looks, to its siblings in the previous category. Obviously this similarity is only skin-deep and its innards include a potent NVIDIA GeForce G105M and 4 GB of main memory. Once again the keypad is identical in look and feel, excellent! Like the other Aspire notebooks the

trackpad lock button is an annoyance preventer of sorts, especially since the trackpad is not recessed; meaning it gets activated easily while typing causing typos.

HCLs Z39 made us do a double take when we saw the amount of RAM – 8 GB is virtually unheard of on desktops, let alone notebooks. It has a nice surface finish and is well built and sturdy. Looks wise its very plain looking.

Lack of shortcut keys and such prevent it from being too usable. The Function key on the outer portion of the keypad means any shortcuts involving use of the Ctrl key are going to be a royal pain. The keys have a slightly firm feedback; people used to squishy Sony keypad beware!

However keypad feedback is good as is the feel. The trackpad is glossy and due to this fingers tend to stick on the surface coating, meaning tracking is not accurate. The lack of a hard Bluetooth switch on this notebook is a glaring omission. The Lenovo Y550 has a nice onyx colour with a matte finish on the outer body but the inside is a glossy grey that is as unappealing as the outer part is attractive.

The trackpad is textured and this imparts good feedback, but tracking accuracy is not as good as the best, courtesy some much unwanted lag. The trackpad is also small and this may pose an issue for some people. The mouse buttons are nice and large and soft to press. The keypad feels like hard rubber with solid feedback. Key spacing is minimal and layout is good, most people will be up and running with this keypad – we had no

issues. Lenovo has used good speakers for the Y550 and for the first time the beginnings of bass are audible, although the speakers on the costlier Lenovo Y650 are much better.

The Lenovo Y550 also has the distinction of having the most powerful GPU from amongst all the notebooks here barring the gaming laptops – the NVIDIA GeForce GT130M is a powerful solution and we reckon this model can just as easily substitute for a gaming notebook. A fully featured Media Centre remote unit is also bundled and this works well in conjunction with Windows Vista – a sweet addition and the unit itself is pretty compact.

When it comes to value one cannot deny the appeal of the solid Acer Aspire 5738G, a good mix of features, build and performance for a down to earth price – Rs. 40,999. It topped the Best Value charts in this segment and we're duly awarding it. HCLs Z39 is a little too costly for the features on offer and its plain looks will put many people looking to spend this much off. If you're looking at spending around Rs. 50,000 the Lenovo Y550 warrants mention – great build quality and powerful components, just live with the mediocre colour combination used.

HIGH-END DESKTOP REPLACEMENTS ABOVE RS. 60,000:

Big bang, big bucks

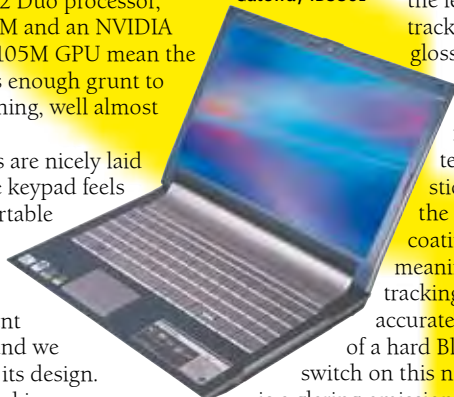
This is a category created for high-end, non-compact

notebooks that are not meant for hardcore gamers. Notebooks in this category are for power users who want power sans portability. That's not to say you cannot heat one of these around. It's just that a wonderful large screen cannot be incorporated into a small notebook. If you are shopping for a notebook priced at above Rs. 60,000 for home use you are somewhat of a rare breed and of course you expect a lot more as well – great components with the possibility of customisation, a great screen suitable for video and gaming, support for HDMI in order to hook your notebook up to an HDTV.

This duo are miles apart in terms of their personas and also the user base they will appeal to. Enter the Dell Studio XPS 1640 – classy build quality including glossy finished fibre and genuine leather. It's built like a tank and has blatantly muscular looks. There is none of the loose panels that custom assembled notebook assemblers (like Dell) are known for. Superb build quality and a superb RGB-LED display as an option along with high-performance components make the Studio XPS 1640 a standout in any crowd. Add to that a very well designed pseudo-segregated keypad and dedicated ATI graphics in the form of the Radeon 3670 and you have a recipe capable of feeding nearly every want except one – the hardcore gamer. The Lenovo Y650 is a very different beast – it's very slim and compact for its massive 16-inch screen and the notebook feels very

light thanks to the use of carbon fibre in the construction. The notebook is obviously meant for enthusiast multimedia users and the integrated Blu-Ray writer is testament to this. The graphics solution is also very respectable (NVIDIA GeForce GT 105M). A pity the screen doesn't support a higher

Gateway ID5801



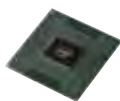
Dell Studio XPS 1640





SSD good or bad

Despite their very high read and high write performance scores SSDs are still not as reliable as hard drives and when heavily fragmented their performance drops drastically



Intel ULV CPUs

An acronym for ultra low voltage, Intel's ULVs are the latest darling of compact, slim, netbook-like notebooks. They offer reduced performance with extra battery life

Laptop test

resolution like 1440 x 900 pixels, but a measly 1366 x 768 pixels is all you get. The screen has good brightness levels and great colour. Viewing angles are better than the Y550. The outer lid of the Y650 is textured and looks classy while the inside is a shockingly attractive pearl white. A media centre remote unit and built in TV tuner adds to the package. All in all a very feature rich, powerful solution that is lightweight and slim despite its large screen. Speaker quality is very good (for a laptop) and the bass is pretty decent. The price will make you flinch – Rs. 1,03,990 – pretty steep and in our opinion a little hard to justify, the carbon fibre notwithstanding. For this reason alone the Dell Studio XPS 1640 gets the nod ahead of the Y650 – its more powerful, and costs less with the configuration we received amounting to Rs. 65,900 without taxes, add another Rs. 7,000 to 12,000 depending on which part of India you reside in. Of course the Studio XPS 1640 can be configured to cost well over a lakh with suitably powerful components – it all depends on what you want. It wins our *Best Buy* award for its blend of style, performance and features.

GAMING NOTEBOOKS: Identity Crisis? Crisis Wars?

The term 'gaming notebook' is kind of paradoxical simply because in our opinion gaming on a notebook is somewhat of a neutered thrill compared to the full experience of gaming on a high-end PC. After all, what can replace a fast Core i7 processor, GeForce GTX 285 and 27-inch LCD monitor? – Nothing really, not even a PS3 or an X360, and if you're a hardcore computer-based gamer not even a gaming notebook. Obviously there is a downfall – lugging around a huge cabinet, LCD monitor and other paraphernalia is not everyone's cup of tea. Portability matters to many people and LAN-party goers will give up processing grunt for something smaller. Enter

the gaming laptop – a rare breed but one that is slowly catching on in India. Obviously a gaming notebook needs to be powerful in every way since modern games are the most demanding applications available so if a notebook can play games well, it'll surely do other software without even breaking a sweat.

MSI GX620X

Gaming on a budget

MSI's GX620X comes. Decked in fire engine red (on the lid



MSI GX620X

and the outer trim) and brushed black aluminium on the palmrest; this is one good-looking bad boy. It's heavy and owing to the all-metal lid feels extremely sturdy. This colour scheme is much better than ASUS' colour scheme that involves orange – not the most attractive of colours though it sure looks loud. The GX620X doesn't, rather it manages to convey an air of class. It's reasonably slim for a gaming notebook and looks sleek from all angles. The lid has a magnetic closing assembly that clicks shut with a nice positive feel. The touch buttons look a little too bright but work well. There is a touch key for selecting between eco

and turbo mode. The screen resolution is a little low for a notebook in this category, we'd like a resolution of 1440 x 900 pixels for this screen size but all we got was 1280 x 800 pixels. The trackpad although smooth imparts a very sticky feel to ones fingers and this prevents comfortable use. The keypad is well laid out though and works well.

When it comes to performance especially gaming performance the GX620X is not exactly a heavy hitter, obviously because all it has under the hood is a GeForce 9600GT and we're sorry to say that NVIDIA's mobility versions of their desktop GPUs are not as powerful. Of course this is also the case with ATI – those of you who think the same GPU in desktop and notebook avatars will offer similar performance, think again. So while you will be able to play most games forget about the latest games like *Crysis*

and *Clear Sky* – especially if you like playing at higher resolutions. Priced at Rs. 73,000 the MSI GX620X is a powerful gaming notebook for those looking for playing slightly older, less taxing games at LAN parties and it is reasonably portable. However, if you are looking to play the latest games at high resolutions please ignore this notebook.

ASUS G50V

Can I play too?

At first glance this looks a little weird with its orange bodywork. However, the body is sculpted well and colour



ASUS G50V





aside the G50V looks good. Hinge build quality so-so. Open her up and the screen is matte. Thankfully the resolution is an ideal 1440 x 900 pixels; ideal for a 15.4-inch notebook. The screen bezel is a little too thick and spoils the look while adding bulk. The keypad is neat and similar in design to Dell laptops with slight impressions on the top of each key for your finger. The number keypad is a plus. The backlit, touch-based buttons shortcut keys work well and look nice. A blue monochrome LCD displays certain system parameters and some might find this intrusive – thankfully it can be disabled. The trackpad surface is good and has a nice blend of feedback and tracking. And best of all its pretty responsive, our only grouse is that it's small. Of course the fact that it's recessed into the body is good since your palm or wrist will not accidentally activate it while using the keypad. All in all, it's miles ahead of the MSI GX620X's trackpad. Viewing angles on the display are so-so although brightness levels are pretty good. One of the USB ports is placed on the rear – good for USB printers and such. The E-SATA and HDMI ports are located conveniently and on the side.

The GeForce 9700M GPU is reasonably powerful and will play most games other than the more demanding ones like *Crysis* and *Clear Sky* albeit

at lower levels of detail. The mighty Logitech MX518 mouse is bundled with this notebook, of course its got ASUS branding on it. You also get a funky bag, in fact the laptop ships inside the bag and not some ugly carton. ASUS is obviously selling this one marked to gamers on the basis of its exclusiveness, but at a price tag of Rs. 1,15,000 the G50V is a little to hard to swallow and its going to take more than some fancy lighting and packaging to make us even consider shelling out so much.

Alienware M17x Totally clichéd but 'here comes the game'

This is the first Alienware notebook we've laid our grubby paws on this year and quite frankly we're impressed. Forget about a weapon for gamers, the M17x is a weapon incognito – its amazingly sturdy construction and ponderous bulk means it can be used to bludgeon just about any living being to oblivion and that includes a woolly mammoth! And it's attractive looking too, with a black coloured, matte finish all over the body and the lid. The body is very thick; no wonder given it's innards. The front slopes forward giving it a very aggressive sports car bonnet like look and grilles embedded into the front light up with embedded red LEDs. The lid closes with a nice positive snap. The 17-inch



Alienware M17x

display is really clear and crisp with a high resolution of 1920 x 1200 pixels. Viewing angles are good. The integrated speaker is one of the best we've seen on a notebook – good bass, a great mid-range and extended highs. This notebook had the best speaker from this years bunch.

The *Alienware* branding is boldly illuminated in pink, however some of us found this too feminine a colour for an obviously masculine product. The keypad is well laid out and really good, suitable for a lot of office work (not that you would want to do that on this notebook anyway) and ergonomics is top class. The trackpad is a let down – it lags and tracking accuracy is rubbish – really a shame and the only blemish on a near perfect report card.

This freak has got premium innards to go with its menacing profile – a quad core processor – something unheard of for a notebook and not one, but two, GeForce GTX 260 GPUs in SLI. A massive 2 GB of GDDR3 video memory (1 GB per card)

should be sufficient for most games. The 220-odd frames per second in *Doom 3* and 45 frames per second in *Crysis* was enough to convince us that this notebook can indeed be used by a gamer. And guess what – this is Dells cheapest configuration for the Alienware M17x, which can be configured with dual GTX 280 GPUs – pretty mean. Sadly this won't stand up to a really fast desktop in terms of performance but then if you want the best, fastest notebook out there be prepared to shell out Rs. 1,39,000 for it or Rs. 2,25,000 for the highest configuration – either way you won't find as powerful a notebook. It wins our *Digit Best Performance* award for the best gaming notebook around and the most powerful configuration.

APPLE NOTEBOOKS: Hi-yo Silver...away!

Apples notebooks are called Macbooks for those who didn't know. Not only do these notebooks run Apples' own OS called "Leopard" or OS X but they're pretty different compared to other Windows-based notebooks. Whether this is good or bad depends on whether you're a fanboy or a hater. Needless to say our Windows-based benchmarks do not work with OS X, however the hardware used by these notebooks is the same.

GAMING: DESKTOPS OR NOTEBOOKS?

Have you always wondered just how good a gaming notebook is at gaming? We receive hundreds of mails a month from readers wanting to buy a notebook for gaming. We typically ask them their budgets and if that is anything under Rs. 75,000 (which it usually is) we suggest a desktop instead. If you're one of those readers, this is for you. It's no mystery that gaming notebooks are never going to be as powerful as desktop counterparts simply because its not possible to shrink powerful components to a notebook-

worthy size without reducing their performance. So a GeForce 9600GT graphics card will be will be more powerful than a GeForce 9600GT M (for mobility) notebook graphics solution. Just to see what happens we tested the Alienware M17x alongside a powerful PC.

The PC specs were as follows:

Intel Q9650 CPU, 2 x 2 GB 1066 MHz DDR2 RAM, ZOTAC GeForce GTX 285 GPU and 1 TB WD Black Edition HDD. Here are the scores:

	Alienware M17x	High-end PC
PC Mark05		
Overall	8589	9783
CPU Score	8059	9557
Memory Score	5496	6258
Graphics Score	14086	13539
HDD	5308	5618
3D Mark 2006 CPU Score	3722	4623
3D Mark 2006 Overall Score	13637	15627
Maxxon CineBench R10 (CPU Score)	9914	10967
DivX Encode 7.0 (.VOB to .Divx) *	42	38.5
File transfer Test (4 GB test file-sequential) (Sec)	23.94	34.68
File transfer Test (4 GB test file-assorted) (Sec)	20.96	25.13
Doom 3 (fps) (1024 x 768, Ultra Details)	220.4	260.4
Company Of Heroes (Tales Of Valor)	103.9	167.3
STALKER Clear Sky (1024 x 768, Max, DX10)	52.1	67.6
Crysis (1024 x 768, DX10, medium detail)	45	50
* Less is better		



Toshiba's new notebook beast

Toshiba recently launched their 500 GB, 7,200 rpm notebook 2.5-inch drive



Snow Leopard on the hunt

Snow Leopard outsells predecessors in opening weeks of availability

Laptop test

People who use Apple-based products are mainly designers and image-editing professionals who swear by the usability, interface and performance of these products. However, this doesn't mean someone wanting a regular notebook cannot buy a Macbook. There are a few people in office who use Macbooks and quite frankly they're as usable as a regular notebook. Obviously a few shortcut keys differ and the interface is unique, but the learning curve is relatively flat – Macbooks are designed to be pretty idiot-proof. An added advantage (and kudos to Apple for including this) is BootCamp – an addition to the Leopard OS that allows Windows XP to be installed in a dual boot.

The Macbook Air is unique at first glance. Designed to be really slim and sleek and lightweight the Macbook Air is built like a tank courtesy its all aluminium structure which is built out of

performance available. Whether it is the anaemic components or the lack of even a very basic RJ45 connect and a mediocre screen the Macbook Air will not impress anyone not looking for superficiality. And that's what it is – a superficial gem and priced at Rs. 1,12,000, it doesn't deliver as expected.

All the Macbook Pros look sleek as well, remember they come in three sizes – 13.3-inches, 15.4-inches and 17-inches. The all-aluminium body and the super slim profile means they just attract attention in any company. The 17-inch and 15-inch models are as slim as the



Apple Macbook Pro 13 inch

NVIDIA's GeForce 9400M integrated video solution that is acclaimed to be as powerful as many discrete graphics solutions. One of the only gripes with the Macbook Pro 13-inch in comparison to the others is the placement of the speakers – behind the notebook under the hinge as opposed to on either side of the keypad – this causes a decrease in sound volume and clarity. Apples segregated keypad is a little cumbersome at first, but amazing once you get the hang of using it. The keys are soft but not squishy and key feedback is decent. The adjustable backlighting is a little excessive but it gets the job done. When one sees the display quality, brightness and resolution on the 15-inch Macbook Pro the 13-inch doesn't look so hot anymore. The 15.4-inch model has a beautiful display that appears at least 15 per cent brighter and the resolution of



Apple Macbook Air

go against Apples design ethos but we're sure this can be improved. The second gripe is the gap between USB ports – it's too small and if you use a USB drive with a wide body the adjacent USB port becomes unusable – this is unforgivable

especially given that these notebooks have the space for four well spaced out ports. The Macbook Pro 17-inch is the only one with three ports while the others have two each. The 17 and 15.4-inch Macbook Pros have identical hardware but the 17-inch model has a higher screen resolution (1920 x 1200 pixels). The ability to switch between the integrated NVIDIA GeForce 9400M and the discrete GeForce 9600GT is a plus since you get more battery life with the former and greater performance with the latter.

In terms of performance none of the Macbook Pros are slouches and the two larger models have very powerful processors. Given an identical

Contact Details

Brand	Company Name	Phone no	Web site
Acer (Gateway)	Acer India Pvt. Ltd	+91-80-4070 8700	www.acer.co.in
ASUS	ASUS Technology Pvt. Ltd.	+91-22-6766 8800 / 1-800-209 0365	www.asus.in
MSI	MSI India	+91-11-4175 8808	http://in.msi.com/
Dell (Alienware)	Dell India Pvt. Ltd.	+91-80-2506 8026 / 1-800-425 4026	www.dell.co.in
Sony	Sony India	1-800-11-11-88 (Toll Free)	www.sony.co.in
HCL	HCL Infosystems Ltd.	+91-120-252 6518	hclstore.in
HP	HP India	+91-124-441 7501	http://welcome.hp.com/country/in/en/welcome.html
Apple	Apple India	+91-80-4140 9000	www.apple.co.in
Lenovo	Lenovo India	1-800-425 3353	www.lenovo.com/in

a single piece of aluminium, in fact this is something all the latest Macbooks share, therefore the term "unibody". The Air is compact enough to necessitate an external DVD RW drive and even the ports are minimal – no LAN port and a single USB port located on the under part of the body accessible by lifting a small hood-like cover. As sleek and sexy as the Air is and the fact that its storage subsystem is SSD based there's very little

13-inch Macbook Pro – this gives them the appearance of being even slimmer because of the larger screen size. The 13-inch Macbook Pro is little more than a 13-inch unibody Macbook released in 2008 with an SD slot and a permanent battery. That being said it's an exceptionally well-built and good-looking notebook. It has a great screen, much better than the display on the Macbook Air. It also sports pretty powerful components including

1440 x 900 pixels is ideal. The keypad layout and spacing is identical across all the models – a good thing.

We have two generic design gripes with Apple and this applies to all three Macbook Pros. One (and we hope you're listening Apple) the edge of the palmrest is sharp and this starts to hurt the wrists after 15 minutes of typing – sounds like we're nitpicking but this is, in fact, super annoying. Obviously a dull edge would

set of benchmarks we're sure these notebooks would be as fast or faster than most Windows based notebooks out there, but an apples to apples (pun!) comparison is just not possible between them. What we did notice was OS X seems to be better when it comes to hard drive usage and the Macbook Pros were faster in the file copy tests when compared to Windows notebooks.

If you're looking to buy an Apple based notebook we



Apple Notebooks				
Model	Macbook Pro 13"	Macbook Air	Macbook Pro 15"	Macbook Pro 17"
Price	Rs. 74,400	Rs. 1,12,000	Rs. 1,41,600	Rs. 1,57,400
Warranty	1 year	1 year	1 year	1 year
Plus (+)	Exceptional build and components	Uber compact	Superb build, great performance and screen	Superb build, great performance and screen
Minus (-)	Glossy screen	All show, no go	Pricey	Pricey
Grand Totals (Our of 100)	55.05	67.42	72.78	73.41
Features (Out of 50)	23.75	30.95	32.95	34.45
Performance (Out of 50)	31.30	36.47	39.83	38.96
Features				
Specifications				
Processor Model No / Processor Speed	Intel Core 2 Duo P8400 / 2.26 GHz	Intel Core 2 Duo / 2.13 GHz	Intel Core 2 Duo P9700 / 2.8 GHz	Intel Core 2 Duo P9700 / 2.8 GHz
RAM / RAM Type / Memory Speed	2 GB / DDR3 / 1066 MHz	2 GB / DDR3 / 1066 MHz	4 GB / DDR3 / 1066 MHz	4 GB / DDR3 / 1066 MHz
Platform Chipset	nVidia MCP79	nVidia MCP79	nVidia MCP79	nVidia MCP79
Graphics Solution / Dedicated Video Memory (in MB)	GeForce 9400M / -	GeForce 9400M / -	GeForce 9400M and 9600GT / 512 MB	GeForce 9400M and 9600GT / 512 MB
HDD Size / Type	160 GB / SATA	128 GB / SATA (SSD)	500 GB / SATA	500 GB / SATA
Optical Drive Type	DVD RW	N/A	DVD RW	DVD RW
Bundled OS	Mac OS X 10.5.6	Mac OS X 10.5.8	Mac OS X 10.5.8	Mac OS X 10.5.8
Characteristics				
Screen Size / Resolution (Native, in pixels)	13.3 inches / 1280 x 800	13.3 inches / 1280 x 800	15.4 inches / 1440 x 900	17 inches / 1920 x 1200
Weight	2.04 kg	1.36 kg	2.49 kg	3.1 kg
No of Ports (USB / FireWire)	2, 1	1, 0	2, 1	3, 1
Connectivity: LAN / Bluetooth / Wi-Fi (Y / N)	Y / Y / Y	N / Y / Y	Y / Y / Y	Y / Y / Y
Video ports: D-Sub / DVI / HDMI (Y / N)	N / N / N	N / N / N	N / N / N	N / N / N
Audio Ports: (Mic / Line Out / S/PDIF)	Y / Y / Y	N / Y / N	Y / Y / Y	Y / Y / Y
Memory Card Reader / Cards Supported	Y / SD, MMC	N / NA	Y / SD, MMC	Y / SD, MMC
E-SATA (Y / N) / RJ11 Port	N / N	N / N	N / N	N / N
Additional Connects	Mini Display Port	Mini Display Port	Mini Display Port	Mini Display Port
Build Quality (Body / Keypad / Lid, movables) (So 10)	9.5 / 8.25 / 8	9.5 / 8.25 / 7.5	9.5 / 8.25 / 8	9.5 / 8.25 / 8
Ergonomics				
Keypad Tactile Feedback / Key Layout & Usability / Shortcut Keys (So 10)	8.25 / 7.5 / 4	8.25 / 7.5 / 3	8.25 / 7.5 / 4	8.25 / 7.5 / 4
Biometrics Login (Y / N)	N	N	N	N
Wi-Fi / Bluetooth / TouchPad On/Off dedicated button (Y / N)	N / N / N	N / N / N	N / N / N	N / N / N
Performance				
Maxxon CineBench R10 CPU score	4968	3453	6152	6182
Display Mate Colour Accuracy (So 10)	7.5	6	7.5	7.5
Webcamera / Speaker Quality (So 10)	6 / 5.75	4 / 4.75	6 / 7	6 / 7
Battery Life Test (in Minutes)	305	218	278	221
HD Movie Viewing (So 10)	7	5.25	7.5	8.25
Wi-Fi file transfer (in MBps)	4.76	4.55	4.76	4.76
DivX Encode 7.0 (sec) *	59.6	97.4	39.2	39.7
Sequential / Assorted file transfer (in MBps)	33.82 / 27.27	38.49 / 36.53	36.57 / 28.52	37.57 / 28.96
* less is better				



Gaming Notebooks			
Brand	ASUS	Alienware	MSI
Model	G50	M17x	GX620X
Price (Rupees)	Rs. 1,15,000	Rs. 1,39,000	Rs. 73,000
Warranty (Years)	2 years	1 year	2 years
Plus (+)	Good config, reasonably portable	Very powerful config	Affordable gaming solution
Minus (-)	Crysis scores	Bulky, expensive	Not future proof
Grand Totals	63.03	79.70	54.78
Features (Out of 40)	28.10	29.37	23.78
Performance (Out of 60)	34.93	50.33	31.00
Features			
Component Specifications			
Processor Model No	Core 2 Duo P8600	Intel Core 2 Extreme Q9300	Intel Core 2 Duo P8400
Processor Speed	2.4 GHz	2.5 GHz	2.26 GHz
RAM / RAM Type / Memory Speed	4 GB / DDR2 / 800 MHz	4096 / DDR3 / 1066 MHz	4096 / DDR2 / 800 MHz
Chipset	PM45	nVidia MCP79	Intel PM45
Graphics Solution	NVIDIA GeForce 9700M GT	nVidia GeForce GTX 260M x 2 (SLI)	Nvidia GeForce 9600GT
Video Memory Type / Dedicated Video Memory Size	GDDR3 / 512 MB	GDDR3 / 1024 MB x 2	GDDR3 / 512 MB
HDD Size / Type	320 GB, SATA	320 GB, SATA	320 GB, SATA
Optical Drive Type	DVD RW	Bluray Reader/DVD RW	DVD RW
Bundled OS	Vista Home Premium	Vista Home Premium	Windows Vista Home Premium
Characteristics			
Screen Size	15.4 inches	17 inches	15.4 inches
Screen Resolution (Native)	1440 x 900 pixels	1920 x 1200 pixels	1280 x 800 pixels
Weight	3.3 kg	4.96 kg	2.7 kg
No of Ports (USB / FireWire)	4, 1	4, 1	3, 1
Connectivity: LAN / Bluetooth / Wi-Fi (Y / N)	Y / Y / Y	Y / Y / Y	Y / Y / Y
Video ports: D-Sub / DVI / HDMI (Y / N)	Y / N / Y	Y / N / Y	Y / N / Y
Memory Card Reader (Y/N)	Y	Y	Y
E-SATA (Y / N)	Y	Y	N
Type of Memory Cards Supported	SD, MMC, xD, MS Pro	SD, MMC, xD, MS Pro	SD, MMC, xD, MS Pro
Inbuilt Webcam (Y / N)	Y, 2 MP	Y	Y
RJ11 (Y / N)	N	N	Y
Additional connects	-	Display Port, 2 x headphone out	Surround out
Extra Accessories provided	ASUS gaming mouse (MX518)	-	Gaming bag
Build Quality: Body / Keypad / Lid, movables (So 10)	7.5 / 7.5 / 6.75	8.5 / 8.5 / 8.75	7.5 / 6.5 / 7
Ergonomics			
Keypad Tactile Feedback / Key Layout & Usability / Shortcut Keys (So 10)	7.75 / 8 / 6.75	8.5 / 8.25 / 7.5	7.25 / 7.5 / 6.25
Biometrics Login (Y/N)	N	N	N
Wi-Fi / Bluetooth / TouchPad On/Off Switch or Button (Y/N)	Y / N / Y	Y / N / N	N / N / N
Performance			
PC Mark05 Overall	6426	8589	5673
CPU Score / Memory Score	6126 / 5133	8059 / 5496	5839 / 5129
Graphics Score / HDD Score	7598 / 5342	14086 / 5308	6783 / 5352
SiSoft Sandra 2009 Pro Memory Bandwidth	5.39 Gbps	6 Gbps	5.1 Gbps
3D Mark 2006 (CPU Score / Overall Score)	2143 / 6656	3722 / 13637	2102 / 5638
Maxxon CineBench R10 (CPU Score)	4910	9914	4729
Display Mate Colour Accuracy Test (Avg) (So 10)	6.25	6.5	6.5
Battery Life Test (Minutes)	85	71	91
Webcam Quality / Speaker Quality / HD Movie Viewing (So 10)	6.5 / 6.5 / 6.5	7 / 8.75 / 8	6 / 6 / 6
DivX Encode 7.0 (.VOB to .Divx) (in seconds) *	57.2	42	66.3
File transfer Test (Sequential / Assorted) (in MBps)	25.30 / 20.22	23.93 / 20.96	23.34 / 18.50
WiFi Performance Test 7.0 (in Mbps)	41	48	39
Wi-Fi 100MB Assorted File Copy (in MBps)	5.56	7.69	4.55
Doom 3 / Company Of Heroes: Tales Of Valor (fps)	133.2 / 62.3	220.4 / 103.9	110.2 / 51.2
STALKER Clear Sky / Crysis (fps)	21.8 / 32	52.1 / 45	16.3 / 26
* Less is better			



Dell sued for \$4 million

Dell paid \$4 million to settle a dispute pending since 2008 against them for deceptive business practices



The magic of RGB LEDs

Very few displays use RGB LED technology but the advantage is a colour gamut that approaches 100% of the Adobe RGB colour space

HOW WE TESTED

We segregated notebooks into the following categories and subcategories:

Desktop Replacements

- Desktop replacements up to Rs. 40,000
- Desktop replacements between Rs. 40,001 and Rs. 60,000
- High-end desktop replacements (above Rs. 60,000)

Ultra Compacts

- Low power ultra compacts
- Ultra compacts

Corporate Notebooks

Apple Notebooks Gaming Notebooks

These categories need no explanations and four of them are simply based on usage patterns. We'd like to test Apple notebooks alongside other laptops but unfortunately most Windows based benchmarks we use have no OS X counterparts meaning an apples to apples (pardon the pun!) comparison just wasn't possible.

In terms of features we looked at and graded these notebooks

from every conceivable angle including the their hard drive size, type of optical drive, number of USB and FireWire ports, video connects, memory card reader, presence of E-SATA and even their weight. We also rated the build quality of each notebook and the ergonomics, layout and feel of the keypad. The usability and tracking accuracy of the trackpad was also rated. Presence of dedicated shortcut keys for common functions like multimedia controls, Wi-Fi on/off, Bluetooth and trackpad disable/enable was also scored.

In terms of performance we ensured a clean install of Windows Vista by uninstalling unnecessary software from these notebooks, but used the bundled OS itself. So if a notebook came with Windows XP preinstalled, we used that. System Restore and indexing were disabled before testing. All battery saving features were disabled and the notebook connected to the mains at all times except during the battery test (for obvious

reasons). A disk defragmenter was run on each notebook prior to testing and we used latest versions of ATI and NVIDIA display drivers.

PC Mark Vantage and 3D Mark Vantage are a little too taxing for many notebooks whose specifications are not up to the latest desktop PC hardware so we used earlier versions. PC Mark05 is our generic benchmark of choice because it has one of the most complete benchmark suites from testing the hard drive page file performance, to office related benchmarks, flash player performance, web page rendering, game and 3D testing and application startup. It has got to be one of the most comprehensive benchmarks around. 3D Mark 2006 was used to get an idea of the graphics and CPU subsystems performance. SiSoft Sandra 2009 Pro was used to get an idea of memory bandwidth. CineBench R10 gives a good indication of a CPUs rendering performance. DisplayMate

Video Edition was used to judge the quality and colour capabilities of each notebooks display. Finally Performance Test 7.0s inbuilt Wi-Fi test was used to judge the performance of the wireless component with theoretical data transfers. We hooked up a desktop PC using RJ45 connectivity to a wireless router and used this to connect to the each notebook for all wireless testing.

Our real world tests consisted of subjective tests for movie watching, web camera quality and inbuilt speaker quality. DivX Encode 7.0 was used to encode a 100 MB .VOB file to DivX and this was used to test the CPUs encoding capabilities. Sequential and assorted tests were done for judging the storage subsystems performance. For gaming performance we used Doom 3, one of the most scalable and hardware sensitive games around. For gaming notebooks we also used three other newer games – *Crysis*, *S.T.A.L.K.E.R. Clear Sky* and *Company Of Heroes: Tales Of Valor*.



Apple MacBook Pro 15-inch

recommend the Macbook Pro 13-inch priced at Rs. 74,400 – good value for money and a very well built, great looking piece of equipment. If you want something really powerful we recommend the Apple Macbook Pro 15.4-inch – class-leading hardware and sublime looks and built, though its pricey at Rs. 1,41,600.

BUSINESS NOTEBOOKS: Tie and Suit, ready to boot

We've often asked ourselves – what makes a business notebook? Obviously something

compact, since businessmen on the go like to travel light. Something that's rugged and not too flashy – businessmen want productivity and usability more than pizzazz. Obviously performance, since time is a luxury few corporate users have. Backup software and other office productivity related tools are a must as well since the key to effective productivity is prevention of delays. Therefore a good business notebook should have all these features.

The four corporate-oriented products we received certainly seemed to meet all the parameters set. HPs ProBook 4410S was the first candidate up for test. It's got a nice textured finish on the lid and the dull maroon colour is really smart looking. Inside the notebook is a mix of glossy and matte black. It's compact and light but a little on the thick side. The keypad is segregated with a little less spacing that what Sony uses and owing to this the keypad is more usable – a solid plus for HP. The 4410S

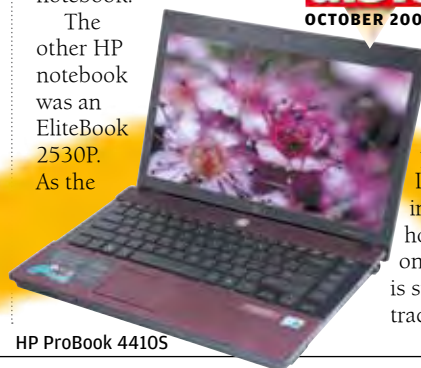
comes with a complete backup and recovery suite from HP meaning your data is always safe. It's got a very mediocre display in terms of colour and while businessmen don't need colour accuracy and contrast it would be nice to have a slightly better screen. The trackpad works well and the Wi-Fi shortcut switch is usable. To be honest this ones price surprised us – we expected it to be well in excess of Rs. 50,000 but HP makes it available for as little as Rs. 40,000 – a solid buy for someone looking at a solidly built, compact, no frills notebook.

The other HP notebook was an EliteBook 2530P. As the

name suggest (i.e. *Elite* is higher than *Pro*) the 2530P is meant for the corporate with deeper pockets. It's even smaller with a 12.1-inch display. The lid has a brushed aluminium finish and this goes well with the grey-black body. The notebook is quite compact but feels sturdy. HP states the use of certain materials that increase reliability even in dusty conditions and this notebook is built to withstand wider variations in temperature.

Their DriveGuard technology that protects the hard drive in case of a sudden impact is also incorporated on this model. The processor is an Intel

SU9300 – this series is known for its ultra low power consumption. An IBM-style track point is also included although to be honest hardly anyone uses one these days. The trackpad is small but works well and tracking is accurate and lag



HP ProBook 4410S



Fastest SSDs on earth

Pliant technologies, a little known manufacturer Drops Bombshell "Lightning" SSD With 180k IOPS, 500/320 MB/s Read/Writes



Targeting the no-man's land between netbooks and notebooks the AMD Neo CPU along with ATI graphics allows for a powerful solution with a very slim and compact footprint

Laptop test



free. The keypad is well designed and the keys are excellently spaced. A small fingerprint scanner is provided on the right side of the palmrest to allow biometrics-based login. The tested battery life is good – just over four hours – enough to keep you productive over most domestic flights. Priced at Rs. 99,000 plus tax the EliteBook 2530P is expensive, but those who appreciate its subtle talents will shell out.

The Sony Vaio SR46GD is Sony's answer to the businessman wanting something on a shoestring, if Rs. 74,900 can be considered a shoestring. However, this is as low as they corporate series of notebooks is likely to be priced. The SR46GD is heavier than its sibling and the entire body is made of some fibre-based compound that isn't rigid. It's a good-looking notebook based on the attractive cylindrical design (Sony speak for the circular section connecting the base and the lid). The keys are not well designed at all and the gap between keys is too much and the keys themselves too small. In fact this is one of the worst designed keypads we've come across. Obviously if you

use it long enough you will get accustomed to it; but the two days over which we used this notebook had us running for cover. There are five usability modes activated via five shortcut keys. These usability modes change the operating environment according to your needs and the application shortcuts available in each mode can be configured.

The Core 2 Duo P8700 and Radeon HD 4570 are both pretty powerful solutions. The Wi-Fi switch is very conveniently located and the activity indicators on the notebook are optimally positioned – Sony has their ergonomics spot on. The trackpad is accurate but there is slight lag, however the tracking surface is well designed and doesn't slip or grip too much. If its features appeal to you and you cannot spend any more than 74,900 this is a decent buy and certainly looks a little more upmarket than the HP 4410S, understandable really since it costs nearly double.

If you are looking for something really classy however, and don't mind shelling out big (really big!) then check out the Sony Vaio

VGN-Z48GD – the echelon of upwardly mobile in Sony's books. Their 'Z' series are hardcore business notebooks – sleek, feature-rich and expensive. The Z48GD has 256 GB worth of SSD under the hood. And that's not all, further inspection revealed two SSD drives of 128 GB each configured in RAID 0. We figure these drives themselves would cost Rs. 50,000 if not more. On the outside the Z48GD is ultra slim and really light. The display used is a WLED and the lid is very slim as a result. Since it looks much smaller than the HP 4410S we were surprised to see it had a display as large as 13.1-inches. The body is built of carbon fibre – rugged although there is noticeable flex. We're told this is normal and doesn't affect durability in the least. Even the lid seems flexible and we were initially concerned about its flex leading to damage of the display. Sony reassured us that this sort of flex is intentional as using hard material for the lid cover would actually risk cracking of the LED-based LCD inside. This is because LED-backlit LCDs are apparently much slimmer than regular LCDs and therefore prone to damage i.e. cracking. But wouldn't flexing the lid also lead to cracking of the display inside? Oh well, we couldn't get answers for everything. The famous Sony *Stamina Mode* is present and can be used at the flick of a toggle switch. This allows shifting between stamina and performance modes which internally switches between Intel integrated graphics and NVIDIAs GeForce 9300M giving you either extended battery life or more video performance. Unlike its earlier avatars that required a Windows restart this version of Stamina Mode makes do with just shutting down all running applications and switching modes causes your screen to blank out momentarily as the graphics adapter changes. Sadly the keypad is still a pain to work with thanks to tiny, ill

spaced keys. The trackpad is also small and a little cramped but tracking is good. Still you will want to invest in a wireless mouse to get the best out of this notebook.

In terms of performance this notebooks storage subsystem blows everything else away, as expected with the striped SSD drives. It also has a very powerful 2.8 GHz Core 2 Duo (P9700) processor and this, coupled with 6 GB of RAM and a 64-bit OS (necessary to address more than 4 GB of RAM) makes the Z48GD a potent performer in a diminutive package. A real pocket rocket, and priced likewise too – Rs. 1,49,900 is not cheap; but then this level of pedigree rarely is. It's our *Best Performer* award winner on account of its superb all round performance.

Sony Vaio VGN-Z48GD



ULTRA COMPACT LAPTOPS:
He ain't heavy, he's my ultra compact!

By definition an ultra compact notebook is one that is lightweight and small. This necessitates a small screen size; not more than 13.3-inches. Anything smaller than 11.1-inches and it becomes a netbook. Of course an ultra compact notebook can also be a business notebook, since the very term ultra compact is generic and doesn't specify suitability to a particular

Desktop Replacements up to Rs. 40,000



Brand	Acer	Acer	ASUS
Model	Aspire 5536	Aspire 5738Z	K50IJ
Price	Rs. 29,099	Rs. 30,999	Rs. 33,900
Warranty	1 year	1 year	2 years
Plus (+)	Looks good	Looks good	Good CPU
Minus (-)	Keypad build	Keypad build	horrible trackpad
Grand Totals (Out of 100)	54.46	58.83	52.83
Features (Out of 55)	36.62	40.91	33.77
Performance (Out of 45)	17.84	17.93	19.06
Features			
Specifications			
Processor Model No / Processor Speed	AMD Athlon X2 QL-64 / 2.1 GHz	Intel Dual Core T4200 / 2 GHz	Intel Core 2 Duo T6400 / 2 GHz
RAM / RAM Type / Memory Speed	2 GB / DDR2 / 667 MHz	2 GB / DDR2 / 800 MHz	4 GB / DDR2 / 667 MHz
Platform Chipset	AMD M780/K11	Intel GL40	Intel PM45
Graphics Solution / Dedicated Video Memory	Radeon HD 3200 / 256 MB	Intel GMA 4xxx / -	Intel GMA 4xxx / -
HDD Size / Type	320 GB / SATA	320 GB / SATA	320 GB / SATA
Optical Drive Type	DVD RW	DVD RW	DVD RW
Bundled OS	Vista Home Basic	Vista Home Premium	Vista Home Basic
Characteristics			
Screen Size / Resolution (Native, in pixels)	15.6 inches / 1366 x 768	15.6 inches / 1366 x 768	15.4 inches / 1366 x 768
Weight	2.8 kg	2.8 kg	2.6 kg
No of Ports (USB / FireWire)	4, 0	4, 0	4, 0
Connectivity: (LAN / Bluetooth / Wi-Fi)	Y / Y / Y	Y / Y / Y	Y / Y / Y
Video ports: D-Sub / DVI / HDMI (Y / N)	Y / N / Y	Y / N / Y	Y / N / N
Audio Ports: Mic / Line Out / S/PDIF (Y / N)	Y / Y / Y	Y / Y / Y	Y / Y / N
Memory Card Reader / Cards Supported	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD
E-SATA (Y / N) / RJ11 Port	N / Y	N / Y	/ N
Additional Connects	-	-	NA
Build Quality (Body / Keypad / Lid, movables) (So 10)	6 / 4.75 / 7	6 / 4.75 / 7	7 / 6.5 / 6.5
Ergonomics			
Keypad Tactile Feedback / Key Layout & Usability / Shortcut Keys (So 10)	8.25 / 7.75 / 6.5	8.25 / 7.75 / 6.5	7.5 / 7.25 / 3.5
Biometrics Login (Y / N)	N	Y	N
Wi-Fi / Bluetooth / TouchPad On/Off dedicated button (Y / N)	N / N / N	N / Y / Y	N / N / N
Performance			
Synthetic Scores			
PC Mark05 Overall	3690	3139	4571
PC Mark05 CPU Score / Memory Score	4131 / 2892	2848 / 3087	5048 / 4191
PC Mark05 Graphics Score / HDD Score	2092 / 4178	1441 / 5412	1990 / 5384
SiSoft Sandra 2009 Pro Memory bandwidth	4 GBps	3.8 GBps	4.44 GBps
3D Mark 2006 (CPU Score / Overall Score)	1485 / 1261	1012 / 590	1694 / 859
Maxxon CineBench R10 CPU score	3227	2403	4067
Display Mate Colour Accuracy (So 10)	5.25	5.25	5.5
Wi-Fi Performance Test 7.0 (in Mbps)	57	56	57
Real World Tests			
Battery Life Test (in Minutes)	108	227	239
Webcamera / Speaker Quality (So 10)	6 / 5.5	6 / 5.5	3.5 / 4
HD Movie Viewing (So 10)	6.5	6.25	3.75
Wi-Fi file transfer (in MBps)	8.33	7.69	7.69
DivX Encode 7.0 (sec) *	98.3	111.4	70.6
Sequential / Assorted file transfer (in MBps)	20.33 / 16.10	19.57 / 17.45	19.98 / 19.59
Doom 3 (fps)	35.9	8.2	13.6
* less is better			



Acer	ASUS	ASUS	Acer
Aspire 4736	F82Q	K40IJ	Aspire 5810T
Rs. 34,599	Rs. 36,990	Rs. 36,990	Rs. 38,401
1 year	2 years	2 years	1 year
Compact and powerful	Built well	Built well, looks good	Really sleek, built well
weak graphics	Weak CPU	Horrible trackpad	CPU weak
52.10	51.60	52.77	54.90
35.52	34.93	33.99	38.65
16.58	16.67	18.78	16.24
Intel Core 2 Duo T6400 / 2 GHz	Intel Dual Core T4200 / 2 GHz	Intel Core 2 Duo T6570 / 2.1 GHz	Intel Core 2 Solo U3500 / 1.4 GHz
3 GB / DDR2 / 667 MHz	3 GB / DDR2 / 667 MHz	4 GB / DDR2 / 667 MHz	3 GB / DDR3 / 800 MHz
Intel GM45	Intel GL40	Intel GL40	Intel GS45
Intel GMA 4xxx / -	Intel GMA 4xxx / -	Intel GMA 4xxx / -	Intel GMA 4xxx / -
320 GB / SATA	320 GB / SATA	320 GB / SATA	320 GB / SATA
DVD RW	DVD RW	DVD RW	DVD RW
Vista Home Premium	Windows XP Home	Vista Home Basic	Vista Home Premium
14 inches / 1366 x 768	14.1 inches / 1366 x 768	14 inches / 1366 x 768	15.6 inches / 1366 x 768
2.3 kg	2.59 kg	2.36 kg	2.4 kg
3, 0	3, 0	4, 0	3, 0
Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y
Y / N / Y	Y / N / Y	Y / N / N	Y / N / Y
Y / Y / Y	Y / Y / N	Y / Y / N	Y / Y / N
Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD
N / Y	N / N	N / N	N / N
-	-	-	-
6 / 4.75 / 7	7 / 6.5 / 6.5	7 / 6.5 / 6.5	8.25 / 6.5 / 8.25
8.25 / 7.75 / 6.5	7.5 / 7.25 / 3.5	7.5 / 7.75 / 3.5	8 / 8 / 6
N	N	N	N
N / N / N	Y / N / N	N / N / N	Y / N / Y
4210	3712	4571	2099
4803 / 4147	5093 / 4117	5060 / 4174	2453 / 3258
1991 / 5015	1215 / 4764	2012 / 5066	992 / 4733
4.13 GBps	4.32 GBps	4.41 GBps	4.13 GBps
1665 / 744	992 / 564	1767 / 866	657 / 602
4075	3900	4292	1514
5.25	5.75	3.75	5
35	32	60	36
107	226	228	273
5.75 / 4.25	4 / 3.5	4 / 3.5	5.5 / 4.5
5.75	4.25	4.5	5.5
5.26	3.33	8.33	5.00
71.53	72.4	95.6	153
16.68 / 16.50	19.15 / 17.56	20.30 / 17.17	21.64 / 20.31
18.4	17.3	14.1	12.7

TOP GUN TECHNOLOGIES

The Best Network & Security Labs in India

Others Promise. We Deliver !

Integrated Program for Fresh Graduates

CCIE - Security CCIE - R & S

Loans through **HDFC BANK**

Congrats

Mr. Amarjit Panag CCIE # 25058

Mr. Binoy U CCIE # 24874

Mr. Mandeep Singh CCIE # 24873

Mr. Mohamed Zafar CCIE # 24739

Mr. Vasantharaju P CCIE # 24724

Courses Offered:

CCIE, CCNP, CCNA, CCSP, CCIP, CWNA, CWNP, CWSP, CCSA, CCSE, CISSP

Well Qualified Instructors

AJAY PANDEY

B.E, MS (USA), CCIE # 14792, (Security / R&S), CISSP # 43675, CCSE, CISM, MCSE, ASAP.

SUNNY SHARMA

BCS, CCIE # 24088 (Security), CCSP, CCNP, CWNA, CEH, MCSE.

Lab Equipped with :

91 Cisco Routers (2811, 2621 XM, 3600, 2600, 2500, 1700, 700), 24 Cisco Catalyst Switches (5000, 3750, 3560, 3550, 3000, 2950, 2900), Frame - Relay / ISDN, 8 Firewalls : SonicWall, Watch guard, Cisco PIX 515 E (UR), ASA 5510, PIX 501, 3005 VPN concentrator, 4210 IPS sensor, Nokia IP 330, Check Point, CiscoWAP/ NICs, Cisco Call Manager MCS 7825

Local Accomodation Available

We have Graduated over 7000 CCNPs & 57 CCIEs.

BANGALORE

Visit our Website :

www.topguntechnologies.com

info@topguntechnologies.com

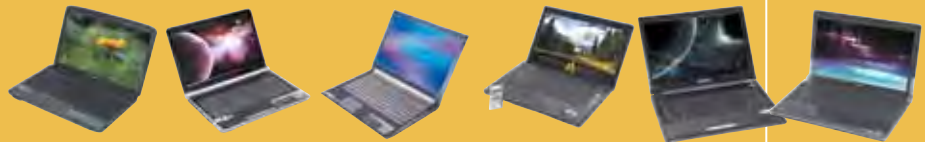
SMS 080- 65616600

☎ 080-23528500 / 41277710








If you find a better Institute to do any of these courses, Join it !

Desktop Replacements between Rs. 40,001 and Rs. 60,000

High-end desktop replacements



Brand	Acer	Gateway	Gateway	Lenovo	HCL	Dell
Model	Aspire 5738G	NV48	ID 5801	IdeaPad Y550	Z39	Studio XPS 1640
Price	Rs. 40,999	Rs. 42,999	Rs. 49,999	Rs. 50,990	Rs. 59,990	Rs. 65,900
Warranty	1 year	1 year	1 year	1 year	1 year	1 year
Plus (+)	Good components	looks good, built well	Very well built	Powerful graphics solution	Lots of RAM	Superb build quality and components
Minus (-)	build quality of keypad	Slightly expensive	Lacks shortcut keys	poor viewing angles	expensive	Slightly bulky
Grand Totals (Out of 100)	60.62	53.79	57.06	58.54	49.90	63.51
Features (Out of 55)	41.15	36.73	37.84	36.48	32.71	39.31
Performance (Out of 45)	19.46	17.07	19.22	22.06	17.19	24.20
Features						
Specifications						
Processor Model No / Processor Speed	Intel Core 2 Duo T6400 / 2 GHz	Intel Core 2 Duo T6400 / 2 GHz	Intel Core 2 Duo T6400 / 2 GHz	Intel Core 2 Duo T6600 / 2.2 GHz	Intel Core 2 Duo T6400 / 2 GHz	Intel Core 2 Duo P8600 / 2.4 GHz
RAM / RAM Type / Memory Speed (MHz)	4 GB / DDR3 / 800	3 GB / DDR2 / 667	4 GB / DDR3 / 800	4 GB / DDR3 / 800	8 GB / DDR2 / 800	4 GB / DDR3 / 1066
Platform Chipset	Intel PM45	Intel GM45	Intel PM45	Intel PM45	Intel GM45	Intel PM45
Graphics Solution / Dedicated Video Memory (in MB)	GeForce G105M / 512	Intel GMA 4xxx / -	GeForce G105M / -	GeForce GT 130M / 512	Intel GMA 4xxx / -	Radeon HD 3670 / 512
HDD Size / Type	320 GB / SATA	320 GB / SATA	320 GB / SATA	320 GB / SATA	500 GB / SATA	320 GB / SATA
Optical Drive Type	DVD RW	DVD RW	DVD RW	DVD RW	DVD RW	DVD RW
Bundled OS	Vista Home Premium	Vista Home Premium	Vista Home Premium	Vista Home Premium	Vista Business	Vista Home Premium
Characteristics						
Screen Size (Inches) / Resolution (Native, in pixels)	15.6 / 1366 x 768	14 / 1366 x 768	15.6 / 1366 x 768	15.6 / 1366 x 768	14.1 / 1280 x 800	15.6 / 1920 x 1080
Weight	2.8 kg	2.33 kg	3 kg	2.75 kg	2.35 kg	2.91 kg
No of Ports (USB / FireWire)	4, 0	3, 0	3, 0	3, 1	3, 0	3, 1
Connectivity: LAN / Bluetooth / WiFi (Y / N)	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y
Video ports: D-Sub / DVI / HDMI (Y / N)	Y / N / Y	Y / N / Y	Y / N / Y	Y / N / Y	Y / N / N	Y / N / Y
Audio Ports: (Mic / Line Out / S/PDIF)	Y / Y / Y	Y / Y / Y	Y / Y / N	Y / Y / N	Y / Y / N	Y / Y / N
Memory Card Reader / Cards Supported	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD
E-SATA (Y / N) / RJ11 Port	/ Y	N / N	Y / N	N / N	N / N	Y / N
Additional Connects	NA	-	-	NA	-	Display Port
Build Quality (Body / Keypad / Lid, movable) (So 10)	6.75 / 4.75 / 7	7 / 6.75 / 7	8.5 / 7 / 8	7.25 / 6.5 / 5.75	6.75 / 6.75 / 6.5	8 / 8 / 8.25
Ergonomics						
Keypad Tactile Feedback / Key Layout & Usability / Shortcut Keys (So 10)	8.25 / 7.75 / 6.5	7.5 / 6.5 / 6.75	7.5 / 7.25 / 6.75	6 / 7.5 / 5	7 / 6.5 / 2.5	7.75 / 7.25 / 6.5
Biometrics Login (Y / N)	Y	N	N	Y (face recog software)	N	N
Wi-Fi / Bluetooth / TouchPad On/Off dedicated button (Y / N)	N / Y / Y	Y / N / N	N / N / N	Y / N / N	N / N / N	Y / N / N
Performance						
Synthetic Scores						
PC Mark05 Overall	4953	4375	4019	5901	4593	6241
PC Mark05 CPU Score / Memory Score	5018 / 4274	4989 / 4113	4105 / 3674	5523 / 4473	5044 / 4208	6002 / 5146
PC Mark05 Graphics Score / HDD	3606 / 4926	1765 / 5423	2989 / 4448	7328 / 4687	2333 / 5269	7448 / 5283
SiSoft Sandra 2009 Pro Memory bandwidth	4.67 GBps	4.27 GBps	4.44 GBps	4.7 GBps	4.57 GBps	5.14 GBps
3D Mark 2006 (CPU Score / Overall Score)	1791 / 2226	1692 / 800	1209 / 2146	1972 / 6496	1699 / 939	4442 / 2077
Maxxon CineBench R10 CPU score	4084	4068	4093	4481	4086	4743
Display Mate Colour Accuracy (So 10)	6.5	5.5	6	6.25	4.75	7
Wi-Fi Performance Test 7.0 (in Mbps)	36	37	35	33	35	36
Real World Tests						
Battery Life Test (in Minutes)	94	145	156	129	167	101
Webcamera / Speaker Quality (So 10)	6.5 / 5.5	5.25 / 4.25	5.5 / 6	6.25 / 5.5	4 / 4	6.75 / 7.25
HD Movie Viewing (So 10)	6.75	4.25	6.75	5.5	4	7.75
Wi-Fi file transfer (in MBps)	5.26	5.26	3.45	3.85	5.26	5.00
DivX Encode 7.0 (sec) *	67.1	69.3	104.8	62.5	67.9	57.5
Sequential / Assorted file transfer (in MBps)	19.06 / 19.89	19.88 / 17.65	21.41 / 20.11	15.17 / 14.67	21.62 / 21.28	25.25 / 23.80
Doom 3 (fps)	76.1	18.1	116.5	150.1	16.8	137.3
* less is better						

		Low power ultra compacts				Ultra compacts	
							
	Lenovo	Acer	MSI	ASUS	Dell	Dell	ASUS
	IdeaPad Y650	Aspire 3810T	X400	UX30	Adamo	Studio XPS 1340	U6 Bamboo
	Rs. 1,03,990	Rs. 31,999	Rs. 40,000	Rs. 56,000	Rs. 1,15,000	Rs. 59,900	Rs. 98,990
	1 year	1 year	2 years	2 years	1 year	1 year	2 years
	Sleek, slim, feature rich	Very sleek, built well	Lightweight	Good looks, compact	Sublime build quality	Very well built, powerful	Powerful and compact
	Overpriced	None in particular	Low performance and ergonomics	Weak config	Expensive	None in particular	Bamboo?
	57.76	54.40	44.16	48.08	43.53	58.48	58.43
	36.36	37.66	29.25	32.45	28.67	37.66	40.25
	21.41	16.73	14.91	15.63	14.86	20.82	18.19
	Intel Core 2 Duo P8600 / 2.4 GHz	Intel Core 2 Solo U3500 / 1.4 GHz	Intel Core 2 Solo U3500 / 1.4 GHz	Core 2 Solo U3500 / 1.4 GHz	Intel Core 2 Duo SU9300 / 1.2 GHz	Intel Core 2 Duo P8600 / 2.4 GHz	Intel Core 2 Duo P8400 / 2.26 GHz
	4 GB / DDR3 / 1066	2 GB / DDR3 / 800	2 GB / DDR2 / N/A	4 GB/ DDR2 / 800	2 GB/ DDR3 / 800	4 GB/ DDR3 / 1066	4 GB/ DDR2 / 800
	Intel PM45	Intel GS45	Intel GS45	Intel GS45	Intel GS45	nVidia GeForce 9400M G	Intel PM45
	GeForce GT 105M / 256	Intel GMA 4xxx / -	Intel GMA 4xxx / -	Intel GMA 4xxx / -	Intel GMA 4xxx / -	GeForce 9400M GT / 256 MB	GeForce 9300M GS / 256
	320 GB / SATA	250 GB / SATA	320 GB / SATA	500 GB / SATA	128 GB / SATA (SSD)	320 GB / SATA	320 GB / SATA
	Blu-ray Writer/DVD RW	N/A	N/A	N/A	N/A	DVD RW	DVD RW
	Vista Home Premium	Vista Home Premium	Vista Basic	Vista Home Premium	Vista Home Premium 64-bit	Vista Home Premium	Vista Home Premium
	16 / 1366 x 768	13.3 / 1366 x 768	14 / 1366 x 768	14 / 1366 x 768	13.4 / 1366 x 768	13.3 / 1280 x 800	12.1 / 1280 x 800
	2.54 kg	1.6 kg	1.5 kg	1.39 kg	2.49 kg	2.2 kg	1.57 kg
	2, 0	3, 0	2, 0	3, 0	3, 0	2, 1	3, 0
	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / N / Y	Y / Y / Y	Y / Y / Y
	Y / N / Y	Y / N / Y	Y / N / Y	N / N / Y	N / N / N	Y / N / Y	Y / N / Y
	Y / Y / N	Y / Y / N	Y / Y / N	Y / Y / N	N / Y / N	Y / Y / N	Y / Y
	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	N / NA	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD
	Y /	N / N	N / N	N / N	N / N	Y / N	Y / Y
	NA	-	-	-	Display Port	Display Port	NA
	8.25 / 6.5 / 6	8.25 / 6.5 / 8.25	4.75 / 5.25 / 6	6.75 / 6.5 / 7	9.25 / 7 / 9.25	8 / 8 / 8.25	6.5 / 6.5 / 5.75
	6 / 7.5 / 5	8 / 8 / 6	5.75 / 5.75 / 3.5	7 / 5.5 / 4.5	6 / 7 / 3.5	7.75 / 7.25 / 6.5	7.5 / 6.5 / 6.75
	Y (face recog software)	N	N	N	N	N	Y
	Y / N / N	Y / N / Y	N / N / N	N / N / N	N / N / N	Y / N / N	Y / N / N
	5549	2254	2135	2269	3725	5856	5260
	6110 / 5170	2457 / 3312	2443 / 3346	2441 / 3354	3173 / 3376	5795 / 4957	5784 / 4986
	3907 / 4684	1039 / 5204	1156 / 4824	1043 / 5250	1430 / 12735	3562 / 5949	3188 / 4825
	5.59 GBps	4.15 GBps	4.13 GBps	4.26 GBps	4.22 GBps	5.22 GBps	5.3 GBps
	2133 / 2463	658 / 599	656 / 637	654 / 631	1038 / 642	2158 / 2179	1897 / 1800
	4939	1520	1516	1512	2501	4913	4656
	6.75	5	4	4.5	4.25	6.5	6
	30	31	37	36	30	39	37
	90	328	286	276	131	108	110
	6.25 / 7.5	5.5 / 4.5	3 / 4.5	3.5 / 4.5	2.5 / 3	6.75 / 6.25	3 / 4.5
	7	4	4.75	5	2.5	4.5	3
	3.57	5.00	1.85	3.85	5.26	5.00	4.76
	56.1	155.2	155.1	151.2	103.8	53	61.1
	23.95/ 22.61	23.01 / 22.75	29.07 / 20.69	27.30 / 22.62	42.22 / 35.96	27.41 / 23.36	21.68 / 20.92
	115.3	8.6	9.8	11.1	8.8	68.5	66.6

Corporate Notebooks



Brand	HP	Sony	HP	Sony
Model	ProBook 4410S	Vaio VGN-SR46GD	EliteBook 2530P	Vaio VGN-Z48GD
Price	Rs. 40,000	Rs. 74,900	Rs. 99,000	Rs. 1,49,900
Warranty	1 year	1 year	1 year	1 year
Plus (+)	High-quality build	Powerful CPU	Compact	Excellent configuration, ultra compact
Minus (-)	lacks dedicated graphics	None in particular	Overpriced	Just the price
Grand Totals (Out of 100)	53.40	58.46	47.78	65.37
Features (Out of 55)	38.13	35.50	34.47	34.24
Performance (Out of 45)	15.27	22.96	13.31	31.13
Features				
Specifications				
Processor Model No / Processor Speed (MHz)	Intel Core 2 Duo T6570 / 2.1 GHz	Intel Core 2 Duo P8700 / 2.53 GHz	Intel Core 2 Duo SU9300 / 1.2 GHz	Intel Core 2 Duo P9700 / 2.8 GHz
RAM / RAM Type / Memory Speed (MHz)	3 GB / DDR2 / 800	4 GB / DDR2 / 800	2 GB / DDR2 / 800	6 GB / DDR3 / 1066
Platform Chipset	Intel GM45	Intel PM45	Intel GS45	Intel GM45
Graphics Solution / Dedicated Video Memory	Intel GMA 4xxx / -	Radeon HD 4570 / 512 MB	Intel GMA 4xxx / -	Intel GMA 4xxx and GeForce 9300M / -
HDD Size / Type	320 GB / SATA	320 GB / SATA	120 GB / SATA	256 GB / SATA (SSD)
Optical Drive Type	DVD RW	DVD RW	DVD RW	DVD RW
Bundled OS	Vista Business	Vista Business	Vista Business	Vista Business 64-bit
Characteristics				
Screen Size / Resolution (Native, in pixels)	14-inches / 1366 x 768	13.3-inches / 1280 x 800	12.1-inches / 1280 x 800	13.1-inches / 1600 x 900
Weight	2.27 kg	1.99 kg	1.39 kg	1.49 kg
No of Ports (USB / FireWire)	4, 0	2, 1	2, 1	2, 1
Connectivity: (LAN / Bluetooth / WiFi)	Y / Y / Y	Y / Y / Y	Y / Y / Y	Y / Y / Y
Video ports: D-Sub / DVI / HDMI (Y / N)	Y / N / Y	Y / N / Y	Y / N / N	Y / N / Y
Audio Ports: (Mic / Line Out / S/PDIF)	Y / Y / N	Y / Y / N	Y / Y / N	Y / Y / N
Memory Card Reader / Cards Supported	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD	Y / SD, MMC, MS Pro, xD
E-SATA (Y / N) / RJ11 Port	N / Y	N / Y	N / Y	N / Y
Additional Connects	-	NA	-	NA
Build Quality (Body / Keypad / Lid, movables) (So 10)	7.75 / 7.5 / 7.75	6 / 7.25 / 5.75	7.25 / 7 / 6.75	6 / 7.25 / 5.75
Ergonomics				
Keypad Tactile Feedback / Key Layout & Usability / Shortcut Keys (So 10)	7.25 / 7 / 5.75	5.75 / 5.25 / 6	7.5 / 7 / 5.75	5.5 / 4 / 6
Biometrics Login (Y/N)	N	Y	Y	Y
Wi-Fi / Bluetooth / TouchPad On/Off dedicated button (Y/N)	Y / N / N	Y / N / N	Y / N / N	Y / N / N
Performance				
Synthetic Scores				
PC Mark05 Overall	3770	6637	1961	8749
PC Mark05 CPU Score / Memory Score	5304 / 4147	6487 / 5316	1828 / 1805	6548 / 5196
PC Mark05 Graphics Score / HDD score	1619 / 4333	6534 / 5726	1054 / 3935	3858 / 29275
SiSoft Sandra 2009 Pro Memory bandwidth	4.5 GBps	5.25 GBps	2 GBps	5.65 GBps
3D Mark 2006 (CPU Score / Overall Score)	1757 / 889	2285 / 4170	649 / 446	2550 / 2286
Maxxon CineBench R10 CPU score	4192	5229	1562	6427
Display Mate Colour Accuracy (So 10)	4	5.25	4	6
Wi-Fi Performance Test 7.0 (in Mbps)	36	37	49	42
Real World Tests				
Battery Life Test (in Minutes)	120	151	248	162
Webcamera / Speaker Quality (So 10)	4 / 3.5	5 / 4.75	3.5 / 3	6 / 4.25
HD Movie Viewing (So 10)	3	3.75	2.75	7
Wi-Fi file transfer (in MBps)	3.70	5.56	5.56	5.26
DivX Encode 7.0 (sec) *	67.3	53.4	327.6	46.1
Sequential / Assorted file transfer (in MBps)	22.22 / 19.92	28.60 / 25.36	13.62 / 12.79	147.33 / 104.22
Doom 3 (fps)	13.3	136	14.3	80.8
* less is better				

audience. Therefore the Sony Vaio VGN Z48GD is also an ultra compact notebook, but that's not how Sony positions it. Therefore this category includes a variety of laptops, some with very different intended uses and characteristics with only one thing in common – they're easy to cart around. Of course the trade-off is generally performance but that's not always the case as some of the jousting in this tourney proved.

Dell Adamo

Beauty is skin deep

Dell's offering is suitably upmarket in every visual aspect – it's built around onyx coloured brushed aluminium and the chassis is rigid – sublime build quality. There's nothing suave about it – the Adamo is a blatant style statement – from its ultra thin lid to the beautifully crafted floating keypad with soft backlighting that illuminates automatically when you touch a key. The lid mechanism is superb. The key feedback is soft and the keys large and very comfortable with a slight indent in the centre for your fingers – a finger-sofa anyone? The trackpad is also responsive. On a negative note the display isn't that bright and colours seem slightly dull. Its innards aren't as impressive although the Adamo is quite visibly geared as a Macbook Air competitor. It also has an SSD drive, similar to the Macbook Air.

Battery life was shockingly poor though at just 131 minutes, the Macbook Air does much better. In terms of performance the Adamo is the proverbial tortoise. So it's sexy as hell...but so is Paris Hilton. And this is probably something she would buy – at Rs. 1,15,000 the Adamo is for those who want to make style statements, and little else. For most of us who prefer to settle down with the girl next door rather than the flighty neighbourhood belle, the Adamo proves too sinful an extravagance to indulge. Oh! for the life of a playboy.



Dell Adamo

IE 8 = longer battery life?

A recent test shows that Internet Explorer 8 provides more laptop battery time than Firefox, Chrome, and other browsers



ARM processors scales 2 GHz

ARMs Cortex A-9 scales to 2 GHz, meaning we could well be seeing them in the desktop processor sphere

Laptop test

Dell Studio XPS 1340 Guts n Glory

The Studio XPS 1340 goes the way of its larger sibling complete with leather accents on the bottom of the lid. It's distinctly upmarket looking and feels very solid while retaining a semblance of compactness. The top bezel is rather wide and although it integrates a webcam. The lid mechanism is really sturdy. The glossy black has a translucent look to it and in places it is where embedded LEDs indicate touch buttons just above the keypad. The keypad itself is well laid out with large keys and although not segregated in the truest sense the edges of the keys are slightly lower creating the impression of a gap. The keys are comfortable to type on and feedback is signature Dell – slightly soft and on the mushy side, but key travel is good and overall usable. People liking the firm feedback on the Acer notebooks will be disappointed but it's just a different design nothing good or bad about it. The trackpad is responsive but not as exact as we'd like and its small size is no help. In fact the trackpad is a grouse because after an hour of use one begins to miss a USB mouse – a sure sign of a less than perfect trackpad. Trackpad buttons are good – mushy with good key travel and comfortable – a relief from clicky-clacky mouse buttons.

In terms of performance the XPS 1340 has got what it takes to trail with the best. The GPU isn't particularly powerful but it's more than sufficient for even casual gamers. Priced at Rs. 59,900 (configuration dependent of course) the Studio XPS 1340 is a great mix of style and

performance. It's also portable enough to be lugged around anywhere and it's easy on the eye – the proverbial icing on the cake.

ASUS U6 Bamboo When wood is good

ASUS' U6 series represent their efforts at extreme portability with good performance. The Bamboo is a special edition notebook livered in (you guessed it!) Bamboo. The lid is covered in the wood as is the palmrest and the trackpad. The rest of the notebook is grey/silver and looks quite exclusive as a result. The keys are spaced out but not segregated, similar to the design used on the previous generation of Dell notebooks like the XPS M1330. Keypad feedback and usability is good and the U6 has a pretty responsive trackpad although its texture is not good as it tends to grip your finger pad owing to the varnished surface. The right side of the keypad feels a little cramped with tiny *Enter* and *Shift* keys. Like the Vaio Z48GD the mode switch toggles between integrated Intel graphics and a GeForce 9300M.

The U6 Bamboo is priced at Rs. 98,990, and this includes a two-year, worldwide warranty from ASUS. We reckon this is Rs. 15,000 more than we'd like for something with this configuration although to be honest there's a lot of uniqueness to the look.

Acer Aspire 3810T A sweet deal

The 3810T looks decidedly upmarket with its slim profile and brushed aluminium lid. Since it's smaller than the 5810T it looks thicker, but the thickness of both notebooks is the same. It feels extremely well built in hand and the body is clearly well constructed. The lid closes with a definitive snap. The long power button with embedded LED is stylish, so is the silver/grey body. The keypad is really sweet with great spacing, very nice key feedback – ultra usable and very comfortable, the keypad just feels right. The screen



resolution is just right for a 13.3-inch display – 1366 x 768 pixels. Brightness levels are good but the colour quality is very ordinary. The touch based keys atop the keypad work well and we like the minimalist styling. The battery indicator is located on the front, just below the trackpad and its bright orange LED is distinctly visible but not obtrusive.

Performance wise there's not much grunt under the hood so we didn't expect much, but this notebook isn't about performance. It's about style, portability and usability and it meets these parameters in spades. Quite frankly a price tag of Rs. 31,999 is pretty amazing – if you're looking for value for money – you've got it! Our only grouse is Acer overlooked an optical drive – a shame because this would be a killer product with one. Sans that however, it still manages to bag our *Best Buy* award and we feel it's well deserved. Should you want something good enough for most mundane tasks that is also compact buying this is a no-brainer. The battery life is an amazing 328 minutes.

ASUS UX30 Lots of show, little go

ASUS' UX30 is their compact, low power offering. It's innards are similar to the Aspire 3810T. It's a lot flashier looking however, with a piano black finish reminiscent of some LCD HDTVs. It also borrows the idea of enclosing connectors with a small slider door from the Macbook Air. The lid is brushed aluminium and so is the palmrest. ASUS chose to use the

same trackpads that the K40J and K50J use – ugh! The keypad has good feedback but usability is not as good owing to a mediocre layout that doesn't feel intuitive

at first use. The 14-inch display is also pretty mediocre, despite the LED-backlighting. One plus is the enormous hard drive – ASUS thought it prudent to load the UX30 with 500 GB worth of storage. Its price was a little over the top at Rs. 56,000 and we cannot see anyone spending this much. Not when the Aspire 3810T gives more for less. If we were up to blowing close to 60 grand on a notebook we'd figure the Dell Studio XPS 1340 would get a nod over this in anyone's books.

MSI X400 When ignorance is bliss

MSI also joins the bandwagon of people offering compact notebooks based on Intel's U series of Core Solo processors. In general the effort is proportionate to the applause and we're not cheering much. The X400 is



compact, but it's not well built. The body feels like cheap plastic and the notebooks exterior was a let down. Inside the textured palmrest also feels cheap – really this is unforgivable and we're trying to see something good. The keypad is also tacky, added to this the keys aren't well laid out. Key spacing feels slightly off owing to the large keys and this is not intuitive to most peoples' fingers, who will be used to closer key alignments. There's nothing much to write



ASUS UX30

home about here and about all that we can say that the MSI X400 is a first effort, and better things are sure to come out of the mistakes made this round. At Rs. 40,000 its one notebook you can easily afford to miss.

BEST BUY
digit
OCTOBER 2009



Dell Studio XPS 1340



Acer Aspire 3810T



Corel's new Digital Studio 2010 is touch input enabled



Microsoft's LifeCam Cinema is the only webcam to offer a widescreen 720p HD video capture

Shooting Stars

It's getting more and more difficult to impress customers. It's time to see if this latest generation of cameras can...

Rossi Fernandes

rossi.fernandes@thinkdigit.com

As competition between companies builds in times like this where the economy is slow, and demands have already been met by existing cameras, there's little left that can grab the attention of the customer. There's almost no one who hasn't bought a camera. Those who've bought point and shoots are looking at more expensive digital SLRs. What else could point and shoot cameras offer?

We've seen a few instances where manufacturers are already trying to reduce the megapixel count. Obviously, with fixed sensor sizes, there's little in terms of improvement and the higher-megapixel-is-better-quality myth seems to have burst.

This month, we have cameras that go across categories and this being the festive season, there's going to be something in here that fits your budget and your needs.



Imaging: Rohit Chandwaskar
Photography: Manas Parekh



Hitachi reveals high-definition camcorder that records videos in Blu-ray



Fujifilm's FinePix Real 3D W1 is a dual-lens camera that captures footage in 3D

Canon PowerShot SX120 IS

The Canon Powershot SX120 IS is the latest version of the PowerShot SX series which has been crowned as one of the best point and shoot ultrazoom cameras around. This SX120 IS is only a small upgrade over the SX110 IS that had a few issues. It's predecessor, the SX100 IS was poorly built, that much has been addressed in the last two models.

A lot of the features from the previous models are present in this SX120 IS model. If you look at the specifications comparison between the SX110 IS and the SX120 IS, there's very little that has changed. For example, this is now a 10MP camera instead of a 9MP one. The amount of digital zoom has been increased but as a feature it's pretty useless. Build quality is identical. The flash has to be manually raised unlike some other cameras where the flash pops out automatically depending on the settings and ambient conditions. The body is almost totally plastic so even though this might seem like a prosumer device, it's not. However, it's still better built than most other cameras. A rubberised handgrip would've been a nice touch.

The screen is large, though its performance is average. It works well outdoors but in darker areas, there's a bit of lag. Being a point-and-shoot camera, there isn't an eyepiece to look through.

One of the features many manufacturers are adding to their cameras is the face recognition. The SX120 uses it a lot. Along with the usual timer functions, the SX120 has a face-timer function which automatically first uses a timer and then clicks a photo when you point the camera at a face. It's particularly useful for a self portrait.



Canon PowerShot SX120 IS

The intensity setting for the flash has also been available on Canon cameras for awhile now and is useful as it integrates well with the rest of the camera settings that are already present and used.

Canon Digital IXUS 110IS

Canon's Digital IXUS series is designed keeping in mind the kind of user. These are more stylish models meant for those who want a compact camera that is pocketable. The IXUS 110IS is a 12.1 MP camera with a 4x optical zoom. The front of the camera is made of metal and the finish is satiny – pretty classy stuff. The rest of





Adobe releases Photoshop
Lightroom 2.5 and Camera
Raw 5.5



Nikon's hybrid projector-camera
combo starts selling

the camera isn't so special. The 2.8-inch LCD screen is a widescreen because of the dimensions of the camera.

The controls at the back of the camera have no icons or markings except for the menu and function buttons.

One of the killer features of this tiny camera is the 720p video recording capability. Video quality is rather impressive even in low-light scenarios – a serious plus

Controls and the mode selection is done using a slider on the top of the camera. We feel the current interface Canon cameras use is better than earlier versions. There's a lot of animations and transition effects being used in the interface while moving from one menu to another.

It's a camera that doesn't have too many advanced controls that a serious photographer would want. This isn't a camera aimed at such users. You're better off with the

PowerShot A or SX series of cameras for that. Still, it would be nice to have a few more metal bits around the controls and also a nicer screen. There's also a HDMI connector so you can connect your camera to the TV easily.

There's one slight problem with the metal body. It conducts heats so you can easily feel the heat around the right side of the camera. This gets irritating within minutes of using the camera. The other issue we find is with the position of the flash. There's a small slit for the flash and if you use your left hand fingers to hold the camera as well, it's likely that you'll cover the flash.

Canon Digital IXUS 95 IS

The Canon Digital IXUS 95 IS has a blockier design than the pricier IXUS 110 IS. The IXUS 95 IS is almost half the price of the IXUS 110 IS as mentioned on Canon's site. The IXUS 95



Canon Digital IXUS 95 IS

IS comes in attractive colours. We received a bright orange model that, to some, looked nice while others found it too gaudy for a digital camera. The finish on the body isn't as exotic as the IXUS 110 IS.

There are a few differences and at first, it seems like the IXUS 110 IS is overpriced. The interface looks a little dated but the buttons have a nicer feel than the IXUS 110 IS. The SX 120 IS is a superior camera in terms of performance and features didn't have an eyepiece, which this model incorporates.

The small nifty features like the face timer are still present on this camera. As a point and shoot camera, it's very simple to use. It doesn't have many of the features that are expected but once again, the IXUS series of processors follows a different path. Canon hasn't taken out the essentials

such as the image stabilization features. This is a decent camera and is probably one of the cheapest options if you want a really compact camera. It's sturdy as well but just lacks a lot of features.

Canon Digital IXUS 100IS

The IXUS 100IS at first use feels and looks like a nicer camera than even the IXUS 110IS. The body shape is curved on the edges which gives it a slightly more compact look and it feels better in hand at the same time.

The HDMI and USB connectors aren't on the side or the bottom like on many other cameras. Instead, the connectors have been put on the back of the camera where the zoom buttons would usually be on some cameras. The zoom is controlled by the a trigger-style control. The mode selection is done using a slider



Canon Digital IXUS 110IS

HOW WE TESTED

The most importance was given to the test scene. A test scene comprised of several objects of different colours with lots of detailed designs and patterns on it were setup on a table. Every camera was tested mounted on a tripod to ensure there was no movement by the person testing. The cameras were shot using the 'Auto' shooting mode as this is what most users would typically use.

The room was darkened with the windows blinded and all the tubelights in the

room turned off to ensure that only the lights used for the test setup were utilized. There were two sets of colour neutral lights used from either side to illuminate the test scene. Colour neutral lights emit light without any kind of tint. This ensured no bias or mistakes during the evaluation phase. Multiple photographs were taken using the test scene. There were shots with the cameras completely zoomed out and then fully zoomed into the center of the scene. The quality of the photograph on a bad lens deteriorates when the

maximum zoom is operated.

The same wideangle test photograph was shot with the flash on. This was to look for what adverse effects a flash would do. Every camera comes with a different type of lens. Some of these are better than the others for different kinds of photography. A good lens on a point-and-shoot should be able to click close-up photos of objects, so we used the macro mode to try and get as close to the object as possible and still focus. A video was also shot under this test scene lighting. All the test shots were closely examined

and the set areas in each photograph were rated.

Other than the test scene, the cameras were used under everyday conditions – outdoors and indoors where light wasn't always constant and bright. While doing this, all kinds of settings and modes were selected. Similarly, videos were also recorded. Some amount of the test weights were given to the ease of use and the overall build quality of the camera. The quality of the screen, the battery doors and buttons all matter, so all these were given scores as well.



Pentax announces the K-x prosumer-level dSLR camera at approximately Rs. 31,000



Samsung releases a 5 MP system-on-chip image sensor for high-end mobiles

Digital Camera Test



Canon Digital IXUS 100IS

mechanism at the back which is designed rather well. The buttons are top notch quality and it's a really good camera.

In features, the IXUS 110 IS is very similar to the 100IS. The only difference between the two cameras is in the optical zoom lens.

Canon PowerShot A480

Canon's cheapest offerings are the A4xx series and we've tested these cameras in the last couple of years and it must be said – we're impressed. This line follows the long biscuit-package design for a slightly

more compact and better looking design. The A480 continues with the design. We don't like the control buttons on the back of the camera. They are simply plastic buttons etched which gives it a really cheap look and feel.

The camera uses two AA batteries and the USB data connectors lie on the side behind a rubber door. The other thing you notice is the smaller screen. The resolution doesn't look like a lot but its good enough for the casual user. The user interface is quick to react and there's not a lot of waiting between shots.



Canon PowerShot A480



Canon PowerShot A1100 IS

However, occasionally you see a 'charging the flash' alert when the batteries discharge a little.

The top of the camera has space for your finger to rest on the shutter release button. It makes the camera very comfortable to hold on to even without a handgrip.

Manual ISO selection is present. The interface from older but higher-end Canon cameras can be seen on the A480. Overall, this is a good camera even though we really would like better quality in the build of the camera.

Canon PowerShot A1100 IS

The Canon PowerShot A1100IS is a 12.1 MP camera with a 4x optical zoom. The AA batteries make the camera a little bulky but at the same time easier to hold. The buttons at the back aren't so great in terms of feel and quality. They are bigger than some of the other cameras we've tested. The interface is similar to that on the A480 and both models share quite a few features. The A480 has no mode selection and users have

to depend on buttons and menus to switch to them. The A1100 IS is much simpler in that aspect.

The A1100 IS comes with image stabilization and that is very helpful when you're taking photos with zoom or with low-light where the shutter speed has to be slow.

Fujifilm Finepix S1500

While all of the photography world might be focussed on Sony, Canon and Panasonic for their ultrazoom camera, Fujifilm continues to work on their point-and-shoot camera business. The S1500 is a 12x optical zoom ultrazoom camera.

The interface looks really outdated and uninspired. It's nowhere as neat as the Canon and Sony user interfaces. Fujifilm also needs to improve on the processing power of this camera. It lacks the processing power and it shows while viewing one photo after another. There's a considerable processing time even while deleting. While clicking a photograph, you will notice a

Dell™ recommends Windows Vista® Home Premium.



PERFORM IN STYLE WITH THE DELL™ STUDIO 15

TO BUY, CALL US or GO ONLINE



1800 425 4011

Toll-Free Mon-Sat 9am-6pm
(BSNL & MTNL subscribers only)



080-2510 8010

(Standard charges apply)



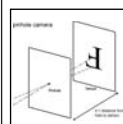
www.dell.co.in/home

DELL™
YOURS IS HERE



Aperture

The opening that determines the cone angle and the amount of light that enters a camera



Camera facts

A camera is a lightproof box, usually fitted with a lens that gathers incoming light and concentrates it to be directed towards the film or imaging device



Digital Cameras Test

Brand	Canon	Canon	Canon	Canon	Canon	Canon	Canon
Model	Digital IXUS	Digital IXUS	Digital IXUS	PowerShot	PowerShot	PowerShot	PowerShot
	100 IS	110 IS	95 IS	A1100 IS	A480	SX120 IS	SX200 IS
Price	Rs. 13,995	Rs. 18,995	Rs. 10,995	Rs. 9,995	Rs. 7,995	Rs. 15,995	Rs. 22,995
Overall (Out of 100)	64.98	64.37	60.11	58.54	53.17	60.17	66.49
Features (Out of 40)	29.28	29.42	25.46	24.64	20.02	26.12	30.04
Performance (Out of 60)	35.70	34.95	34.65	33.90	33.15	34.05	36.45
Specifications							
Sensor resolution (Megapixels)	12.1	12.1	10	12.1	10	10	12.1
Sensor size (in inches)	1/2.3	1/2.3	1/2.3	1/2.3	1/2.3	1/2.5	1/2.3
Sensor type	CCD	CCD	CCD	CCD	CCD	CCD	CCD
ISO sensor sensitivity range	80 - 1600	80 - 1600	80 - 1600	80 - 1600	80 - 1600	80 - 1600	80 - 1600
Shutter speed range (sec)	15 - 1/1500	15 - 1/1600	15 - 1/1500	15 - 1/1600	15 - 1/2000	15 - 1/2500	15 - 1/3200
Burst speed	0.8 fps	0.8 fps	1.4 fps	1.1 fps	0.8 fps	1.3 fps	0.8 fps
Aperture size range (F number)	3.2 - 5.8	2.8 - 5.8	2.8 - 4.9	2.7 - 5.6	3 - 5.8	2.8 - 4.3	3.4 - 5.3
Lens optical zoom	3x	4x	3x	4x	3.3x	10x	12x
Lens (mm)	5.9 - 17.9 mm	5.0 - 20.0 mm	6.2 - 18.6 mm	6.2 - 24.8 mm	6.6 - 21.6 mm	6.0 - 60.0 mm	5.0 - 60.0 mm
Image stabilization	Yes	Yes	Yes	Yes	No	Yes	Yes
HDMI	Yes	Yes	No	No	No	No	Yes
Face detection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Best video resolution	1280 x 720	1280 x 720	640 x 480	640 x 480	640 x 480	640 x 480	1280 x 720
Frame rate	30	30	30	30	30	30	30
Display							
LCD size (in inches)	2.5	2.8	2.5	2.5	2.5	3.0	3.0
LCD Resolution (pixels)	2,30,000	2,30,000	2,30,000	1,15,000	1,15,000	2,30,000	2,30,000
Battery Type	Li-ion	Li-ion	Li-ion	2x AA	2x AA	2x AA	Li-ion
Memory cards supported	SD, SDHC, MMC	SD, SDHC, MMC	SD, SDHC, MMC	SD, SDHC, MMC	SD, SDHC, MMC	SD, SDHC, MMC	SD, SDHC, MMC
Dimensions (in mm)	87.0 x 54.5 x 18.4	97.9 x 54.1 x 22.1	88.5 x 54.8 x 21.8	95.4 x 62.4 x 31.0	92.1x 62.0 x 31.1	110.6 x 70.4 x 44.7	103.0 x 60.5 x 37.6
Weight (in grams)	115	145	120	155	140	245	220
Design and quality (Out of 10)							
Ease of use	5.5	6.5	5.5	5.5	5.5	6.5	6.5
Button quality	7	5	7	4.5	3.5	5	5
Screen quality	5	5	5	5	5	5.5	5.5
Flash/lens covers	5.5	5.5	5	5.5	5.5	5.5	6
Quality of body	7.5	6.5	7	6	5.5	6	7
Battery door quality	6.5	6	6	6.5	6.5	6	7
Performance (Out of 10)							
Light scene (Wideangle)	5.63	5.38	6.13	6.13	5.88	5.75	5.75
Light scene (Telephoto)	5.5	5.5	5.25	5.25	5	6	5.75
Macro scene	5.75	5.75	5.75	5.5	5.75	6	6.25
Light scene (Wideangle)	7	7	5.5	5	5	5	7



USB 3.0 camera

The first the world has seen, unveiled by Point Grey can belt out video in 1080p at 60 fps!



Picasa now face friendly

Version 3.5 will feature face recognition not only on web albums, but also on photos stored on a hard drive

Digital Camera Test



	Fujifilm	Fujifilm	Fujifilm	Fujifilm	Nikon	Nikon	Nikon	Samsung
	Finepix A170	FinePix F200EXR	FinePix J27	Finepix S1500	Coolpix L20	Coolpix P90	Coolpix S220	ES55
	Rs. 6,999	Rs. 20,999	Rs. 7,999	Rs. 14,999	Rs. 7,950	Rs. 25,950	Rs. 8,950	Rs. 8,990
	54.83	55.87	54.29	55.71	53.90	59.36	53.33	60.92
	24.68	26.32	24.74	25.71	22.40	27.86	24.98	25.22
	30.15	29.55	29.55	30.00	31.50	31.5	28.35	35.7
	10.2	12	10.2	10	10	12.1	10.3	10.2
	1/2.3	1/1.6	1/2.3	1/2.3	1/2.3	1/2.3	1/2.3	1/2.3
	CCD	CCD	CCD	CCD	CCD	CCD	CCD	CCD
	100 - 1600	100 - 3200	100 - 3200	64 - 1600	64 - 1600	64 - 1600	80 - 2000	80 - 1600
	8 - 1/1400	8 - 1/1500	8 - 1/1400	8 - 1/2000	N/A	N/A	N/A	4 - 1/1500
	1.4 fps	1.4 fps	1.4 fps	1.4 fps	NA	NA	NA	1.8 fps
	2.9 - 10	3.3 - 14	2.9 - 16	2.8 - 6.4	3.1 - 6.7	2.8 - 5	3.1 - 5.9	3.2 - 5.8
	3x	5x	3x	12x	3.6x	24x	3x	3x
	5.7 - 17.1 mm	28 - 140mm	5.7 - 17.1 mm	5.9 - 70.8mm	38 - 136 mm	N/A	26 - 624 mm	35-105 mm
	Yes	Yes	Yes	NA	No	Yes	Yes	Yes
	No	No	No	No	No	No	No	No
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	640x480
	30	30	30	30	N/A	N/A	N/A	30
	2.7	3.0	2.7	2.7	3	3	2.5	2.5
	2,30,000	2,30,000	2,30,000	2,30,000	2,30,000	2,30,000	1,50,000	2,30,000
	2x AA	Li-ion	Li-ion	4x AA	2x AA	Li-ion	Li-ion	Li-ion
	SD/SDHC	SD/SDHC	SD/SDHC	SD/SDHC	SD	SD/SDHC	SD	SD/SDHC
	93.0 x 60.0 x 21.9	97.7 x 58.9 x 23.4	92.0 x 55.9 x 20.0	102.5 x 73.0 x 67.8	96.5 x 61 x 29	114 x 83 x 99	89.5 x 55.5 x 18	90.4 x 59.0 x 21.6
	120	175	113	324	135	460	100	116
	5	5	5	5	5	5	5.5	6
	4.5	5	4.5	6.5	5.5	5.5	6	4
	5.5	5.5	5.5	6	5.5	7	5	7
	5.5	4	5.5	6	5	5.5	5	6
	6	7	6	8	6	6.5	7.5	6.5
	5.5	5.5	5	7	7	8	5.5	6
	5.25	4.5	5.25	5	5.38	5.25	4.88	6.38
	4.5	6	4.25	5	5.25	5.5	4.25	5.75
	5	5.25	5.5	5.5	5.75	5.5	4.75	5.25
	5	4.5	4.5	4.5	4.5	5	5	6



Samsung's HZ25W ultra zoom camera includes a 24x optical zoom lens



Samsung's newly announced L77 claims to be the world's thinnest camera with a 7-MP sensor and 7x zoom

considerably large delay there as well. Surprisingly, the startup waiting time is almost non-existent.

The LCD display's quality isn't so great either. The eyepiece which also is a display in almost all camera is really laggy with poor refresh rates. Quality also is bad. The image stabilisation isn't very effective. With the lens zoomed in, there's still a lot of movement and it seems the camera corrects at the last moment when you press down the click.

Coming back to the interface and the usability, the menus although not pretty, could have been designed a little better. For example, the ISO settings aren't available in the main menu but accessible using a separate button. This button also allows you to change the resolution and image quality settings. The ISO settings should have been present in the main interface along with the shutter speed and aperture size settings. The lack of the jog dial means you're forced to press many more buttons and browse through many more menus for simple tasks. On the other hand, it has control buttons which are wasted. There are two buttons for the face detection and image stabilization options which in our opinion aren't absolutely necessary as dedicated buttons.

In terms of the build quality, it's actually quite good. The buttons at the back might be of average quality but the dial for the mode selection is nice and feels like one on a dSLR. The body and the handgrip has the rough textured feel like SLR cameras. There's a sturdy little slider for the power on switch and the zoom trigger also is designed and built well. The camera is really tiny but it weighs quite a bit with the four tightly fitting AA batteries. A slightly larger camera would feel comfortable in-hand.

The panorama feature is a neat feature that works well. It's simple to use but the processing time is quite a bit. A good feature of Fujifilm cameras is the ability to zoom in and out of images smoothly whereas many other cameras have intermediate steps in between.

Fujifilm Finepix J27

The Fujifilm Finepix J27 is a compact little point and shoot camera that looks like it was made to fit into pockets. The size means that there's only space for a miniature 3x optical zoom to fit into the camera. The controls



Fujifilm Finepix J27

buttons on the back and the body itself are made of plastic. It has a really smooth finish which isn't always a nice thing, as it makes the camera slightly slippery to hold.

The screen is extremely laggy with or without enough light for the camera to focus on. The interface is a little more attractive than the S1500 which we found rather appalling. Still, there's a long way to go before the interface becomes more



Fujifilm Finepix A170

friendly like on a Sony or a Canon camera. The panorama feature exists in this particular camera as well.

The tiny USB connector is left open without any protection lid or flap. Over time, this might get clogged with dust. There are very few buttons at the back of the camera. All the options and shooting modes can be selected by going to the main menu. The buttons are tiny in comparison to other cameras and feel cheap.

There are small display LEDs at the back of the camera that show the status.

The flash is located near the centre of the camera so there's little chance that your finger will cover the flash. This is a problem faced with many ultra-compact cameras.

Fujifilm Finepix A170

Fujifilm Finepix A170 is a plastic body camera with controls very much like the

other Fujifilm cameras. The buttons are tiny and the zoom is controlled by buttons instead of a trigger-like control. The problem is that holding the camera is a little more difficult with the zoom at the back. The camera has a glossy finish but that doesn't help because the shape of the body itself is very plain and simple.

The interface is also dull and boring. All the shooting modes have to be accessed using the buttons instead of a dial that could've been easily be designed on top of the camera. The USB connector is placed on the side of the camera and has no protection flap to stop dirt from getting into the connector. Macro performance isn't impressive either and focussing takes a long time as well.

Sony Cyber-shot DSC-HX1

Sony's Cyber-shot DSC-HX1 is an ultrazoom camera. The HX1 comes with a phenomenal 20x optical zoom – a godsend for those who need a long zoom.



Sony Cyber-shot DSC-HX1

Sandisk Extreme Pro

Sandisk's new Extreme Pro CF cards store up to 64 GB of data and write at a speed of 90 MBps

Sony HDR-TG1

Sony's HDR-TG1 is the world's smallest full HD camcorder

Digital Camera Test

Typically, people who want to do wildlife photography. Built rather well, use of metal zoom trigger would be nice.

It has inherited most of the features from the standard H series from Sony. The camera has a hinge screen that works well but only for vertical movement. There is no swivel to fold the screen back on its face.

The recording supports stereo audio recording and the microphone is placed on the top of the camera. The jog dial is a feature found on DSLRs but its also found on ultrazoom cameras. It can be used for manual control as well. The jog dial also doubles as a button. All these functions bundled together for use with these controls make it simpler even in the manual shooting mode.

The 20x optical zoom requires a very good image stabilizing feature and the DSC HX1 does a decent job. It works particularly well up to 8x to 10x but any more than that and there's a lot of delay added which makes even pointing to a distant object a little difficult.

Sony includes a couple of unique features that merit mention. For example, the smile and face detection feature can shoot photos depending on the intensity of the smile. There's actually a manual setting you can turn on for that.

The other impressive feature is the video recording resolution of 1440 x 1080 pixels. Video quality is decent but not very nice in low-light. Other than that, the Sony proprietary connector to the camera is something that's very irritating. A microUSB interface would've been convenient. An adapter is provided to allow HDMI connectivity. Sony continues to use MemoryStick as the storage format. They're a little more expensive than the more commonly used SD and SDHC cards.

The Sony DSC-HX1 is priced at Rs. 29,990 and because, it had to be sent back urgently to Sony, it couldn't be part of the complete test process.

Canon PowerShot SX200 IS

Canon's PowerShot SX1xx IS cameras impressed everyone and we've also looked at the SX120 IS in this test. The camera is pretty good with just a few tiny improvements over the last two models. The SX200 IS is a better design than the SX120 and features a 12x optical zoom – pretty neat for its size.



Canon PowerShot SX200 IS

One end of the body has a slight curve, this is where you grip the camera and gives the mock impression of a wider grip. It also feels bulkier for some reason and sturdier than the SX120. The control dial at the back could've been built better. The other buttons have a good tactile feel.

The side door is huge and has the USB and HDMI connectors there. The door itself is held together by a frail and flexible plastic hinge. One of the unique and also somewhat irritating features is the flash unit which pops out the same time the lens does. It sticks out the top of the camera by a folding hinge mechanism and does come in the way while holding the camera with your left hand. There is no way to fold the flash unit back in other than to turn off the camera. One of the sides has a chrome-finish and that goes well with the colour and shape of the camera.

Nikon COOLPIX P90

The Nikon COOLPIX P90 is a prosumer camera or alternatively can also be called an ultrazoom camera.

The P90 has the largest zoom we've seen so far – 24X optical zoom (4.0 – 110.4mm). Like the Fujifilm Finepix S1500, this too has a good handgrip. The buttons are all of very good quality.

The screen hinge design is very similar to the Sony DSC-HX1 and only allows vertical movement. The user interface looks very similar to the ones found on Nikon DSLRs. It is very functional and lacks the

over-user-friendliness seen on cameras of some other brands. The zoom trigger brings up a help menu when you use it in any of the camera settings menus. Lithium-ion batteries are used so most of the weight is the camera itself. The jog dial is built well just like on Nikon's DSLR cameras. It isn't used to control the manual focussing though.

One of the unique features we've seen is the ISO sensitivity range which can be capped. The camera then will not cross that limit so you never end up with very grainy images. Video recording resolution is rather basic on the P90 whereas most of the ultrazoom cameras are aiming at the basic HD standard – 720p.

There are some modes where custom user settings can be stored. There are also modes which change the aspect ratio of the image to fit TV screens.

Operation of the huge zoom is silent although there is some fine vibration. Image stabilization at maximum zoom isn't too bad either. It's very usable but a better quality lens would've really made this shine. At maximum zoom, there's some quality loss. There's a little bit of yellow colouration on the screen after the photo has been captured. On a computer screen though, the result looks natural. The colours are sober and there is no overemphasis of colours.

There's little to hate about the Nikon P90. It's a great overall camera that now moves Nikon closer to the ultrazoom camera market at least in India. So far, it's been Canon and Sony that have mostly dominated this area. A little more of quality and performance and this camera could've been a winner.

Nikon COOLPIX S220

The Nikon P90 might have one of the largest optical zooms but the S220 is one of the smallest cameras around.

It comes in really bright colours – we got a dark pink one. It only has 3x optical



Nikon COOLPIX P90



Sony's limited edition digital photo frame is made with Swarovski Elements



The US Army is now soliciting proposals for a 2.3-GP camera that would be used for wide aerial surveillance

zoom but a huge 10 MP resolution.

The screen isn't very impressive because of its poor viewing angles. Visuals immediately turn when you move the camera from side to side. The buttons have been shrunk as well which is fine. There is little space aside from the screen that takes up most of the area at the back. Using and holding the camera while shooting is difficult but carrying is really easy as it fits into any space that can hold a mobile phone. It's the same case while going through the menus. It's easy to press the adjoining buttons. Because of the space constraints, the USB port has been moved to the bottom of the camera which also means that if you were to use the camera on a tripod, you have to remove it every single time to transfer data to the PC.

The battery door is a little delicate and the battery size has been shrunk down as well. It's a 740mAh battery.

Nikon hasn't had enough space to place a mode selection dial so all the menus and options have been put into a single shooting button on the camera. The menus from there on are like on a mobile phone.

The user interface is a slightly more user friendly version of the one in Nikon DSLRs.

Nikon COOLPIX L20

Nikon's L series of cameras are an entry-level range but the latest L20 model seems to have got a major facelift. The details of the design are similar to the L18 and L19 but the slick and glossy paintjob has done wonders. The



Nikon COOLPIX S220



Nikon COOLPIX L20

rest of the camera should've received a similar upgrade. The directional buttons and especially the zoom controls have a bad feel to them.

The back of the camera has a slight depression to rest your finger right below the lens operation button.

Controls on the camera are really basic with absolutely no control over the aperture size and shutter speed. The interface and mode selection is almost identical to the S220 model. There is no mode selection knob on the camera. One of the most annoying things is that you have to press the Scene button after you've

previewed an image. Most cameras get you back to the shooting mode when you press down on the shutter button.

The camera is pretty fast in its interface but not as much while shooting.

Fujifilm FINEPIX F200EXR

The Fujifilm FINEPIX F200EXR is a much better camera in hand than some of the other cheaper models. It's built well and is a heavy camera for its size. The control buttons are a little tiny and a little too flat.

The 5x zoom lens in such a compact design makes good sense for everyone. It's a big step up from the 3x optical zooms on many entry level compact cameras. The extended lens is twice the thickness of the camera.

Although the performance and feel of this camera is better than the others, the interface still has the same old look that we don't like so much and it's also pretty slow; with as much as a two to four second delay between clicking and previewing.

There are some more unique features – there's one where the camera takes two photographs – one with the flash and one without the flash. This is great for where you want a guaranteed good



Fujifilm FINEPIX F200EXR

Contact Sheet

Brand	Contact	Phone	Email	Web site
Canon	Canon India Private Limited	1-800-180-33-66	info@canon.co.in	www.canon.co.in
Nikon	Nikon India Private Limited	+91-124-468 8500	NA	www.nikon.co.in
Samsung	Samsung India Electronics Pvt Ltd	+91-11-4151 1234	zeon.kim@samsung.com	www.samsung.com/in/
Fujifilm	Fujifilm India Pvt Ltd	+91-124-432 5500	contact@fujifilmindia.com	www.fujifilm.in
Sony	Sony India	1-800-11-11-88	sonyindia.care@ap.sony.com	www.sonystyle.com



Lucid's HYDRA 200 is a chip that lets any motherboard use ATI and NVIDIA GPUs together



Vue's surveillance system comes with two wireless cameras and a base station

photograph in low-light scenarios. The ability to set the aperture size and shutter speed is welcomed but there's very limited control over it.

The USB connector isn't the typical microUSB and the cable supplied with it allows you to connect it to a USB port on the desktop or also to a TV using composite connects.

Samsung ES55

The Samsung ES55 is a compact point and shoot with a nice brushed metal finish at the front but somewhat dull at the back. The controls buttons aren't of the same quality as the front. The OK button is so tiny that you have to use your fingernails at times to press it. The screen bulges out of the body otherwise it would've been a much more compact camera.

The user interface has a very high resolution and the fonts and menus are very impressive. When you go into the mode selection and camera settings, it's

even more apparent. It's one of the most comprehensive user interfaces of all the cameras we've seen. Every menu and setting has a description at the bottom of the screen.

Controls like these might impress those who are used to computers and gadgets in general with lots of complicated menus. Anyone buying a camera for the first time might not really like this overwhelming number of settings.

The preview and zooming function allows instant cropping and trimming of the photographs which is a neat little feature that can be found on some other cameras as well.

The camera also has a Photo Help guide feature which teaches users how to use the camera and its features. A simple listing of tasks is available with the steps to do the task. These tasks can also be used as a tutorial with step-by-step instructions.



Samsung ES55

The Roundup

We're impressed by the cameras that we received. To start with, the Samsung ES55 although a cheap camera at just Rs. 8,990, it performs rather well throughout the test. Even in last year's test, we had a Samsung with a really good lens. The



ES55 also matches that kind of performance for a fraction of the price. While all the cameras capture great detail on the wideangle range of the zoom, the Samsung ES55 does well even with the zoom lens fully utilised. The great thing is that it's also a compact camera, has a great looking interface. We give it the Best Buy award for these very reasons.

Canon has dominated most of the point-and-shoot cameras tests in the past. This time as well, the winner is a Canon. The Canon PowerShot SX200 IS is one of the costliest cameras of the lot. It's not a full-fledged ultrazoom camera either. It performs exceptionally well in both the features and in the performance tests. The camera shines in all the photo and video tests. If we were to rate the cameras on just quality, the SX200 IS would still be the winner. In terms

of specifications, it's got a very high-resolution sensor, a brilliant zoom lens and a very well designed body and controls. Even though this is just a digital camera, the ability to record videos at 1280 x 720 is a really nice thing to have. If the SX200 IS is out of

your budget, the SX120 should be the next in your list. It has a slightly cheaper feel but it still has a 10x zoom and all the manual controls that photographers crave for.

Another well performing camera was the Canon Digital IXUS 100 IS. Although a little older than the IXUS 110 IS, it is a very good performer for a really compact camera. It's not as pretty as the Canon Digital IXUS 110 IS but if you want pretty, the IXUS 110 IS is your next best option. It's only a tiny bit lower in performance than the IXUS 100 IS.

The Fujifilm FinePix S1500, the Nikon COOLPIX P90 and the Sony DSC-HX1 were the full-fledged ultrazooms that we got. We like the Sony DSC-HX1 but looking at the shots that we were able to take, it's nothing really special in terms of quality. It feels and functions like the other Sony cameras that we've tested in the past including some of the older H series ultrazoom cameras. The Nikon COOLPIX P90 had a nice set of features as well but no HD video recording functionality. If you want a really huge zoom lens, then the Nikon COOLPIX P90 is for you. **d**

Dell™ recommends Windows Vista® Home Premium.

STEP INTO THE HI-DEF LIFE WITH THE VIBRANT DELL™ INSPIRON™ 15



DELL™
YOURS IS HERE

TO BUY,
CALL US or GO ONLINE

1800 425 4011
Toll-Free Mon-Sat 9am-6pm
(BSNL & MTNL subscribers only)

080-2510 8010
(Standard charges apply)

www.dell.co.in/home

Return To The Mothership

Rossi Fernandes

rossi.fernandes@thinkdigit.com

Motherboards are the building blocks of any system. And there is choice aplenty for someone looking at buying one. LGA 775-based motherboards are still around in numbers alongside newer Core i7 boards and AMDs new AM3 socket-based boards have also joined the fray.

We received an overwhelming number of motherboards although a few brands like EVGA and Palit were missed. This time round, we piled all the motherboards

into one gigantic test.

We split the boards into a number of intelligent categories. A category each for Intel and AMD was obviously the first step. Next we segregated the motherboards into two subcategories — integrated graphics and discrete graphics. And this is where we made a noteworthy

New processors mean new chipsets and this in turn means new motherboards. Here is a look at the latest and the greatest



DDR3 for Core i5

Kingston starts shipping DDR3 kits for Core i5 processors

AMD shows off DX11

AMD demonstrates DirectX 11 hardware running six LCD screens at once

Motherboard test

discovery. In general most integrated graphics boards are based on entry-level chipsets. However, AMD's latest 790GX/FX chipsets are high-end offerings but they also retain an integrated graphics solution. Therefore we put these boards into the high-end segment, where they were tested with a discrete graphics card. Core i7 boards were tested separately, for their performance is incomparable to other platforms – obviously on account of the faster processors they support.

Intel Core i7 motherboards

Core i7-based motherboards haven't been affordable and the cost of the board along with the price of DDR3 memory has put many upgraders off. Prices have fallen, and there are many options available as you are about to see; although they are all based on a single Intel X58 chipset. These boards do not have a memory controller, since the Core i7 processor now integrates the controller on its die.

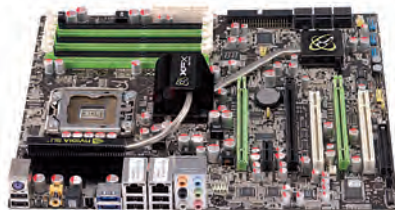
Board design and features

While the X58 boards are all extremely high-end and extremely costly, there's a trend to be followed – something every motherboard manufacturer follows. The mATX form factor means slightly less expensive motherboards and it's something that will also find its way into compact PCs and maybe even high-performance HTPC systems. MSI's X58M is one of the few mATX format motherboards we tested.

The BIOS on the X58M is thorough with MSI's distinctive overclocking utility called the Cell menu. It allows for accurate overclocking and overvolting. Another interesting menu is the

Green power menu that allows more efficient use of power using the CPU phase control. There's also a neat little reading that displays power efficiency. BIOS updating is also simple using a flash drive. Just going by features and how well it's designed, it's a pretty complete a motherboard that's not overly expensive at Rs. 10,500.

XFX and ZOTAC, both



XFX X58i

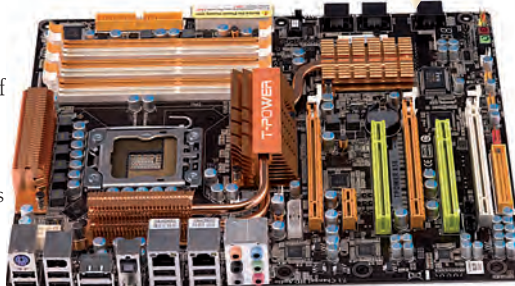
NVIDIA only vendors prior to this have built boards based on the X58 chipset. XFX calls its board the XFX X58i. The board is designed and built really well.

Features and BIOS layout are good. In terms of board layout, it's similar to the MSI X58M board with a similar level of overclocking features and thought put into it. It's a full ATX board and has a cleanly routed set of heat pipes running from one end of the board to the other. Temperatures are lower than the MSI board. There is plenty of space between PCI slots and PCIe slots which mean you won't have any troubles with plugging in sound cards with a large graphics card coming in the way.

There is an LED poster and dedicated power switches on the board. Although a great board, XFX has persisted with the ageing ALC888 sound solution – a pity. SATA ports are placed along the side like many other boards, but slightly away from the edge of the

board which is inconvenient. The PCIe x1 slot is right next to the first PCIe x16 slot, so no chance of setting up sound cards there. You'll have to use one of the other two PCIe slots. Two PCI slots seem like overkill for a board of this generation. One of the smaller complaints is the XFX site design and getting BIOS updates can be a little annoying.

ZOTAC's X58, is, in comparison to the others, not as impressive. One problem is the lack of basic necessary overclocking and memory tweaking options. One of the biggest flaws was the lack of the memory timing settings. If you have low-latency, fast memory you'll be sorely disappointed. There is no manual option for preventing CPU throttling down due to power saving features like EIST and stepping options – all these are absent in the BIOS.



Biostar Tpower X58

The benchmarks especially the memory intensive ones suffered the most. The cooling solution used is extremely basic, but doesn't get very hot with an air-conditioning unit running. In general, it feels very cheap. For example, the Northbridge heatsinks shift a bit if you touch it. Not all is bad though – the board is lined with solid capacitors along vital region. Additionally, in all fairness it is one of the less expensive X58 boards around.

MSI had another board on this platform, the X58 Pro. Unlike the X58M, the X58 Pro is an ATX board.

The larger board means that there is more space between the PCIe x16 slots, but not enough to plug in a second card in the adjoining slot. The first x1 slot lies right under the first x16 slot. The second x1 lies above the x16 slot. Longer sound cards might still have some problem fitting in there because of the high heat sink that lies very close in the way.

For those overclockers or those who might run open rigs, there are dedicated buttons for power, reset and also clearing the CMOS. Right next to it are the DIP switches that allow quick switching and overriding of the base clock speed. The BIOS is also quite elaborate and will be good enough for anyone planning on overclocking with cooling of the board itself the only thing to worry about.

BioStar's TPower X58 was next. There are LEDs for each of the 6 SATA ports on the side. Next to those slots is the poster and the lit power and reset buttons. Cooling is taken care of by a combination of heatsinks and heatpipes. The overclocking menus are well sorted out and the increments for voltages are small and good enough for anyone who might want to overclock this board.

Gigabyte's EX58-UD3R is an ATX form factor board with only four memory slots. This is a rarity as most boards have six. Like many other boards, the adjoining slot to the first x16 slot and in this case the PCIe x4 slot will be covered by the graphics card. There are two x1 slots above the first x16 slots, one of which is blocked by the gigantic northbridge heatsink. The second slot is unobstructed. The cooling solution is similar



DFI UT X58 Lanparty

If you want to know exactly what processor is best for your needs, check out the September issue for a detailed processor comparison test. When you're done with that, you will know which motherboard category you should look for

Next Windows Mobile

1,000 developers are already working on the Windows Mobile 7

802.11n finally approved

WiFi 802.11n gets approval - manufacturers hint at 600 Mbps speeds

to the ones found in other premium Gigabyte boards with the bright blue panel covering the heatsinks. The BIOS has overclocking options aplenty.

On the more expensive and extreme-enthusiast boards, the Gigabyte EX58-Extreme, cooling is taken care of by a similar system used in the vanilla EX58-UD3R board. This has the option to add even more heat pipes and heatsinks - but this seems overkill. There are two heat pipes running between the Northbridge and the MOSFET cooling heatsinks on the side. The board has a mix of solid block heatsinks as well as fine fins. The Northbridge is also connected to a huge flat heat sink for the Southbridge. The heat distribution over the board is effective.

One of the problems is with the placement of the standard PCI slots. There is one after the first two PCIe x16 slots. The PCI slots are typically higher than the PCIe slots, so cards with an open cooling with a exposed fan such as the one we were using touch the PCI slot. Unlike the basic X58 board from Gigabyte, there's a neat little power button with the clear CMOS placed right away at the top-end of the board. Most of the overclocking features are identical to the standard board though. There's also a LED poster display on this one.

The ASUS Rampage II Gene is the smaller version of the Rampage II Extreme board for Intel's Nehalem CPUs. There are basic heatsinks connected using anodized pipes. On load, they do heat up quite a lot. This board belongs to the Republic of Gamers family and so it comes with the classy Start and Reset buttons. There is also the LCD poster which gives the user updates on the temperatures, voltages and errors if any. Although this is an mATX board, there is enough space between the two PCIe x16 slots. The audio is powered by a SupremeFX chip



Gigabyte EX58-UD3R

onboard the motherboard and not one that fits into a PCIe slot like some of the other motherboards from ASUS. The Clear CMOS button is conveniently placed at the back of the board and can be accessed from the rear of the cabinet. There are a host of other features like support CPU coolers less gap between the retention pins than regular



MSI X58 PRO

LGA1366 and the absence of retention brackets on one side of the DIMM slots. The ASUS Rampage II Extreme is a gigantic looking board. Everything has the look of extreme quality to it. There are terminals for those who want to use a multimeter to check voltages on the board. Power buttons like the ones on the Rampage II Gene are also positioned there. The heat sink has a light on top of it which gives the board a very nice look. The power sockets for the optional fans are put together at one point so you don't have cables lying all over the place.

Intel's stock X58 board, the

DX58S0 comes with nothing special to interest buyers. This is one of the motherboard packages to come with a free game; in this case, *Ghost Recon Advanced Warrior*. The

Northbridge heat sink is cooled by a flimsy light-weight heat sink. The quick guide manual says that attaching the bundled fan is optional. We think it's a must as this heat sink gets hot quickly and we've seen blue screens in the past while trying to run the board without the fan attached though things cool down a lot with the fan. The Southbridge is stable and under control at all times. The board only has solid state capacitors around the CPU region. There are small heatsinks for the MOSTETs. Like many of Intel's boards, this one too lacks a PS2 port even for the keyboard. The board is ideal for SLI and Crossfire because of the ample space between the two PCIe slots. The BIOS is basic in comparison to all the other boards in its category. The SATA ports on the board point upwards which could come in the way of some cards. Intel has tried to space them out though.

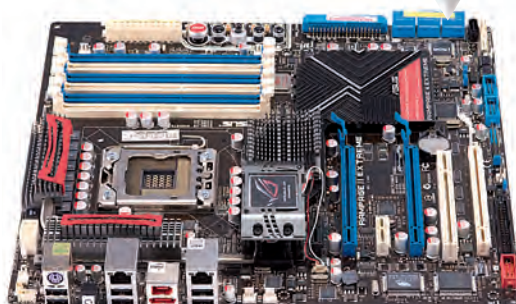
The ASUS P6T Deluxe is another quality board. The quality of the processor bracket and the back plate behind the board are of the highest quality. The board is heavy with a thick copper pipe running between a sequence of heatsinks from the MOSFETs to the Northbridge and ending at the Southbridge. Cooling is very good. There are 8 SATA ports out of which two are SAS ports. SAS ports are

SCSI over Serial ATA and are meant for extreme performance drives. There's plenty of space between the first two PCIe x16 slots and there are two PCI slots in between. The Express Gate module is also conveniently placed in between the PCI slots. The board comes with a nifty little overclocking device called the OC palm. It connects to the system allowing users to overclock and monitor all kinds of activity on the board and off it.

The DFI LANPARTY UT X58-T3eH8 has a very nice bundle. While all the other enthusiast boards try to be serious, this one tries to put on a party hat image with its bright coloured slots and fluorescent rounded cables. A large portion of the motherboard is covered with heatsinks and heat fins surrounding the heat pipes. There's an additional heat sink supplied with the board if you want to attach it to the board or to the Northbridge heat sink. A separate Realtek 885 audio controller module is supplied that has to be connected to the motherboard using a supplied cable without using any PCIe slots. There is no dedicated button to clear the CMOS. Instead, a combination of presses with the power and reset button is to be used besides the usual jumpers. Overclocking feature are plentiful and to extreme detail. The layout of the board might seem a little crowded towards the upper region near the expansion ports, but other than that it's well spaced out.

Performance

The ASUS Rampage II Gene gave us a well balanced score list with all and scored the number one slot under plain performance score list. The larger and full ATX version of the Rampage II Gene, the Rampage II Extreme performed similarly in all the tests except in the file transfer tests. The exciting DFI Lanparty X58 board takes the second place. We noticed that the CPU performance test in Crysis fluctuated a bit across boards while the graphics benchmark



ASUS Rampage II Extreme



Facebook Lite

Facebook launches optimised version of its well known social networking site

DirectX 11 for laptops

Mobile version of AMD's DirectX 11 chipsets rumoured to be out this November

Motherboard test

stayed pretty much the same. While looking at the scores between a Core 2 QX9650 and the Core i7 975 processor for a moment, we see an especially large improvement in the CPU intensive benchmarks such as the DivX file conversion test and Cinebench.

Intel Core 2 Boards (Discrete Graphics)

The Intel LGA775 legacy finally comes to an end. In a year's time, there's no telling if we'll still see as many LGA775 boards as we do now. The Core i5 is finally coming in to replace the Core 2 line of processors.

Design and features

The Gigabyte EP45-UD3R is one of the high-end P45 boards in the market. Gigabyte has made a name for itself especially for its P45 boards. The cooling solution is one of the newer styles used by Gigabyte with the blue badge heatsinks and anodized heat pipes connecting them together. This board only has one PCIe x16 slot so this isn't for anyone looking for a CrossFire solution. There are 3 PCI slots and one PCIe x1 slot under the x16 slot. Two of the other x1 slots are placed above. There is no x4 slot, so no x4 cards can be put on this board. One of the x1 slots almost touches the heat sink and the other can be used as long as the cards aren't long and touching the RAM modules. The SATA ports point upwards and are placed out of the path of a PCIe graphics card. There are no fancy power buttons or LED displays on this motherboard.

The Gigabyte EP43T-UD3L based on the slightly inferior P43 chipset supports DDR3 RAM. Like the EP45-UD3R, this one too lacks a x4 slot. X1 slots on the other hand are in abundance and there are also two PCI slots. The x1 slots can accommodate sound cards or any other similar cards as long as they don't aling with the RAM slots.

There are two isolated heatsinks for the Northbridge and the Southbridge without any interconnecting heat pipes. They do a decent job of keeping things under control. The good thing about this setup is also that the area around the CPU is kept clear so attaching huge heatsinks and fans is simple.

The MSI P45 Diamond is another DDR3 motherboard for the enthusiast. The size of the box gives that away. Although, it's a high-end board, it doesn't match up to the style and design of the ASUS ROG series as such. For example, the power, reset and CMOS clear buttons look really cheap and bigger, better designed buttons would've been a nice thing to have when you pay so much for a board like this. The primary heat sink supports water

cooling if you plan on buying a water cooling kit. There is a transparent panel covering the top with provision for water inlet and outlet. The board runs perfectly cool with just the passive cooling solution though. This one also happens to be one of the brightest boards with loads of multicoloured bright LEDs. There aren't any issues or complaints about the board but the problem is that there isn't anything special with it either.

MSI P45 Neo2 is based on the P45 chipset as well but is a slightly less expensive board. The cooling is done by two blocks of heatsinks one for the Northbridge and the other for the Southbridge, both connected by a heat pipe. There are two PCIe x1 slots adjacent to the first PCIe x16 slot out of which one will get obstructed by a single slot graphics card.

The space around the processor is relatively clear without any heat pipes or heatsinks in that region

There are no optical or SPDIF connectors at the back either.

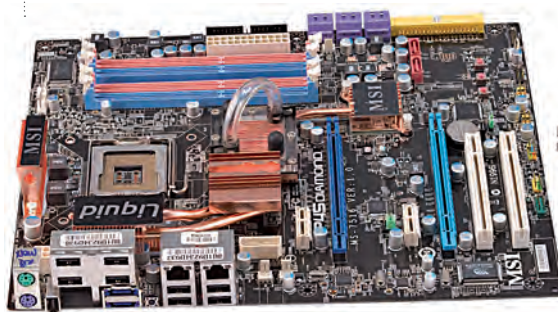
BioStar's TPower I45 board comes with an add-on heatsink and fan that can be mounted on one of the heatsinks on this board. The first slot has



Biostar TPower I45

a long queue of jumpers right under the first PCIe x16 slot which like some of the Gigabyte boards can block a fan on an open card design. The jumpers are meant for configuring the PCIe slots. Biostar has got a good design with this board and a lot of it has been laid out rather well. Installing our huge Cooler Master TX2 cooler was hassle free. The processor socket is placed on the extreme top end of the board and the heatsinks surround the area have been cut low.

The ASUS Maximus II Gene is very much like the Rampage II Gene except that the Maximus is based on the P45. The Southbridge heat sink is slightly banked so it doesn't come in the way of the graphics card. The memory slots have a one-sided clip. This is another board from the RoG (Republic of Gamers) range from ASUS.



MSI P45 Diamond



FORMULA Series Graphics Cards
Designed with Passion.
Engineered to Dominate.
Crafted to win.

33% cooler!

For more details visit www.asus.in | Toll Free No.: 1800-2090-365



EAH4890 FORMULA



L4D2

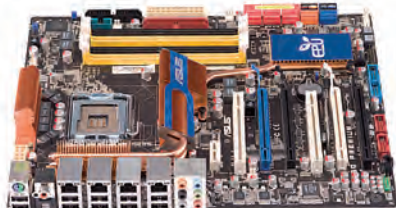
Left 4 Dead 2 game gets banned in Australia

Intel CULV

ASUS joins the Intel CULV processor bandwagon for its notebooks

Installing the heat sink isn't so much of an issue, but the board flexes sharply where the heat sink is fitted. The capacitors and MOSFETs are placed along one side of the processor while the other side is left relatively free and open. The only PCIe x1 slot on this board will be covered if the graphics card is put on the first slot. The second PCIe slot can be used for other cards, but it still will be very close to the graphics card.

The two P45-based boards from ASUS were the ASUS P5Q3 Deluxe Wi-Fi-AP @n and



ASUS P5Q Premium

ASUS P5Q Premium. The Wi-Fi-AP @n tag on the ASUS P5Q3 board denotes the inclusion of a Wi-Fi module that supports 802.11n. Both the boards use the ADI AD2000b sound chip instead of the usual Realtek ALC888. The difference in layout is the location of the SATA ports on the side. The P5Q Premium has all of them neatly stacked in a row where as the P5Q3 has a PATA port in between. The cooling is simpler with a solid heat sink only for the Southbridge with a blue EPU badge over it. The P5Q Premium comes with a larger version. Both boards are well laid out.

The MSI P43 Neo3 is a special board that has many more PCI slots than we've seen



ASUS P5Q3 Deluxe

on some of the other boards in this test. Other than the below-par processor mounting mechanism, it's a decent board with all the features including RAID using a JMicron chip. While all seems great with this board, once again, we're surprised to see a LPT and COM port at the back. The only PCIe x1 slot lie right below the PCIe x16 slot so adding any more PCIe cards might be impossible. Think carefully before buying this card. You have to resort to the other PCI slots for any other expansion.

Intel's DX48BT2 shares some similarities with the newer DX58SO board. Like the X58, there are no PS2 ports. Electrolytic capacitors are used all across the board. The SATA ports are also spaced out between where the PCIe graphics cards would normally go. Intel has tried to project this board as a performance board for gamers. For example, the package contains a fancy dog tag. The board has built in IR support so you can remotely control the PC. You'll need to purchase a remote and setup the software yourself through.

The other X48 board we received was the MSI X48C Platinum. MSI calls its cooling solution *Circupipe* and it is extensive. There is a set of three heat pipes running from the MOSFET coolers to the Northbridge which are then channelled to another two

heatsinks down the board. There are two PCIe x1 slots right next to the primary PCIe x16 slot. Three standard PCI slots follow the second PCIe x16 slot. This means you can easily plug in additional LAN or sound cards. The CMOS reset button is positioned behind the motherboard. The two buttons on the board are for the power and reset function. The biggest speciality of the board is the ability to use both DDR2 and DDR3 modules.

The Northbridge heat sink is pretty large with large fins and removing heatsinks can be a problem but obviously this isn't a major issue.

XFX's nForce 790i Ultra board uses the standard NVIDIA reference design. The 790 chipset gets very hot and especially so the Northbridge. The quality of the heat spreader isn't so great. Thankfully, a fan is provided which very neatly fits on the Northbridge heat sink. The processor is surrounded by a range of heatsinks and heat pipes connecting them together. Although this is a pretty high-end board, there are a lot of electrolytic capacitors used.

There are dedicated buttons for the power and reset which is handy. There's also a LED poster on the side. There are SATA ports lined up on one side in between the RAM slots and the PATA connector. The first two SATA ports are lined up right at the bottom of the board. The bundle is nice too. There are narrow rounded PATA cables and plenty of black SATA cables that go well with the colour scheme of the board.

ZOTAC's 780i Supreme board is almost identical to the XFX nForce 790i Ultra SLI with minor differences here and there. In terms of design, the Northbridge heat sink isn't as wide as the one on the XFX 790i board. There are solid state capacitors again along the processor. There's a Wi-Fi module bundled with the board. The cables in the package aren't rounded or anything. There are molex to SATA power converters bundled with the board in case you're using a really old power supply that only came with molex power connectors.

The Striker II NSE is ASUS's NVIDIA-powered high-end for the LGA775 platform. It uses the top-of-the-line nForce 790i SLI chipset. It looks a

lot different from the other NVIDIA based boards we've seen. This ROG-series board has a good SupremeFX II add-on module which comes with a shield to reduce any kind of interference that an on-board audio chip would pickup. The quality of the board might not be anything spectacular as compared to dedicated high-end sound cards but they're a big step on any on-board audio solution for sure. The board has the provision for water cooling although the water block looks separated from the rest of the heat sink and heat pipes. The bundle comes with pipe fittings adaptors and screws needed to fit the water cooling kit. It's showy looking too – the heatsinks and fins are contoured with strips of metal which gives the board a very clean look. There's also the glowing *Republic of Gamers* badge next to the Northbridge heat sink. The power and reset buttons are on the board and the CMOS reset button at the back. Although the sides of the



Zotac 790i Ultra SLI

processors are all lined up with heat pipes and heatsinks, most of the area around it is kept clear.

Performance

Even after a really lengthy session of testing, we weren't expecting too many surprises with the performance. Synthetic benchmarks like 3DMark and PCMark05 stayed more or less within the expected range. There were hardly any variations in the video encoding tests as well. It has to be said that the P45 chipset generally tops the scores. The P35 was a stable and a one that was used for a long time. The P45 builds on that and is probably one of the refined chipsets around.



New high-end Dell display

Dell launches high-performance 24-inch LCD screen - Ultrasharp U2410

640 GB

Samsung spins out a 640 GB 2.5-inch hard drive

Motherboard test

One of the cheaper P45 boards, the Biostar TPowr I45 was one of the better performers of the lot. Intel's own DX48BT2 board was among the toppers in the class as well. The biggest variations were seen in the file transfer tests where all the hard drives were defragged before the tests and yet there were some differences. Some difference can be attributed to the difference in performance experienced because of using DDR3 or DDR2 memory. Game benchmarks such as *S.T.A.L.K.E.R. Clear Sky* and *Crysis* were also almost identical throughout the test.

Intel Core 2 Boards (Integrated Graphics)

The Intel Core 2 processors can run on pretty much any chipset for LGA775. There aren't too many chipsets for Intel processors in recent times that provide decent graphics processing performance. The Intel G4x series of chipsets are pretty identical to the P4x series of chipsets, but they come with an onboard graphics solution. NVIDIA too has the GeForce 9300 range of chipset which we've already seen in the last comparison test. They matched the AMD 780G and also the NVIDIA GeForce 8200 and 8300 chipset in performance. We looked some of the newer Intel chipsets with onboard graphics - the G43 and the G41.

Features and design

These boards are really basic boards with the most basic of features. They are made for those who just want a desktop computer for everyday use and have no interest in running too many games. The Jetway I43GM1 is one of such boards and uses the Intel G43 chipset. The quality of heatsinks is cheap and so is the processor retention mechanism. There are only two memory slots which will let you install up to 8 GB of memory that might seem less as compared to some of the other motherboards. However, 8 GB still is a lot and it should

Contact Sheet

Brand	Contact	Phone	E-mail	Web site
ASUS	ASUS Technology Pvt. Ltd.	+91-22-67668800	media_india@asus.com	www.in.asus.com
Biostar	Abacus Peripherals Pvt. Ltd	+91-22-40914603	sajid@abacusperipherals.com	www.biostar.com.tw
DFI	Xtreme Grafix	+91-9987539043	Sudhirsmani@gmail.com	www.dfi.com.tw
ECS	SES Technologies Ltd	+91-22-30862500	Jacques.roux@sesindia.com	www.ecs.com.tw
Gigabyte	Gigabyte Technology Co. Ltd.	+91-22-40633206	viveks@gigabyte.in	www.gigabyte.com.tw
Intel	NA	NA	NA	www.intel.com
Jetway	Jetway Information Co. Ltd.	+91-9871191716	vsingh@jetway.com.tw	www.jetway.com.tw
MSI	MSI Co. Ltd.	+91-11-41758808	marketing@msi-in.com	www.msi-india.com
XFX	Rashi Peripherals Pvt. Ltd.	+91-22-67090828	response@rptechindia.com	www.xfxforce.com
Zotac	Aditya Infotech Ltd	+91-11-46665666	sales@zotac.com	www.zotac.com

be more than sufficient for most people. The board has an HDMI port which is a neat thing to have.

The MSI G43M2 is another G43 board, but this one comes with some really unexpected features such as the LPT and the COM ports. On the other extreme, there's a FireWire connector as well. The heat sink is slightly larger than the Jetway I43GM1-HG. The rest of the board sports standard features. There isn't anything special about this board but at the same time, there isn't anything wrong with it.

Like the Jetway I43GM1, the ECS G41T-M2 is another basic board and it looks like a really cheap one. That's the first impression you get. It looks like a stock Intel G41 board with its green PCB. The layout of the board is basic. The Southbridge has no cooling at all. The PCI slot is placed away but there are two PCI-E x1 slots in between but there is only just enough space for a card. The SATA ports are placed in the

doesn't use an all solid-state capacitor setup. There are only two RAM slots spanning most of the motherboard's length. This board is ideal for a really cheap setup but who want some quality. This kind of board suites those who want a DirectX 10 compatible board for use with Vista for example. Biostar like in many other board packages

Performance

Intel's onboard graphics solutions have been disregarded for the most part. NVIDIA's 9300 chipset motherboards have been around a while and you can read the reviews for those in our last motherboard test back in November last year. The cost of building systems around it has been a lot more than Intel chipsets. The Intel G43 and G41 chipset boards from Biostar, ECS, Jetway

and MSI didn't really break any records. We see that the G43 boards are just a tad faster than the G41 ones. The difference in real world performance is negligible and won't really produce any great frame rates even in pretty dated games. The boards sure match up with the other high-end boards even P45

in many of the video encoding and file transfer tests, so if you're building an Intel for an extremely low budget and just need a graphics solution built into the board, these chipsets will do just fine.

AMD Socket AM2+/AM3 (Discreet Graphics)

We talked about how most AMD chipsets have a decent graphics performance built into the chipset. The AMD 790FX and 790GX are almost identical chipsets. The 790GX runs a slightly more powerful version of the 780G graphics chip. Even then, boards of this kind are typically used by enthusiasts and those who go in for dedicated graphics cards. Similarly, NVIDIA has the 780a chipset which makes up the higher range which makes for great SLI-capable boards on the AMD platform.

MSI's K9N2 Diamond uses the NVIDIA nForce 780a chipset. MSI's heat sink design uses the usual spiralling heat pipes with thin heat-fins on them. They aren't very flimsy but they can be troublesome while attaching heatsinks like we learnt. The cooling solution works very well though. It's a little strange to see different kind of RAM clips used for half of the slots. Huge capacitors are used all across the board. A PCIe x1 X-Fi audio card is bundled along with the board like the high-end ASUS models. The power control buttons used aren't fancy like the other brands either. A good thing is the arrangement of all the SATA ports over the length of two SATA ports. The board package has almost everything you'll need. There are the extra back panels, SLI bridges of different lengths and power connector converters.

The Jetway HA07 Ultra belongs to the Hummer range of boards. As compared to Jetway's entry-level boards,



Jetway I43GM1-HG

way of the PCIe x1 slots so there might be some problems if you put in a long PCIe x1 card.

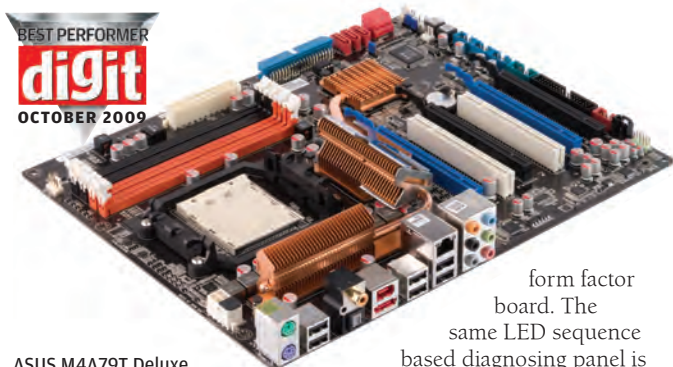
The Biostar G41D-M7 is also pretty similar to the ECS G41 board. This board too

GT300

NVIDIA rumoured to follow AMD in displaying their GT300 GPU

LED displays

BenQ and NEC start producing LED powered displays



ASUS M4A79T Deluxe

these are just a little more expensive but come with an abundance of features. One of the first things you notice is that it's a completely solid-state capacitor board. There is a colourful LED powered display at the bottom of the board. There's a plastic sticker which in place to spread the light through the gap in the board. Perhaps, this could have been implemented a little better. A switch card is provided to make sure that the board uses the entire PCIe x16 bandwidth. The heat sink itself is very attractive. The heatsinks are connected by a copper heat pipe. The pipe is connected using a set of multiple clips within the heat sink so the heat exchange isn't as much as it could have been if the heat pipe were completely consumed by a block of heat sink for example. The two PCIe x1 slots are placed right below the first x16 slot. Although, the first one might not be usable, the other one will. There are also two PCI slots below the PCIe x16 slot. This board in terms of features is a winner for its price. All the three display connectivity options - VGA, DVI and HDMI are available. There's also an SATA port meant for eSATA placed right near the back of the board right next to the external eSATA port. There are buttons of all the power controls and also CMOS clearing. With everything kept in mind, this is a very good board to consider.

The TA790GX A3+ from Biostar is pretty similar in design to the TA785GE motherboard and is a full-fledged ATX board instead of a HTPC-friendly mATX

form factor board. The same LED sequence based diagnosing panel is present on this board. Like the TA785GE, this too has all three display connections - DVI, VGA and HDMI. The SATA ports are isolated and aren't hugging the side of the motherboard like on almost every other board. If you think of using L-shaped SATA connectors on the motherboard end, it won't be possible. It's kind of funny to see so many features printed on the motherboard. Everything from the kind of slots to every single connectivity such as the LAN, the 7.1 audio, the DVI ports, the Firewire connectors are printed in large characters on the motherboard. The power buttons and the CMOS clear jumper are positioned in one corner of the board.

The ECS A790GXM-A is another that uses the 790GX chipset. It's not really geared as a high-performance enthusiast board. The board is rather decent looking with its colourful slots and



Gigabyte MA790FX-UD5P

a dark PCB. The positioning of the Northbridge chip is unconventional and slightly towards the back-end of the board. The onboard Qimonda

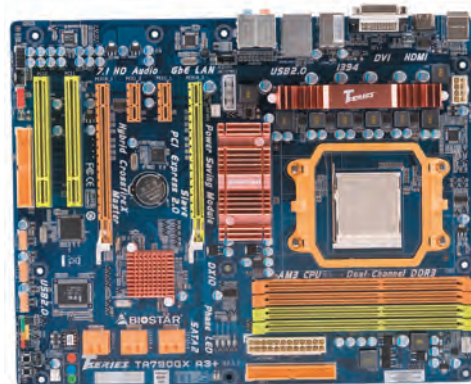
branded memory chip lies in between it and the processor. In terms of just features, it matches some of the best boards - in the BIOS and overclocking department, not so much. It's very basic BIOS. Amongst the two LAN ports and HDMI port, lies an ancient COMM port. The board isn't a fully solid state capacitor board.

The Gigabyte MA790FX-UD5P is a high-end board based on the AMD 790FX chipset. The 790FX is pretty much the 790GX without the on-board graphics solution. Cooling is similar to other boards except for a few things here and there. For example, there's a tiny isolated heat sink for the SATA chip. The package contains back panel for eSATA come with molex to SATA power connectors and eSATA cables as well. This should technically let you use any drive as an external drive very easily. The space between the two PCIe x16 slots is sufficient and there are three PCIe slots. The topmost one lies in the way of the Northbridge heat sink but Gigabyte has cleverly cut out space in between so allow long cards to be installed.

Gigabyte's other AMD powered board the MA790GP-UD4H board has three PCIe x1 slots, one of them right next to the heat sink and almost unusable. A line of USB slots on the board are available behind the second PCIe X16 slot. The heatsinks are connected by two pipes and the blue Gigabyte SilentPipe.

The MSI 790GX-G65 comes with the necessary cooling setup for the board. The largest

heat sink is used on top of the MOSFETs. The board layout is good and there's a good mix of PCI and PCIe x1 slots on it. It comes packed with plenty of features as well. The dedicated buttons for the motherboard controls is also a nice thing to have. The board is designed for overclockers and the brochures that come with it state it. There's a switch to quickly change the FSB speed physically. A little more cooling would have been nicer on a board designed for overclocking. The package we received came with a signed



Biostar TA790GX A3+

certificate of some benchmarks by those who run it. This is a slightly different treatment to a board that we've seen. It's nice to know that you've been sold a well tested product.

The ASUS M4A79T Deluxe is an AMD 790FX chipset board. Like the P45 boards from ASUS, this too uses the ADI2000B chip for the sound. The board doesn't come with any PCIe x1 or x4 sized slots. There are four PCIe x16 slots which can be utilized for any other cards. The Southbridge heat sink is rather plain but made of copper. ASUS being themselves have kept capacitors out of the way of any PCI and PCIe slots. The package contents are very basic. SATA cables and back panels are provided. No fancy fans or cables here.

Performance

The boards we tested scored almost identical performance figures across all chipsets. Obviously, a lot depended on

Thinner Adamo

Dell hints at an even thinner version of its Adamo notebook at less than 10 mm

Paid movies on YouTube

YouTube talks to studios for streaming paid movies over the internet

Motherboard test

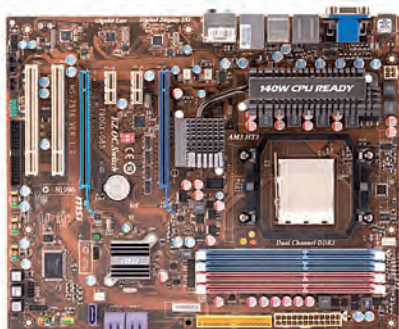


Jetway HA07 Ultra

the processor and the graphics card but the motherboard clearly wasn't a bottleneck anywhere. The scores seem a tiny more consistent than the motherboards in the Intel LGA775. Once again, there's little to comment on the performance differences.

AMD Socket AM2+/AM3 (Integrated graphics)

This category of the motherboards is dominated mainly by the slightly older but very popular AMD 780G chipsets and now the AMD 785G chipset. The NVIDIA 8xxx series of chipsets has been around but we haven't seen a lot of users adopting it as much as we've seen the 780G dominate most of the market. AMD's 780G and now 785G boards come with a good onboard solution (HD 3200 in the case of the 780G and HD4200 in the 785G) and also a HDMI port which makes them perfect for building cheap HTPCs that can play HD content



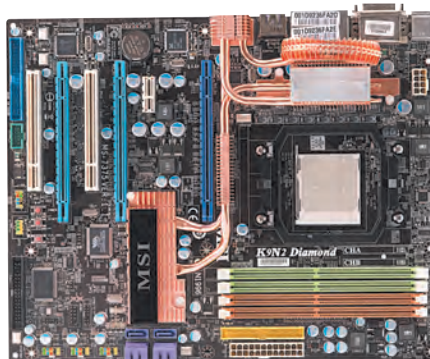
MSI 790GX-G65

without breaking a sweat. Decent AMD 780G based boards can be found as cheap as Rs. 3,500.

The Gigabyte MA785GM-US2H runs on AMD's 785 chipset. It uses the next generation of AMD's on-board graphics solutions the HD4200. It's weird to see that Gigabyte hasn't gone with a fully solid state capacitor board. Those in the processor region are solid capacitors while the rest are the traditional electrolytic ones. The heat sink on the Northbridge isn't very sturdy and wobbles from side to side a little bit. There's always that worry that it might not be

DVI and HDMI connectors. The HD4200 has a big role to play by trying to replace the older but popular HTPC solution chipset the 780G. This board is of the mATX form factor, so it's perfect for those building HTPCs.

Gigabyte's MA785GPM-UD2H runs on DDR3 and being an AMD 785 chipset, it's something people will soon start purchasing to build systems based on AMD processors. Board prices will soon drop along with DDR3 prices into a scenario similar to what it is today – AMD 780G boards running on DDR2 RAM. The audio chip is



MSI K9N2 Diamond



making contact with the chip below. Most of the SATA and PATA connectors lie on the extreme right side of the board. The board comes with all VGA,

now upgraded to the Realtek ALC889A. The CMOS jumper is oddly placed between the two PCI slots. The board can be a little difficult to use. The only

HOW WE TESTED

For the AMD boards, a Phenom II x4 965 3.4 GHz processor was used. For Intel, it was the 3 GHz Intel Core 2 Duo QX9650 and the Core i7 975 (3.33 GHz) for x58 boards. We used Corsair Dominator dual channel kits for DDR2 and DDR3 modules; for the Core i7 Tri-channel kit we used Kingston memory. Western Digital's 300 GB Velociraptor HDDs were used on all test benches. The ASUS GeForce 9800GTX+ was used on the discrete graphics boards. All the systems were powered by Corsair's HX620 SMPS.

The staple diet of any motherboard or any kind of desktop performance test has to include PCMark; which itself contains a multitude of tests designed to stress each

component. It runs a wide variety of desktop applications and a few graphic tests to give a final score for the entire subsystem. This includes everything from the processor, memory, hard drive, graphics card, etc.

ScienceMark was used to get scores for the memory benchmarks. We expected to see large differences between DDR2 and DDR3 systems. The differences in between the DDR2 and DDR3 scores would be more interesting though.

For just pure processor and memory subsystem testing, a 3D rendering benchmark had to be used. Cinebench which is basically a dedicated benchmark utility based on the popular Cinema 4D 3D modelling program. Another

processor intensive test was WinRAR.

For a more real world test that we would use every day, we used a video compression program. DivX Converter was our choice because of its reliability. It's something we've used for a long time now. The standard 100 MB VOB file was to be converted and the time noted.

There was no simpler way to test the hard drive performance and the input/output subsystem than to do huge file copy tests on the hard drive. We used a single 8 GB file and then a folder with 8 GB of data in it. Times were recorded.

The graphics benchmarks were separated for boards with on-board graphics and the others. 3D Mark Vantage was used for

the motherboards tested with the dedicated graphics card. S.T.A.L.K.E.R Clear Sky and Crysis made up the real world games for this part of the test.

For boards with integrated graphics, it was older games such as Doom 3 and Company Heroes. 3D Mark Vantage was replaced by the older 3D Mark 2006. Games like Crysis and Stalker would bring these boards to a screeching halt.

With motherboards as always, there's a very tiny difference in performance between boards using the same chipset. Weights are given to sections of the test and as always performance was a small factor. The features and design of the board on the hand were given higher priority.

	AMD Integrated Graphics Motherboards					
Brand	ASUS	ASUS	ASUS	Biostar	ECS	Gigabyte
Model No.	M4A78-HTPC/RC	M4A785TD-M EVO	M4A785TD-V EVO	TA785GE 128M	A785GM-M	MA785GM-US2H
Price (Rupees)	Rs. 7,100	Rs. 6,700	Rs. 6,700	Rs. 4,135	Rs. 4,800	Rs. 5,500
Overall (Out of 100)	56.26	60.58	67.21	48.90	60.53	55.85
Features (Out of 70)	31.39	35.16	40.55	22.89	35.20	31.60
Performance (Out of 30)	24.87	25.42	26.66	26.01	25.33	24.25
Features						
Chipset	AMD 780G	AMD 785G	AMD 785G	AMD 785G	AMD 785G	AMD 785G
Socket	AM3	AM3	AM3	AM3	AM3	AM3
Northbridge / Southbridge	780G / SB700	785G / SB710	785G / SB710	785G / SB710	785G / SB710	785G / SB710
Memory Type	DDR2	DDR3	DDR3	DDR2	DDR3	DDR2
Max Memory Supported (GB) / No of DIMMs	16 GB / 4	16 GB / 4	16 GB / 4	16 GB / 4	32 GB / 4	16 GB / 4
No. of SATA / IDE Ports	5 / 1	5 / 1	5 / 1	6 / 1	6 / 2	5 / 1
E-SATA Support / No of E-SATA Ports	Y / 1	Y / 1	Y / 1	N	Y / 2	Y / 1
No of PCI Express x16 graphics slots	1	1	2	1	1	1
No. of PCI / PCI x1 / PCI x4 Slots	1 / 2 / 0	2 / 1 / 0	3 / 1 / 0	2 / 0 / 0	1 / 2 / 0	2 / 1 / 0
Multi GPU (SLI/CrossFire/N) / No of PCIe Lanes	N / 0	N / 0	Y / 2	N / 0	N / 0	N / 0
Integrated Audio Controller	Y	VT1708S	VT1708S	Realtek ALC662	Realtek ALC 888S	Realtek ALC889A
Number of Sound channels	8	8	8	6	8	8
SPDIF / Optical Port	Y / Y	N / Y	N / Y	N / N	N / Y	N / Y
No of LAN Ports / 10/100 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit
Integrated Wi-Fi (Y/N)	N	N	N	N	N	N
No. of rear USB / FireWire Ports	4 / 0	6 / 1	6 / 1	4 / 0	6 / 1	6 / 1
All Solid State Caps (Y/N)	N	Y	Y	N	Y	Y
BIOS options						
CPU voltage range (volts)	N/A	1.125 ~ 1.7	1.125 ~ 1.7	N/A	N/A	0.825 ~ 2.025
CPU Voltage increments	0.05	0.00625	0.00625	0.05	N/A	0.025
Memory voltage range (volts)	1.8 ~ 2.1	1.1 ~ 1.61	1.1 ~ 1.61	1.95 ~ 2.65	N/A	N/A
Memory Voltage increments	0.1	0.015	0.015	0.1	0.01	0.1
Board Layout (So 10)						
Region around the CPU	8	8	8	8	7	8
Location of SATA ports	8	8	8	7	7	7
Placement of Memory modules	8	8	8	8	8	7
Graphics card slot and PCI slots	7	8	8	7	7	7
Package Bundle						
No of SATA / PATA Cables Provided	1 / 1	2 / 1	4 / 1	2 / 1	4 / 1	2 / 1
Mentionable Accessories	Remote control	-	-	-	-	-
Performance						
PC Mark 05						
CPU	10142	10278	10301	10220	10250	10293
Memory	6586	6365	6463	6307	6284	6578
Graphics	3372	2596	3738	3558	3417	2666
HDD	8719	8753	8761	8724	8754	8756
Overall	9341	7661	9391	9214	9235	7738
ScienceMark (Memory Bandwidth)	8242	10142	10168	9602	8609	8286
Cinebench R10	9203	11091	11142	11088	11057	11140
WinRAR 3.8	2146	2442	2401	2325	2267	2159
DivX Video Encoding (100 MB VOB) (sec)	31	30	30	31	31	31
Sequential File Transfer Test (8 GB File) (sec)	164	170	170	165	164	163
Random File Transfer Test (8 GB File) (sec)	195	187	185	191	191	190
Doom 3 FPS (800 x 600, medium detail)	55.3	60.1	60.3	57.1	55.3	55.5
3D Mark 2006 (CPU / Overall)	4618 / 1633	4691 / 1817	4698 / 1821	4655 / 1788	4682 / 1667	4652 / 1650
Company Of Heroes (1024 x 768, lowest)	40.9	43.4	43.5	40.8	34.6	39.6

PCIe x1 slot is too close to the heat sink and it looks like a close fit for any card. The two slots other than the PCIe x16 slot are the PCI slots. The Southbridge is just a big block of metal.

The MSI KA780G is a very basic looking board yet it packs in a lot of features. The 780G board comes with three PCI slots and a PCIe X1 slot above



Jetway PN78VM2-LF

the x16 slot for any sound cards. Any more PCIe x1 cards or x4 cards are out of the question. There's a basic overclocking switch positioned next to the Northbridge. There are also dedicated chunky buttons for the power, reset and clear CMOS functions.

The ECS A785GM-M is a really compact mATX board. The board looks

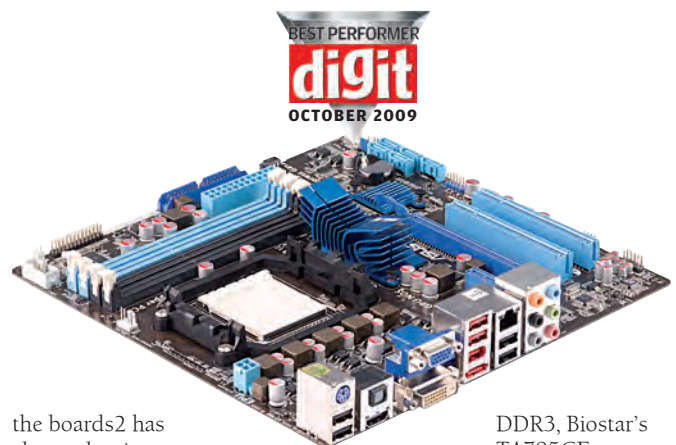
great with its dark gray heatsinks. The board does get pretty hot with the benchmarks running. The SATA ports on the sides are solid and divert the connectors away from the cards. There is only one PCI slot and two PCIe x1 slots one above and below the PCIe x16 slot. The heat sinks although close to the PCIe x1 slot but it's been cut out keeping in mind x1 cards. Being an

	Gigabyte	Jetway	MSI	Zotac
	MA785GPM-UD2H	PN78VM2-LF	KA780G	GeForce 8200
	Rs. 7,500	Rs. 2,975	Rs. 7,500	Rs. 3,100
	57.58	46.40	54.92	45.32
	32.32	23.88	30.87	21.44
	25.26	22.52	24.05	23.88
	AMD 785G	NVIDIA GeForce 8200	AMD 780G	NVIDIA GeForce 8200
	AM3	AM3	AM2+	AM2+
	785G / SB710	GeForce 8200	780G / SB700	GeForce 8200
	DDR3	DDR2	DDR2	DDR2
	16 GB / 4	4 GB / 2	8 GB / 4	8 GB / 4
	5 / 1	6 / 1	5 / 1	6 / 1
	Y / 1	N	Y / 1	N
	1	1	1	1
	2 / 1 / 0	2 / 1 / 0	3 / 1 / 0	2 / 1 / 0
	N / 0	N / 0	N / 0	N / 0
	Realtek ALC889A	Realtek ALC662	Realtek ALC888	N/A
	8	6	8	N/A
	N / Y	Y / N	N / Y	Y / N
	1 / Gigabit	1 / Gigabit	1 / Gigabit	1 / 100 Mbps
	N	N	N	N
	6 / 1	4 / 0	6 / 0	4 / 0
	Y	N	Y	N
	0.825 ~ 2.025	0.8 ~ 1.55	N/A	1.25 ~ 1.35
	0.025	0.025	N/A	0.05
	0.75	1.74 ~ 2.46	1.8 ~ 2.7	2.0 ~ 2.2
	0.05	0.05	N/A	0.1
	7	8	7	8
	7	6.5	8	7
	8	7	8	7
	8	8	8	8
	N/A	1 / 1	1 / 1	1 / 1
	-	-	-	-
	10349	10230	10246	10273
	6413	6023	6044	6205
	2963	2328	2399	2623
	8731	8856	8778	8884
	7998	7164	7493	7412
	9343	8253	8072	9462
	11141	11047	11041	11063
	2197	2204	2199	2301
	30	31	31	31
	166	195	165	164
	186	202	195	196
	59.1	49.8	57.5	62.4
	4706 / 1780	4530 / 1322	4665 / 1642	4542 / 1422
	44.6	33.4	39.8	38.9

AMD 785 board, it supports Hybrid Graphics. The Hybrid Graphics allows both on-board graphics and dedicated PCIe card to work in tandem. ECS has introduced eJIFFY which works similar to ExpressGate and allows a quick access to a mini operating system. There is a LED poster for error codes and the buttons for power functions and CMOS clear buttons right next to it. There

is no floppy drive connector on this motherboard. It's a great HTPC board.

The ASUS M4A785TD-M EVO is the mATX version of the larger AMD 785 board from ASUS – the ASUS M4A785TD-V EVO. The biggest difference is the additional PCIe x16 slot and the standard PCI slot. Nothing at the back of the panels has changed between the two boards. The layout of



ASUS M4A785TD-V EVO

the boards2 has changed quite a lot as well. They both come with 128MB Sideport memory. The larger M4A785TD-V EVO also comes with a larger heat sink. Both the motherboards have a more attractive blue heatsink winged design that makes them look like some of the most elegant looking designs around. No fancy copper pipes running around all over the place here. Express Gate is a common feature on both boards. The ATX version has coolers for the MOSFETs while the cheaper mATX board doesn't. Package bundles are no different either.

Once again, it's good to see brands like Biostar come up with boards based on new chipsets so early for sale in India. The AMD 785G version of their board is called the Biostar TA785GE 128M. The heatsinks for the Northbridge and Southbridge are both very thin. Unlike the ASUS 785 boards that require

DDR3, Biostar's TA785GE runs on DDR2 memory which makes it

a cheaper alternative for those who are on a tight budget for building a system. The only missing component is the HDMI connectivity. There are LEDs on the board which can be used to identify problems



ASUS M4A78-HTPC/RC

with the board. A small table on the motherboard itself explains errors for the combination of those status LEDs. Even the front panel pins control pins have been clearly marked. The back has a panel which prevents flexing of the board.

The ZOTAC GeForce 8200 comes with a thick Southbridge heat sink which is mostly a big chunk of metal. It covers a big area but it still gets really hot in no time. A fan would do wonders for this board but it would mean changing the heat sink a little bit. The layout of the board is unconventional. The 24-pin power connector is placed towards the back end of the board. This means that the thick cable will run by close to the CPU fan. As a competition to the 780G, this mATX board



Gigabyte MA785GM-US2H

AMD High-end Graphics Motherboards							
Brand	ASUS	Biostar	ECS	Gigabyte	Gigabyte	Jetway	MSI
Model No.	M4A79T Deluxe	TA790GX A3+	A790GXM-A	MA790FXT-UD5P	MA790GP-UD4H	HA07 Ultra	790GX-G65
Price (Rupees)	Rs. 14,850	Rs. 6,395	Rs. 6,390	Rs. 14,990	Rs. 9,900	Rs. 5,500	Rs. 9,000
Overall (Out of 100)	66.27	60.73	56.61	65.48	61.73	62.00	65.84
Features (Out of 70)	40.91	35.52	31.43	40.47	36.06	36.37	40.65
Performance (Out of 30)	25.36	25.21	25.18	25.01	25.67	25.63	25.19
Features							
Chipset	AMD 790FX	AMD 790GX	AMD 790GX	AMD 790FX	AMD 790GX	AMD 790GX	AMD 790GX
Socket	AM3	AM3	AM2+	AM3	AM3	AM2+	AM3
Northbridge / Southbridge	790FX / SB750	790GX / SB750	790GX / SB750	790FX / SB750	790GX / SB750	790GX / SB750	790GX / SB750
Memory Type	DDR3	DDR3	DDR2	DDR3	DDR2	DDR2	DDR3
Max Memory Supported (GB) / No of DIMMs	16 GB / 4	16 GB / 4	32 GB / 4	16 GB / 4	16 GB / 4	8 GB / 4	16 GB / 4
No. of SATA / IDE Ports	5 / 1	6 / 1	6 / 2	6 / 1	6 / 1	4 / 1	5 / 1
E-SATA Support / No of E-SATA Ports	Y / 1	N / 0	N / 0	N / 0	N / 0	Y / 1	Y / 1
No of PCI Express x16 graphics slots	4	2	2	2	2	2	2
No. of PCI / PCI x1 / PCI x4 Slots	1 / 0 / 0	2 / 2 / 0	2 / 2 / 0	2 / 3 / 0	2 / 3 / 0	2 / 2 / 0	2 / 2 / 0
Multi GPU Support (SLI/CrossFire/N) / No of PCIe Lanes	Y / 4	Y / 2	Y / 2	Y / 2	Y / 2	Y / 2	Y / 2
Integrated Audio Controller	Realtek 1200	Realtek ALC888	Realtek ALC888S	Realtek ALC889A	Realtek ALC889A	Realtek ALC888	Realtek ALC889
Number of Sound channels	8	8	8	8	8	8	8
SPDIF / Optical Port	Y / Y	0 / 0	N / Y	Y / Y	N / Y	Y / N	N / Y
No of LAN Ports / 10/100 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	2 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit
Integrated Wi-Fi (Y/N)	N	N	N	N	N	N	
No. of rear USB / FireWire Ports	6 / 1	4 / 1	6 / 0	8 / 2	4 / 1	4 / 0	6 / 1
All Solid State Caps (Y/N)	Y	Y	N	Y	Y	Y	Y
BIOS options							
CPU voltage range (volts)	0.8 ~ 1.7	0.02 ~ 1.26	NA	0.825 ~ 2.025	0.825 ~ 2.025	0.8 ~ 1.55	1.1 ~ 1.55
CPU Voltage increments	0.0125	0.02	0.02	0.025	0.025	0.025	0.0125
Memory voltage range (volts)	1.5 ~ 2.5	1.66 ~ 2.84	NA	Default + 0.75	Default + 0.75	1.7 ~ 2.85	1.5 ~ 2.42
Memory Voltage increments	0.02	0.02	0.01	0.05	0.05	0.05	0.05
Board Layout (So 10)							
Region around the CPU	8	8	8	7	7	7	8
Location of SATA ports	7	7	6.5	8	8	7	8
Placement of Memory modules	7.5	8	8	7	8	8	8
Graphics card slot and PCI slots	7	8	8	8	8	8	8
Package Bundle							
No of SATA / PATA Cables Provided	3 / 0	4 / 1	2 / 1	4 / 2	4 / 1	2 / 1	4 / 1
Accessories	-	-	-	-	-	Switch Card	Molex to SATA power x2
Performance							
PC Mark 05							
CPU	10282	10271	10266	10291	10366	10277	10262
Memory	6210	6288	6152	6481	6795	6797	6136
Graphics	23353	13500	14695	14929	15201	14573	14832
HDD	8803	8760	8806	8745	8835	8771	8717
Overall	10097	9917	10109	10367	10275	10376	10145
ScienceMark (Memory Bandwidth)	9064	9616	8358	6905	9779	9493	8788
3D Mark Vantage							
CPU	37184	35584	35927	36578	36778	35952	36780
GPU	6959	6756	6958	6956	6990	6917	6952
Overall	8734	8471	8715	8722	8764	8667	8720
Cinebench R10	11134	11094	11056	11150	11162	11074	11104
WinRAR 3.8	2363	2371	2210	2293	2388	2352	2248
DivX Video Encoding (100 MB VOB) (sec)	31	30	30	32	30	30	31
Sequential File Transfer (8 GB File) (sec)	163	166	161	165	170	161	165
Random File Transfer (8 GB File) (sec)	193	186	188	190	192	189	189
STALKER Clear Sky (1280 x 1024, low)	79	76.1	78.2	80.1	79.9	79	78.5
Crysis (CPU - 1024 x 768, low)	68	61	64	68	67	64	67
Crysis (Graphics - 1280 x 1024, high)	45	42	44	44	44	44	45

would be a great HTPC board but it comes with no HDMI port. The only PCIe x1 slot would be useless because of the first PCIe x16 slot.

This entry-level Jetway

PN78VM2-LF runs on the GeForce 8100 chipset yet packs a punch for its low price. Even though it's a basic board, a big metal plate at the back ensures the board doesn't flex. There

are the solid-state capacitors in the important regions of the board. The heat sink is made of thin gauge aluminium but it works rather well for this chip. There's also a HDMI port built

into it which makes this board ideal as a base to build a HTPC on. The only PCIe slot is above the primary x16 slot. The high heat sink completely comes in the way of the slot.

MSI	MSI
K9N2 SLI Platinum	K9N2 Diamond
Rs. 7,500	Rs. 9,500
66.01	66.23
39.44	40.99
26.57	25.24
AMD 750a SLI	NVIDIA 780a SLI
AM2+	AM2+
750a SLI	780a SLI
DDR2	DDR2
8 GB / 4	8 GB / 4
6 / 2	6 / 2
Y / 2	Y / 2
2	3
2 / 1 / 0	2 / 1 / 0
Y / 2	Y / 3
Realtek ALC888	Creative SB X-Fi Xtreme
8	8
N / Y	N / N
1 / Gigabit	2 / Gigabit
N	N
4 / 1	4 / 1
Y	Y
1.45 ~ 1.8	Default ~ 1.8
0.025	0.025
1.9 ~ 2.4	1.8 ~ 2.5
0.05	0.05
8	7
7.5	7
8	8
8	8
4 / 2	6 / 1
Dvi-to-HDMI converter, USB/Firewire bracket, SLI bridge,	X-Fi Extreme Audio card, USB/Firewire bracket
10258	10273
6228	6236
20022	14710
8808	8627
12306	9985
9584	9795
36475	35818
7056	6912
8838	8659
11054	10998
2251	2393
30	30
171	166
194	233
78	79
68	71
44	43

Performance

For boards with onboard graphics solutions, the performance can be a concern for some. The boards available for AMD processors have

Integrated Graphics Core 2 Duo Boards				
Brand	Biostar	ECS	Jetway	MSI
Model No.	G41D-M7	G41T-M2	I43GM1-HG	G43M2
Price (Rupees)	Rs. 2,800	Rs. 3,585	Rs. 3,300	Rs. 6,400
Overall (Out of 100)	44.73	44.62	53.89	44.15
Features (Out of 70)	19.86	19.04	28.26	18.45
Performance (Out of 30)	24.87	25.58	25.63	25.70
Features				
Chipset	Intel G41	Intel G41	Intel G43	Intel G43
Socket	LGA775	LGA775	LGA775	LGA775
Northbridge / Southbridge	G41 / ICH7	G41 / ICH7	G43 / ICH10	G43 / ICH10
Memory Type	DDR2	DDR2	DDR2	DDR2
Max Memory Supported (GB) / No of DIMMs	8 GB / 2	8 GB / 2	8 GB / 2	4 GB / 2
No. of SATA / IDE Ports	4 / 1	4 / 2	6 / 0	4 / 1
E-SATA Support / No of E-SATA Ports	N / 0	N / 0	N / 0	N / 0
No of PCI Express x16 graphics slots	1	1	1	1
No. of PCI / PCI x1 / PCI x4 Slots	1 / 0 / 0	1 / 2 / 0	1 / 0 / 0	2 / 1 / 0
Multi GPU Support (SLI/CrossFire/N) / No of PCIe Lanes	N	N	N	N
Integrated Audio Controller	Realtek ALC662	Realtek ALC662	Realtek ALC888	Realtek ALC888
Number of Sound channels	6	6	8	8
SPDIF / Optical Port	N / N	N / N	Y / N	N / N
No of LAN Ports / 10/100 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit
Integrated Wi-Fi (Y/N)	N	N	N	N
No. of rear USB / FireWire Ports	4 / 0	4 / 0	4 / 0	4 / 1
All Solid State Caps (Y/N)	N	N	N	N
BIOS options				
CPU voltage range (volts)	N/A	N/A	N/A	N/A
CPU Voltage increments	N/A	N/A	0.05	N/A
Memory voltage range (volts)	NA	N/A	1.85 ~ 3.285	N/A
Memory Voltage increments	0.1	N/A	0.03	N/A
Board Layout (So 10)				
Region around the CPU	8	8	8	7.5
Location of SATA ports	7.5	7.5	8	8
Placement of Memory modules	7.5	7.5	8	8
Graphics card slot and PCI slots	6.5	7	7.5	7
Package Bundle				
No of SATA / PATA Cables Provided	1 / 1	1 / 1	2 / 0	1 / 1
Accessories	-	-	-	-
Performance				
PC Mark 05				
CPU	9575	9573	9636	9658
Memory	6037	6091	6235	6280
Graphics	3283	3405	2750	2705
HDD	8714	9923	8824	8835
Overall	7681	7727	6686	6686
ScienceMark (Memory Bandwidth)	5691	5798	6050	6012
CINEBENCH R10 (CPU)	11778	11658	11393	11750
WinRAR 3.8	1818	2086	2124	2063
DivX Video Encoding (100 MB VOB) (sec)	32	31	31	31
Sequential File Transfer Test (8 GB File) (sec)	180	163	172	179
Random File Transfer Test (8 GB File) (sec)	194	193	210	193
Doom 3 FPS (800 x 600, medium detail)	18.1	19.4	17.5	17.4
3D Mark 2006 (CPU / Overall)	3961 / 854	4036 / 855	4015 / 1142	4134 / 1130
Company Of Heroes (1024 x 768, lowest)	23.03	22.6	26.9	28.2

rather respectable scores across all fields. They also have the advantage of being cheaper than equally well performing boards for the Intel platform which is why in general AMD based systems are suggest for those who are on a really tiny budget. We see a new trend this time around where AMD 785 boards leave the older AMD 780 behind.

Some of the boost is from the game benchmarks while the biggest contribution comes from memory benchmarks and file compression benchmarks. The ASUS M4A785TD-V EVO leads the charts overall for sheer performance. NVIDIA hasn't released any more AMD chipsets in the meantime. The GeForce 8200 boards from Jetway and ZOTAC present

a similar. With dropping prices, these boards along with the older AMD 780G although slightly slower in graphics benchmarks are comparable with the rest of the benchmarks. Prices too are much lower than better performing AMD 785G boards.

So, what's the best?

We have a clear leader in every

Intel Discrete Graphics Core 2 Duo Boards						
Brand	ASUS	ASUS	ASUS	Asus	Biostar	Gigabyte
Model No.	Maximus II Gene	P5Q Premium	P5Q3 Deluxe WiFi @n	Striker II NSE	TPOWER I45	EP43T-UD3L
Price (Rupees)	Rs. 17,850	Rs. 18,250	Rs. 17,900	Rs. 19,750	Rs. 7,950	Rs. 6,700
Overall (Out of 100)	70.92	76.57	79.27	68.73	70.33	62.10
Features (Out of 70)	44.33	50.25	53.05	43.48	44.04	36.14
Performance (Out of 30)	26.59	26.32	26.22	25.25	26.29	25.96
Features						
Chipset	Intel P45	Intel P45	Intel P45	AMD 790i SLI	Intel P45	Intel P43
Socket	LGA775	LGA775	LGA775	LGA775	LGA775	LGA775
Northbridge / Southbridge	Intel P45 / ICH 10R	P45 / ICH10R	P45 / ICH10R	790i SLI	P45 / ICH 10R	Intel P45 / ICH 10
Front Side Bus Speed (MHz)	1600	1600	1600	1600	1600	1600
Memory Type	DDR2	DDR2	DDR3	DDR3	DDR2	DDR3
Max Memory Supported (GB) / No of DIMMs	16 GB / 4	16 GB / 4	16 GB / 4	8 GB / 4	8 GB / 4	8 GB / 4
No. of SATA / IDE Ports	7 / 1	10 / 1	8 / 1	6 / 1	6 / 1	6 / 0
E-SATA Support / No of E-SATA Ports	Y / 1	Y / 1	Y / 1	Y / 2	Y / 2	N
No of PCI Express x16 graphics slots	2	4	3	3	2	1
No. of PCI / PCI x1 / PCI x4 Slots	1 / 1 / 0	2 / 1 / 0	2 / 2 / 0	2 / 1 / 0	2 / 2 / 0	2 / 4 / 0
Multi GPU Support (SLI/CrossFire/N) / No of PCIe Lanes	Y	Y	Y	Y	Y	N
Integrated Audio Controller	SupremeFX X-Fi	ADI AD2000B	ADI AD2000B	SupremeFX II	Y	Y
Number of Sound channels	8	8	8	8	8	8
SPDIF / Optical Port	N / Y	Y / Y	Y / Y	Y / Y	Y / Y	Y / Y
No of LAN Ports / 10/100 / Gigabit	1 / Gigabit	4 / Gigabit	2 / Gigabit	2 / Gigabit	1 / Gigabit	1 / Gigabit
Integrated Wi-Fi (Y/N)	N	N	Y	N	N	N
No. of rear USB / FireWire Ports	6 / 1	10 / 1	6 / 1	6 / 1	6 / 0	8 / 0
All Solid State Caps (Y/N)	Y	Y	Y	N	Y	Y
BIOS options						
CPU voltage range (volts)	0.85 ~ 2.4	0.85 ~ 2.10	0.85 ~ 2.10	1.1 ~ 2.4	1 ~ 2.5	0.5 ~ 2.0
CPU Voltage increments	0.00625	0.00625	0.00625	0.025	0.05	0.00525
Memory voltage range (volts)	1.8 ~ 3.4	1.8 ~ 3.08	1.5 ~ 2.78	1.5 ~ 3.1	1.888 ~ 3.7	1.1 ~ 2.76
Memory Voltage increments	0.01325	0.02	0.02	0.02	0.05	0.02
Board Layout (So 10)						
Region around the CPU	8	7.5	7.5	8	8	9
Location of SATA ports	9	8	8	7	9	8
Placement of Memory modules	9	7.5	7.5	7	8	7
Graphics card slot and PCI slots	8	7	7	7	7	7
Package Bundle						
No of SATA / PATA Cables Provided	4 / 1	8 / 2	8 / 2	6 / 2	6 / 1	1 / 1
Accessories	LED poster	Cooling fan	Wi-Fi antenna, cooling fan	LED poster, cooling fan, SupremeFX II Audio card	Cooling fan	-
Performance						
PC Mark 05						
CPU	9658	9671	9658	9624	9662	9641
Memory	6641	6646	6630	6534	6580	6523
Graphics	15370	15381	15567	20103	15373	15062
HDD	8850	8820	8851	8292	8778	8859
Overall	9501	9413	9484	8995	9407	9349
ScienceMark (Memory Bandwidth)						
	6746	6897	6688	6623	6679	6524
3D Mark Vantage						
CPU	38132	38918	38582	36857	37157	37112
GPU	6976	7078	7001	6984	6967	6978
Overall	8766	8898	8802	8759	8743	8755
Cinebench R10						
	11711	11502	11847	11701	11828	11721
WinRAR 3.8						
	2570	2557	2530	2121	2518	2334
DivX Video Encoding (100 MB VOB) (sec)						
	29	32.2	33.1	32	30	30
Sequential File Transfer Test (8 GB File) (sec)						
	172	171	162.8	174	175	179
Random File Transfer Test (8 GB File) (sec)						
	192	189.1	193.3	202	196	198
STALKER Clear Sky (1280 x 1024, low)						
	80.7	81.1	81.2	78	78.8	78.7
Crysis (CPU - 1024 x 768, low)						
	69	85	84	72	73	72
Crysis (Graphics - 1280 x 1024, high)						
	45	45	42	45	45	45

category — it's for you to decide the budget you have and what you need from your system. For the Core i7 processors, we strongly believe that the ASUS Rampage II Extreme is the

board to go for if price isn't an issue. At Rs. 28,500, it's a lot to pay for a board and it takes the budget of an Intel Core i7 system very high. The Biostar TPower X58 shockingly is the

next in the line. It might not come with too many fancy audio card modules but is a really solid board for its price. This board just like any other enthusiast board has features

not just on the board but also in the BIOS and in the way the board is laid out. It matches the smaller version of the Rampage II Extreme — the Rampage II Gene. Going away from the

	Gigabyte	Intel	MSI	MSI	MSI	MSI	XFX	Zotac	Zotac
	EP45-UD3R	DX48BT2	P43 Neo3	P45 Diamond	P45 Neo2	X48C Platinum	790i Ultra	nForce 780i SLI	790i Ultra SLI
	Rs. 13,000	Rs. 11,500	Rs. 5,500	Rs. 10,800	Rs. 6,300	Rs. 10,500	Rs. 22,000	Rs. 11,500	Rs. 16,000
	65.91	61.20	57.68	72.56	64.69	66.35	62.14	65.42	63.15
	40.01	35.16	31.82	46.61	38.96	40.34	40.34	40.27	41.39
	25.90	26.04	25.86	25.95	25.73	26.01	21.80	25.15	21.76
	Intel P45	Intel X48	Intel P45	Intel P45	Intel P45	Intel X48	NVIDIA 790i SLI	NVIDIA 780i SLI	NVIDIA 790i SLI
	LGA775	LGA775	LGA775	LGA775	LGA775	LGA775	LGA775	LGA775	LGA775
	Intel P45 / ICH 10R	Intel X48	Intel P45 / ICH 10R	Intel P45 / ICH 10R	Intel P45 / ICH 10R	Intel X48 / ICH9R	790i SLI	780i SLI	790i SLI
	1600	1600	1600	1600	1600	1600	1600	1333	1600
	DDR2	DDR3	DDR2	DDR3	DDR2	DDR2 & 3	DDR3	DDR2	DDR3
	16 GB / 4	8GB / 4	16 GB / 4	8 GB / 4	16 GB / 4	8 GB (DDR3) / 4 GB (DDR2)	8 GB / 4	8 GB / 4	8 GB / 4
	8 / 1	6 / 1	8 / 1	6 / 1	8 / 1	4 / 1	6 / 0	6/1	8/1
	N	Y / 2	N	Y / 2	N	Y / 2	Y / 1	N	N
	1	2	1	2	2	2	3	3	3
	3 / 3 / 0	2 / 0 / 1	4 / 1 / 0	2 / 2 / 0	2 / 2 / 0	3 / 2 / 0	2 / 2 / 0	2/1/0	2/2/0
	N	Y	N	Y	Y	Y	Y	Y	Y
	Y	Y	Y	Y	Y	Realtek ALC888	N/A	N/A	N/A
	8	8	8	8	8	8	8	N/A	N/A
	Y / Y	Y / Y	N / N	N / Y	N / N	N / Y	Y / Y	N / Y	Y / Y
	1 / Gigabit	1 / Gigabit	1 / Gigabit	2 / Gigabit	2 / Gigabit	1 / Gigabit	2 / Gigabit	2 / Gigabit	2 / Gigabit
	N	N	N	N	N	N	N	Y	Y
	8 / 1	8 / 2	4 / 0	8 / 1	6 / 0	8 / 2	6 / 1	6 / 1	6 / 1
	Y	N	Y	Y	Y	Y	N	N	N
	0.5 ~ 2.3	1.2875 ~ 1.6	0.833 ~ 2.0175	0.886 ~ 1.8551	0.9111 ~ 1.888	1.25 ~ 2.025	0.5125 ~ 2.0	0.5 ~ 1.8	0.5125 ~ 2.0
	0.00525	0.0125	0.0125	0.01	0.01	0.0125	0.0125	0.00625	0.0125
	1.45 ~ 3.04	1.5 ~ 2.5	1.4 ~ 3.324	1.19 ~ 2.77	1.416 ~ 3.324	1.5 ~ 2.75	1.5 ~ 2.275	1.8 ~ 2.5	1.5 ~ 2.275
	0.1	0.04	0.012	0.01	0.012	0.04	0.025	0.025	0.025
	8	7	7	7	8	7	6.5	7	6.5
	9	7.5	9	9	6.5	8	8	8	8
	9	8	9	8	8	8	8	8	8
	6.5	7	8	7	7	8	7.5	7.5	7.5
	4 / 1	1 / 1	1 / 1	4 / 1	4 / 1			4/2	
	-	-	-	X-Fi audio	-	-	-	Wi-fi fit, cooling fan	-
	9625	9619	9661	9652	9647	9639	9627	9615	9636
	6378	6482	6407	6532	6252	6308	6801	6661	6874
	15375	15082	14729	14716	14738	14895	14269	14341	13626
	8775	8729	8821	8812	8774	8748	8219	8270	8113
	9341	9336	9256	9281	9150	9284	9122	9114	9205
	6337	6482	6436	6688	6600	6706	7192	6733	6820
	36420	38935	37101	36183	35575	36910	N/A	36453	N/A
	6975	6962	6980	6947	6958	6983	N/A	6941	N/A
	8742	8760	8757	8705	8709	8759	N/A	8703	N/A
	11650	11643	11798	11759	11614	11859	11493	11795	11211
	2302	2365	2321	2372	2448	2289	2474	1819	2446
	30	30	30	30	31	30	32	31	31
	175	175	182	180	177	172	177	175	178
	194	193	192	192	200	192	200	204	210
	78.4	80.2	76.9	76.9	76.8	79.2	78	80	80
	70	71	70	71	72	71	77	72	74
	45	45	45	44	44	44	44	44	44

scores, we like the DFI UT Lanparty X58 board as well. It's a good overclockers board in our opinion and the bundle and design is also something new in motherboards and

especially now for Core i7 boards.

For those who are upgrading to faster Intel Core 2 powered systems, the best offering comes from ASUS once again – ASUS

P5Q3 Deluxe WiFi @n followed by the ASUS P5Q Premium. The P5Q3 Deluxe comes with a Wi-Fi module and also runs on DDR3. Those with larger budgets can go in for this

board and then use the same DDR3 modules for a Core i5 or i7 processor. The MSI P45 Diamond lags a little bit behind these two boards but it's also priced a lot lower. Biostar makes

Intel Core i7 Motherboards					
Brand	ASUS	ASUS	ASUS	Biostar	DFI
Model No.	P6T Deluxe	Rampage II Extreme	Rampage II Gene	Tpower X58	UT X58 Lanparty
Price (Rupees)	Rs. 24,000	Rs. 28,500	Rs. 17,850	Rs. 12,500	Rs. 19,500
Overall (Out of 100)	71.47	75.94	72.02	72.51	65.73
Features (Out of 70)	45.59	49.89	45.63	46.67	39.42
Performance (Out of 30)	25.88	26.05	26.39	25.84	26.31
Features					
Chipset	Intel X58	Intel X58	Intel X58	Intel X58	Intel X58
Socket	LGA1366	LGA1366	LGA1366	LGA1366	LGA 1366
Northbridge / Southbridge	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	X58 / ICH10R
QPI (GT/s)	6400	6400	6400	6400	6400
Memory Type	DDR3	DDR3	DDR3	DDR3	DDR3
Max Memory Supported (GB) / No of DIMMs	24 GB / 6	24 GB / 6	24 GB / 6	24 GB / 6	24 GB / 6
No. of SATA / IDE Ports	6 / 1 (2 SAS ports)	7 / 1	7 / 1	6 / 1	8/2
E-SATA Support / No of E-SATA Ports	Y / 1	Y / 1	Y / 1	Y / 2	N
No of PCI Express x16 graphics slots	3	2	2	2	3
No. of PCI / PCI x1 / PCI x4 Slots	2 / 0 / 1	1 / 2 / 0	1 / 0 / 1	2 / 1 / 0	2/0/1
Multi GPU Support (SLI/CrossFire/N) / No of PCIe Lanes	Y	Y	Y	Y	Y
Integrated Audio Controller	ADI AD2000B	SupremeFX	SupremeFX	Y	Y
Number of Sound channels	8	8	8	8	8
SPDIF / Optical Port	Y / Y	Y/Y	N / Y	Y/Y	Y/N
No of LAN Ports / 10/100 / Gigabit	2 / Gigabit	2 / Gigabit	1 / Gigabit	2 / Gigabit	2 / Gigabit
Integrated Wi-Fi (Y/N)	N	N	N	N	N
No. of rear USB / FireWire Ports	8 / 1	6 / 1	6 / 1	8/1	6/1
All Solid State Caps (Y/N)	Y	Y	Y	Y	Y
BIOS options					
CPU voltage range (volts)	0.85 ~ 2.1	0.85 ~ 2.5	0.5 ~ 2.5	N/A	1.06255 ~ 1.6
CPU Voltage increments	0.00625	0.00525	0.00525	0.02	0.05005
Memory voltage range (volts)	1.2 ~ 1.9	1.51 ~ 2.5	1.51 ~ 2.5	1.5 ~ 2.760	1.455 ~ 2.4
Memory Voltage increments	0.00625	0.01	0.01	0.02	0.015
Board Layout (So 10)					
Region around the CPU	8	7.5	8	8	7
Location of SATA ports	9	9	9	9	8
Placement of Memory modules	8.75	9	9	9	8
Graphics card slot and PCI slots	7.5	7	7	7.5	7.5
Package Bundle					
No of SATA / PATA Cables Provided	2,1	6 / 1	4 / 1	6 / 1	4 / 0
Accessories	-	LCD poster, SupremeFX, temperature sensors	LCD poster	-	-
Performance					
PC Mark 05					
CPU	11005	11003	11011	10955	11391
Memory	10447	10248	10562	10243	9930
Graphics	15801	15637	15660	15584	22248
HDD	8914	8578	8880	8890	8679
Overall	10419	10040	10724	9899	10656
ScienceMark (Memory Bandwidth)	13959	14328	14324	14103	13882
3D Mark Vantage					
CPU	43090	43918	45389	44161	45177
GPU	6936	6973	6943	6935	7042
Overall	8777	8830	8808	8787	8926
Cinebench R10	16048	15490	15917	16010	16307
WinRAR 3.8	4779	4722	4734	4752	4530
DivX Video Encoding (100 MB VOB) (sec)	20.3	18	19	19	19
Sequential File Transfer Test (8 GB File) (sec)	168.1	174	172	174	168
Random File Transfer Test (8 GB File) (sec)	194.8	191	180	181	199
STALKER Clear Sky (1280 x 1024, low)	79.5	84.9	83.3	83.7	83.1
Crysis (CPU - 1024 x 768, low)	93	83	82	82	96
Crysis (Graphics - 1280 x 1024, high)	44	45	45	44	45

its appearance once again with its rather inexpensive offering – the TPower 145 at Rs. 7,950. Those who want an Intel board with integrated graphics should look at the really cheap Jetway 143GM1-HG. At Rs. 3,300, it's a

decent board to build a system around. It's got a BIOS that's better than what the other boards in its group had to offer. Performance isn't too shabby either.

For the AMD processors,

the ASUS M4A785TD-V EVO stands at the top right ahead of M4A785TD-M EVO. In performance, they're almost the same. They also happen to be some of the cheaper boards based on the AMD 785 chipset.

The ECS A785GM-M is another one that ties with the ASUS M4A785TD-M EVO. Biostar's TA785GE is the cheapest 785G offering of the lot. Those wanting to build the cheapest HTPC or even an everyday-use

	Gigabyte	Gigabyte	GIGABYTE	Intel	MSI	MSI	XFX	ZOTAC
	EX58-Extreme	EX58-UD3R	EX58-UD5	DX5850	X58 PRO	X58M	X58i	X58
	Rs. 21,500	Rs. 14,500	Rs. 17,500	Rs. 12,800	Rs. 12,500	Rs. 10,500	Rs. 13,250	Rs. 12,500
	70.71	66.70	68.52	63.09	69.80	63.67	68.96	58.77
	44.74	41.10	42.74	37.16	43.99	40.73	44.90	34.43
	25.97	25.90	25.78	25.93	25.81	22.94	24.06	24.34
	Intel X58	Intel X58	Intel X58	Intel X58	Intel X58	Intel X58	Intel X58	Intel X58
	LGA1366	LGA1366	LGA1366	LGA1366	LGA1366	LGA1366	LGA1366	LGA1366
	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R	Intel X58 / ICH10R
	6400	6400	6400	6400	6400	6400	6400	6400
	DDR3	DDR3	DDR3	DDR3	DDR3	DDR3	DDR3	DDR3
	24 / 6	16 GB / 4	24 GB / 6	16 GB / 4	24 GB / 6	24 GB / 6	12 GB / 6	24 GB / 6
	6 / 1	8 / 1	10 / 1	6 / 0	7 / 1	6 / 1	6 / 1	6 / 1
	N	N	N	Y / 2	Y / 1	Y / 1	Y/2	N
	2	2	2	2	2	2	2	2
	2 / 1 / 1	2 / 2 / 1	2 / 1 / 1	1 / 2 / 1	2 / 2 / 0	1 / 0 / 1	2 / 1 / 0	2 / 1 / 0
	Y	Y	Y	Y	Y	Y	Y	Y
	Y	Y	Y	Y	Y	Y	Y	Y
	8	8	8	8	8	8	8	8
	Y/Y	Y/Y	Y / Y	N / N	N / Y	N	Y / Y	Y / N
	2 / Gigabit	1 / Gigabit	2 / Gigabit	1 / Gigabit	1 / Gigabit	1 / Gigabit	2 / Gigabit	1 / Gigabit
	N	N	N	N	N	N	N	N
	8 / 1	8 / 1	8 / 1	8 / 1	6 / 1	6 / 1	6 / 1	4 / 1
	Y	Y	Y	N	Y	Y	Y	Y
	0.5 ~ 1.9	0.5 ~ 1.9	0.5 ~ 1.9	1 ~ 1.6	0.9 ~ 1.9	0.9 ~ 1.9	N/A	N/A
	0.00525	0.00525	0.00625	0.0125	0.01	0.01	0.00625	N/A
	1.3 ~ 2.6	1.3~2.6	1.3 ~ 2.6	1.5 ~ 2.5	1.2 ~ 2.77	1.49 ~ 2.77	1.0 ~ 1.6	N/A
	0.02	0.02	0.02	0.04	0.01	0.01	0.01	N/A
	8	8	8	9	8	8	8	9
	9	9	9	7	8	9	9	9
	9	9	8.75	9	9	8.5	9	9
	6.5	6.5	7	7	7.5	6.5	7.5	7.5
	4 / 1	2 / 1	4 / 1	4 / 0	4 / 1	4 / 1	4 / 2	4 / 1
	Additional heat-sinks	-	-	Cooling fan, Ghost Recon Advanced Warrior disc	-	-	-	-
	11096	10959	11551	11405	10981	10977	10918	10936
	10502	10330	10707	9843	10268	10280	9942	10082
	15817	15773	15694	14344	15640	15678	15614	15423
	8879	8885	8769	8513	8842	8857	8743	8866
	10078	9992	10241	10175	10047	9833	9814	10136
	14070	13629	14004	14404	13943	13941	13821	13113
	45582	45297	45655	43881	44669	44938	43451	43765
	6941	6938	6940	6932	6938	6937	6934	6948
	8808	8801	8807	8780	8795	8797	8779	8799
	15873	16198	16803	15756	15852	15953	15942	15898
	4697	4517	4639	4747	4747	4740	4574	4370
	18	18	20.7	19	19	20.6	20	19
	185	178	165.9	172	186	165.4	171	174
	190	185	195.6	194	185	193.2	193	190
	84.3	82.8	78.9	84.6	84.1	N/A	83.5	82.7
	80	82	95	80	84	100	79	78
	44	44	44	45	45	44	44	45


desktop PC should consider it. It even uses DDR2 memory which is extremely cheap at the moment.

Those who want to build systems based on the faster for CrossFire, AMD's 790FX and

790GX chipsets can be used. NVIDIA too has the nForce 780a and 750a chipsets. In our test, we see ASUS, MSI and Gigabyte leading the charts. The ASUS M4A79T Deluxe which is almost at the end of its

life tops the chart. MSI's K9N2 Diamond powered by the NVIDIA 780a chipset follows.

There are many factors that govern what kind of system you build and what processor you go for. Prices will almost always

continue to fall depending on several conditions. Once you've decided the budget and what processor you're going in for. As it stands today, AMD's motherboard-processor make a great low cost combo 

Workshop on Anonymous Browsing

Mohamed Rameez

readersletter@thinkdigit.com

Anonymous browsing is the process of browsing the internet while keeping any personally identifiable information secret. With the help of the IP address, the physical location of your computer can be determined, indirectly leading to the revelation of your identity.

When you browse without anonymous browsing tools

observer is unable to track from the source to the user. There are two basic methods to browse anonymously. These are

1. Web based proxy services such as <https://www.snoopblocker.com>.
2. VPN and proxy clients such as Tor and Hotspot shield.

A web based proxy service such as <https://www.snoopblocker.com> works by having a web server as an intermediary between a user and a web server. Users are

on 'surf!' to visit the webpage. Also, there are several fields that you check or uncheck depending on your needs.

• **Java:** Checking this enables web deployed Java-based applications such as Java applets, programmes such as stock tickers or even new Gmail and Hotmail versions to run through snoopblock. However, these programmes can gather significant information and hence compromise on your anonymity.

• **Javascript:** Javascript is required to run most modern web pages. The drawbacks of enabling this are similar to that of enabling Java.

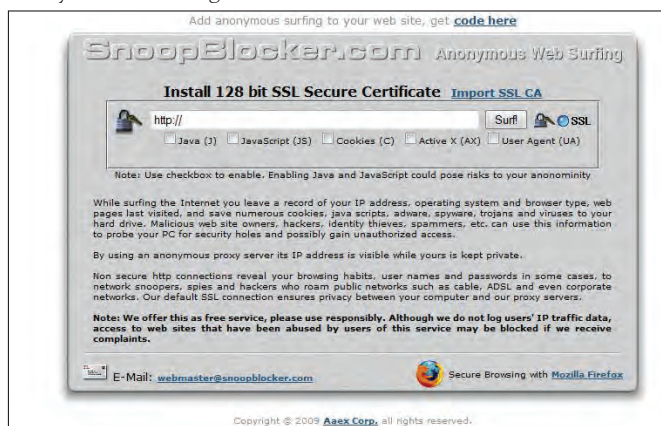
• **Cookies:** Cookies enable the webpage to perform certain essential web-based functions such as keeping the user signed in at all times and remembering his browsing record. However, some malicious web sites post cookies known as tracking cookies, which gather information about your activities.

• **Active X :** Allows Microsoft active X content to be displayed. Poses no major threats to anonymity but may slow down the loading process due to higher bandwidth requirements.

After ticking the required options, entering the required address and clicking the 'surf!' button, the requested page is

displayed. However, you will notice that to each webpage, snoopblock.com adds a frame on top with advertisements on it.

The second popular method for browsing the internet anonymously is the usage of virtual private network clients such as Tor, Java Anon Proxy and Hotspot shield. We will look at how to install Tor, which is available for



Google through snoopblocker

through a standard internet service provider, your computer is identified via an IP address, and sends out a request to the server on which the web page is served. The basic principle behind all anonymous browsing tools is the routing of communications through a third server that is committed to protecting the identities of the end user. Hence, anonymous browsing is basically the art of routing web page requests and other packet information over the internet over various lines so that an external

connected over a secure 128 bit SSL connection.

On [snoopblocker.com](https://www.snoopblocker.com), the central field is where you should type the address of the web site you wish to browse. After this has been done, click



Vidalia comes with added flexibility

download from www.torproject.org as a 10-MB file. The bundle contains four components, namely Tor, Vidalia, Privoxy and Torbutton.

Tor is the basic tool that helps in setting up a VPN node on your computer so that you may connect to other users of Tor for anonymous browsing. Tor being a command line tool, it is supplied with Vidalia, a Graphic User Interface utility that allows you to quickly and easily set up Tor and get it running.

Privoxy is a filtering tool that monitors every web page and other internet service

Chrome Filter

According to its End User Licence Agreement, Google reserves the right pre-screen, review, flag, filter, modify, refuse or remove any or all Content from any service



Private on Android

A University of Cambridge student has come up with two apps that allow you to browse anonymously on Android-based phones

Workshop

request from your computer and filters it off all personal data, adding an extra layer of anonymity. Torbutton is an add-on toolbar for Mozilla Firefox that allows you to quickly turn anonymous browsing on and off, without having to go to Tor.

Privoxy and Torbutton are optional while you will find that Vidalia simplifies the job of getting Tor running to such a large extent, you would prefer to install it.

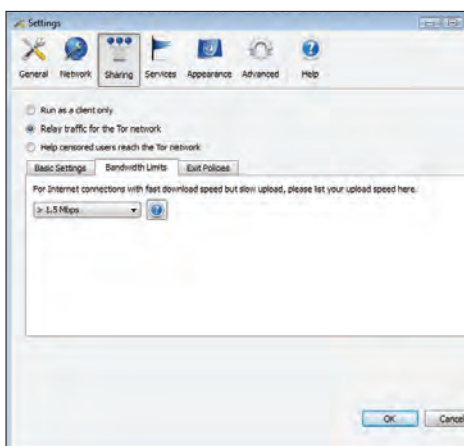
The Vidalia Control Panel

Once installed, the Vidalia control panel appears in the system tray (a yellow onion icon while connecting, black when not connected and green when fully connected). Double-clicking on this opens the control panel.

To start Tor, one must click the Start Tor button on the control panel. Once clicked, it starts connecting to Tor. Various status messages are displayed till the green bar reaches full, at which point you are completely connected to Tor and the status changes to "Connected to the Tor network". At this point, you may start browsing the internet and all your actions will be anonymous.

If you have difficulty connecting, or the progress of the green bar is too slow, it may be due to the fact that your ISP requires you to use a proxy, or you may be part of a local area network in which the local computers connect to the internet through a local proxy. If this is the case, click on the 'settings' button, go to the 'Network' Tab and tick I use a proxy to access the internet. In the fields that appear upon the ticking of this option, you have to provide the proxy information given to you by your ISP. Tick/Untick the remaining options as per your preferences.

The "Use a New identity" Button on the Vidalia control panel changes your IP address on the Tor network in such a way that any



These settings make you a participating member of the Tor network

new browsing/other service request you make appears as if it is coming from a totally new computer. This provides you with an added level of anonymity.

These settings make you a participating member of the Tor network.

Now you know how to



enjoy anonymous browsing using Tor. However, your role in the Tor network is not just limited to this. As you know, the anonymity of Tor users is maintained by rerouting the communications around the network through its various nodes until it becomes untraceable. You may choose to help Tor network by making your computer a node through which others can route

their requests. This is a process called relaying. This can be done by clicking on the "Set Up relaying" button on the Vidalia control panel. In the menu that pops up, you are given three options. While you can choose to remain a passive user of the Tor services by choosing the first option (Run as client only), the second option (Relay Traffic for the Tor network) makes you a full part of the Tor network. This

makes your computer a node through which other users may browse anonymously. You are encouraged to use this option as it is through other volunteers like you that you are able to utilise the Tor network. If you choose the second option you are given the option of specifying what

type of connections is allowed through your computer. You may also choose to give an anonymous email id. You may also set bandwidth limits on the connections routed through your computer.

The third option, (Help Censored users reach the Tor network) makes your computer an encrypted Node of the tor network so that anyone (Maybe an ISP) trying

to impose content restrictions upon one of the Tor users routed through your computer fails in his schemes.

To view a list of computers that are connected through you and computers that you connect to Tor through, click the "View the Network" button on the Vidalia control panel.

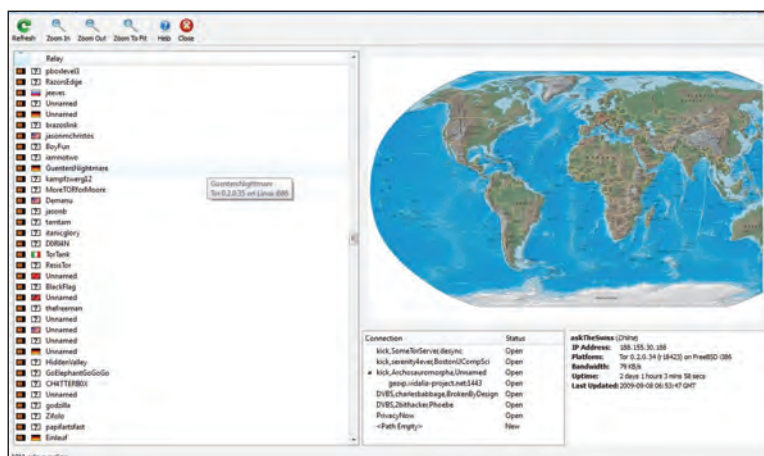
A word of caution

Anonymous browsing remains anonymous only due to the commitment on the part of providers such as snooblocker.com, the various computers on the Tor network to keep it anonymous. Every time you make a connection request to these servers / computers in order to access a web site or a file on the internet, these activities are logged. However, these logs are kept secret as a matter of principle by these very providers.

Many programs available on the internet claiming to be tools for anonymous browsing are exactly opposite of that - they compromise your security and assist individuals in perpetrating crimes such as identity theft.

Also, the providers maintain the services and their assurance of anonymity only because of a belief in the right of every individual to have online privacy (and commercial interests). Any attempt at misusing this anonymity and freedom given to you online for malevolent purposes (stalking, blackmail, anything illegal) could adversely affect that commitment. It is also possible for an individual to have a court subpoena the connection records of a server to obtain user specific information, if the court is convinced that the network has been used for illegal purposes.

All said and done, anonymous browsing is mainly a boon, especially to our oppressed brethren in countries such as China and the Middle Eastern ones, where content control and censoring are a very real part of life.



A list of all users you are connected to, and are connected to you

Drive fast

Toshiba has added a new 500 GB, 2.5-inch laptop hard drive with a two-spindle design that runs at 7200 rpm

Blink and you'll miss it

That's how fast 'Lightning' is and that's the name of the new enterprise SSDs from Pilant Technology

Backup your drive

Siddarth Raman

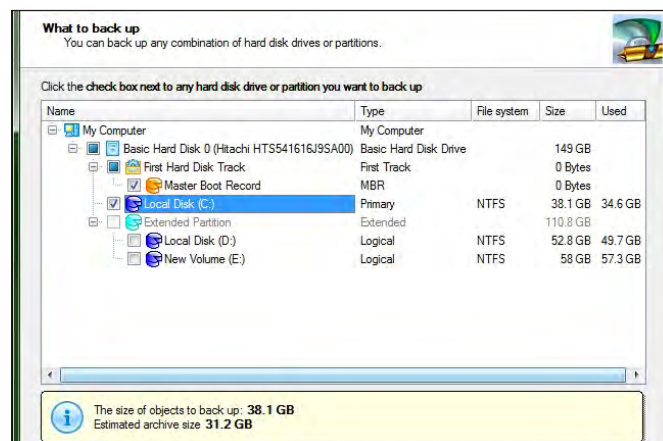
readersletters@thinkdigit.com

Backing up your hard drive is always advised. A good software that does the trick is Drive Backup from Paragon. You can download a trial version for free at <http://www.paragon-software.com/home/db-express/download.html>.

After you install and register the installation, restart your system. As a word of caution, if you have large volumes of critical data, you should back it up in phases rather than copying all your data at once. Check your operating system for any infections or malware. Click on Back up Disk or Partition to get started. Select the Master Boot Record (MBR) and the main drive (C: for most users).

Check for two important figures - the size of source, and the destination location. Ensure there is sufficient space to store the image of the data.

The next view asks you to select where you want to store your image file - the backup destination page. You may also store the image on the drive you are backing up. The program excludes that location from the backup location in order to avoid ending up in an infinite



Simple Backup Wizard

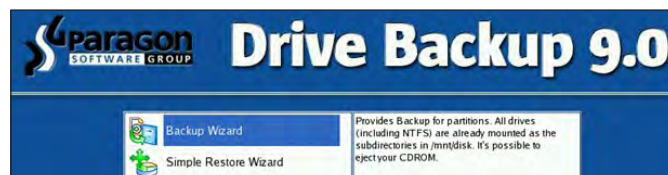
recurrence. While recovering the image, you should select a different destination location. You cannot recover the drive from itself. It can also be stored on computers that are available on connected networks.

The whole backup process takes time depending on the size of the image. Once it's done, click Finish. Click on Check Archive Integrity. Select any of the listed archives, click next. This could take some time depending on the size of the archive.

Before you restore your drive, you must specify your recovery media. If you plan to restructure your operating system, you need to reboot from somewhere. On the first screen, click on Build

Recovery Media.

You can build and store the recovery media either on Flash



Recovering your partition - the launch screen

memory (Pen-drive) or on a CD/DVD option; boot from USB is the most convenient. Choose your option, click next. The first option is Typical. Use this if you want to accept the default recovery package and start burning the disk. It will build a Linux-based boot disk with a minimal set of tools for restoring your image. Advanced is available

only on CD/DVD. It allows you to add extra files and folders (assuming you have space). Click Next and soon your recovery disk / pen drive will be ready for use.

Coming to the restoration part, reboot your system with the disk or USB drive in place after setting the appropriate boot sequence from the BIOS settings.

Launch the Simple Restore Wizard by double clicking on it. Browse to the image you'd made earlier. The next window allows you to examine the properties of your image, such as size and available free space. Click next. Now, choose the disk you'd like to restore. The last page of the recovery wizard will give you an option to review all your

proposed changes before it starts destroying data. Click next to begin the restoration process. Hopefully, if everything has gone on well, the progress bar will eventually reach its end, and you can click finish. Exit the Wizard and restart your system. If you have followed the correct procedure, your current system will be replaced with a pristine version that you backed up. **d**



The welcome screen of DBE



Building Recovery Media

Free fonts

1001freefonts.com, dafont.com and urbanfonts.com are some of the many sites that offer you free fonts

PC becoming slow

If you are experiencing a drop in your PC performance, it could be due to the number of fonts installed

Make your own font (And more!)

Rasagy Sharma

readersletters@thinkdigit.com

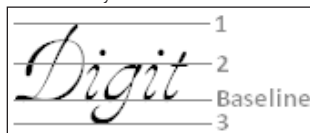
Have you ever wanted to make text appear just like your own handwriting, but never found a font that could do the trick? Is a little personalisation all you need to complete that card you just designed, but all the handwriting fonts seemed too common to use? Here's how to get your own handwriting font using



The template used to create the font

First, head on to the web site (www.fontcapture.com), click on "Create your font now" and download the font template available as a PDF file. Print this sheet and write on it with your handwriting as directed and then scan the sheet (use 200 dpi or higher). Save it as a JPEG or PNG file and upload

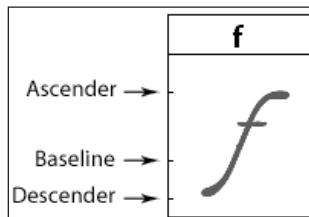
it on the web site. Name the font to identify it. You can then download your own font!



Understanding parts of a font

The quality of the font depends upon how you fill the template sheet, so we should keep a few things in mind. In any piece of text (say "Digit"), the baseline is the imaginary line on which all the letters sit. The uppercase letters fit between baseline and (1) – which gives us the cap height, whereas most of the lowercase letters are between baseline and (2) – which gives us the x-height. A few characters have ascender and / or descender (like 'd' and 'g' respectively), which may cross the x-height.

The template has small guide marks to roughly giving you an idea about how high the ascender can reach, the baseline, and how low the



Using markings in the template

descender can reach. Try and keep the letters inside the top and bottom lines to prevent them from being cut off.



How x-height and baseline affect fonts

What makes a font look different from another is how the x-height and cap height are varied. As evident in the above example, the non-uniform baseline and varied x-height makes the font look more like rough handwriting, whereas uniform baseline and nearly similar ascenders and x-height will give the font a smooth, pleasant feel. Also, for making your font legible, use a black marker / gel pen and avoid using very thin strokes throughout the font, though a few elegant fonts do have varying the stroke thickness.

After a few tries, you'll be able to get a font that nearly looks like something you've written on paper. But that isn't all you do with FontCapture. It can represent alphabets using anything that you fill in the template sheet, which means you can creatively use a few characters that you don't use often to represent some special symbols. In fact, you can use your own symbols to represent



What you can make using Font Capture (Symbols/Emoticons)



What you can't do with FontCapture (Overlapping/running hand/cursive handwriting)

letters and send across coded messages!

One of the main limitations of FontCapture is the lack of space: you can't add fancy frills to a character because the template has a small fixed space for each one of them. Getting a running handwriting font takes a while to master, for which you must start and end the characters at same height. Also, you can't have overlapping characters or even simple cursive characters which might extend into another character's area, which doesn't leave much room for creativity. But you can still come up with many interesting fonts. Possibilities are endless! **d**



Realize your true fitment

Not just Match Making

A problem solving approach towards building high performance teams

At CareerNet, we deliver rewarding career navigation & advice to professionals through an integrated ecosystem of opportunity landscaping, personalized career counseling and smart employment opportunities. We have redefined "discovering right jobs" for high quality professionals across campuses to the board rooms. With our in-depth expertise across various verticals, we have emerged as the "distinctive partner" for leading global firms to assist them in building their dream teams.

Send your latest resume to resume@careernet.co.in

RPO | Executive Search | University Hiring | Bespoke Hiring Solutions | Consulting



Visit us at www.careernet.co.in

Free Windows

Microsoft will give away free copies of Windows 7 to chosen people in the US, during the launch parties between October 22-29

A phone with XPerience

The xPhone is a fully-featured, sliding QWERTY cellphone with Windows XP as its operating system!

DIY



Making Windows XP look and feel like Windows 7

Want to enjoy the most talked about features of Windows 7, but don't want to shift from good old Windows XP? It's time to get the best of both worlds, in only 30 minutes flat!

Rasagy Sharma

readersletters@thinkdigit.com

Even though many XP users are still reluctant to make the switch to Windows 7, several new features and innovative UI modifications make it nearly impossible to resist. For all those who still don't want to leave their good old XP (and don't want to install all their applications all over again) there are plenty of 3rd party software to get the best features of Windows 7 in Windows XP. In fact, it won't take more than 30 minutes to get most of them up & running on your XP machine!

Before you get started, create a system restore point, just in case some application starts acting a little funny. For this, go to Start > All Programs > Accessories > System Tools > System Restore to create one.

[00.00] Adding the superbar

The Superbar minimises the space taken by each application instance by only displaying the icon of the application and grouping similar instances of an application as one. You can click on the icon to choose the instances you want to open (Just



The new & improved Superbar in Windows 7 (Left), Superbar (with options) in XP using ViGlance

click on the thumbnail to open it).

ViGlance doesn't require an installation. Just run the software (And choose between a few options) and you're done. Right click on any of the notification icons. Check options to select animations and other effects. You can also drag and drop the icons, just like you can in Windows 7. Also, similar to Superbar, you can pin items that might be open so that their link stays on the taskbar, even when they aren't open. Though ViGlance at times doesn't load the thumbnails quickly, it surely de-clutters your taskbar and gives you a much more fun UI!

If you're looking for more flexibility or eye candy, try out any dock software such as RocketDock from <http://rocketdock.com/download>.

[05.00] Adding Task switching Keys

Another feature of the "Superbar" is that it allows you to use combinations such as Windows + [1] to open the first menu on the taskbar and so on. It cycles through all open instances of the particular application if it's already open otherwise starts the application. To get this functionality, just download ActivateByNum and run it. It's a small Autohotkey script (If you use other Autohotkeys, you can just add the script as well).

Caution: One of the problems with running both ActivateByNum and ViGlance together is that ViGlance doesn't change the order of the taskbar items, which means that you must not drag the taskbar items or else ActivateByNum will not be able

to number the applications correctly.

[10.00] Splitting Windows and AeroPeek

With Windows 7 comes a new set of shortcuts to arrange your open windows. You can "snap" open windows to different edges of your screen, which is helpful if you quickly want to divide the screen into two separate halves. This is done with the Windows + Left or Right keys. Pressing Windows + Space bar on the other hand, displays the desktop by making all applications transparent. There are several applications that allow you to get the same functionality in Windows XP, but we'll just look at Windows Split. With its range of options the application is a delight for any power user. Install the software and check the list of Shortcuts available. Also, it allows you to customise each split (Layout Settings) so you can enjoy as much flexibility as you want to. Download this nifty app from <http://www.winsplit-revolution.com/download>

[15.00] Shaking off all inactive windows using AeroShake

Another UI improvement that was seen in Windows 7 is the

SUPERBAR USING VIGLANCE

- Add more functionality to your Taskbar!
Link: <http://www.lee-soft.com/vigance/>
- Another alternative is to go for Windows 7 Superbar by Haran-Hockey. This uses themes to change the behaviour of the Windows Taskbar.
[Windows 7 Superbar: <http://haran-hockey.deviantart.com/art/Windows-7-Superbar-for-XP-104697395>]
- Taskbaric is another small tool that allows you to show open windows as icons on your taskbar, though it lacks other features of Superbar
[Taskbaric: <http://sites.google.com/site/taskbaric/>]

FOR KEYBOARD WARRIORS

Keyboard switching through the taskbar with ActivateByNum

Description: Run ActivateByNum to switch to different application/application instances by using the [Win+num] combination
Link: <http://code.google.com/p/activatebynum/>

Adding customizable Keyboard Shortcuts

Description: Use Autohotkey to write powerful scripts to do nearly anything with your Windows, with just a few key press!
Link: <http://www.autohotkey.com/download/>

Vaio plays spoilt-sport

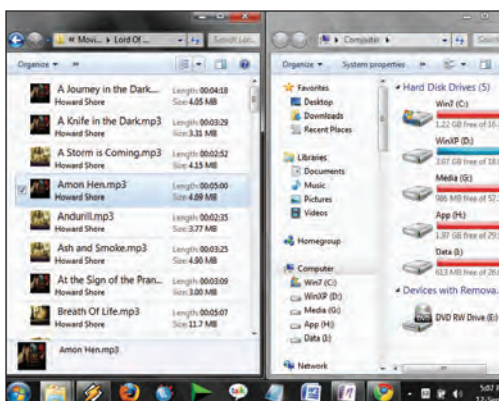
Sony's Vaio laptops will not be able to run Windows 7's "XP mode" because Sony disables the required hardware virtualisation features on its laptops

Microsoft's OEM charge

Microsoft recently revealed that it usually charges around \$50 for a Windows copy for a \$1000-PC built by an OEM



Using the [Win+Right/Left] combination to place application on half the screen.



Use the Windows + Space combination to hide applications and show the desktop



AeroShake feature. What it does is simple: shake the active window (the one you're using) and it hides all other windows. Shake it again and the windows are back to where they were. AeroShake software (Autohotkey script) for XP does the same! Pretty nifty replacement of the Windows + [D] key used to hide all windows, in case you just want to hide other inactive windows. And being another AutoHotKey script, it take very little RAM too. You can also customize a few options to choose number of shakes and behaviour with Extended displays.

[25.00] Skinning your Windows

This is something that need not be covered in detail, as Windows 7 looks pretty similar

to Windows Vista, and there's a plethora of software and themes available to give you a Vista or Windows 7 like looks.

Here are a few of the popular themes, each offering a few special features. There are also a few complete "Transformation Packs", but they're known to have bugs and are at times difficult to get rid of, so you should probably avoid them!

Remember to first patch the uxtheme.dll file before installing these new themes. Download UXTheme Patcher from <http://www.softpedia.com/> (Search for UX Theme, followed by your XP Service pack number).

- Windows 7 Complete by DopeySneezy: A complete theme replacement, with a replacement utility to allow you to backup all the system files you need to change. But

replacing is manual, so a little time consuming. <http://dopeysneezy.deviantart.com/art/Windows-7-Complete-109505907>

- Seven VG Theme by Vishal Gupta: A very popular theme by Vishal Gupta, who also runs a blog with a lot of other tweaks for Windows users (<http://www.askvg.com/>). Different parts of the themes are available as setups, which

make it easier to install.

http://www.deviantart.com/download/106952053/SevenVG_Refresh_with_Superbar_by_Vishal_Gupta.zip

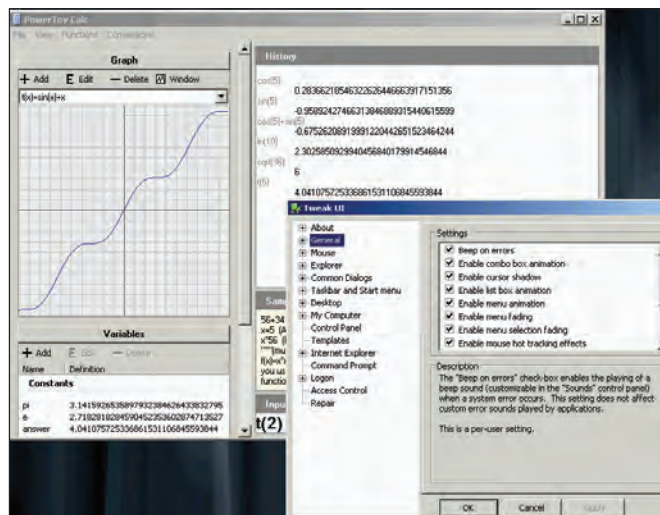
- CAD 2009 EDITION v1.5 by Flawless: For getting the Ctrl+Alt+Del screen in Windows 7 style, download this application. <http://flawless02.deviantart.com/art/CAD-2009-EDITION-v1-5-for-XP-132794740>
- Border Skin by Komalo: This only modifies the borders of the applications to give it an aero look. Though it has a few bugs yet to be fixed, it's surely worth giving a shot! <http://komalo.deviantart.com/art/Border-Skin-Aero-Glass-On-XP-119640021>

PowerToys from Microsoft

TweakUI allows you to change many features that are generally not available to customize in Windows XP. Similarly, there's a Power Calculator for advanced calculations (which beats even the Windows 7 calculator in functionality!).

PowerToys for XP: <http://www.microsoft.com/windowsxp/downloads/powertoys/xppowertoys.mspx>

These were few of the several third-party applications available that bring the best features of Windows 7 to your Windows XP. Choose the ones you need and enjoy the pleasure of Windows 7 while using Windows XP! **[1]**



Using Powertoys like Tweak UI & PowerCalculator to get more out of Windows XP

SHAKE OFF INACTIVE WINDOWS

Use AeroShake to hide all the windows except the one you're using, by merely shaking the titlebar. Shake it again to bring them back to where they all were.

Link: http://cache.gawker.com/assets/images/gawker/2008/11/Aero_Shake_1.3.exe

Microsoft Office 2007

Changing the colour scheme

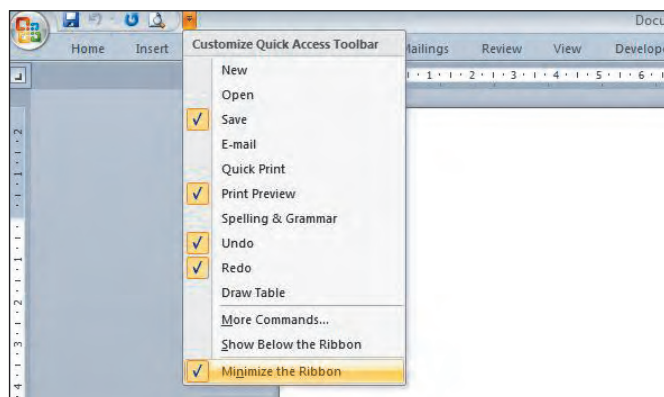
To change the default colour scheme in Office 2007, click on the Office button at the top left. Next, click on options and choose the colour scheme in the customise menu under the Popular tab.

Minimise/Hide the ribbon

To minimise the ribbon, right-click on the Quick Access Toolbar located immediately above or below the ribbon, and click Minimise ribbon. Similarly, to bring it back click on Maximise ribbon.

Quick access toolbar

To add more features, right-click on the toolbar and select Customize the Quick Access Toolbar and choose



The Ribbon is strictly an option

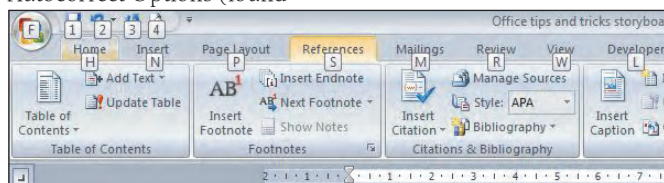
from a long list of functions in Word/Excel/PowerPoint options.

KeyTips

Within any Office application, press [Alt] to highlight all keyboard shortcuts.

Smart tags

To enable smart tags, go to Paste smart tag in action Autocorrect Options (found



Keyboard shortcuts need not be known by third



Getting around In	
Microsoft Office 2007.....	73
Essential software.....	76
Ultra Explorer.....	77
YouTube.....	80

UltraExplorer.....	82
Evernote.....	82
Google Cheat sheet.....	84
Working with Sub-titles.....	86
Windows 7.....	88

in the tools toolbar/ribbon space, or on right clicking a red underlined entry in your workspace). You will now

a clipboard after pasting text/ options anywhere, this tag allows options such as 'keep source formatting' and 'match destination formatting'.

- The Bullets, numbering and list smart tag: This appears when you start a list / numbered list and Word/Excel automatically formats it. It allows for various options such as numbering and spacing.

- Error checking

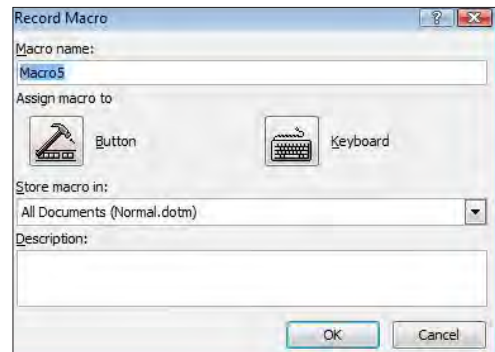
tags: Appearing in Excel when a cell encounters a wrong formula / function, this tag allows you to change the properties of the cell and the rules that govern the formulas.

- Other Miscellaneous smart tags: Smart tags appear at various other occasions. For example, when you type a name that is part of your outlook contacts list, a smart tag appears that allows you to quickly insert his address, other details, schedule a meeting or create a mailing list. Microsoft has also created an API (Application Programming Interface) for developers to create more Smart Tags. To find these, go to the More Smart Tags option in the Autocorrect Options.

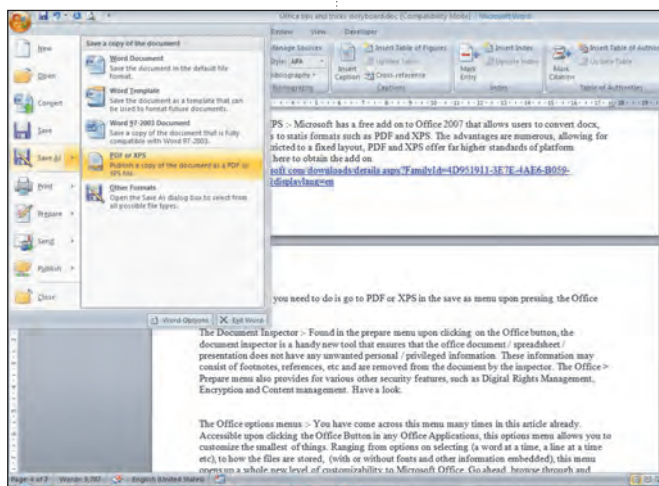
Create PDF and XPS

Go to tinyurl.com/ttoff and download the executable file.

Once installed, you can save your files as PDF or XPS by clicking Save as.



Powerful options in customisation are provided through macros



With Office 2007, you can save your documents as PDF and XPS files

Macros

Regular Office users are familiar with macros. These are nothing but automation of repetitive tasks.

Click on the record macro button in the 'code' toolbox of the Developer tab. Next, assign a name for your macro. If you'll need this macro often, you can add it to the Quick Access Toolbar. To do this, check the button in the 'Assign macro to' option. Similarly, you can assign keyboard shortcuts by clicking on Keyboard.

After clicking OK on the pop ups, the macro starts recording automatically.

You can perform your required operations such as inserting a table to a specific format or performing spell check. Only keystrokes and mouse clicks are recorded. Text that you type in the workspace aren't recorded while recording a macro.

Document inspector

Click on the Office button and then select the prepare menu. The document inspector is a handy new tool that ensures that the office document / spreadsheet / presentation does not have any unwanted personal / privileged information such as footnotes and references. The Prepare menu also provides for various other security features such as digital rights management, encryption and content management.

Shortcuts

There are some useful keyboard shortcuts that you can use in Office 2007.

- [Ctrl]+[1]-Single-space all the lines in selection
- [Ctrl]+[2]-Double-space all the lines in selection
- [Ctrl]+[5]-1.5-space all the lines in selection
- [Ctrl]+Space-Toggle AutoCorrect
- [Ctrl]+[Del]-Delete the word to the right of the cursor
- [Ctrl]+Backspace-Delete the word to the left of the cursor
- [Ctrl]+[Shift]+[8]-Toggle hidden characters that

mark spaces, carriage returns, etc.

[F7]-Run a spell check
[Shift]+[F7]-Use the Thesaurus.

Word 2007

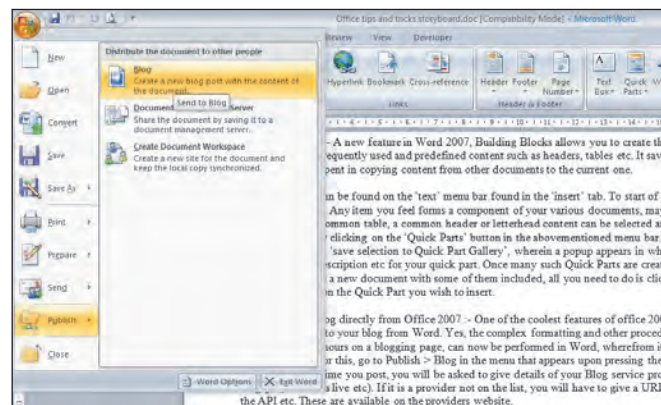
Styles

Instead of manually formatting each line in Word, you can use styles. The advantages are numerous. Recognising each line for what it stands for in the document (heading, subheading, etc), and utilising the styles option allows you to

headings of different formatting selectively included. What is more, Word 2007 comes with Quick Style sets, found on the styles toolbar again, which makes adopting styles to your document even easier.

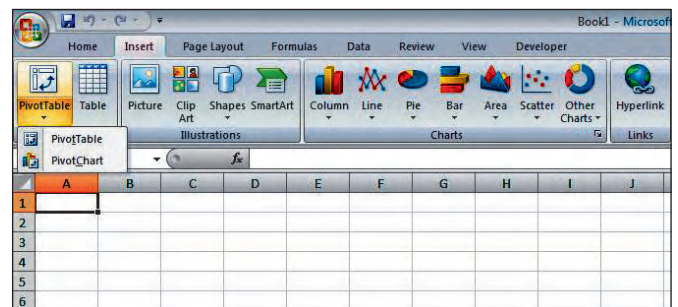
Building blocks

By using building blocks, you can create the bulk of a document using frequently used and predefined content such as headers and tables. This way, you can save time by copying content from other documents.



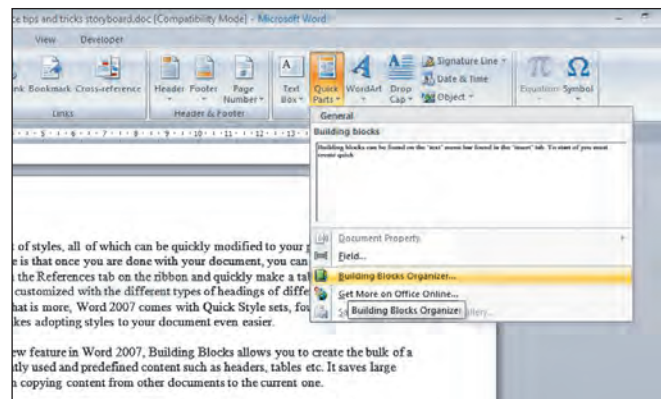
Publish to your blog directly from Office 2007

quickly change the formatting for a specific group of lines (eg. increase subheading sizes by 1 point). Word comes with a default set of styles, all of which can be quickly modified to your preference. Another advantage of this feature is that once you are done with your document, you can go to the Table of contents menu, found in the References tab on the ribbon and quickly make a table of contents. The table of contents can be customised with



Complex data analysis is simple with Pivot tables

To access building blocks, select the 'text' menu bar in the



Creating a document is as simple as dragging and dropping components

'insert' tab. First, you need to create quick parts. This could be a logo, table or header. In the menu that pops up, click 'save selection to Quick Part Gallery', and then add a name and description. Once you are done, all you need to do is click on the Quick Part you wish to insert.

Blogging

Yes, the complex formatting that would often take hours on a blogging page, can now be performed in Word posted directly. Click on the Office button and go to Publish > Blog. On your first post, you will have to select your service provider such as blogger or Windows Live. If your provider is not on the list, enter the URL, and details of the API.

Excel 2007

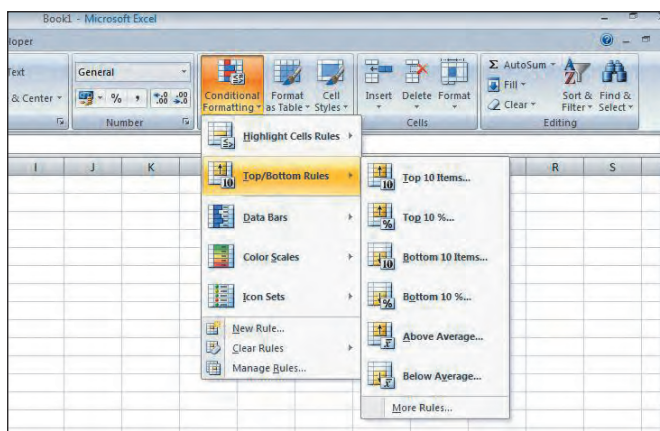
Pivot table and charts

A Pivot table automatically extracts meaningful information from the data within it. For example, the maximum and minimum values in each row/ column, average, etc.

After you have entered your data fields, for example, a list of salesmen and their respective sales, select the data and go to the Insert tab and select Tables and click on PivotTable. In the pop-up window, choose the base data for your pivot table.

Conditional formatting

In the Home tab, click on the conditional formatting button in the Styles menu bar. Here, you have various options such as greater than / less than, top 10 and top 10 percentage. You can also choose highlighting depending upon the range of



What took many lines of formulae earlier is now confined to a button

values in the cell.

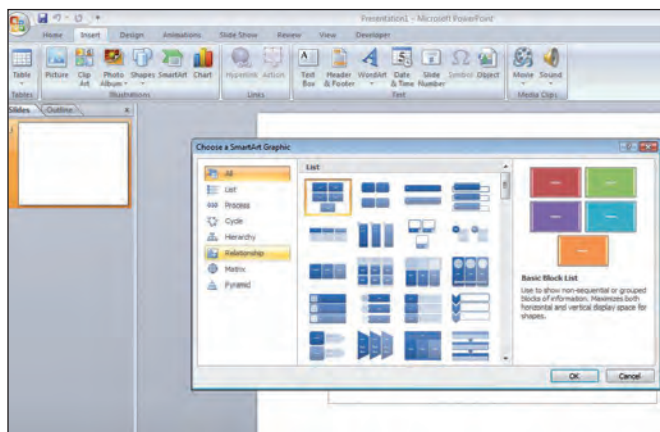
Charts

Create a chart as before, by going to the **Insert > Charts** Menu bar. Now, on the chart that you have created, add trend lines by right-clicking on the line and clicking add trendlines. You may further right-click the trendlines and choose to format them, as you can do with the axes. To format the chart area or vary shading and scales, right-click the chart.

PowerPoint 2007

SmartArt Graphics

To see how this works, go to the SmartArt Button found in the **Illustrations** menu bar in the **Insert** tab. You

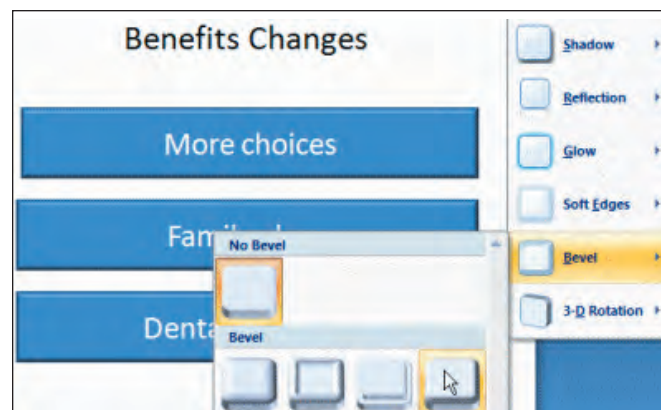


With SmartArt, illustrations finally got smart

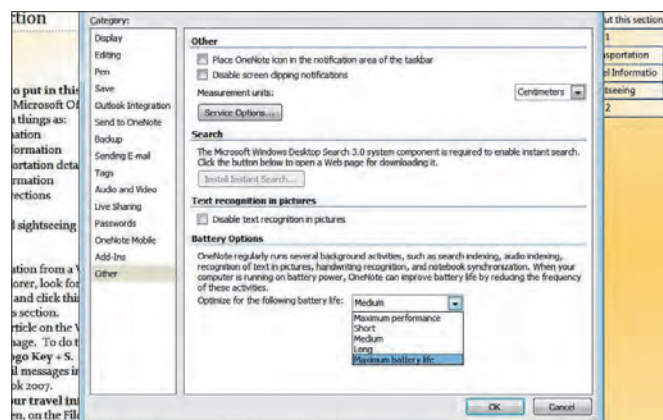
have a wide range of options from cycles to hierarchies to processes that you can add to your document. Once you select any object, an outline art is added to your presentation.

Advanced effects

Effects such as bevelling a surface, which required a separate designer in previous



Some effects that would take a professional designer earlier can now be done in PowerPoint with a few clicks



A few clicks can extend your battery life

especially in the emphasize category. To view these, go to **Animations > Animations > Custom Animation > Add Effects > Emphasize**. You can select options such as glow

and go to the **Monitors** menu bar in the **Slide Show** tab on the ribbon. Select the **Use presenter view** option. Go ahead, fool around and master the art of real time presentations.

Miscellaneous Office 2007 applications

Optimising to save Power

If you're using a laptop or a tablet PC and would like to optimise your power consumption, go to **Tools > Options**. In the **Others** tab, select the appropriate level of performance/battery life.

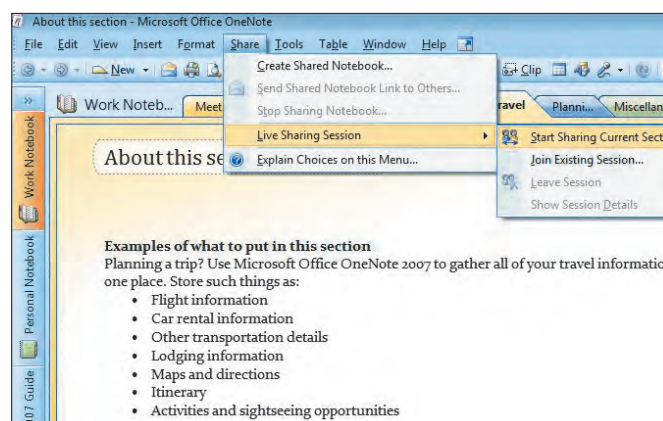
Shared Notebook With OneNote 2007

OneNote is Microsoft's way of collaboration. To enable this feature, go to **Share > Live Sharing session**. You may choose to host or join an already hosted notebook. In the earlier case, you will have to specify the password to your notebook while in the latter

in and lightbulb which were unavailable in previous versions of Office.

Presenter view

To utilise this option, plug in an extra monitor to your computer



Collaborate with Microsoft Office 2007

case, you will have to enter the IP address/URL of the other notebook too. Once joined, OneNote synchs the notebook being used by the host to all the connected computers, after which modifications made anywhere are made dynamically viewable to all users.

Speeding up picture manager

In Windows XP, go to `c:\Documents and settings\<username>\local settings\application data\Microsoft\OIS`. Open `oiscatalog.cag` using a text editor such as Notepad and delete any line pointing to a remote location.

Vista users, go to `C:\Users\<yourusername>\AppData\Local\Microsoft\OIS`.

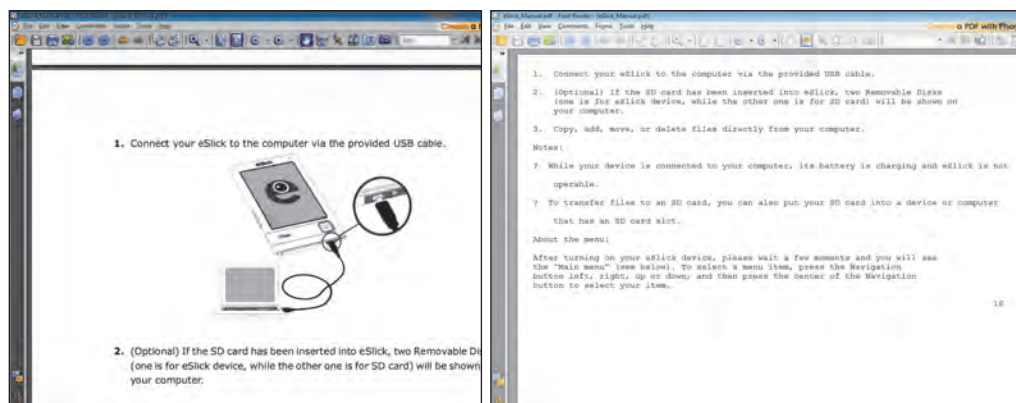
Your Office Picture Manager should now start in a jiffy.

Essential Software

Tips for some of the software we provide on our DVD, in the Essentials section.

Foxit Reader

Foxit Reader is a free, light weight and feature-rich substitute for Adobe Reader. It may not have In addition to typical PDF readers, features such as adding notes and creating links within a PDF document are also available. If you are unable to download, you can also find it on this month's Digit DVD.



Switch between a rich format with images to a plain unformatted text

Removing the Ad bar

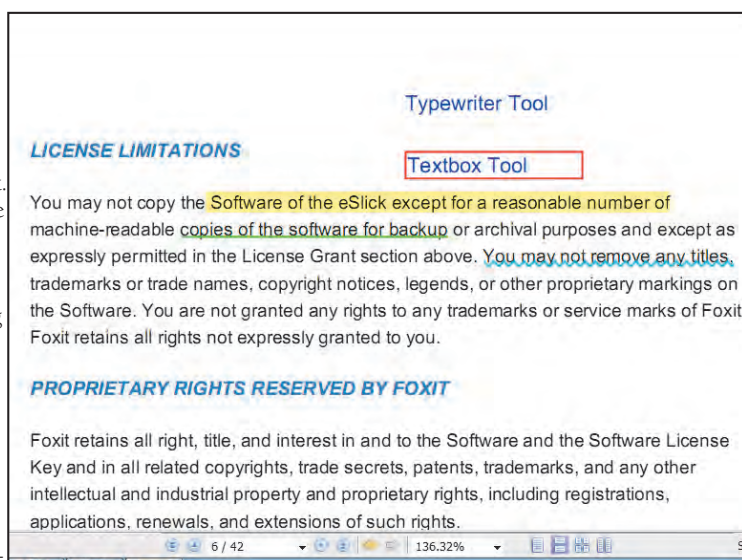
You can disable the Ad bar that appears on the upper right corner by right-clicking on any Tool Bar and uncheck Advertisement. This option is not accessible through the menu bar.

Extracting Text

With Foxit Reader, extracting text is much easier. Click on the Text Viewer icon (a pair of glasses on a paper) or use the keyboard shortcut [Alt] + [9]. This removes all images and formatting from the PDF. You can now read your PDF in plain text and even copy text [Ctrl] + [C] from here. To revert back to normal mode, press [Alt] + [9].

Taking a Snapshot

Foxit's snapshot utility is as effective as the Text viewer. To activate the Marquee select tool,

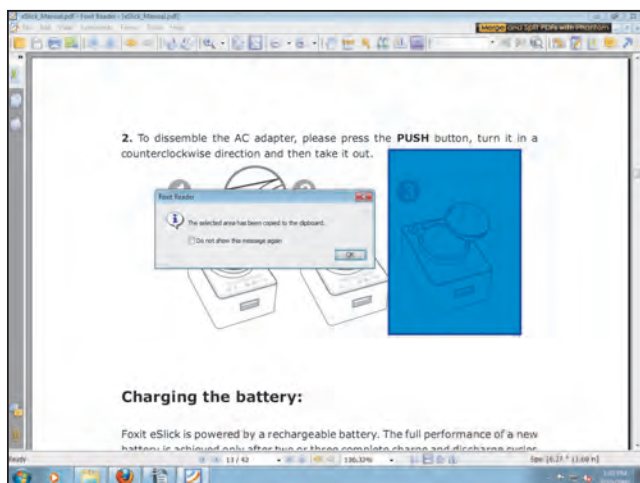


The different text editing tools present in Foxit Reader

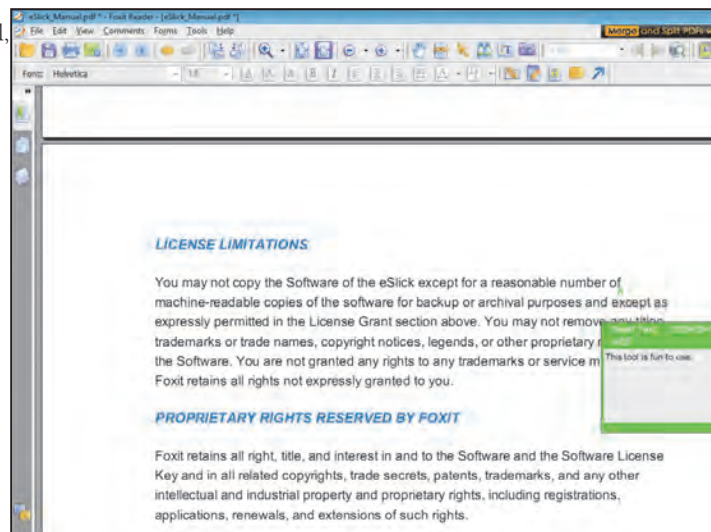
press [Alt] + [7]. Click and drag the mouse to select the area you want to copy it to the clipboard.

Adding text to the document

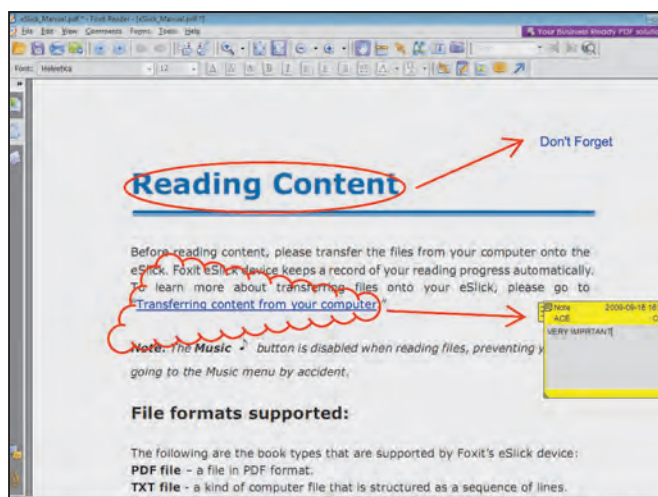
After extracting text and



Take screenshots within Foxit itself



Add text to a particular place in the file



Use different shapes to help you along your work

images, Foxit also lets you to add text notes. To add text go to Comments on the menu bar and then click on the Insert Text tool. Double-click on the caret to type additional text.

You can also add floating text, with or without a border. To do this, go to Comments > Typewriter Tools and click on Typewriter Tool for text without a border. Use the Textbox Tool for adding text with a border.

Highlighting text

To highlight text in Foxit, use the Highlighting tool in Favorite Tools or select the Highlight Text Tool from the Comments menu bar. Click and drag the text you want to highlight. If you repeatedly highlight the same text, the colour of the highlight intensifies.

If you don't want to highlight, or want to highlight something and want a different type of marking system, use the Underline text tool or the Squiggly Text Tool. These are also located in the Comments menu bar.

Adding Notes

You can add notes around the document using the Note Tool. Unlike the text tool, notes can be moved around and their colour can also be changed.

Markup Tools

If you need added emphasis on a particular

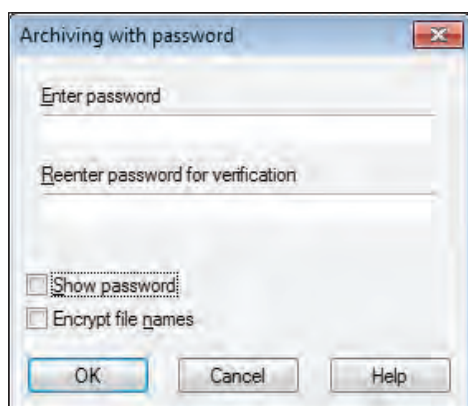
point, you can insert objects such as arrows to your text. You will find these in the Drawing Markup Tools under the Comments menu bar. The tools range from lines, arrows, different geometric shapes to a very variable cloud tool that changes shape with each click. Try them out, you might find it quite fun to use. You also have an eraser tool, so that you can erase the parts you don't need.

WinRAR 3.80

WinRAR, also a regular of our DVD essentials, is a much used tool by one and all for archiving data and also as data compression utility.

Adding Password

To password-protect your files, right-click on your file selection and select the option Add to archive. Navigate to the Advanced tab and click on



Secure your archive by adding a password

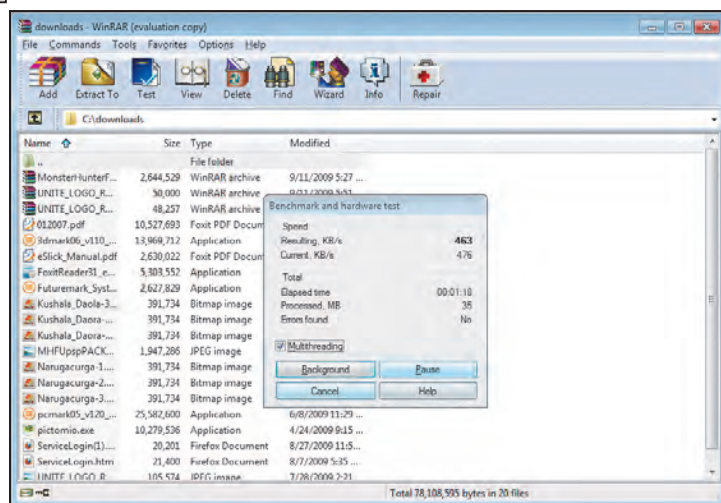
Set Password. Here you will be asked to enter the desired password twice. You also have the option to encrypt the file names for security or personal reasons. Click OK to create the archive. You will need to enter a password to open individual files.

Creating a self extracting archive

To create a self extracting (SFX) archive, or one that is automatically extracted to a folder, select the option Create SFX archive and click on OK. When you try to open this file,



Create an SFX archive for your data



View your CPU performance with the WinRAR benchmark utility

instead of showing you the data, it will directly ask you for the path so that it can extract the files there. Also the archive will have a slightly different icon and will have an EXE extension instead of the default rar.

Similarly, to convert an existing RAR archive into an SFX archive, go to Tools > Convert archive to SFX in the menu bar. Click on OK at the next dialogue box and your SFX archive is ready.

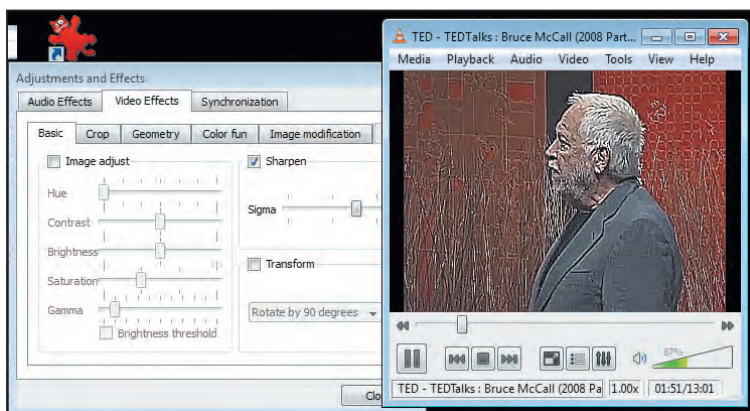
Splitting files

To split a file, first add your file selection to an archive. Select the option Split to volumes, bytes and enter the desired individual file size, and click OK. This will start the archiving and splitting

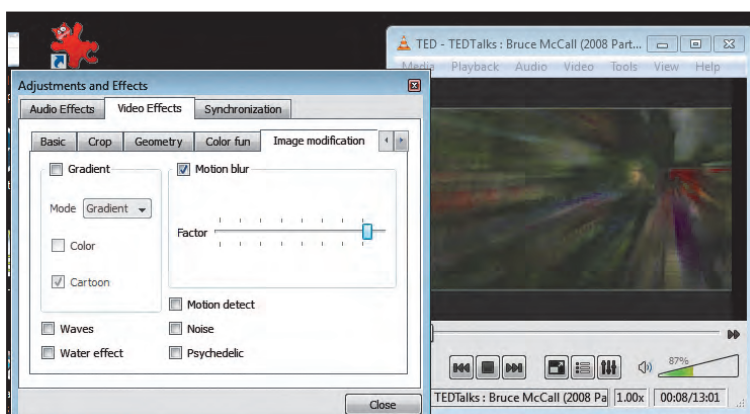
process. Make sure that you have done the right calculation for bytes or else you will end with many small split up files. To open the archived file, just click on the first part of the file and extract it.

Benchmarking your processor

For those of you who follow our comparison tests, you would have noticed that we log the scores of the WinRAR benchmark as well. This WinRAR benchmark allows you to measure the performance of how well your CPU compresses and decompresses data in kbps. To use this yourself, just go to Tools > Benchmark and hardware test and view the results. You can compare these results to the results we obtain to check how well your system is performing.



Magnify or zoom on to a particular part of the video



You can either sharpen or the blur the video with these settings

Cropping a video

There are two ways to crop a video in VLC. You can either use preset crops based on aspect ratio, or go to **Video > Crop** from the menu bar and select the one you want to use. To precisely crop your video, open the **Effects and Filters** menu. Select the **Video Effects** tab and then select the

between Quarter, Half, Original and Double. By default, the video is set at original. If you want to zoom in on a specific part of a video, then it's back to the **Video Effects** tab in the **Effects and Filters** settings. Once there click on the **Geometry** tab and put a check on **Magnify/Zoom**. When you enable that option, you will see a small box, similar to a picture in picture box, visible on the VLC player's screen. If you click

VLC 1.0.1

VideoLan player is another tool on our DVD essentials and is a convenient video playback software. The latest version is 1.0.1.

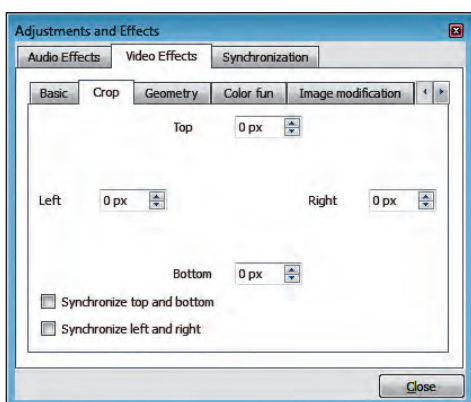
Video adjustments

With VLC, you can adjust hue, saturation, brightness, gamma values of a video especially if it is poorly shot. Go to **Tools > Effects and Filters** from the menu bar and navigate to the **Basics** tab under the **Video Effects** and check **Image Adjust**. This unlocks the scroll options to change the settings. Now use the scroll bar to change the colour settings.

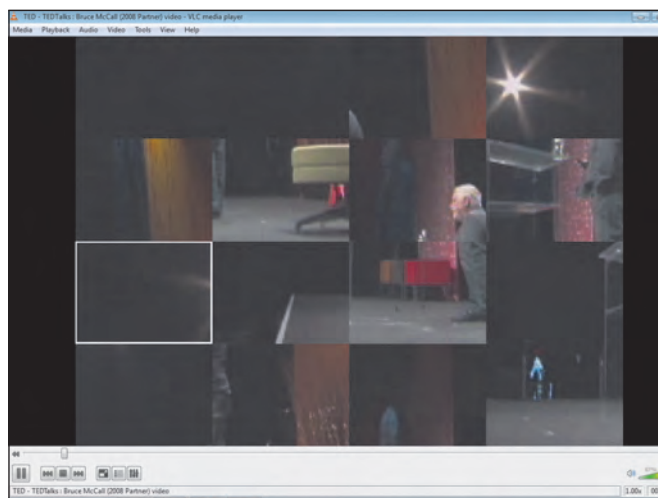
Under the same settings menu, you can adjust the video sharpness. Check **Sharpen** and you

can adjust **Sigma** levels if you think the video is blurry.

Similarly, you can also add blur to your video. Go to **Video Effects** and click on the **Image Modification** tab. Here, not only can you add blur, but also effects such as gradients, waves and water effects. Just click on the option you want to try and the video changes simultaneously. You can also add noise to the video from this settings window.



Create precision crops using VLC and watch the changes simultaneously



Move the blocks to solve the puzzle

Crop tab. Here, you can crop the video based on pixels and individually crop off parts of the top, bottom, left and right in real time.

Zoom and Magnify

Similar to Cropping, the zoom function also has two modes that you can use. The first way is to go to **Video > Zoom** from the menu bar and select

and drag that small box, the video will focus on that part of the video. To magnify, just increase or decrease the **Zoom** bar, located below the **Magnify** box. This is useful if you want to **Magnify** or **Zoom** in on a particular area within a video, which could be a painting or a person.

Play a puzzle

You can convert any video clip into an interactive puzzle. VLC changes your video into blocks and shuffles them around, while you need to join the pieces together to get the video back to its original format. Open the Video Effects tab and go to Geometry. Put a check on Puzzle game, and start playing.

Creating a video wallpaper

VLC has the feature to use the DirectX capabilities of your graphics solution and use it as a video output mode. First, get rid of your existing wallpaper. Go to Tools > Preferences from the menu bar and click on Video on the left. Select DirectX Video Output from the drop down list displayed next to Output and click on Save. Now start up a video and go to Video on the menu bar and click on DirectX Wallpaper.

IrfanView

The next essential software we are going to give you tips and tricks about is IrfanView, one of the most simplest and fastest image explorers available. We're not going to tell you about the basics that are possible with IrfanView, but instead we're going to tell you about some things you could do with IrfanView, that you ordinarily wouldn't use a software like IrfanView for.

RIOTing with IrfanView

RIOT stands for Radical Image Optimisation Tool and is a very useful plug-in for IrfanView. With this plug-in you can optimise images for the web. Basically, when you save an image, you can choose saving options and also the file size. Go to <http://www.irfanview.com/>

`plugins.htm` and download `iv_formats.zip` that contains the RIOT plug-in. Once installed, modify the images you plan to use for the web. Click on the Save for

Web option under File in the menu bar.

Next, select between JPEG, GIF and PNG. Under JPEG, you can use the quality slider to increase or decrease the quality of the image. Under GIF, you can adjust the slider to change the colours from 2 to 256 colours and you also have the option to save it as an interlaced image. With PNG, there are no sliders to adjust, but you can change the Colour reduction by selecting it from the drop down.

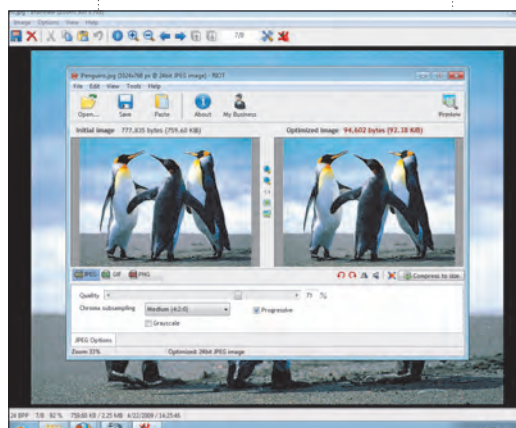
With JPEG and GIF images, you have the option to compress the image you are about to save. For this, click on the Compress to size button towards the right side of the window. Input the value of the size you want (in kB) and click on OK. RIOT automatically makes changes to the quality for JPEG, and colours for GIF and will give you an outcome with the

desired size.

There are two viewing panes, one displays the original image, while the other displays the optimised image. The area between the two holds buttons



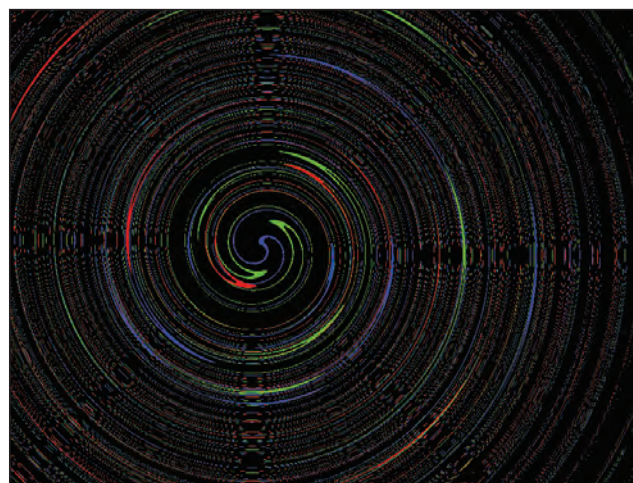
The paint dialog most of us are familiar with



The RIOT interface when you click on Save for Web



The pattern made with the Emboss tool in IrfanView



Create really funky designs with the Swirl effect

for zoom, actual view, fit to window and in-place compare.

Abstract patterns

You can create abstract patterns or images by using various filters in IrfanView. You can either use an existing image or create a new one. Go to Edit > Show Paint dialog from the menu bar to see IrfanView's paint tools.

Create a new image by pressing [Ctrl] + [N]. Select the Rectangle Tool and set the foreground colour to white. Set the pixel width to about 5 pixels. Next randomly create rectangles of different shapes around your canvas. After that apply the Emboss filter by going to Image >

Effects > Emboss. Now use the Sharpen filter. To do this, just press Shift + [S] a number of times till you see a pattern form. Next for a bit of finishing, you can go to Image > Effects > Oil Paint to smoothen out the edges.

You can try different filter combinations or colours and create these abstract patterns of your own.

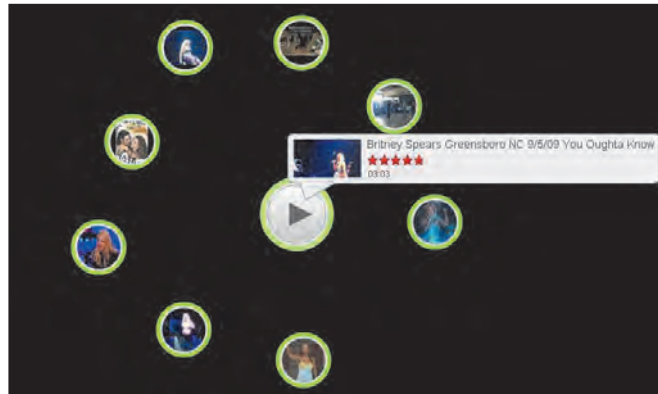
Two other effect filters we are fond of are the Twirl and Swirl effects. We've found an interesting way to use these with a similar method as mentioned above. Instead of using a single white colour, use different colours for different rectangles and fill the canvas. Next, go to Images > Effects > Effect Browser and select Swirl or Twirl, and your artwork is ready!

YouTube

Here's a quick list of tricks that could jazz up your YouTube experience.

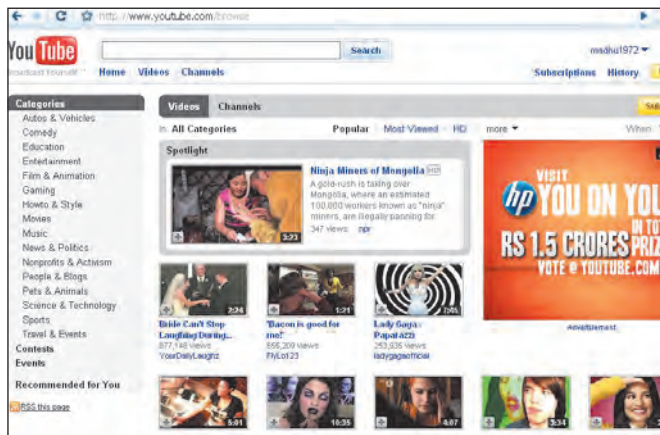
Warp

If you're tired of seeing all linear frames, here's a cool trick called Webview – or 'Warp Speed' - to get you literally bouncing. Go to http://www.youtube.com/warp_speed and click on any of the video thumbnails you see. The page now occupies the full screen and all the video links



Satellite videos

Those that are available would usually carry the HD option button under the video screen anyway. If the button is coloured red, you're already watching HD. Alternatively, you could add &fmt=22 to the URL for the HD view. This increases the resolution to 1280x720, H.264 video @ 1024Kbps; audio @ 44.1KHz, 232 kbps stereo. Do any of these and the display will switch to a wider screen, better resolution (true 720p high definition) and crisper sound. If



Thumbnails are for the squares

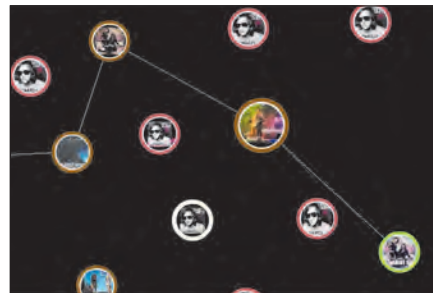
turn into floating balls, hovering over a dark background.

Move the mouse to hover the cursor over a particular circle and other related videos burst out for your reference, with the first one in the centre. Besides, a tag appears too – this time in a speech balloon – to show you what the video is all about. Click on any one of them for the video player to appear and watch your favourite video in a new mode. Similar videos

are colour coded – the circles around them are of the same colour – and every time you click on a different kind of video, a dot of the same colour appears on the top left corner of the screen. Videos you have watched are connected by lines as a quick review of your viewing history.

High quality videos

To watch videos in high quality modem either click on the 'HQ' button under the video you're



Played videos are linked

watching, or add &fmt=18 to the URL in the address bar above. This increases the resolution to 480x360, H.264 video @ 512Kbps; audio @ 44.1 KHz, 128 kbps stereo. The resolution, however, is 480p or less. Although HQ is not the same as HD (High Definition), the new HQ feature allows you to view any video at optimal quality if you just change the settings. Click on 'Accounts' in the drop-down menu under your User ID (top-right of the screen). Click on Playback Setup and choose the option which says I have a fast connection. Always play higher-quality video when it's available'.

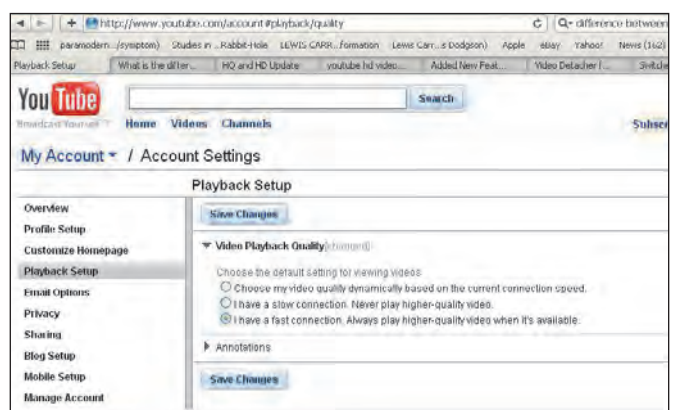
you want to watch only those videos uploaded in HD, the new interface makes it even easier now. Just click on the Videos link on the top left of the YouTube home page, and then click on the link which says HD in the top centre of the page. This will open a grid view of all the popular HD quality videos available for view.

Making your YouTube channel look great

If you have a YouTube channel, you can spice it up with a few steps. After signing in to your YouTube account, click on Account > My Account > My Channel > Channel Design.



Get your hyperlinks to fly



Change Playback settings to HD

This opens the **Edit Your Channel** page.

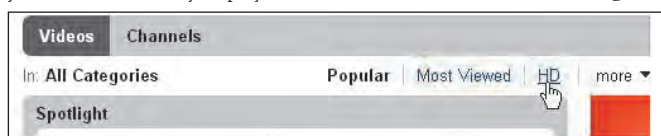
Click on **Themes** and **Colors** and choose from any of the preset themes provided above. Click on the new theme link, give your new theme a name, click on the **Choose File** button for **Background Image**, upload a picture from your computer and **Save Changes**. Bingo, you've got a new background.

Video annotations

You can now add comments to your videos. When you play

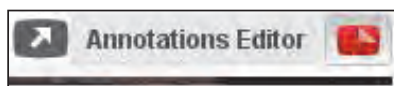
speech bubble (a comic book-style text bubble), a note (a text-box) or a spotlight (a highlighted area which displays text when the mouse hovers over it) to the video.

You could choose to seek and freeze the frame you want to attach the annotation to before you use the editor. Once you click on one of the buttons, the annotator toolbar appears in the middle of the screen with more options. You could type in the text you want to add, edit or delete earlier annotations, add an annotation link or change its



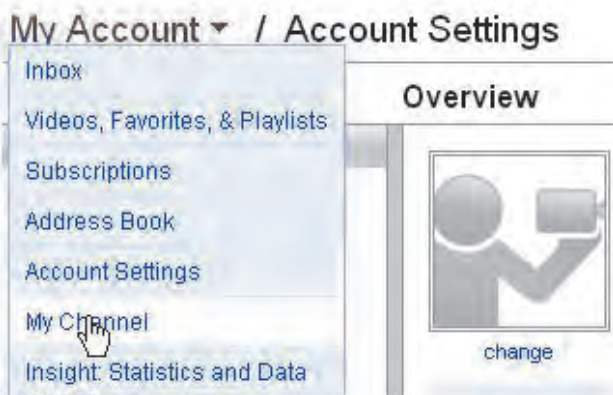
For HD videos only

one of your videos, you'll see the **Annotations Editor** button above the video player. The + button that appears on the bottom-left of the screen gives you three options of adding a

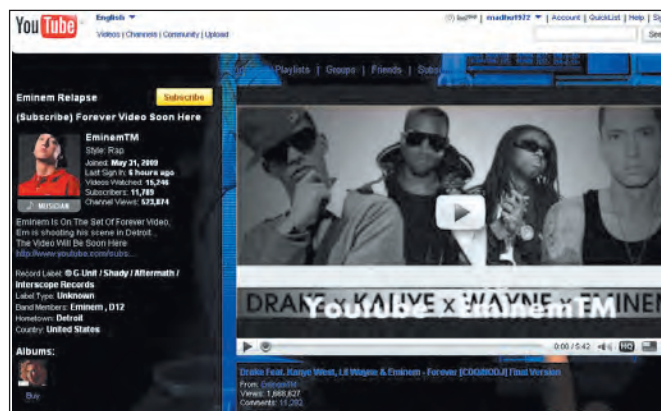


Add or edit comments using this

colour. You can drag or resize



How to get to your channel



Personalize your channel with your own wallpapers.

CHANGE THE BACKGROUND

Try <http://backgroundtube.com/> which lets you download images from a whole range of theme categories from 'Abstract' to 'Sports'. Upload the picture to your channel and don't forget to change the colour coding according to parameters provided by the web site.

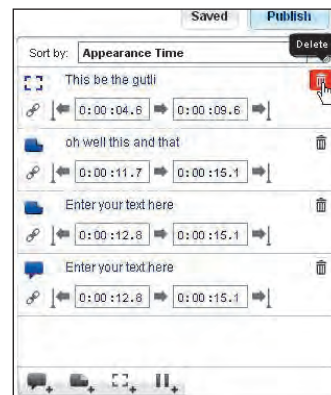
text boxes to different locations with the click-and-drag action of the mouse.

You could change the time and duration of every tag. By default, every tag appears at the point in time that you attach it and then hangs around for 5 seconds before disappearing. You could change this by feeding in the start and end times in the **H:MM:SS.ss** format (Hour:Minutes:Seconds:Milliseconds) to make it visible for as long as you want.

Annotations, by default, pop up once they're published. The **Menu** button at the bottom of the video player could be used to turn them off. You could click through **Account > MyAccount > Playback Setup > Annotations** and uncheck the box which says **Show annotations**.

You could delete all the annotations by simply clicking on the **delete** button in the pane on the side of your video player when you view it in **My Account > Annotations** and then **Publish** the changes you have made.

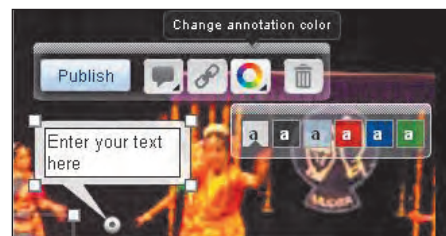
Sometimes annotations can interfere with your viewing even when you're watching someone else's videos embedded on other sites. A simple way to disable these is to append the code `&iv_load_policy=3` to the video's embed code.



Deleting an annotation is easy

Active sharing

A great way to let friends, contacts and other YouTube members know what you've been watching is by enabling the **Active Sharing** feature



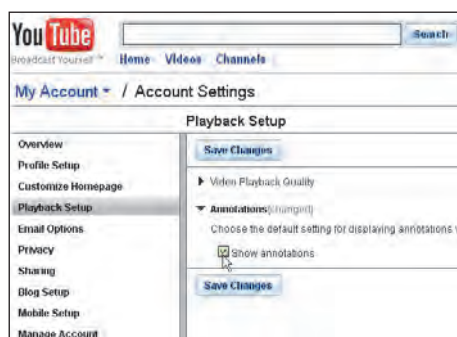
The tools for annotations are centered for convenience

which you can do by changing settings in your account. Just click on the **History** button on the top right of the YouTube homepage and click the **Start Active Sharing** button at the



Share your video viewing habits with **Active Sharing**

bottom right of your screen.



Block annotations by unchecking the box

This will now allow people to see your **User ID** next to the video you're watching in real time – and about twenty-five other people who may be watching the video simultaneously. Your viewing history of the last half hour will also be a part of your **Channel** page.

Ultra Explorer

Although Windows Explorer manages your files to an adequate level, other tools give you added functionality and a higher level of operability. One such software is UltraExplorer.

• Installation

UltraExplorer is available as a free download and is light on resources.

• Functionality

Ultra Explorer's functionality is similar to the usual Explorer. You have the usual options to navigate one level up, go back or move forward. The bar at the bottom gives you the file count, size and other details.

• Navigation

Double-click anywhere to go one level up. The Folder window on the left is similar to Windows Explorer.

UltraExplorer also has multi-tabbed browsing. To do this, go to **File > New Tab** or use the keyboard shortcut [Ctrl] + [T].

• List/View window

To enable this, go to **View > Windows > List View Window**. This helps you see the changes you are making within the destination window from the source window (eg. a move operation). You can now keep tab on both.

• Favourites window

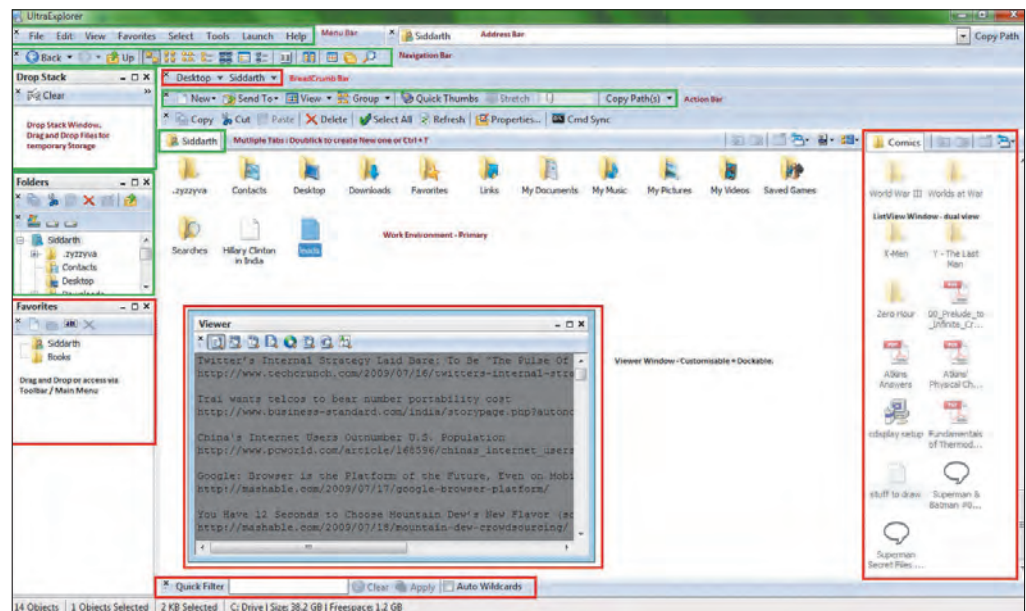
There's also a Favourites window that you need to enable in a way similar to the List/view window. You can drag and drop the most commonly used programs or folders into the side dock.

• Indexing service

Using UltraExplorer's indexing service, you can create real-time filters. The Filter Window (**View > Windows > Filter Window**) allows you to create, filter in and filter out (filter all similar matches out of the list) search options. It's fully customisable with extensions (eg. MP3, TXT) and wildcard options. If you want to search for a file that starts with A and ends with T and is a JPEG, you can run a search for `a*t.*.jpeg`. For one character, use `?`, while `*` is the wildcard for multiple characters, or view only folders.

• Drag and drop search

UltraExplorer seems quite



Some of the features seen need to be enabled.

pleased with the drag and drop option. If you want to sort out only MP3 files, and you're too bored to create new filter or type in `*.mp3`, simply drag an MP3 file on to your Filter Window and UltraExplorer will do the rest.

• DropStack window

If you're transferring files from multiple locations and the destination is the same, you would have to open all the windows, either laboriously drag and drop each one, or Cut and Paste. The DropStack serves as a temporary location for all your file operations. Drag files on to the drop stack and then you can batch process operations on them. The scope for utility is excellent

(zipping together files in different regions, batch conversions and mass transfers are typical examples).

• Viewer window

The Viewer window lets you preview the file before opening. This is extremely useful for small text, binary, HTML or media files. It opens pictures, text files, PDFs, MP3s and AVI files.

• Quick filter bar

To activate the quick filter bar, go to **View > Toolbars > Quick**

Filter. It's simpler and more utilitarian when compared to the Filters Window. The Drives toolbar gives easy access to all mapped drives. It also allows easy access to USB drives, CD drives and other externals connected to it.

If you're familiar with Windows, you'll know the different view modes - Thumbnails, List, Details, Icons are common.

The number of ways to enable these modes is numerous. The most obvious is **View > Column Mode**. It is similar to the Treelist view, but allows you to view the folders and subfolders horizontally.

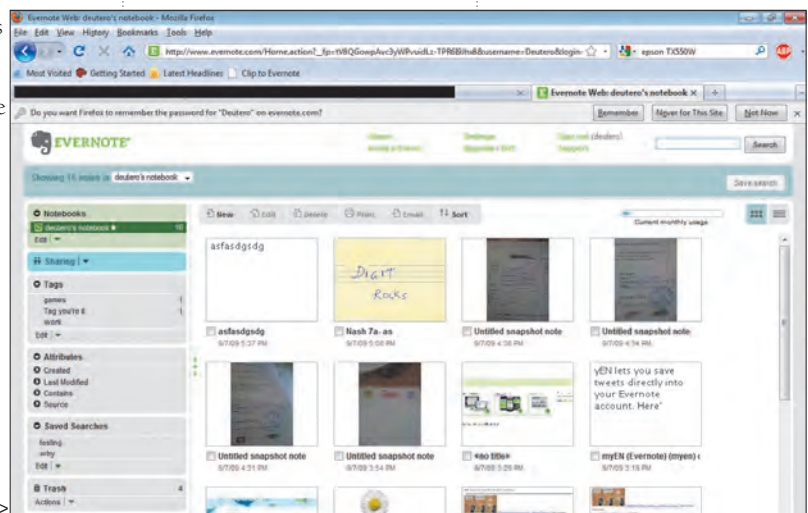
Each window can have a

different colour and font. If you plan to use the software more extensively can use extra plug-ins, get shell extensions, custom theme their environment by giving a different skin to every toolbar (**Tools > Customize**) and several other minute tweaks. You can use the **Windows + [E]** key to access UltraExplorer. To do this, go to **Tools > Shell Extensions > Win+E hook**.

What is interesting to observe is how much utility they've managed to pack in a mere Explorer.

Evernote

Evernote allows you to take notes and synch your notes



Evernote's web interface

between your PC, Mac and mobile phone. Evernote is limited to a 40 MB storage space per month, but works across various mobile platforms such as iPhone / iPod Touch, BlackBerry, Palm Pre and Windows Mobile.

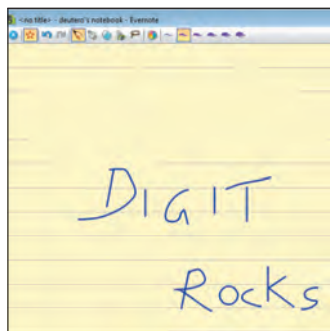
Managing notes

By default, your username is considered as a notebook where your notes are stored. You can also create multiple notebooks for office and holidays. This lets you organise your data better.

Tags is another way to classify your notes, images, tweets, web clips or audio clips. You can manually add a tag when saving a note, or select the tag you have created from a drop down list.

Web clipping with Evernote

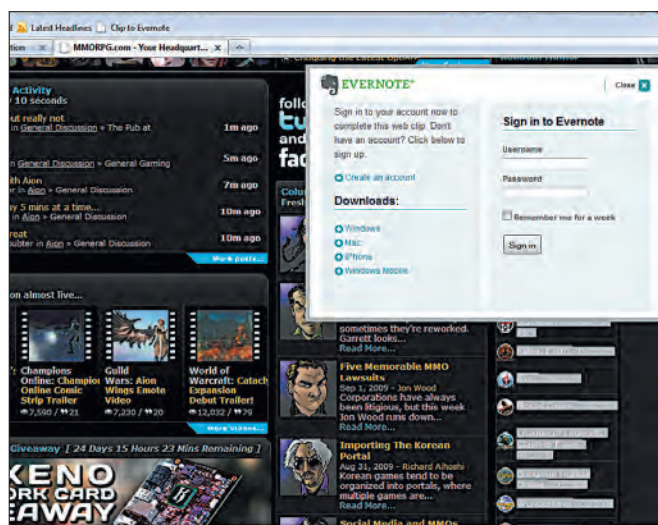
Go to Evernote.com and click on Downloads. Next click on Web Clippers located on the left side



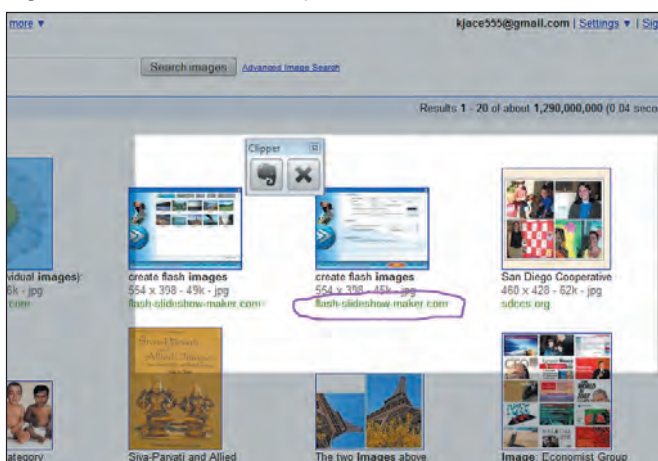
Write out notes with the Ink Mode of Evernote

of the web page. Drag the Clip to Evernote button onto the browser link bar located just below the address bar to use the web clipping feature.

You can now select anything from images, text, links or audio and create a note with them. To add notes, click and drag the text or select the image that you want to make a note of. Click on the Clip to Evernote browser button. After you login, add a title for the note, create or add a tag to the note, and also add some text if needed. Click Done and your note will be stored and can be accessed from anywhere.



Login and create a new note instantly

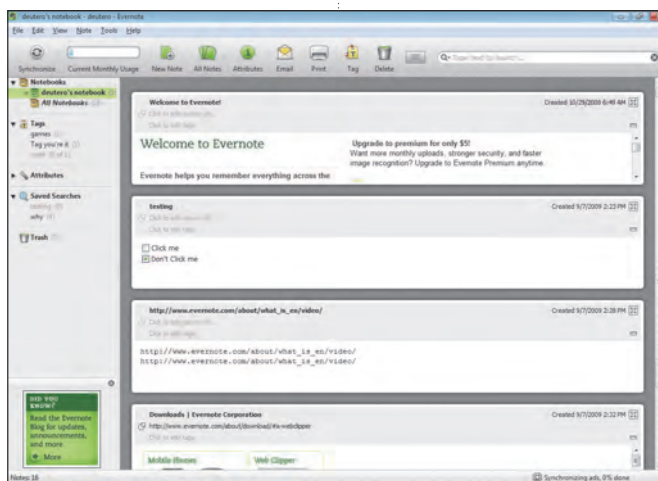


Taking and highlighting screen shots with Evernote

Taking a snapshot

To use the snapshot feature, press [Prt Scr], which creates a cropping tool. Adjust the

boundaries of the clip and click on the Evernote logo to save the image to your notes. To highlight something within the image, hit [Prt Scr] a second time, and you will be able to



Evernote interface on the desktop

highlight anything within that image using a pen tool. Press [Prt Scr] again to adjust the image borders. To save this as a note, either click on the logo or just hit [Enter]. To discard the clip, just press [Esc].

Notes using Twitter

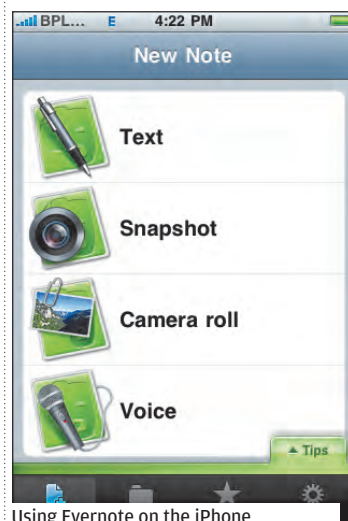
Follow myEN on Twitter. You will receive an email to link your Twitter and Evernote account. Once that's done, all you need to do is tweet myEN. Just use @myEN and your tweet will be saved as a note.

Evernote on the iPhone

Once you login to the Evernote application on your iPhone, you can capture photos that becomes a note. You can also record audio, take iPhone screen captures and turn them into notes. To take a photo, tap the option Snapshot. To create a note, tap on Text. Similarly, tap Voice to create an audio clip.

Creating notes

You can either type out a note or use the Ink mode to scribble the note out. To create a new text note use [Ctrl] + [O] or



Using Evernote on the iPhone

[Ctrl] + [9] for Ink mode. Click on the star shaped button on the Ink mode toolbar to enable auto shape mode. Auto shape straightens out lines and curves to give a sharper written text.



Google Cheat Sheet

Google Search



Example	Function
Apples OR Oranges	Any one of the number listed
"Apples and oranges"	Exact phrase
Apples -Oranges	Without a particular word
~Tech Blogs	Looks for items similar and related to "tech"
+Orange	Excludes synonyms and plurals from the search
Apple *** Orange	A number (here, 3) of words between the two words
2 + 2	Add two numbers
2 plus 2	Add two numbers
2 - 2	Subtract two numbers
2 minus 2	Subtract two numbers
2 * 2	Multiply two numbers
2 / 2	Divide two numbers
2% of 2	Finds out a percentage of a number
2^2	A number raised to another
12 Kmph in Mph	Unit conversions

Example	Function
m_ Mars	Mass of the heavenly body
r_ Moon	Radius of the heavenly body
Pi	Value of any constant
Site: www.thinkdigit.com	Searches within the site
Cache: www.thinkdigit.com	Searches Google's cache of the site
intitle: digit	Pages with names containing "digit" in the title
allinurl: forum	Search with the word forum in the url
safesearch: pornography	Academic material, safe search
Link: www.thinkdigit.com	Sites that link to a site
Info: www.thinkdigit.com	Information about a site
Related: www.thinkdigit.com	Sites related to the specified site
-inurl:html -inurl-html "index of" *(format)	Searches for the format in the index of files
+the/+if	Forces inclusion of words otherwise omitted during search
filetype: .mp3/.pdf/.avi	Searches for the particular formats

Gmail



Shortcut	Function
[C]	Compose mail
[O]	Open mail
[X]	Select mail
[S]	Star mail. Press repeatedly to cycle stars.
[I]	Report spam
[N]	Next mail
[P]	Previous mail
[K]	Next conversation
[J]	Previous conversation
[R]	Compose reply
[A]	Reply to all
[F]	Forward mail
[U]	Return to Inbox (or refresh)
[Tab] [Enter]	Sends message
[Y] + [O]	Archive current mail, go to next
[G] + [A]	Go to "All Mail"
[G] + [S]	Go to "Starred Mail"
[G] + [C]	Go to contacts
[G] + [D]	Go to Drafts
[G] + [I]	Go to Inbox
/	Go to search box
[Esc]	Removes cursor from the current field
[Enter]	Opens mail, expansion toggle for conversations

Google Reader



Shortcut	Function
[J]	Next file
[K]	Previous file
Spacebar	Move downwards
[Shift] + Spacebar	Move upwards
[N]	Select next file
[P]	Select previous file
[S]	Adds star to file
[Shift] + [S]	Shares current file
[M]	Toggles "read" state
[T]	Add tags to file
[Shift] + [A]	Mark all as read
[Shift] + [X]	Expand/collapse a folder
[Shift] + [O]	Open current file
[G] + [A]	Goes to "All Items"
[G] + [S]	Goes to "Starred Items"
[/]	Quick guide to all shortcuts

YouTube



Shortcut	Function
Spacebar	Pause/Play video
Right Arrow	Fast Forward
Left Arrow	Move back
Up Arrow	Increase volume
Down Arrow	Decrease volume
[F]	Full Screen
[Escape]	Return to regular view

Google Docs



Shortcut	Function
[Ctrl] + [A]	Select all
[Ctrl] + [B]	Bold
[Ctrl] + [C]	Copy
[Ctrl] + [D]	Copy down (used in combo with Shift + arrow keys)
[Ctrl] + [E]	Center alignment
[Ctrl] + [F]	Find and replace
[Ctrl] + [G]	Find next
[Ctrl] + [Shift] + [G]	Find previous
[Ctrl] + [I]	Italicize
[Ctrl] + [J]	Full justify
[Ctrl] + [K]	Insert link
[Ctrl] + [L]	Left alignment
[Ctrl] + [M]	Insert comment
[Ctrl] + [M]	Insert new slide
[Ctrl] + [P]	Print
[Ctrl] + [R]	Right alignment
[Ctrl] + [R]	Copy Right (used in combo with Shift + arrow keys)
[Ctrl] + [S]	Save
[Ctrl] + [U]	Underline
[Ctrl] + [V]	Paste
[Ctrl] + [X]	Cut
[Ctrl] + [Y]	Redo
[Ctrl] + [Z]	Undo
[Ctrl] + [End]	Go to last cell in data region
[Ctrl] + [Home]	Go to first cell in data region
[Ctrl] + Left Arrow	Go to left-most cell in data region (current row)
[Ctrl] + Right Arrow	Go to right-most cell in data region (current row)
[Ctrl] + Down Arrow	Go to bottom-most cell in data region (current column)

Shortcut	Function
[Ctrl] + Up Arrow	Go to top-most cell in data region (current column)
[Ctrl] + [Page Down]	Move to next worksheet
[Ctrl] + [Page Up]	Move to previous worksheet
[Ctrl] + [Shift] + [F]	Full screen
[Ctrl] + [Shift] + [L]	Bulleted list
[Ctrl] + [Shift] + Spacebar	Insert non-breaking space
[Ctrl] + Spacebar	Remove formatting
[Ctrl] + [1]	Header style 1
[Ctrl] + [2]	Header style 2
[Ctrl] + [3]	Header style 3
[Ctrl] + [4]	Header style 4
[Ctrl] + [5]	Header style 5
[Ctrl] + [6]	Header style 6
[Ctrl] + [7]	Toggle numbered lists
[Ctrl] + [8]	Toggle bulleted lists
[Ctrl] + [9]	Change list dialog
[F2]	Edit active cell
[Enter]	Move to next cell in column
[Esc]	Cancel cell entry
[Shift] + [Enter]	Move to previous cell in column
[Shift] + [Page Up]/[Page Down]	Extend the selection up/down one screen
[Ctrl] + Spacebar	Select entire column
[Shift] + Spacebar	Select entire row
[Shift] + arrows	Manual select
[Page Down]	Move down one screen
[Page Up]	Move up one screen
[Shift] + [Tab]	Move to previous cell or row
[Ctrl] + [.]	Superscript
[Ctrl] + [,]	Subscript
[Tab]	Move to next cell or row

Blogger



Shortcut	Function
[Ctrl] + [B]	Bold
[Ctrl] + [I]	Italic
[Ctrl] + [L]	Blockquote
[Ctrl] + [Z]	Undo
[Ctrl] + [Y]	Redo
[Ctrl] + [Shift] + [A]	Add hyperlink (a=href)
[Ctrl] + [Shift] + [P]	Preview
[Ctrl] + [D]	Save as draft
[Ctrl] + [P]	Publish
[Ctrl] + [S]	Save
[Ctrl] + [G]	Indic script transliteration

Google Maps

Shortcut	Function
Arrow Keys	Pan in the particular direction
Numpad arrow keys	Pan more in the particular direction
[=]	Zoom In
[-]	Zoom Out

More Google Services	Check these out
http://labs.google.com/sets	Find sets based on your inputs
http://www.google.com/holidaylogos.html	An archive of all special Google logos
http://www.google.com/intl/en/press/zeitgeist/index.html	Trends and insights
http://www.google.com/googlegulp/	Thirsty for information? Google has the right drinks for you

Working with subtitles

Since the advent of the video culture, many have felt the need to manipulate subtitles for their videos.

Synching subtitles

One of the most common reasons why subtitles may be out of synch is a simple delay. This is a relatively easy problem to fix. The second cause of subtitles being out of synch has to do with the frame rate. The frame rate of the movie and that of the subtitles does not match. This causes the subtitles and the movie to go at different speeds. In such a case even if the subtitles and the dialogues start at the same time, towards the end of the video you may get a delay. The third is a combination of these two reasons. This is when the process of scaling comes into the picture.

Solutions

The easiest fix for mismatching subtitles is to search for the exact file name with date and other meta data (such as "1 CD", [2008], 700MB). Often, this should give you the subtitle file you're looking for. The operations described below are performed using an easy to use subtitles manipulation software known as Subtitle Workshop4.

Delay in subtitles

When you start playing a video, note the exact time when the first dialogue starts. Next note the instant when the first subtitle appears. The difference between the two timings is the delay. For example, if the subtitles start appearing around two seconds before the actual

dialogues then you need to add a delay of 2 seconds. Similarly, you may need an advancement (negative delay) of -2 seconds. To add delay, open the subtitle file by going to File>Load Subtitle or [Ctrl] + [O]. Next go to Edit > Timings > Set delay. From the drop down list, change to either positive (+) or negative (-) delay and enter the delay in milliseconds.

Mismatching framerates

To find out the framerate of a particular video file open it in VLC player and go to Tools > Codec Information or [Ctrl] + [J]. Then open the corresponding subtitle file for that video in Subtitle Workshop4. On the top panel of the interface, switch the Mode to Frames from the drop-down menu. You will have options such as 23.976 fps. Choose the appropriate one. Click File > Save to save the changes on to the same file. Note that the time stamp will not get affected with this change and that the subtitle format must depend on framing to keep time.

For synchronising

To synchronise using scaling, you will have to open both the video file as well as subtitle file in Subtitle Workshop. Go to Video > Open to open the video. Go to File > Load Subtitles for adding subtitles. The subtitle entries are displayed in the bottom panel of the screen. To synchronise mismatching subtitles the idea is to fix on two synchronising points. One point is the time when the first line is spoken and the other is the point

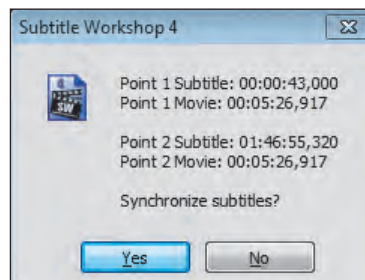
at which the last dialogue is spoken. Scroll to the point on the video where the first dialogue is spoken (eg. 4:25). Next select the subtitle that should appear at that point. Now go to Video > Synchronisation > Mark as first sync point or hit [Ctrl] + [1]. Go to the point on the video where the last dialogue is spoken and simultaneously select the last subtitle entry. Hit [Ctrl] + [2]. The application will now ask you if you wish to synchronise as per

of the duration of the first CD. Now select all subtitles [Ctrl] + [A] and hit [Ctrl] + [C] to copy the same. Open the CD1 SRT and scroll down to the last entry. Hit [Ctrl] + [V] to paste, and then save the changes in a new file which will have the combined subtitles

Adding subtitles

Subtitle Workshop also allows you to add subtitles to your own video. In doing so, there are a few terms we need to understand viz. Show, Hide and

Duration. Show is the point at which the subtitle will appear. Hide is when it will fade. And the duration is the time-period for which it will remain on the screen. To add subtitles click File > New. Next load your video. The best way is to pause video where you want the subtitle to appear, hit the [Insert] key and begin typing the subtitle script. Increase duration and then move on to the next dialogue and hit [Insert] a new subtitle entry with the corresponding time stamp will be created. You can also change the position of the subtitles by using the vertical scroll bar on the left of the video window. Similarly colour, bold, italics formatting options are available. Once you are done click on File > Save As. The application supports almost all known subtitle formats. Choose a file type that supports the formatting you have added (if any).



Sync subtitles

the reference points. Click Yes.

Combining subtitle files

At times we get subtitle files that are meant for two CD video files, while the video file that we have is a single CD 700 MB .Avi. What do you do in such a case? The quick fix solution is to apply a delay (equal to the duration of the first CD) to the second subtitle file. The long term fix is to try and combine the two files. Let's consider the files to be SRT. Open the CD2 SRT file in Subtitle Workshop. Add a delay

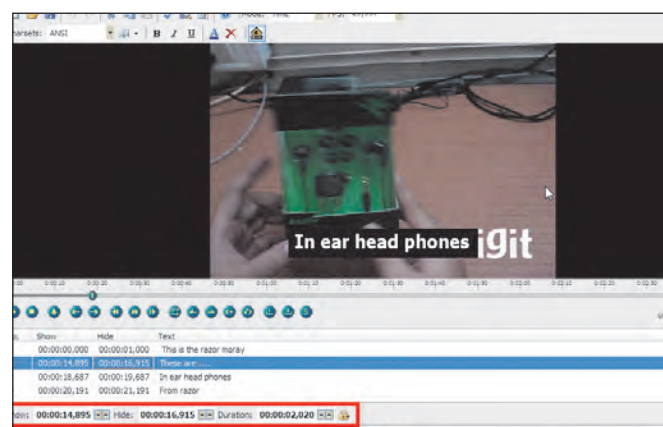
SOME COMMON SUBTITLE FORMATS

SubRip (SRT) : By far the most common text-based subtitle format. It doesn't support rich formatting or metadata. It allows for precision of up to 1 millisecond

MicroDVD(SUB) : A text-based that keeps timing based on framings

SubViewer(SUB) : This format supports metadata. Accuracy is up to 10 Milliseconds. This format is YouTube friendly

RealText (RT) : An HTML-based format that allows a certain amount of text formatting.



Adding subtitles to a video



RoboForm

You go to a web site that you haven't visited in a long while and try as you might, you just can't login. You try the four or five password and username combinations that you have, but not one works. You can make your browser remember your passwords. But is it really safe? And what if you want to have access to your information from another computer.

RoboForm is a tool that lets you manage all your login information as well as automatically fill out those pesky and usually cumbersome registration forms. It comes in both a downloadable as well as online version. The online version is better suited to keep passwords synchronised across different machines.

[00.00] Download and install RoboForm

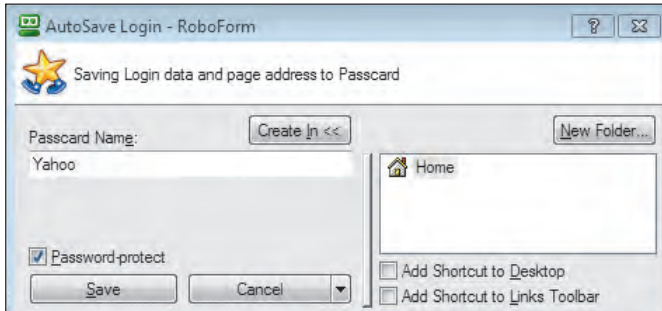
Head over to www.roboform.com/download to download the application. The application interface is through a tool bar that integrates with IE or Firefox. During the installation, it will ask if you want it to be installed for all users and if you want the adapter for Firefox. Check or uncheck the box accordingly. You will also be prompted to enter a master password. Once this password is entered, you don't need to remember any further passwords. The RoboForm installation wizard will also ask you to specify the time interval at which this password should be purged from cache. The default is after 120 minutes of inactivity.

[6.00] Make Passcards

Roboform saves login information in the form of passcard. Each passcard contains the username, URL and password for a particular web site login. To create a passcard, simply login to a web site normally. Roboform will prompt you to save the login into as a passcard. Change the passcard name (if you wish) and click Save. The passcard even automatically clicks the submit button so now, once

you launch your browser, you simply need to click the passkey through the toolbar and it logs you into the web site with a single click.

[12.00] Fill forms



Creating a passcard

To start filling forms automatically you will first have to set up Form Filling. Click "Setup Form Filling" button on the tool bar. You will first be asked to enter your name and country. The geographical information is important to configure information such as phone numbers and area codes. The next step is actually filling out information in the Identity Editor. This takes some time, but think of it this way - you're only going to be doing it once. Also, you can fill in as much or as little info as you want. There are tabs for credit card, address, business and even custom info where you can enter your own fields. Once you're done, click the 'Save

and Close' button. To create another identity, go to Identity > New Identity in the identity editor. Once you've saved the data, go to any page with a form and Roboform will automatically prompt you to fill it with a

single click.

[21.00] Generate random passwords

Since RoboForm remembers passwords for you, a by product of this functionality is that you can use random passwords. They will be gibberish, but you don't have to remember them. Password Generator creates random passwords of any length. Randomness of generated passwords makes them harder to compromise. To generate a password, click on the "Generate" button in the tool bar when you're on a registration page. Click fill to enter the password and make a normal passcard to have

RoboForm remember it.

[25.00] Create SafeNotes

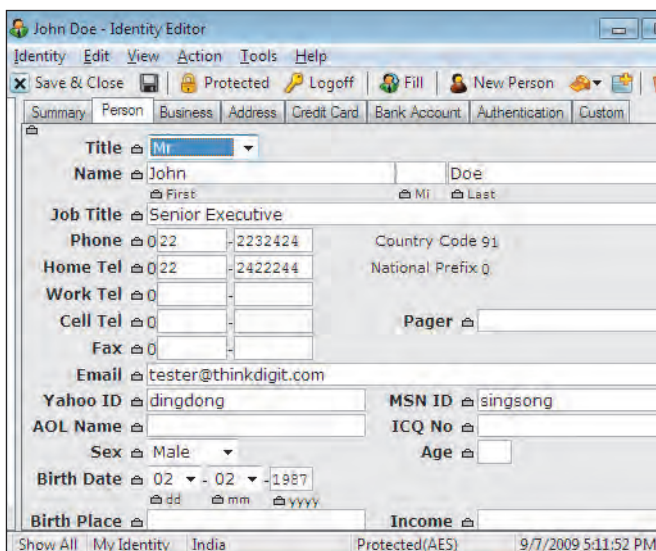
Regular post-it notes are seen by all. With SafeNotes you can have a digital equivalent of regular post-it notes with



password protection. To create a new SafeNote go to RoboForm > SafeNotes > New. Assign a title to the note and select which folder it should be saved in. Type in the text box and click 'Save and Close' when done. The notes can be accessed through the RoboForm button via a breadcrumb type of navigation.

[28.00] Setup Roboform Sync

We need access to passwords from multiple computers; be it your office PC, notebook or home desktop. To achieve this RoboForm syncs passwords and data files with its servers. These are encrypted by AES encryption with your Master Password as the key. To sync your RoboForm data you will have to install an add-on known as GoodSync. Click on the Sync button in the toolbar and it will prompt you to install the add-on. Click Yes to install. You will also have to register with RoboForm online (online.roboform.com/signup). Once your account is registered, sign into it by clicking on the Sync button. RoboForm will now sync data with its servers. To get access to the data and passwords on another computer, simply install RoboForm on that machine or access the web interface at <https://online.roboform.com>.



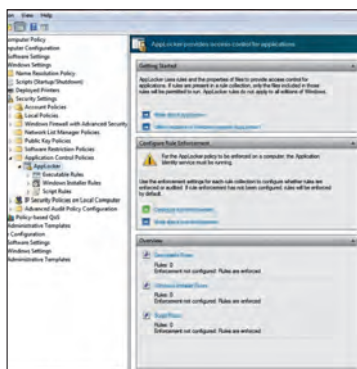
Entering info in the identity editor



Windows 7

AppLocker

AppLocker is a new Windows 7 feature that ensures users on your PC only run the programs and applications you specify. You can easily block



Safeguard your data from unauthorised access

other users from accessing executables, Windows Installers, scripts, a specific publisher or path.

Go to the Run dialog box and type Gpedit.msc.

Then go to Computer Configuration > Windows Settings > Security Settings > Application Control Policies > AppLocker. Right-click on one of the options (executables, installers, or script) and create a new rule.

AppLocker also lets IT personnel control what applications users can run on workstations.

Startup repair

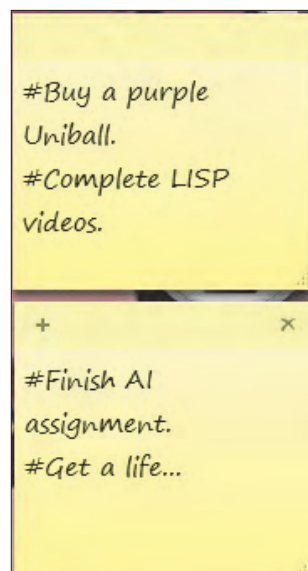
If you've downloaded Windows 7, it's a good idea to create a system repair disc straight away in case you run

into problems booting the OS later on. Go to Control Panel > Backup and Restore > Create a System Repair Disc, and let Windows 7 build a bootable emergency disc. If the worst happens then it could be the only way to get your PC running again.

Startup Repair scans your computer for the problem and then tries to fix it so your computer can start correctly. Though it can't fix hardware failures such as a failing hard disk or incompatible memory, Startup Repair does a good job at fixing certain problems, such as missing or damaged system files.

Use Sticky Notes

You can use Sticky Notes to write a to-do list, jot down a phone number, or anything else that you'd use a pad of paper for. To write a note using



With sticky notes you'll no longer forget your tasks

a tablet pen, simply start writing on the note where you want the ink to appear.

Launch StikyNot.exe from the Run Dialog box (You can even type notes in the Start menu search box) and then type notes at the keyboard. Right-click a note to change its colour, and click the + sign on

the note title bar for additional notes. Press [Alt] + [4] to close the note windows (your notes are automatically saved).

Calibrate your display

The colours you see on your screen varies widely depending on your monitor, graphics cards settings, lighting and more.

Fortunately, Windows 7 provides a Display Colour Calibration Wizard that helps you ensure that colours are represented accurately on your screen and everything looks crisp and sharp.

Click Start (or press the Windows key) and type dcdw in the "Search programs and files" box to start the Display Colour Calibration Wizard. Alternatively, you can go to Control Panel > All Control Panel Items > Display and click on "Calibrate Colour" from the left pane of the window.



Windows 7 now lets you calibrate your screen

Other mouse gestures

With mouse gestures in Windows 7, instead of right-clicking a Taskbar icon to access the jump list, you can left-click and drag upwards to smoothly call it up. In addition, clicking and dragging down the address bar in Internet Explorer will open the browsing history.

EasyConnect

With Easy Connect in Windows 7, offering help or getting help is just a few clicks away. You can use Windows Remote Assistance to invite someone to connect to your computer and assist you, even if that person isn't nearby.

To access Easy Connect, type Troubleshooting in the Start Menu and then select Get Help from someone you trust. You would now get the option to offer your help to someone or get help from

someone. Choose the option depending on your need.

Restore the Quick Launch Toolbar

A lot of Windows Vista and XP users will find the absence of a Quick Launch toolbar in Windows 7 annoying because you sort of get used to it. It is disabled by default but it only takes a moment to restore it back.

Open the "Run" dialog box by pressing Windows + [R] and type gpedit.msc

On the left hand pane, Navigate to User

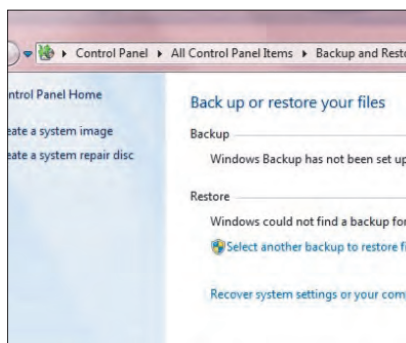
Configuration, Administrative Templates, and Start Menu and Taskbar.

Double-click on the "Show QuickLaunch on Taskbar" in the right pane.

Select Enable, Click on Apply and then press Ok.

Right click on Taskbar select Toolbar > New toolbar. Navigate to C:\Users\ (user name) \AppData\Roaming\Microsoft\Internet Explorer. Select the Folder "Quick Launch" and click on "Select Folder".

Now You should see Quick Launch Toolbar on Taskbar. To make it look like it would in Windows Vista, right click the taskbar, uncheck "Lock the Taskbar", and you should see the Quick Launch toolbar, probably to the right. Right-click its divider, clear Show Text and Show Title to minimise the space it takes up. Complete the job by right-clicking the bar and selecting View > Small Icons for the true retro look.



Backup and restore saves you a lot of time

Safe browsing

Mozilla to check Firefox add-ons in an effort to close security holes

Opera update

The final build of Opera out with added improvements such as Turbo and easy tab management

Your questions, our answers

All your computer niggles and nags are dealt with here!


Weird problem with PC going to sleep

I have a PC running an Intel Pentium 4 3.06 GHz processor, 512 MB DDR1 RAM, installed on an Intel D865GSA desktop board. A few days back, the motherboard has been going into sleep mode as told by my friend and dealer. So, I have replaced the motherboard and memory. Now, I run a Biostar G31D-M7 board. I've also had to replace my 512 MB DDR1 RAM with a 1 GB stick of DDR2 RAM.

I've installed Windows Vista Ultimate on my machine. When I was using my machine with the old configuration, it didn't support Windows Aero, but now it is working rather well. Now the problem that I'm facing is that sometimes my system doesn't start properly and it hangs during start-up. If I restart it by pressing reset button, it doesn't respond and locks up again at start-up. I have to leave it idle for some time. After that, it starts properly otherwise I have to repair my operating system using the installation DVD. The same problem occurs when I play a game like Virtua Cop. After playing a while, the PC shuts down automatically and then, suddenly, the start-up problem occurs again.

I want to know why these start-up problems are occurring over and over again. What is the solution for this and what is this problem of board going into sleep mode? I also want to use Windows XP within Vista through VMware. Will my machine allow me to do so?

S.D. Sharma

 The problem you're facing could be because of a poor power supply. If you haven't reinstalled Windows, then maybe the older drivers are causing some problems. Try a fresh install and download the latest drivers from the internet.

I hope your power supply is perfectly fine. If it's more than a couple of years old, you should try using a different power supply from a friend to see if that's the problem. Also, check for loose connections - RAM and power cables specifically.

If nothing works, it could be a bug in the motherboard which can be fixed by a BIOS update. Look up for the manufacturer's site for a list of bug fixes. Be extremely careful if you go ahead with flashing the BIOS. You can damage the board.


1 GB of memory is a little too less for Windows XP to run within VMware. It's worth trying but another GB of memory would definitely help

Laptop display problems

Some two to three days back, I noticed a slight problem with my laptop's LCD. Just at the bottom of the screen, near the taskbar where the shortcut icons and time are generally displayed, I could see a thin line blinking across the LCD. It frequently went on and off and then remained for seconds. Could you please tell me what it is and how to rectify this problem?

My system configuration is: HP Commercial 6530s, Intel Core 2 Duo CPU T5870 2 GHz, Windows Vista Home Premium, 3 GB RAM. I am far away from the service centre.

Noklam Bisai
Arunachal Pradesh

 Try opening up an image in full screen or play a movie at full screen. See if that line keeps flashing and showing up


even then. If it does, it could be a problem with the LCD display. Otherwise, it could be a resolution problem. Try reinstalling the graphics drivers. If nothing works, you have no other choice but to take it to your local service centre to get it fixed.

**Make your own
Fast Track**
Be a part of the first ever community created Digit Fast Track. You get to collaborate, create and control everything from the cover to the contents. Post your troubleshooting queries and answer those already posted within the wiki. For more information, www.thinkdigit.com/digitosp

Bad sectors on hard disk drive

I have an Intel Core 2 Duo PC with a 320 GB hard drive and 2 GB RAM. My hard disk has developed bad sectors on it. I want to know whether this is bad for my drive. Can these sectors be fixed or not? What is a bad sector? What does it mean and what causes them to occur?

Pawan Maurya

 A bad sector is a small portion on the hard disk that has suffered some damage and is therefore unusable. The bad sectors will not cause you harm in day to day operation. The scandisk utility marks the bad sectors so that the operating system skips them and no data is written there. As for causes - it can be physical damage during the manufacturing process itself or wear and tear or just faults that show up randomly.

You can try fixing the problem by right-clicking on the hard drive with bad sectors in Windows Explorer. Click on Properties and click the Tools tab. Under error checking, click "Check now". Check the box


that says "Scan for and Attempt Recovery of Bad Sectors." Click on Start. If there are physical bad sectors, the only fix to give the drive for repairs or replacement.

CPU usage is always too high

My computer specifications are: Intel Core 2 Duo E8400
MSI Radeon R4850
MSI P45 Neo motherboard
800 Watt PSU

My PC is taking too much time to boot. When I play FIFA 09, the game lags and the CPU temperature rises to 65C. The CPU usage is also too high at some 50 to 56 per cent when there's nothing running on the PC. Is this caused by some kind of malware or virus?

Shreyan Mohapatra

 Yes, it could be malware. In the task manager, look at what application is using the most CPU resources. Sort by overall memory consumption and also CPU utilisation. Also, look for services or applications that are taking up lots of memory. Try closing those. If that doesn't work, uninstall your motherboard and graphics card drivers and reinstall them. The last option would be to try scanning the system for malware.

Is this the right time to go in for a graphics card?

I need suggestions regarding

Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to sos@thinkdigit.com, and we might answer them here! Since we get many more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

Win Mo ready to go
Windows 6.5 mobile handsets start lining up for release

AMD adds more cores
Six-core AMD Phenom II processors to be out sometime next year



Dirt 2 will be one of the first games to run on DirectX 11

purchasing a graphics card. I am about to buy a mid ranged graphics card in the month of September. I have read in Digit that Windows 7 is going to be released very soon and DirectX 11 games will be coming at the end of the year.

So, should I buy my graphics card in September or should I buy it after the release of Windows 7? Will DirectX 11 games have compatibility problems?

I have been reading Digit magazine for the past four months. It is a very nice magazine. Whenever I read it, I come across terms like overclocking, SLI, CrossFire, HTPC etc. I don't know what the above mentioned terms mean. Can you tell me?

Bharat Razdan

One or two DirectX 11 games might be out this year but the big lot will only come next year. It's not wise waiting for those games and then buying a DirectX 11 card. The performance of those games on mid ranged cards is yet to be seen. You can go for a sub-Rs. 10,000 card for now and then upgrading to something better when the time is right and there are plenty of DirectX 11 games around. There is no shortage of good DX9 games to play in the meantime.

Overclocking is running a component such as a processor, graphics card, and memory faster than what it's meant to. For these components, it's usually increasing the core speed or the memory speed.

SLI is a standard used by

NVIDIA based motherboards that let you use the power of two or three cards by connecting them together using a SLI-bridge. CrossFire works in the same way but is designed by AMD/ATI for their cards.

HTPC is a term used for Home Theatre PC. They are just like any other PC but they are built with low power components that require little cooling and run quiet.

Graphic card problem

I own a GeForce 8500GT graphic card. I recently installed a fresh copy of Windows XP on my PC infected with virus. I installed the drivers for the graphics card and after the reboot, it showed a black screen with the mouse pointer. I tried restarting the computer, but it shows up the same thing. Also, the audio hardware is not working, even after I installed the drivers.

Len

You could try uninstalling the drivers through the Windows Safe mode and see if it still boots up with the blank screen. Try downloading an older version of the drivers as well. Also, try using the disc that was provided to you with the card. Try the same thing with the audio hardware. You could also try using Windows Update to download the drivers for you.

DVD drive problems

My system specifications are as follows.

Processor: Intel Pentium 4 2.80 GHz
Memory: 1 GB DDR 2
Standard VGA graphics adaptor
250 GB hard drive
Moser Bear DH-22A8S DVD drive
Windows Vista Ultimate 32-bit

Over the last few days my DVD/CD ROM drive has been unable to read or write any discs. Whenever I insert a disc, the following message appears - "Insert a disc". Can you help me with this problem?

Also please suggest a 19-inch LCD monitor and a midrange graphics card for the upcoming release of Windows 7.

Bijesh

The DVD drive has most likely worn out as they often do after two years or so. You should take it over to the vendor for repair or replacement if it's still under warranty.

Look for the Samsung SyncMaster D190S and AOC F19. They should be between Rs. 6,500 and Rs. 7,500. You can easily find 22-inch monitors around Rs. 10,000 and Rs. 12,000. Your current PC will run Windows 7 just about okay. A graphics card might let you run the fancier Aero theme. Your memory is more important. Upgrading to 2 GB will help.

If you are thinking of playing some games as well, then we recommend you to upgrade your entire system. If not, a cheap GeForce 8400GS or 9400GT from Palit, Zotac or POV will be sufficient.

Laptop overheating problems

I have a Dell Studio XPS 13 (Intel 2.4 GHz, 4 GB DDR3 RAM, 320 GB hard drive) that heats up to about 79 C while playing Call

of duty 4. Is this temperature normal for a laptop? When I'm not playing and just surfing the web, the temperature stays at an average of 50C.

I've tried to overclock my fan but according to users on various forums, the PC BIOS does not permit this. I'm thinking of buying a cooling pad but are there any other solutions to cool down my laptop?

Amon Pereira

A temperature of 79 C is quite high for the laptop but as long as you're not getting stability issues, it should be okay. The only way to cool things down is to use a laptop cooler like you said. You could take the laptop to Dell and see if they can service it and clean up the insides for you. There could be a lot of dust clogged in the heat sinks or the fan might be running slower.

Registry problem

My PC configuration is as follows:
Processor: Intel 2.8 GHz Dual core
Motherboard: Intel D945,
80 GB hard drive, 1GB memory,
XFX 9400GT 512MB

I run Windows XP SP2.

Whenever I try to open up Task Manager or Registry Editor, it says that it is disabled by your Administrator! I formatted my PC twice but there has been no change in the problem. I also can't run games like Street Fighter 4 at the minimum resolution. At first, when I install the game, it runs properly but when I restart my PC, it starts giving me errors that Visual C++ has failed to load the floating module. It also happens with games like Crisis Warhead and Delta Force Xtreme 2.



Laptop coolers can help maintain temperatures

OEMs like Google

Sony systems to ship with Google Chrome browser

Join in

Digit Open Source Wiki launches - www.thinkdigit.com/digitosp

! Your PC is most likely infected by a virus. There are many worms and viruses that disable the registry editor and task manager. The only easy solution is to use an antivirus to remove it. If the games you mentioned require some Visual C++ runtimes, you'll have to download those and install them if they are corrupted.

Data recovery query

I have an Intel Core 2 Duo processor, 250 GB hard drive and 2 GB RAM. My hard drive crashed and I recovered data using Stellar Phoenix. I am a MCA student and this data is very precious to me. For some reason, file recovered with formats such as JPG, PDF, RAR and ZIP aren't opening. It says unsupported type or version. Even EXE files run but it show a command prompt window and closes instantaneously. I checked the properties for the files but everything seems okay. I tried different operating systems such as Windows XP, Windows Vista and Linux. I also tried different registry and system diagnostic tools but nothing seems to work.

Vikram Paliwal

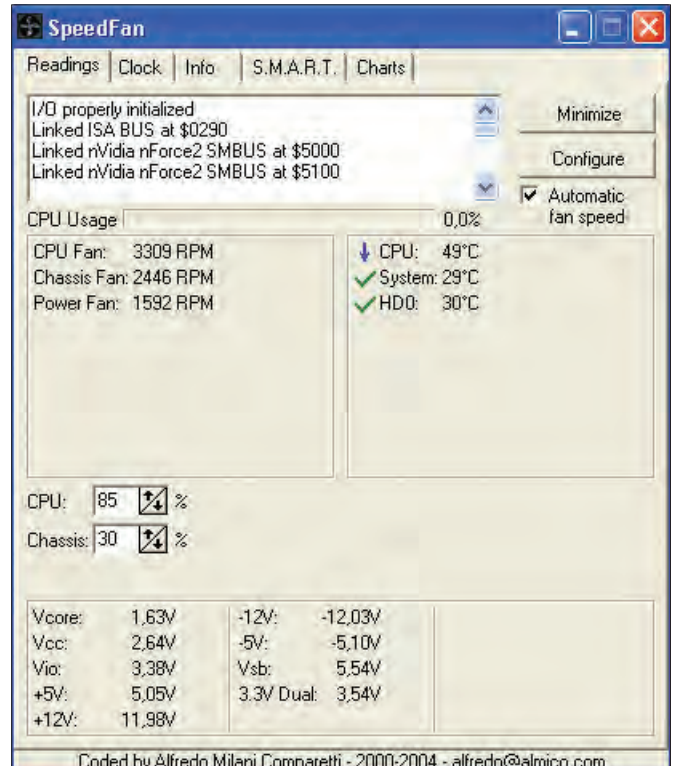
! Data recovery isn't perfect every single time. So while software might be able to recover most of the data, there are always bits of pieces of the files that aren't intact. This might be fine for documents but executables and archives won't open with the least bit of corruption of missing data. The bad news is that it might not be possible to recover the files accurately.

You could try contacting Stellar or some of the other physically data recovery services. They might be able to recover data from the drive but remember that it could be very expensive.

Windows XP problems

My PC configuration is:
Intel Core 2 Duo E4600
Gigabyte S2C 945 GCM motherboard
2 GB DDR2 RAM
160 GB Hitachi HDD
Samsung DVD writer
Intex cabinet with 450 W SMPS
Viewsonic 19-inch TFT with only D-Sub connector

I have Windows Vista and XP installed on my system.



Speedfan has a built-in drive health feature that displays basic statistics about the drive

1. Whenever I boot in XP, Windows runs fine but when I boot into Windows Vista, the monitor goes blank randomly for

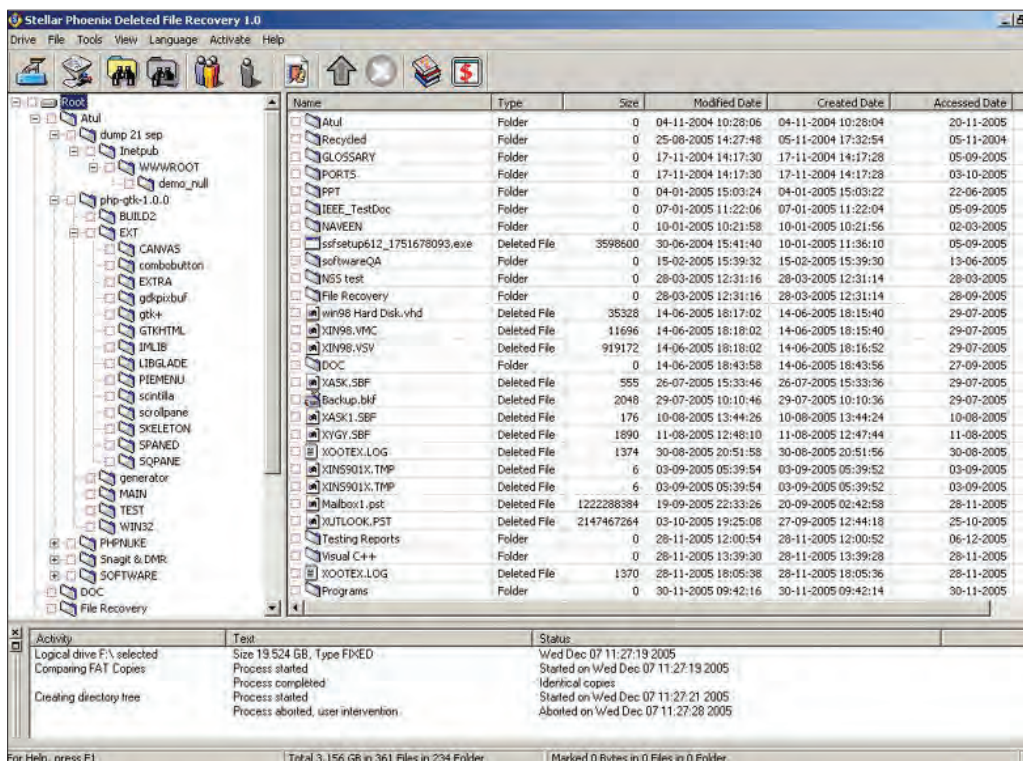
a fraction of a second but otherwise, it works fine.

2. My HDD activity light flickers without any program running and its operation is noisy too. Also my operating system fails every now and then.

3. Is a 450 watts power supply enough if I add one more hard drive and a graphics card? Also, suggest a mid-range graphics card for my configuration.

Paramjit Saggu
Chandigarh

! Windows normally flashes the display just before it boots into the desktop. It shouldn't cause any serious problems. The hard drive LED flickering could be because of a highly fragmented hard drive. Try defragging the drive sometime. If the hard drive is really old, it could be some issue with the drive. Try running a diagnostic tool or use Speedfan's internal drive diagnosing feature. The 450W PSU will run an additional hard drive easily. Whether it runs the graphics card depends on the kind of card itself. A basic entry-level card like a GeForce 8400GS



Stellar Phoenix is a general data recovery software

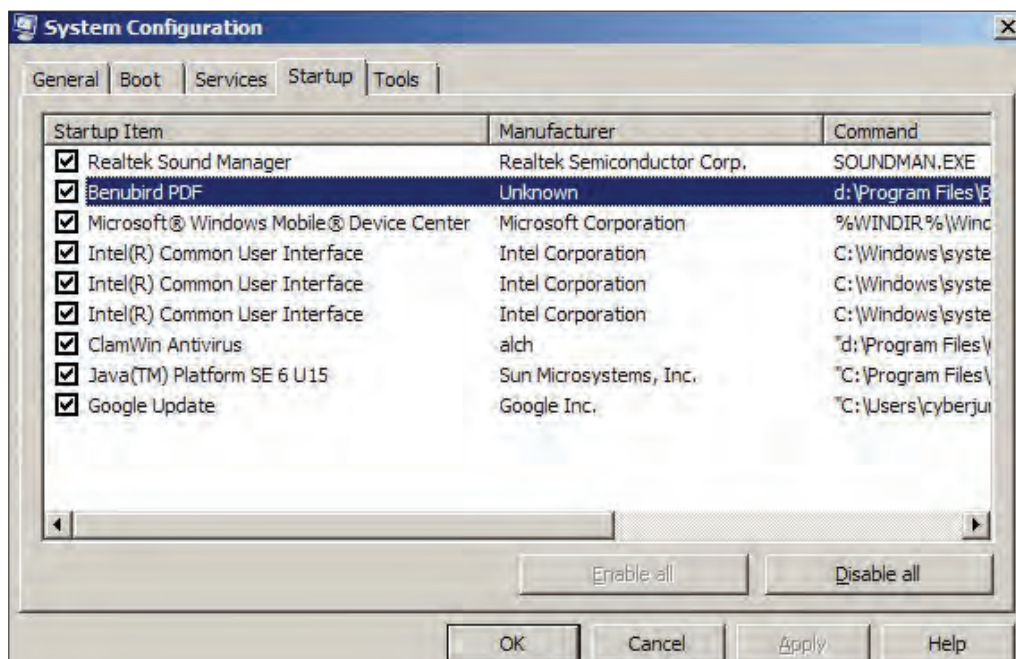
Icy cool

Some overclockers are apparently making their own thermal paste using diamond dust And reportedly the cooling is remarkable

Dragon Ball Z: Sagas

The first Dragon Ball Z game to be released on a non-Japanese console, the Xbox

Q&A



Startup viruses can be disabled by using the Windows msconfig tool

won't be a problem but a slightly more powerful card might. A mid-range graphics card would be a Radeon HD4850 or a NVIDIA GeForce 9800GTX. Prices are around Rs. 7,000 – Rs. 9,000 depending on the make.

OC fail error

I have a problem with my computer. Whenever it boots, it displays an error message with a note "OC failed. Please press F10 to change options on OC Fail". Can you tell me what it means by OC Fail, and will it harm my system? After continuing and booting, the OS is erratic, the mouse movement is jerky and the desktop won't respond. What can I do?

My computer configuration is: Intel Pentium D820, Intel 945GV motherboard, 512 MB RAM, 80 GB HDD, Windows XP SP2. It's a HP Compaq DX2280.

Athreya Rao

The error OC fail means overclocking failed. Overclocking is forcing the processor or memory to run faster than the default speeds that it's supposed to. Get into the BIOS by pressing the Del key when that error shows up. Reset settings to defaults. Save and reboot. It should work but

you might have to change some settings such as the boot order.

About my PC

I have the following queries to be solved by you. I have Kaspersky Antivirus 2009 licensed up to January 25, 2010. Whenever I start my computer, it says "C:\WINDOWS\system32\config\win.exe", then it says make sure that you type the name correctly, and try again.

Nilash Prithish

The error with C:\WINDOWS\system32\config\win.exe that you're getting is because of a virus. The virus might have been removed by the antivirus but Windows still tries to run it every time it boots. You can remove this startup entry by clicking on Start > Run. Type msconfig. Look for an entry under Startup for win.exe and delete it.

Overheating problems

Digit's Q&A section is one of the most interesting sections of the magazine. My PC configuration is: Processor: Core 2 Duo E4600, 4 GB Transcend RAM, Palit GeForce 8600GT, 250 GB SATA hard disk, LG DVD-RW and HCL 700SFL monitor.

My problems are:

When I installed Vista 64-bit on my PC, the DVD drive does not respond very well. It won't open DVDs and the Autoplay feature is also disabled. It shows the basic preparation screen for the blank disk. Also, when I play games like GTA 4, I think my graphics card gets hot and the temperature rises to around 65C.

Give me an idea of how I can cool that. I have four fans in my cabinet. How can I direct them for proper air flow?

The DVD drive might be having some problems. Typically drives go bad after around two years or so. Check to see if the drive works fine

outside Windows or in any other operating system or system.

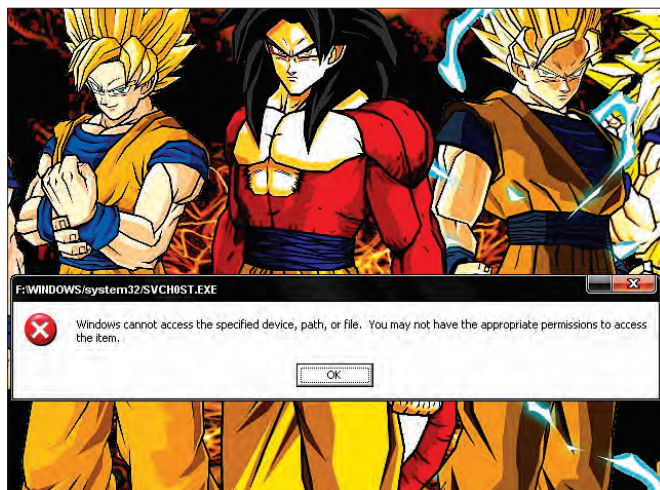
Four fans are much more than enough for the case as long as two of those fans are pulling in air and the other two are blowing out air. The graphics card temperature of 65C isn't very high as well so there's nothing to be concerned about.

Error at Windows startup

I have an Intel core 2 Duo 6300 1.86 GHz processor powered by 1.5 GB ram and 160 GB hard drive with a GeForce NVIDIA 7300 GT PCI graphic card with XP installed. Whenever I log in any user account, I get an error "Windows cannot access SVCHOST.EXE. You may not have appropriate permission to access it". This error started when I removed this file as it was affected by a worm. How do I fix this file and the error? I have attached a screenshot of the error.

Gurleen Singh

The missing file isn't the SVCHOST.EXE that Windows has. It's a virus or worm that was removed. The missing link is the reason you are seeing this error. First, make sure that the file has been deleted from the hard drive. Then, open up msconfig from the Start > Run window. Go to the Startup tab and disable or delete the entry that points out to SVCHOST.EXE.



Changing lanes post recession

An insight on improved job search techniques

Rishi Das

Co Founder and CEO,
CareerNet Consulting
readersletters@thinkdigit.com

With the global economic downturn subsiding, the next two years or so are expected to usher in a recovery phase, there is a silver lining amid the dark clouds on the horizon that hints at better times just round the corner. Markets are slowly going in the growth phase and instead of the usual pink slip news, companies have gradually started hiring. This situation is ideal for job seekers who were in staying put during the downturn and are now looking for new opportunities. However, it will be best to take the next career decision while keeping the following aspects in reckoning before making your golden leap.

Industry introspection

Analyse whether your current industry is going to grow slow or boom post recession. If the answer lies in the prior category, search for similar or enhanced roles that align in industries expected to grow in the near future. Actively research and map your career graph in two or more high growth industries and select the one that better aligns to your interests and strengths.

Select a promising organisation

The recent downturn has distinctly bracketed companies

in to three categories – non serious, serious but unhealthy, and serious and healthy. While the first category is already out of business, the second category of companies is grappling with the reality of the situation. However, the clear winners are the companies who are serious and are with a healthy business model. Companies with sound growth strategies, cost optimisation solutions, steady cash flow

is underway. Companies diversify to reduce their risk and consolidate their market leader positions. Effectively, before committing your services to any organisation find answers to a list of questions such as market positioning of a company, pre- and post-recession growth cycles, employee perspectives and the business potential of the company. This will give a clearer picture if the company

applicants from both junior and senior industry professionals. Don't wait for the next recession to up-skill yourself. Continuous learning to up-skill is a key and is sure to add value in the long term career path of an individual.

Widen your job search channels

Break away for the traditional job search channels such as job boards and newspapers. Test the strength of your network and actively use social networking sites for assistance from your old friends and colleagues. This will help you tap hidden job markets and employee references add weight to your resume. Moreover, you will be privy to more intricate details about the company, job profile and the culture of the firm. From a compensation point of view, individuals can expect a 15 – 25 per cent rise in their compensation if they go in for a job change. However, it will be advisable to look at the stock option plans more seriously now as the markets have bottomed out and will only grow from here.

This downturn has set up a lot of different benchmarks in the industry. It has forced companies and individuals alike to be pragmatic in good as well as bad times. Though, no one can claim to know the future or know what will unfold in the time to come, it will be best for employees to tread the path of continuous learning, taking right decisions on career and keep themselves abreast with upcoming industry trends. **[1]**



cycles are the ones that have been able to weather the storm. These are the ones to be looked at as a potential employer. However, be wary of companies that have massively laidoff resources during the recession. In any business environment, employee layoffs are essentially a function of business restructuring and people performance. Nevertheless, there have been several layoffs due to poor cash flows and unplanned growth. It's wise to stay away from such companies.

We also witness a slew of M&As as a lot of business consolidation

is well structured and functionally sound to usher to the next orbital of growth.

Actuate continuous learning

The onset of recession made us understand the importance of continuous improvement of our skills. During recession a majority of finishing schools witnessed huge rush of



To protect and serve

Agent 001 goes cabinet and power supply hunting, specifically for HTPC and high-end applications

Agent001

agent001@thinkdigit.com

A childhood friend of mine recently upgraded to a GeForce GTX 260 graphics card after much persuasion. When we opened his cabinet to install it, I was horrified at the signs of rust. Then we discovered his system would not boot after adding this card. I immediately suspected the power supply, especially when I noticed it was a non-branded 400 watt unit and his older GeForce 7300GS would work fine. Thus began the hunt for a new cabinet and power supply.

Since HTPCs are super hot, HTPC cabinets are also the *in* thing and most vendors will be quick to point you to one. I recommend these cabinets with caution – sure they're compact but the cheaper ones are tacky and the cooling system woefully inadequate, unless you're building something based on the Atom platform. The attraction is the diminutive size, which some people will kill for – an unobtrusive cabinet to be tucked away behind furniture with a 42-inch LCD TV getting all the glory is a much sought after scenario. With shopping for HTPC cabinets do consider the better brands – their cabinets are built better and smarter (by the latter I refer to better cooling), and generally expansion support is better. Brands like CoolerMaster and Antec have some good models albeit pricier than other offerings in the market. Check out the Antec Fusion Remote Black, priced at Rs. 10,400. For the price you get a fully functional remote unit that works with the cabinets built in LCD display for a hands-free HTPC experience. The cabinet is built very well and cooled via two 120mm fans. An Antec 430-watt power supply available for Rs. 4,100 would be an ideal companion. Not only is it rated at above 80 percent in terms of efficiency but it's also very suitable for high-end HTPC applications. CoolerMasters Media 260 is also available for Rs. 8,100 and this is a really spacious case but available without power supply. Corsair's VX400 is a good PSU for this case available for Rs. 3,800. If you're looking for an ultra cheap HTPC chassis look at the Zebronic's Cube, available without a power supply for Rs. 2,500 – it's obviously

not as feature rich as the others mentioned above but for some affordable cannot be beaten.

For those looking at high-end rigs for gaming or generally powerful PCs we recommend larger, tower-type cabinets. By high-end I mean a quad core processor, 2-3 hard drives, 4 GB of RAM and a graphics card in the range of Rs. 15,000 or above. You can opt for a steel based chassis or one made of aluminium. The latter resists corrosion and that is why I recommend it. Steel cases without proper treatment tend to rust around the edges and this gradually worsens, especially if you live in a coastal region or any area with higher humidity. Cooling is also important; just having four and five fans isn't sufficient. The case should have good airflow. Sometimes wrongly placed fans can create cross currents of air, which is not good for cooling. You want the flow of air to be regular and strong and in general cool air should be sucked into the case from the front and possibly the sides and blown out through the rear. A couple of fans on the top of the case do not harm since they assist the process of exhausting air out. Cabinets that create a turbulence of air inside them are no good for cooling. Fans are of equal importance and most manufacturers offer very cheap fans with their cases. For someone blowing a lakh on a souped up gaming rig I recommend buying your own fans. Look at brands like

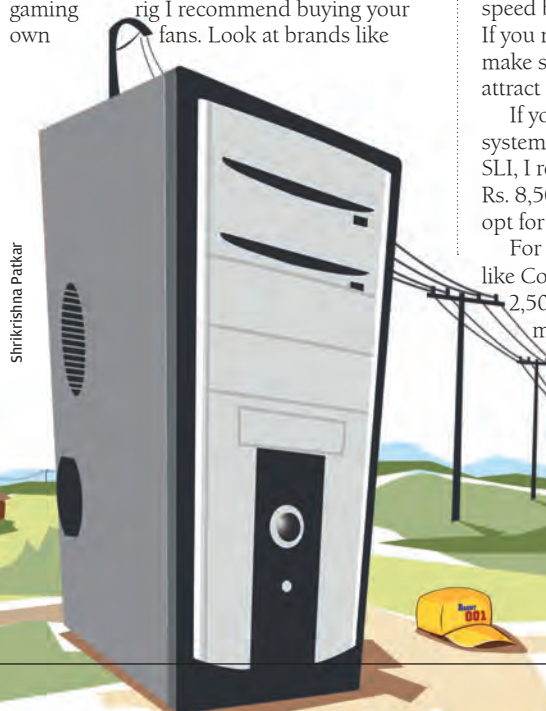
CoolerMaster, Antec, Scythe and NMB.

Larger fans are better for although their rpm is lower than a smaller fan they will actually move more air and silently owing to the larger diameter of the fan blade. The figure to look at when shopping for fans is their CFM rating indicating the cubic feet of air they can move in a minute, the higher this rating the better the fan. Of course the higher the rpm the noisier the fan – keep in mind.

If you really want something that is big, looks good and built of aluminium, therefore light and resisting corrosion look at the CoolerMaster ATCS 840 – a superlative case with very good cooling (it actually has 3 x 230 mm fans!). Priced at Rs. 15,000 the ATCS 840 represents the pinnacle of a high-end cabinet and supports liquid cooling solutions and up to 6 hard drives with no problems whatsoever. The intake fans also have dust filters – goodbye to regular cleaning. The Antec 1200 is priced at Rs. 13,000 and is another superb gaming chassis albeit not built of aluminium and without dust filters for the fans. This may be an issue for someone living in a dusty area, but in general I advocate the use of dust filters since even regular cleaning does not guarantee protection from a gradual rise in temperatures. This is because dust slowly works its wicked magic on fans inside the case and on components reducing their speed by gradually eroding their bearings. If you must buy something good and costly make sure it has dust filters since intake fans attract a lot of dust.

If you are going for a powerful dual GPU system like something based on a GTX 260 SLI, I recommend Corsairs HX 750 priced at Rs. 8,500. For single high-end graphics cards opt for Corsairs TX 650 priced at Rs. 6,500.

For a basic system I recommend a cabinet like CoolerMasters Elite 330 priced at Rs. 2,500. If you want something a little more powerful in terms of cooling and of course something that looks better, CoolerMasters 690 is also available for Rs. 4,000. A good power supply for any generic PC is Corsair's VX 450 – priced at Rs. 3,800. If you want to really squeeze it opt for a VIP Gold 400 watt, priced at Rs. 2,100. I don't recommend cheaper power supplies. **d**





CM UCP900 goes gold
CoolerMasters UCP 900W Silver which we tested has a new revision, the UCP 900 is now available with a 80+ Gold rating



Silverstone Raven
The Raven is a unique concept with the motherboard mounted at a 90 degree tilt from regular cabinets meaning the connectors stick out from the top. Pretty unique, and works well too

Agent 001

Q I want to buy a S60 based mobile phone & my budget is 15,000. It should support 3G, should have good music quality, should support maps and also should be well build. candy bar or slide either of them will do. I would prefer a Nokia device.

Prabal chowdhury

A I suggest looking at Nokia's 5800 Xpress Music. It's a touch screen based device and should serve your needs as it has all the features you need.

Q I'm going to buy a new desktop PC. Please recommend best gaming configuration I can get in Rs. 30,000. Also please keep in mind of AMD Phenom II processors.

Yadwinder Paul Singh

A Rs. 30,000 is a small budget for a gaming PC. If you are willing to play the latest games at lower resolutions and lower levels of detail this budget will just about do, especially since you want everything including a monitor.

I recommend taking a close look at our Killer rigs section. Look at our Basic Rig for Rs. 21,350. Now simply add in a graphics card like the GeForce 9800GT and for Rs. 9,000 extra, you are covered for a very nice gaming rig for Rs. 30,000

Q I want to buy DELL TFT monitor weather I should buy 18.5 inch i.e. E1910H or 19 inch i.e. 1909W. Can I buy 18.5 inch?

Rishab Garg



A There will be hardly any difference between an 18.5-inch and a 19-inch in terms of what you see. Rather opt for a 22-inch display if you budget permits you, as these are hardly Rs. 3000 to 4000 more than a 19-inch monitor.

Q I am a Photographer & Videographer by profession. Presently I am using Adobe

Premiere 6.5 for my video projects and the system configuration is as follows: AMD Athlon X2 5200+, Asus M2N-MX SE Motherboard, 2*512MB DDR2 RAM, 2*250GB Seagate HDD in RAID 0, Sony DVDWriter, iBall Cabinet and LG 17-inch CRT monitor. Now I am planning to upgrade to a new configuration with Adobe Premiere CS3 as my video editor. Please suggest me the best hardware configuration within a budget of Rs. 60,000.

Manoj

Sky Digital Studio



A Your configuration is indeed a weak for CS3. Normally I would suggest a Core 2 Quad system but I'm going to give you a Core i7 since after we extensively tested these CPUs in our test lab, we found them to be superb for any kind of 2D image editing and 3D rendering. I am not recommending peripherals like keyboard and mouse as any brand is good enough depending on your usage. You already have a monitor and I recommend you use that for now, as high-end LCDs are costly. I refrain from suggesting cheaper LCDs like the 19-inch and 22-inch ones

Category	Component	Price
CPU	Core i7 920	14,500
Motherboard	MSI X58 Pro / Biostar Tpower X58	12,500
RAM	Kingston DDR3 1 x 3 GB (1333 MHz)	5,000
Hard Drive	WD Caviar Black Edition 1 TB	7,000
Graphics Card	ZOTAC GeForce 9600GT	6,000
Power Supply	Corsair VX550	5,500
Cabinet	CoolerMaster Elite 330	2,500
DVD Writer	LG G55n	1,400
TOTAL PRICE		Rs. 54,400

available now since they will not suffice for anyone needing accurate colours. There is one recommendation - Dells 2209WA - this is an IPS panel and for Rs. 16,000 is your best bet for a great monitor.

Q I want to buy a cell phone. My budget is Rs. 13000. I figured out Nokia 5630 Xpress music and Sony Ericsson w595. Please suggest something. I don't want any other brands.

Naveen Kumar

A It totally depends on what you are looking at. If you want better music quality I recommend the Sony Ericsson w595. If you're looking for a Symbian based device with better application support then look at the Nokia. Either way you can't go wrong with your choice.

Q I have Intel Core2 Duo 2.2GHz, 3 GB memory, Intel D945 Board & Radeon HD4650 Graphics card. I want to know that will this hardware support games developed on cryengine3 like Crysis 2. If no please suggest the upgrade.

Sarang Bokil

A This card will definitely not be able to play Crysis 2, especially since it barely runs Crysis. You cannot buy a card today for a game being released in the future. If you want the fastest card available today, it is the NVIDIA GeForce GTX 285. ATI's Radeon HD 5870 is also headed for the market soon. I suggest you hold your horses a bit and hang on to your cash for the next 3-4 months. Things are going to get more interesting with DX 11 cards.

Q please tell me the difference between core 2 duo and quad core and which is better. Guide me to buy a best laptop ranging between 45k and 55k, which can be used in college with bulk storage good performance of network net systems and good processing speed.

Pratyush Rai

A A Core 2 Duo is a dual core processor based on Intel's Core architecture which the term quad core is generic and refers to a processor with four cores. There are many quad core processors available. The Core architecture-based equivalent is the Core 2 Quad. They also have a Nehalem based quad core called the Core i7 processor, this family also has many models. AMD also has their Phenom and Phenom II processors, which are quad core. I recommend the Acer 5738G, we tested it and it's powerful enough with very good performance for its price, which is Rs. 40,999. **d**



KILLER RIGS

everything you will ever need to build your own PC. whatever your budget.

MONITOR

- ViewSonic VA1928wm / Rs. 8,200
- AOC 2230fm / Rs. 14,000
- Dell S2409W / Rs. 15,000

HARD DISK

- Seagate 250 GB 7200.11 / Rs. 1,900
- Seagate 1 TB 7200.11 / Rs. 5,200
- Western Digital Velociraptor 150 GB / Rs. 9,900 or Western Digital 1 TB Black Edition / Rs. 6,800

POWER

- VIP 350 Watts / Rs. 850
- Corsair TX 650 / Rs. 6,500
- CoolerMaster RealPower Pro 850W / Rs. 11,200

CABINET

- Zebtronics Antibiotic / Rs. 2,100
- CoolerMaster 690 / Rs. 4,400
- CoolerMaster ATCS 840 / Rs. 12,000

GRAPHICS CARD

- None
- Zotac GeForce GTX260 / Rs. 15,000
- ZOTAC GeForce GTX 295 / Rs. 29,000

MOTHERBOARD

- ASUS NVIDIA 7025 M2N68-AM / Rs. 2,250
- ASUS P5Q / Rs. 8,500
- ASUS P6T Deluxe / Rs. 21,000

SPEAKER

- None
- Altec Lansing MX 5021 / Rs. 6,500
- Logitech Z5500 / Rs. 14,000

MOUSE

- Logitech 3 button scroll / Rs. 300
- Logitech MX518 / Rs. 1,300
- Razer DeathAdder / Rs. 2,500

KEYBOARD

- Logitech Multimedia / Rs. 400
- Logitech G15 / Rs. 4,400
- Logitech G15 / Rs. 4,000

SOUND CARD

- None / NA
- ASUS Xonar DX / Rs. 3,700
- ASUS Xonar DX / Rs. 3,700

CPU

- AMD Athlon XP 6000+ / Rs. 2,850
- Intel Core 2 Duo E8400 / Rs. 8,200
- Intel Core i7 / Rs. 14,600

RAM

- 2 x 2 GB DDR2 800 MHz (Kingston Value) / Rs. 2,500
- 2 x 2 GB DDR2 800 MHz (Corsair XMS2) / Rs. 3,000
- 2 x 3 GB DDR3 Corsair Dominator 1066 MHz DDR3 / Rs. 9,000





Motherboards

Model	Market Price	Tested In	Socket	Speed	FSB	L2 Cache
ASUS M3N78-EM	Rs. 4,300	November 2008	AM2+	1	6	4
ASUS P5Q Deluxe	Rs. 14,900	June 2008	LGA775	2	6	6
ASUS P5Q-PRO	Rs. 9,650		LGA775	2	6	6
ASUS P5Q-E	Rs. 11,350		LGA775	2	6	8
ASUS P6T Deluxe	Rs. 20,975	October 2009	LGA1366	3	6	8
ASUS Rampage II Extreme (Best Performer)	Rs. 26,000	October 2009	LGA1366	3	6	6
ASUS Rampage II GENE	Rs. 16,450	October 2009	LGA1366	2	6	6
ASUS M4A79T Deluxe	Rs. 13,050	October 2009	AM3	4	5	6
GIGABYTE EX58-UD5	Rs. 16,950	October 2009	LGA1366	3	6	8
Gigabyte GA-EP45-UD3R	Rs. 8,900		LGA775	1	6	8
GIGABYTE MA790GP-UD4H	Rs. 9,100	October 2009	AM2+	2	6	4
Gigabyte GA-EX58-UD3R	Rs. 14,250		LGA1366	2	6	8
MSI X58 PRO	Rs. 11,300	October 2009	LGA1366	3	7	6
MSI P7N Diamond	Rs. 15,200		LGA775	4	6	6
MSI X58 Eclipse	Rs. 20,250		LGA1366	3	10	8
XFX nForce 790i Ultra	Rs. 21,050	October 2009	LGA775	3	6	6
Zotac 780i Supreme	Rs. 14,500		LGA775	3	6	6
Zotac nForce 750a	Rs. 6,500		AM2+	2	6	4



Digital Cameras

Model	Market Price	Tested in	Sensor	Optical Zoom	LCD Screen Size
Canon Powershot SX120	Rs. 14,995	October 2009	10 MP	10x	3.0 inches
Canon IXUS 100IS	Rs. 12,999	October 2009	12 MP	3x	2.5 inches
Canon Powershot A480	Rs. 7,499	October 2009	10 MP	3.3x	2.5 inches
Canon A1100IS	Rs. 9,499	October 2009	12 MP	4x	2.5 inches
Canon IXUS 95IS	Rs. 10,500	October 2009	10 MP	3x	2.5 inches
Canon SX200IS (BEST PERFORMER)	Rs. 21,500	October 2009	12 MP	12x	3.0 inches
FujiFilm FinePix F200	Rs. 17,999	October 2009	12 MP	5x	3.0 inches
FujiFilm FinePix S1500	Rs. 12,500	October 2009	10 MP	12x	2.7 inches
Kodak C140	Rs. 4,999		8 MP	3x	2.4 inches
Nikon P90	Rs. 23,995	October 2009	12 MP	24x	3.0 inches
Nikon Coolpix L20	Rs. 7,750	October 2009	10 MP	3.6x	3.0 inches
Nikon S220	Rs. 8,500	October 2009	10 MP	3x	2.5 inches
Olympus FE25	Rs. 5,995		10 MP	3x	2.4 inches
Panasonic FS4	Rs. 6,750		8 MP	4x	2.5 inches
Samsung ES55 (BEST BUY)	Rs. 6,990	October 2009	10 MP	3x	2.5 inches
Sony HX1	Rs. 29,800	October 2009	9 MP	20x	3.0 inches
Sony S930	Rs. 7,800		10 MP	3x	2.4 inches
Sony H20	Rs. 17,500		10 MP	10x	3.0 inches



External HDDs

Model	Market Price	Capacity	Interface	Warranty (Years)
Seagate Freeagent GO	Rs. 5,150	500 GB	USB	5 years
Seagate Freeagent GO	Rs. 3,250	250 GB	USB	5 years
Maxtor One Touch 4 Mini	Rs. 3,200	250 GB	USB	5 years
Transcend StoreJet	Rs. 2,725	160 GB	USB	2 years
Western Digital MyPassport	Rs. 2,850	160 GB	USB	3 years
Western Digital MyPassport Essential	Rs. 4,100	640 GB	USB	3 years
Western Digital MyPassport Studio Edition	Rs. 7,800	1 TB	USB, FireWire, eSATA	3 years



Processors

Model	Market Price	Tested In	Socket	Speed	FSB	L2 Cache
AMD Sempron 140	Rs. 1,950	September 2009	AM2+	2.7 GHz	2000 MHz HyperTransport	1 MB
AMD Athlon X2 5200+	Rs. 3,200	November 2008	AM2+	2.7 GHz	2000 MHz HyperTransport	1 MB
AMD Athlon X2 7850 BE	Rs. 3,350	September 2009	AM2	2.8 GHz	2000 MHz HyperTransport	2 MB
AMD Athlon II X2 250	Rs. 4,100	September 2009	AM2+	3 GHz	2000 MHz HyperTransport	2 MB
AMD Athlon II X2 550	Rs. 5,450	September 2009	AM2+	3.1 GHz	2000 MHz HyperTransport	1 MB
AMD Phenom X4 9650	Rs. 6,025	November 2008	AM2+	2.3 GHz	3600 MHz HyperTransport	2 MB
AMD Phenom II X3 720 BE	Rs. 7,500	September 2009	AM3	2.8 GHz	2000 MHz HyperTransport	1.5 MB
AMD Phenom II X4 810	Rs. 8,350	September 2009	AM2+	2.6 GHz	2000 MHz HyperTransport	2 MB
AMD Phenom II X4 920 BE	Rs. 9,650		AM3	2.8 GHz	3600 MHz HyperTransport	2 MB
AMD Phenom II X4 945	Rs. 12,075	September 2009	AM2+	3G Hz	2000 MHz HyperTransport	2 MB
AMD Phenom II X4 955BE	Rs. 13,100	September 2009	AM3	3.2 GHz	2000 MHz HyperTransport	2 MB
Intel Dual Core E2200	Rs. 3,000	September 2009	LGA775	2.2 GHz	800 MHz	1 MB
Intel Dual Core E5200	Rs. 3,375	September 2009	LGA775	2.5 GHz	800 MHz	2 MB
Intel Core 2 Duo E7400	Rs. 5,900	September 2009	LGA775	2.8 GHz	1066 MHz	3 MB
Intel Core 2 Duo E8400	Rs. 8,850	September 2009	LGA775	3 GHz	1333 MHz	6 MB
Intel Core 2 Quad Q8200	Rs. 8,650	September 2009	LGA775	2.33 GHz	1333 MHz	4 MB
Intel Core 2 Quad Q8400	Rs. 8,750	September 2009	LGA775	2.4 GHz	1066 MHz	8 MB
Intel Core 2 Quad Q9400	Rs. 12,100		LGA775	2.66 GHz	1333 MHz	6 MB
Intel Core 2 Quad Q9550	Rs. 12,601		LGA775	2.83 GHz	1333 MHz	12 MB
Intel Core i7 920	Rs. 14,900	September 2009	LGA1366	2.66 GHz	4.8 GT/s QPI	NA



Monitors

Model	Market Price	Tested in	Size	Resolution	Contrast Ratio	Response time
Acer V203H	Rs. 7,250		20-inch	1600 x 900	10000:1	5 ms
ASUS VM193D	Rs. 6,850		19-inch	1440 x 900	800 : 1	5 ms
BenQ E2200HD	Rs. 9,950		21.5-inch	1920 x 1080	1000 : 1	5 ms
Dell 1909W	Rs. 6,800		19-inch	1440 x 900	1000 : 1	5 ms
Dell S1709W	Rs. 7,200		17-inch	1440 x 900	600 : 1	8 ms
Dell S2409W	Rs. 14,750		24-inch	1920 x 1080	1000 : 1	5 ms
LG 177WSB	Rs. 6,300	May 2008	17-inch	1440 x 900	700 : 1	8 ms
LG W1942T	Rs. 6,900		19-inch	1440 x 900	700 : 1	5 ms
Samsung 2033	Rs. 7,250		20-inch	1600 x 900	15000 : 1	5 ms
Samsung 733NW	Rs. 6,550		17-inch	1440 x 900	1000 : 1	8 ms
Samsung 943NWX	Rs. 7,500		19-inch	1280 x 1024	1000 : 1	5 ms
ViewSonic VA1918WM	Rs. 6,600		19-inch	1440 x 900	1000 : 1	5 ms
VIEWSONIC VX2255WMB	Rs. 12,500	May 2008	22-inch	1680 x 1050	1000 : 1	5 ms
ViewSonic VX2240W	Rs. 9,900		22-inch	1680 x 1050	1000 : 1	2 ms



Graphic Cards

Model	Market Price	Tested in	Core Speed	Type of memory	Memory
EVGA 9600GT Knock-out	Rs. 6,650	November 2008	700 MHz	GDDR3	512 MB
Power Color HD4850	Rs. 6,600	August 2009	625 MHz	GDDR3	512 MB
Power Color HD4670	Rs. 4,650	August 2009	750 MHz	DDR3	1024 MB
Palit GeForce 9400 GT Super	Rs. 2,525	August 2009	550 MHz	GDDR2	1024 MB
Palit Radeon HD 4870 SONIC	Rs. 13,500	October 2008	750 MHz	GDDR5	512 MB
Palit GeForce GTX 260	Rs. 1,0750		650 MHz	GDDR3	896 MB
Palit GeForce GTX 275	Rs. 1,3900		633 MHz	GDDR3	896 MB
XFX GeForce 8600 GT	Rs. 3,150		540 MHz	GDDR3	256 MB
ZOTAC GeForce GTS 250	Rs. 9,250		738 MHz	GDDR3	1024 MB
ZOTAC GeForce GTX 285	Rs. 26,000	Feb 2009	648 MHz	GDDR3	1024 MB

Pimp My Gadget

**Kumar Jhuremalani
Siddharth Parwatay**

kumar.j@thinkdigit.com
siddharth.parwatay@thinkdigit.com

You've just bought yourself a shiny new mobile phone or you might have just assembled a new PC and we're sure you are happy with it.

But there is always a feeling deep down inside that something is missing, there is something that makes you feel that this new gadget or device is not completely yours. We believe you, this feeling is present in almost all of us – the need to personalise or customise everything we own. Be it a mobile phone, a computer or even something as small as a flash drive, we need it to be unique and different from the one owned by the average Joe. So what can you actually do to make your gadget more like you, well that's what we're here to tell you.

There are many things that you can customise, but what we're focusing on here, is all about our gadgets and other technology products. Even so, the few of us who admit to geekdom, will not shy away from wearing that attitude on t-shirts, shoes, etc. so there's a bit about that too along the way.

You must have heard of the show called 'Pimp my Ride', where all the bling is added to a person's car, well we're talking about

pimping your gadgets, read on to find out more.

The easiest thing to do for small handheld devices is to attach accessories to them. These could vary from small keychains or lanyards that can be attached to mobile phones. If you notice, most pen drives now days come with a small attachment option, you could easily use this to attach a lanyard of your choice, which makes the device different from the others available and at the same time makes it easy for you to identify.



Hello Kitty lanyards have become quite a craze these days

For mobile phones, another option is buying a funky external cover, but again, these are sold in bulk, so you might come across a random person with the same cover as you.

Other than mobile phones and flash drives, portable gaming devices such as the Nintendo DS and Sony Playstation

(PSP) are becoming quite popular. Personalising these devices would definitely require a bit more than just key chains or lanyards. There are places where you can buy and replace the entire body of these devices. There are two uses for this, first you could save the original body from the usual rough handling and scratches and use it later, or do the reverse by using the device completely, and when bored change the body, which in both cases offers protection. To further customise a PSP or DS, there is something even better you could do – skin it. No, we don't mean peel the skin off your device, but instead, put on a fancy new skin that personifies your individuality. These skins are available in sticker format and are made specifically for these devices, so there's no cutting of any sorts needed, it's just a simple sticker, but looks great and you won't be able to know the difference. One might even think that it is the natural design of that device.



Choose from a very extensive list at decalgirl.com

TO SKIN A CAT

We had a word with Eshan P Paarekh, Director of SkinJam, and found out what it was all about.

Could you explain what SkinJam is to our readers?

SkinJam! Is about personalisation and protection of your gadgets. More gadget lovers will be amazed by the great concept of SkinJam's custom made high quality skin wrap service.

What made you bring this unique and interesting idea to the Indian market?

We thought that SkinJam is a very good idea for us because something like this has never been introduced in India. As it is a very creative thing to do and also helps people to personalise their gadgets.

What are the products that you have made skins for up until now?

We have done it on all kinds of cell phones,

laptops, PSP, cigarette lighters, and pen drives.

Do you give customers a chance to submit their own designs or is it always designs set by you and your staff?

We have more than 350 designs in our shop and the customers can select from that.

How much does SkinJam charge for this unique service?

We charge Rs. 700 – Rs. 1,000 for the cell phones and for PSP and laptops it is Rs. 1,800.

Can your skins be delivered to a person's home, where he can apply it to his gadget on his own, or will he have to visit your store?

We do not give the skins in hand to any customer. The customer will give us their gadget and take it back modified after 2-3 hours. We do the procedure in our shop.

Not only can you skin just the PSP and DS, but there are a range of devices such as mobile phones, mp3 players, video game consoles and even laptops. The web site www.decalgirl.com offers skins for specific products and the entire range is listed on their site. Again, there is a small chance that the same skin might be used by someone else, and you will lose out on the entire personal and unique look that you are going for. Well, don't be disheartened, decalgirl.com also offers customers a chance to get templates and design their own skins, but these templates can be used only for the products listed there. To take this one step further, there are some stores that offer even more personalisation by adding crystals and gems to gadgets. You might have seen some celebrities on the television walking with a



A MacBook that has gone through SkinJam

mobile phone covered in diamonds; well, you can have that done to your phone too. Just visit the store called SkinJam, located in Mumbai and Bengaluru, and you can get this done. You have more of an option to personalise considering the fact that there is no limit to certain models that you can have a skin added to, in comparison to **decalgirl.com** where you have to stick to the models present on the site.

There is a chance you can even get a skin for your PC cabinet which will look uber cool. The main drawback here is that you can't do it yourself and the designs are mostly fixed, but you can see the employees of the shop work on your gadget, good for the people who don't want to get their hands messy.



Customising a digital camera is also possible now

Alright, enough about the small devices, what about adding that custom feel to your best asset? Stop thinking too much, all we're talking about is your computer, which most of us geeks would have understood right away.

One of the best ways to start off your customisation experience is by modifying your cabinet. Those of you who have deep pockets and don't mind spending quite a bit can just buy the most expensive cabinet out there which will be unique in a way, as not many people will actually spend that much on it. But, for the rest of us who fall under the value segment will need to look for other means to satisfy our thirst for customisation. The customisation we're talking about is case modding, which started as a hobby for some, who have now turned it into a profession. We spoke



The phone covered with expensive crystals - toys for the rich and famous

to Waseem Yusuf, a 21-year old B.Com graduate who has converted his hobby of case modding into a profession and has also started his own web store.

Where does one start with case modding, well firstly we'd suggest you purchase a fairly priced cabinet that you know you're going to use to mod, and won't feel sad even if something were to happen in the process. This point is also agreed by Yusuf, who himself found modding tricky when he first started.

Case modding, doesn't necessarily have

INSIDE THE MIND OF A CASE MODDER

We also got in touch with Waseem Yusuf and found out what drove him to this extreme profession

What made you take up Modding as a profession?

Since childhood, I've always been fascinated by computers. I saw a computer for the first time when I was in 3rd standard and there was instant love between the two, which has been growing ever since. So as my love for computers, I wanted to try something different. It all started as experimentation with my PC and the results have been pretty impressive! Slowly I started modding my friends' computers and finally took it up as a profession. Though I believe modding is a way of expressing oneself and not exactly a profession, every mod is like a work of art.

Did you start with a normal job and then just realised that it's not for you?
I was a trainer at NIIT for Java and .NET. I'm basically very creative, so teaching programming language was quite boring for me. I decided to start my own business; as I said, my love for computers have always been there all my life and slowly I realised this is what I wanted to do in life.

In the initial phase when you started, were you just good at it, or did you practice a lot before opening up shop?

Initially, it was a little tricky to do it, but once I got the hang of it it was much easier. Modding isn't just about cutting sheets and placing cooling fans. Each mod is unique and requires different skills. This makes each mod special in its own way. Like I said, modding is like art.

Where do you draw your inspiration or ideas for each unique mod?

I get inspired by a lot of things such as



colours or cars/bikes. But modding is a way of expressing oneself and so I try to get inspiration from who I am.

Do you mod anything other than PC cabinets? (eg. Xbox360s, PS2s, PS3s, etc)
We haven't tried modding consoles, but yes it's a great idea to mod one's consoles to make them unique.

What are the tools that you use for modding?

We use some basic tools such as Dremel, Drill, Spray Paint, Hole saw, Jig saw, Double Sided Tape, Laser Cutting, Laser Etching. Every mod requires use of different tools; hence, at times not all of these tools come into use. More than the tools one needs the skills. Jobs such as etching the Logo on the acrylic sheet require highly specific machines.

How easy is it to obtain these tools?

These tools are used in many other industries and can be obtained from most hardware shops. Modding is more about skills, creativity and one needs to concentrate & put in a lot of effort. I have always believed in quality and to get the best quality one needs to be precise in his work. And to get perfection, the quality of tools used matter a lot.

Facebook keeps growing

Facebook claims to be the largest social networking site as it has 300 million active users online per month from around the world

Leap of faith

A shoebox sized robot is being developed by the US military that can leap over obstacles over 25 feet and can navigate with the use of GPS

to mean that you need to cut a piece of your cabinet, a nice paint job for your cabinet is also considered a mod. Yusuf specialises in glossy paint jobs and side panel cuts for various clients. He has now moved on to modifying cabinets keeping a theme in mind. One of the mods he has done was for the CEO of Vodafone India.

Once you have cut and put a shiny coat of paint on your cabinet you can add more class by using custom made fan grills and also customise the internal hardware of the computer. If you have a transparent side panel, you might want to show off what's inside your cabinet. You can replace all the normal cooling fans within the cabinet with fans with LED lights or separately install LEDs to highlight your hardware.

Cutting the cabinet is just the basics of case modding, but how much further can that go. Well, a couple of years ago Team Digit had done an extreme monster mod and fit an entire computer into the case of a CRT monitor. Not only that, but at that time we moulded out a monster. Check out the link to get a blast from the past.

Some of the really risky things that have been done by people are completely cutting

up motherboards so that they can fit into the unique designs created and even create transparent casings for hard drives with LEDs lined on the inside, something we have yet to try.

A complete overhaul is also a possibility once you have a particular theme or concept in mind. Check out some of the crazy mods below that really inspire us to do something insane.



Check out the Digit Extreme Mod Project at <http://www.thinkdigit.com/d/40962>

One of the greatest expressions of product customisation – though on the non gizmo side – is in the form of custom t-shirts. You can say a lot to the world at large by just wearing a slogan, picture or sketch. It's the literal form wearing your

individuality. With custom T-shirts you can make a statement by wearing a T-shirt that says "di9it inside" or even profess undying love for your favourite band through pictures or lyrics. You even have the option of being as fabulously offensive



A case mod made completely of Lego



Oh no! the Incredible Hulk ripped out my PC



Who says computers can't have wheels?



Believe it or not, but there's a PC in that guitar



An extreme Doom 3 cabinet

More Wi-Fi

The next generation Wi-Fi technology, 802.11n, has finally been approved as the standard, even though it was conceived seven years ago

Power of the sun

Students from Tuft University and the Boston Architectural College have created a house that runs completely on Solar Energy

Feature



A corny design from tshirts.in



Some inkfruit designs



or fantastically tongue-in-cheek witty as you want.

There are many websites that have entered the fray to offer custom T-shirts among other customised stuff like mugs, mouse pads and stickers. A class of web sites in this segment are primarily photo printing web sites such as zoomin.com that also let you print photos on T-shirts. Then there are dedicated personalisation web sites like early entrant myntra.com and several others including pringoo.com and dilsebol.com. The last category of T-shirt web sites do allow you to submit your own designs but for shopping on the fly you need to bank upon the hundreds of crazy designs already created by their designer communities. Let's have a look at some of the web sites and what they have to offer.

myntra.com is by far India's largest on-demand consumer products personalisation brand. The web site is easy to navigate and their after sales service is excellent. For customising products the web site has a nice applet which lets you add text and upload your own images while showing an instant preview. The user-generated designs and one-liners are not as snappy as some of the other players but there is certainly quantity. You have loads and loads of categories and thousands of designs to choose from. Look for the Digital world and Nerd categories under Life. The pricing too is reasonable. Head over to myntra.com for a clean shopping / gifting experience and look out for their collaborative offers. pringoo.com is yet another custom design franchise offering you pretty much everything including custom T-shirts, stickers and even chocolate wrappers powered by Cadbury's. The designing applet works really well but doesn't offer as many fonts as Myntra. The community generated designs are especially witty. The "computer age" and "gaming" categories have nice designs. We found one that says

"PC Problem? Date a geek" and others that are too raunchy to even mention! Dilsebol.com really has nothing to offer that's worth writing home about. The design tool is very buggy, while browsing through other designs is painful. The only thing worth mentioning was the option to modify pre-existing designs. Now we come down to the last category of web sites that allow you to submit designs into the general pool of designs, but if the design is ever to see the front of a T-shirt it needs to be really good and hence approved. The benefit of this is that you get access to a set of really high quality designs and a vibrant active designer community. In this space we have tshirts.in, inkfruit.com and bluebustees.com. tshirts.in may not look all hot a site but has some really nice designs.

The slogans are insanely funny and the t-shirts quite affordable. inkfruit.com has

by far the most artistic designs and actual photographs of T-shirts being worn. We quite liked some of the Pac man and Tetris prints. Being the sentimental geeks that we are the first thought they evoked was "now that's cool". Then there are noteworthy vector art creations. The web sites offers its designer community several competitions and prizes. So if you feel you have it in you, be a prosumer and submit your own designs.

Next up bluebustees.com has two very disparate and interesting categories for browsing, viz. Parents Approved and Parents NOT Approved. Without going into details the category names should give you a fair idea of what you can expect in each. So go ahead create your own or choose designs that speak to you and express yourself. We're pretty sure you'll turn a few heads. **d**

T-SHIRT PRINTING TECHNOLOGY

We were quite curious to know more about the actual technology that enables printing on T-Shirts. What are the different processes? Which one is more suited for a particular cloth or colour scheme etc. So, we met Mr. Mukesh Bansal, CEO of Myntra.com for some insights into this field. There are currently four types of printing technologies being used. Screen Printing is a more traditional type of technology. It is used for printing T-shirts in bulk where you have only a fixed number of colours. If there are four colours a screen will be printed for each of the colours. Only the part that is treated gets transferred with a run of each screen. That way there is a limitation of six to eight colours. So, in this type of printing you need bulk for the economies of scale to apply, otherwise one T-shirt will cost you Rs. 5000 which is not very practical. For printing single T-shirts one of the technologies available is sublimation. This can work only work

for poly-cotton T-shirts. The design is first printed on paper with a special ink, which doesn't get absorbed on the paper. Then the paper is heat-pressed on the cloth so the colour gets absorbed on the cloth. The finish comes out good but this is limited to white polycottons. At the most very light colours. Then there is something called DTG (Direct to Garment) Printing. This is basically a modified inkjet and can work on any kind of surface. It supports 32 bit colour printing. The machine pretty much also looks like an inkjet printer. Lastly there is Print and Cut which is used for intricate designs. In this form the design is first printed on a special media and the outline is cut before being heat pressed onto the fabric. Vendors need to make a choice between these technologies depending on the formulation of design; whether it consists of a photograph, slogan, or vector graphics etc. and the type of fabric and colour that was chosen.

SYSTEM REQUIREMENTS

OS.....	Windows XP SP2/Vista SP1
CPU.....	P4 2.8 GHz/Athlon 64 3000+
RAM.....	1 GB
Free Memory.....	12 GB
Graphics.....	NVIDIA 6800/ATI X700

Get, Set, Gotham!

Faiyaz Shaikh

readersletters@thinkdigit.com

Darkness descends on Gotham City. The night sky is obscured by dark clouds lashing rain over a dark Gothic cityscape. Moonlight pierces through this gloomy curtain, illuminating a deserted road — the Dark Knight approaches.

A Serious House on Serious Earth

The Joker has a party planned for The Batman and the venue could not be any better than Arkham Asylum. The asylum is a mansion on a virtually isolated island with a dubious reputation of 'treating' some of Batman's deadliest foes and The Joker has most of them on his party list. These guys are not the ones to resort to crime as a means to an end as they seem to have transcended beyond the petty criminal; proposing an alternate, almost dystopian view of the world.

The Joker is escorted by Batman to Arkham Asylum after a failed attempt to attack the Mayor's office. Around the same time, a mysterious fire breaks out in the city's penitentiary, the Blackgate Prison and all the inmates are evacuated into the asylum. The hospital turns into a real madhouse after Joker, along with Harley Quinn, takes control of the security systems and sets all the inmates loose. It is a long and testing night for Batman as he works to regain

control of the facility and unravel The Joker's real plan.

The Dark Knight Returns

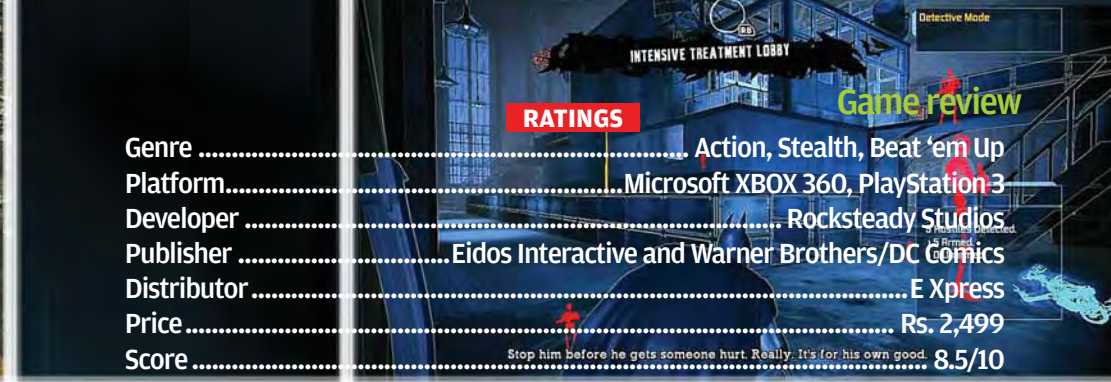
The game is played in a third person perspective with an over-the-shoulder camera system. With a push of a button a special visor in Batman's cowl is activated, switching the worldview to Detective Mode. In this mode, points of interests are highlighted in stark contrast while everything else is darkened with a dark blue hue. This also helps Batman preempt enemy encounters as he can see through walls at a limited

distance, with enemies and guns that they may be wielding getting highlighted. This game will sometimes present opportunities to use Batman's stealth skills along with his arsenal of gadgets to isolate and take down the inmates with stealth. Such sequences are typically set in a room with a handful of Joker's henchmen patrolling. Switching to Detective Mode will highlight vantage

points and hiding places, helping you to plan your course of action.

There are a variety of ways in which Batman can take down his foes without being detected, like inverted takedowns (as seen in the movies) and using a *Sonic Batarang* to lure enemies into traps. Fear is something that Batman has always used against his enemies to great advantage and you will find scared and





Genre	Action, Stealth, Beat 'em Up
Platform.....	Microsoft XBOX 360, PlayStation 3
Developer	Rocksteady Studios
Publisher	Eidos Interactive and Warner Brothers/DC Comics
Distributor	E Xpress
Price	Rs. 2,499
Score	8.5/10

isolated enemies firing at nothing, out of sheer nervousness.

Journey into Knight

The game uses to the famed Unreal 3 and PhysX engine along with other technologies like SpeedTree, IDV, ScaleForm, etc. to render the dark and gloomy landscape of Arkham Asylum, with a slick vector based heads up display (HUD). Along with the customary health display, the HUD is also used to access and switch between gadgets in Batman's utility belt. If you cannot find your way to the next objective or locate that last secret in a location, the game menu can be used to bring up a 2D schematic of Arkham.

Although the game characters might seem a little buffed up, they are modeled with an uncanny resemblance to some

night are clearly visible on him. The artists of the game have used certain artistic license to deliver the visual feedback. As the game progresses Batman sports a stubble, his cape has holes in it and there are cuts and bruises through his armor.

Riddle Factory

You are having so much fun playing this game that the Story Mode

All of these secrets are not accessible from the beginning of the game as they may require gadgets that become available at a later stage of the game. This means that if you want to achieve 100% game completion, you'll have to do some back tracking with a complete arsenal of Wayne Tech equipment.

As mentioned earlier, progressing through the game and locating these secrets will unlock a bit of Batman lore. In addition to this however, it will also unlock challenge mode stages. Just like in the game, there are two types of scenarios—stealth and combat. There are a total of four combat challenges and four stealth challenges available to be unlocked. Each of these stages also has an "Extreme" mode, effectively taking the total number of challenges to 16 stages. On completion of these challenges, your total score for that stage is calculated and uploaded on the online leader boards.

Worlds' Finest

It is not easy making a crossover game, especially ones based on a superhero and understandably solid games in this genre are few and far in between. The good news is that Arkham Asylum is easily one of the best ever made in this category. In

fact, even if you are not a big fan the Batman mythos you'll still enjoy this game. With the exception of gunplay, this game has something for every typical gamer. There are sections of the game that require stealth and patience and works well for those who look for a bit of strategy in a game. The combat system is robust and free flowing that at times warrants good reflexes with the gamepad, especially in the later part of the game and in Challenge Mode. And for those gamers that enjoy exploration, there are secrets to be found and rewards to be unlocked.

Arguably, the only things that go against this game is it's short length and somewhat disappointing boss battles.^d

of the comic book art. The Joker constantly tries to breakdown Batman's psyche by mocking him using the facilities video feed and the PA system. And The Joker is only one of Batman's problems this night along with The Scarecrow, Poison Ivy, Killer Croc, Bane and Mr. Zsasz.

Due to Batman's training and conditioning it may not be easy to break his constitution, but the effects of this grueling

may seem a little short lasting between eight to ten hours. After you beat the single player mode, there are a couple of other things to keep you busy.

The Riddler also has a challenge for Batman this night and he has hidden away secrets throughout Arkham.

These are sometimes placed in plain sight while others are hidden away behind grates and breakable walls. These secrets come in various forms like the Riddler's Trophy, Patients Interview Tapes, The Chronicles of Arkham and some more. The game measures completion of your game by the progress you've made in the Story Mode along with the number of secrets you have discovered.



Chasing the fireball

Aditya Madanapalle
aditya.madanapalle@thinkdigit.com

Trine is a 2D platformer that is part of an emerging trend of the gaming industry to revisit its roots, and re-think the whole idea of 3D gameplay. Trine is based on a robust physics engine, that encourages players to think of creative ways to overcome obstacles using their surroundings.

There are three characters that the game starts with. Pontius, a Knight, Zoya, a thief, and Amadeus, a magician. The souls of these three heroes are combined into a single entity as the three reach out to grab an artifact at the beginning of the game. At this point, there is a charming exchange of words between, which only surfaces in the chapter transitions. From then on, the player can switch to any of the characters during the gameplay to use the abilities unique to these three heroes. The magician can conjure up boxes to overcome obstacles, the knight is for melee combat using a sword, and the thief uses a grapple hook to swing across chasms, and a bow for ranged combat. Later on into the game, the heroes get additional abilities, but these are too few and far between for the development angle to be engaging. The magician gets the ability to draw up planks and floating triangles. The thief can use multiple arrows, and arrows tipped with fire, and the knight eventually gets a very powerful hammer. Some levels require the player to light torches, which Zoya can achieve with fiery arrows, and Pontius with his blade. The Wizard is however, useless, as he does not know the fireball spell, which Zoya points out.

The levels are very detailed and beautiful, and the story follows a typical fantasy template of an evil power overcoming a kingdom. Traveling through the platformer, looking at the intricately detailed surroundings is a pleasure, a pleasure heavily marred by the seemingly endless number of skeletons that spawn and try to hamper your progress. What would have been a great tourist adventure has been turned into a cute little inappropriate nightmare. The combat soon becomes repetitive, and enduring the combat is a pain. There are a handful of new enemies that show up, spiders that spit venom and vampire bats that fly out and bite you when disturbed. The range of enemies is very limited, and relies on numbers rather than AI or creative use of weapons. There are a few boss monsters in between, but the novelty soon wears off. A frog with crystal amour on its back, and a giant skeleton, are the only boss monsters that you actually fight against. Sometimes, you kill a boss monster by dropping it into a void, and at other times you have no choice but to simply evade it. Later on in the game, the boss monsters are actually easier to kill

TRINE

than the regular supply of undead skeletons.

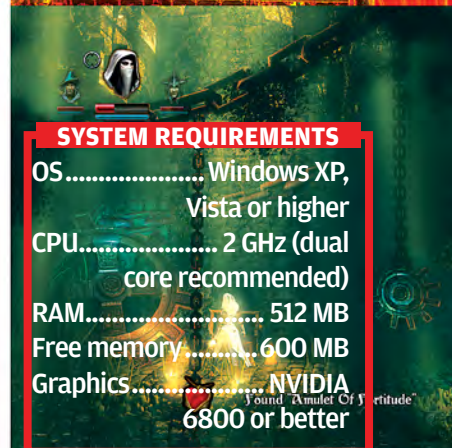
The most heavily underused aspect of the game is the very robust physics engine. Boxes, bricks, planks, pulleys, lifts and boards behave in a realistic manner. There are a few places where you have to creatively use a combination of these to get to a particular point. Say there is a swinging mace chained to a bar jutting out of the wall. You use the magician to levitate the mace in such a way that it is tied up to the bar, and cannot swing any more. Using the magician to create a crate, then impaling the crate on spikes in a wall, and using it as a ladder is a common approach. The puzzles themselves get repetitive, and not a single one is a challenge. You will not need to repetitively try to solve a puzzle, then look up for a walkthrough video on YouTube at any point of the game. The lack of a challenge, and the underuse of such a great game engine is very disappointing. The checkpoints in the game are automated, with no ability to save progress to a specific point. This often puts you back by a large distance, which makes you replay the same parts over and over again.

The only real challenge in the game comes up unintentionally. If any one of the three characters die, then you will be forced to play for a while with just the other characters. This will force you to use the abilities of the characters left alive in inventive ways. Players can choose to challenge themselves by trying to play the game with only two characters. The increased difficulty levels just add to the numbers of the undead hoard, and the abundance and strength of powerups. The game is very short, about six to eight hours of gameplay, but every minute of the game feels terribly long drawn out because of the force of numbers of the undead skeletons. At the end of the game, there is a typical tactic of introducing the element of time to escape, which makes sure you have to retry the level a couple of times.

The story wraps up in the end, with a short montage of how the three characters end up. In short, the game is great eye-candy, and a novel new platformer worth playing once but definitely not another Braid, Little Big Planet or World of Goo. The game is a little like Amadeus, a lot of cool tricks up his sleeve, but missing out on the elements that are most obviously necessary. **d**

RATINGS

Consoles.....PC, PS3, XBOX 360,
PublisherNobilis
DeveloperFrozenbyte
Rating.....5/10



The rise of Cobra

Faiyaz Shaikh

readersletters@thinkdigit.com

Experiencing *G.I. Joe* again after all these years, reminds us of those days when we would setup elaborate battlegrounds in our rooms, using common household items, to pit *G.I. Joe* action figures against *Cobra Command* action figures. Now, a couple of decades later, when we picked the latest game based in the *G.I. Joe* universe, the feeling was one of nostalgia and mirth at the ignominy of two well-equipped power hungry groups fighting for control over the world. It all reeks of unrelenting military machismo, where even a female *G.I.* is a Joe.

The Factions

Like most war stories, *G.I. Joe: The Rise of Cobra* has two parties that are at each other's throats and then there is a weapons manufacturer. The weapon's company in this story goes by the name of M.A.R.S. and it is developing warheads for the U.S. Army (*G.I. Joe*) and is simultaneously selling some nifty nanotechnology to a group fighting to bring a new world order (*Cobra*). So the stage is set – for most part of the game, you get to play one of the several operatives of *G.I. Joe*, which is a super secret division of the U.S. Army.

Theatre of War

The game is set across the regular gamut of tilesets of frigid, jungle and desert landscapes. Each of these locations has four to five missions, along with another locked mission. Mission objectives are quite straight forward and they can fit into three categories – rescue mission, search-and-destroy, and intelligence gathering. You start the game in a mission room to select two *G.I. Joe* characters for your next venture. The game has a fairly impressive roster of 12 *G.I. Joe* characters and four *Cobra* characters to choose from.

Each of these characters belong to either one of the three classes – a combat soldier, heavy infantry or commando. Soldiers are all-round fighters and are very handy in every mission. Heavy infantry class is great against vehicles and structures and the commando class specialises in melee combat. After a mission brief, you are thrown onto the mission map with the four locations mentioned earlier. Some of these locations (along with their respective missions) are initially locked and requires completion of certain other missions before they are playable. At most points in the game, there are multiple missions available at a time and they can be attempted in any order you choose.

Mission Directives

These missions have a primary objective that you eventually reach as the level design is quite linear. The secondary objective is to gather collectibles like intelligence and contacts of other *G.I. Joe* members. Collecting these gives you different rewards – gathering intelligence may unlock concept art in the game's gallery or it may unlock another side-mission. Locating contact of a *G.I. Joe* makes that member available to be unlocked in the team roster. In addition, all of these items also add points to your total score.

Sometimes these collectibles are behind a special door that requires a particular class of character to open. If you find yourself without the right class of character, there will most likely be a teleport device somewhere in the level. Using these machines you can swap one character for another and crack that door. There is also another queer collective object in the form of Point Clusters, another source of

points. These are either dropped by the fallen enemies and structures or found behind destructible object. So, for most part your focus in going to be killing, destroying and collecting to rack up your score. Slain enemies sometimes drop a score multiplier that remains active for a few seconds, multiplying the score you earn during that period.

At every checkpoint in the game your total score is tallied and reaching a certain score rewards you with precious Battle Points. These points are used to unlock other characters in the team roster – quite essential, as this is the only thing that really keeps the game fresh.

On to the genocide

The mission levels are roughly divided into set piece arenas where it is either dodge and shoot or get behind cover and shoot. You attempt each mission with two characters playing either co-op with another person or in single player mode, switching between the two with push of a button. Even though the game seems to give a lot of emphasis on taking cover, the system is not as robust as we have come to expect after some of the other games.

There are situations where things can get pretty hairy as you are taking on foot soldiers, turrets and heavy cavalry simultaneously. The game provides a few tricks to help you get through such situations—you can sometimes call for back up in the form of vehicle drop, artillery fire or firing from space using a weapon satellite. In addition to this, each Joe has special ability that can be a life saver most of the times. This ability is available either in the form of enemy drops or by building up the ability meter by taking down targets. Each character can store up to three uses of the special ability at a time. Causing mayhem 'efficiently' builds up the Accelerator Suit meter. After the meter is filled up, you can unleash it to transform both the characters into super soldiers, firing bullets and rockets at godly speed and taking virtually no damage for a few seconds.

Mission Review

Even though the game does not have a lot of depth, it's paced well enough to keep it interesting till the end. There is a constant trickle of new playable characters, right until towards the end of the game where you get to play as some of the *Cobra* characters. If you have enjoyed games like *Brute Force* or even *Contra*, there is a good chance you will find this one fun to play. The fun however, does not last long and the game can be completed in eight to ten hours—maybe that's lengthy enough for a mindless shooter.

Despite all its flaws, this game is fun to play as it has a certain old school charm. Unlockable characters and multiple difficulty levels add a fair bit of replay value to the game. So, if you are a fan of the *G.I. Joe* universe or are looking for a decent co-op shooter, you might want to grab a copy now; otherwise you could wait for a price drop. **d**

RATINGS

Score: 6.5/10

Genre: Action, Shoot 'em Up

Platforms: PS2, PS3, PSP, X360, Wii, DS

Developer: Double Helix Games, Backbone Entertainment

Publisher: Electronic Arts

Distributor: Milestone Interactive Software (PS2, PS3, PSP, Wii, DS) Redington (X360)

Price: Rs. 999 to Rs. 2,499 (depends on platform)



Geek culture : Mecha

Gigantic robot like exoskeletons but with people - or in some cases, aliens controlling them are called Mechas. Mechas are not not to be confused with gigantic robots - such as the ones seen in any of the Transformers storylines. The earliest description of a Mecha was probably the tripods in War of the Worlds. Although impractical, real life models are being built.



Heavy Gear II: Mecha combat gaming, the series also has a large number of sci-fi books.



MechQuest: A browser based Mecha MMORPG from the same people who made AdventureQuest.



Armored Warriors: Old School coin operated mecha action in the street fighter style.



Power Rangers: A bunch of kids destroy skylines while fighting with giant robotic dino's or animals.



Gundam: The culture is so huge that Japan even set up this 56 foot statue, and a mecha school.



Star Wars: The AT-AT walker is the most famous, but there are other Mecha in the series.



The Landwalker is a mech on hire from Sakakibara Kikai Co. that rolls along on wheels hidden in its feet.



The T-52 Enryu is a Mecha from another Japanese company for clearing debris during rescue operations.



Half Tractor, half lumberjack, the six legged Timberjack is a prototype meant for industrial logging.

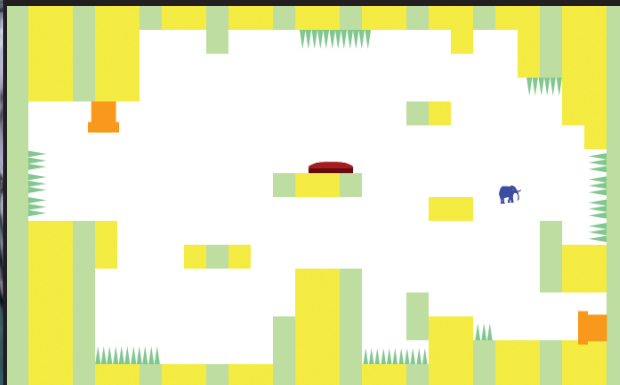
Digit Diary

The team deviated a bit from the regular Quake3 fare and got onto some Warcraft3 instead. Raaabo did not join in, but everyone irritated him by using the quotes that the units in Warcraft3 use in the workplace. Here is a handy wc3 roleplay guide for office use:

To complain about work: grunt "work, work" like an orc
To accept work: "Something need doing?" in a confused voice, as an orc, or "ready to work" in an easygoing villager voice
To address your boss: use "Milord" or "Chieftain"
Asking for instructions: "I await your command." in the gruff voice of a Knight or "The dead stand ready" in a hoarse whisper of the undead or "I await your command" as an elf.
Pissed off at colleague: "Maybe you should get a strategy guide." or "This outfit is for the birds."
To scare people: "Me eat dead people!" or "I like chicks that are into bandage..." as the Undead.

Elephants do forget

While being an interesting and highly addictive flash game, there are a few things about game design that any game developer can pick up from this simple game. An elephant, a button, and a door... that is almost all there is in just one level of the game. But every time you think the game is over, you are forced to rethink that one level. Head over to <http://tinyurl.com/m5hcm>



1337sp33k

Stay up to date with internet lingo, so you don't wt? the next time you are chatting with someone

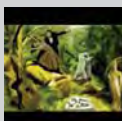
Schooled: To get schooled is to learn something after a lot of pain and/or humiliation. Usually used after a gamer has been pwned.

kekekekeke: An expression of mirth and laughter, the big brother of "lol" used for being awesome at a game or trolling someone hard.



Movies

District 9: A refreshing take on visitation, check out the Digit review at <http://www.thinkdigit.com/d/45750>.



Music

The Green Waltz: A free album by The Dada Weatherman. We like the tracks "Little Man" and "Pixel Song1".



Game

Anarchy Online: A great Sci-Fi MMORPG. Jump in with the updated installer is in this month's Play DVD.

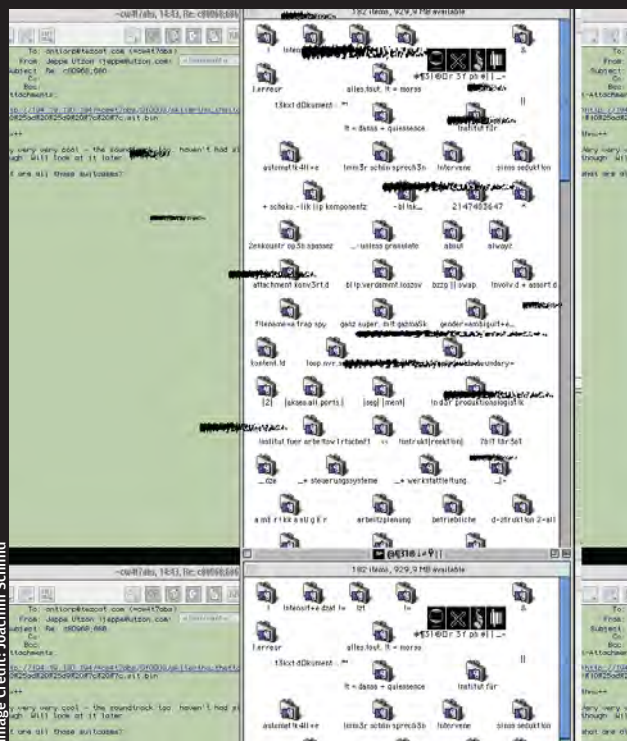
The Penguin is Growing Fat

NEWS

Microsoft Windows has long been known as a bloated Operating System. Those who use Linux, stand by how small and efficient the Kernel is. However, in the most recent LinuxCon, Linux Trovalds, the creator of Linux accepted that the Linux Kernel is growing to be a bloated Operating system, and is no longer as streamlined as it used to be. In his words, Linux is now “bloated and huge”. This was in response to a question on efficiency posed by one of the officials from Novell, the company that is responsible for the SUSE Linux distro, one of the most commonly used Linux distros.

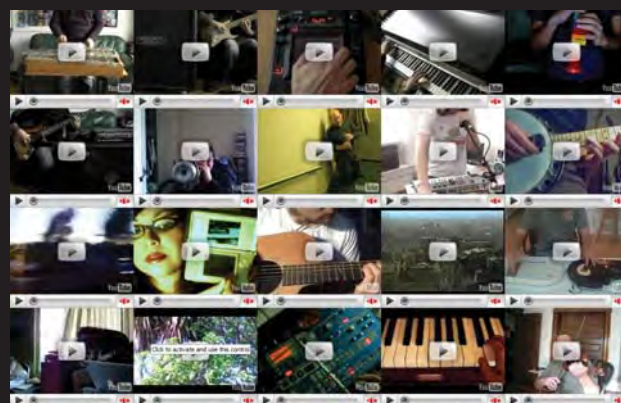
Trovalds continued to state that the reason for the bloat was because of the tremendous lines of code added to the Kernel, and that it was an unavoidable artefact of the pace at which the operating system is growing. This has lead many to wonder if Linux does get adopted on a wider scale, and does eventually become more efficient and consumer friendly, then the chances are that Linux also will become an Operating System with the same number of bugs and holes as Windows.

tech art: Net.Art



inbflat.net

One of those websites you must visit for the sheer novelty of the idea. Inbflat.net has taken a number of videos from YouTube, and arranged them in an array. The videos are of musicians displaying their skills in different instruments. Play the videos together, or play some of them, or play a selection at different times to remix and create your own track. There are 20 videos to buffer, so you will need a lot of patience or a great internet connection for this to work smoothly though.



For those who came in late

Muddled by so many terms used in the mag? Here's your short guide to the tech lingo

Biometric: Computer interfaces that read off humans, typically for security purposes. These can range from fingerprint recognition to Iris recognition. Both the hardware as well as the software are referred to as “biometric”.

SCSI: Pronounced as “skuzzi”, an older file transfer standard meant for server hard drives, and later used for a range of I/O devices.

SAS: Serial Attached SCSI, a data transfer standard for moving data from external devices such as hard drives and tape drives, found only on high end boards.

SATA: Serial ATA - a standard interface between modern computers and the storage medium, replacing the older PATA connectors (Parallel ATA). This standard considerably reduced the number of pins.

CMOS: Complementary metal-oxide-semiconductor, a process for making integrated circuits. A CMOS sensor is a type of integrated circuit with an array of light sensors, used in digital cameras.

CCD: A charge-coupled device, a method in which information collected by a chip is collected. A CCD is one of the two commonly used types of sensors for digital photography.

F-number: The ratio of the aperture in a lense to it's focal length. Generally, the smaller the f-number of a lens, the better.

Net.Art is a rather strange art form, which is basically coding an HTML page with irregular, illegible and often useless characters in them. The lines, the letters, the numbers, radio buttons, check boxes and in some cases, the animations used are either jarring, outrageous, or just simply strange. The reason why people indulge in this art form are various and complicated. To some people who take it at face value, it is just something unconventional and cool. To others, it is a way of questioning the establishment of the Internet, about the standards used by the browsers, or the design principles of websites. Head over to <http://0100101110101101.org> to check some examples out, but don't linger too much, or you will get a headache.

21-09-2009, 02:53 PM

#1

naveen_reloaded

!! RecuZant By Birth !!

Join Date: May 2005
 Location: In Everyone's Heart
 Posts: 2,770

New Scam on the Rise - Beware
 We used to get so many mails with the heading "You won the lottery ...", "Confidential: I have xxx,xxx,xxx,xxx \$", "You have be chosen ..", Etc . When they first came into action , many innocent people fell into their trap and lost thousands. Today i wanted everyone to know that there is new scam rising in the world of SMS.
 It all started a few days back when my mom asked me to check her sms about a message she received that her mobile number has been chosen for a prize money. when i searched for the message and found it , i am surprised , simply because this has been there in internet for years , Now in mobile ? WTH ? Hers was a BSNL number , so i thought some is sending some stupid message.
 Today , i got a similar message. Take a look.

If you have ever come across or still haven't , please inform your parents , relatives that these things are on prout and to be careful. Many people , especially Indians are susceptible for these kind of scams. They think its from the Airtel / Bsnl / Idea , just like some other alert , they fail to see the difference between the spam and real alerts from the Mobile companies. Please be free to comment and please do share this article if you think you want to spread the news and alert people.

Source : <http://urssiva.com/2009/09/21/a-new-...e-rise-beware/>
 Know My Thoughts..
 Visit my Blog @ www.Urssiva.com
 Visit My Tech Blog @ www.CloudTechnica.com
 Last edited by naveen_reloaded; 21-09-2009 at 03:10 PM.

21-09-2009, 03:09 PM

#2

thewisecrab

hahaha niaaaaaaa

Join Date: Oct 2006
 Location: Bombay
 Posts: 1,341

Re: New Scam on the Rise - Beware
 I got a similar message about a month back, deleted it promptly.
 My blog: <http://aderivativelife.com/>
 Where Life is an increasing function of Murphy's Law
 Twitter:<http://twitter.com/thewisecrab>

21-09-2009, 03:12 PM

#3

naveen_reloaded

!! RecuZant By Birth !!

Join Date: May 2005
 Location: In Everyone's Heart
 Posts: 2,770

Re: New Scam on the Rise - Beware
 Results for +447031863263
 Country United Kingdom Flag Map +
 Country Code +44
 Number Type Personal Numbers
 Region
 Telecom Network Magrathea Telecommunications Limited
 Related Links www.cellphoneregistry.org
 Know My Thoughts..
 Visit my Blog @ www.Urssiva.com
 Visit My Tech Blog @ www.CloudTechnica.com

FOLLOW US ON

 DigitIndia
<http://twitter.com/digitindia>

 Digit
<http://facebook.com/digitindia>

 Digit Club
<http://alturl.com/rznc>

 SMS Join DigitIndia
 to 567678



The September **winner** of Green Technology Contest was **Rizwan A Salam** from Trivandrum



Win! Win! Win!

A brand new Hero Electric bike – MAXI was handed over to Rizwan A Salam by Mr. Suresh Babu, Legal Manager of Marikar Group of Companies. Take part in the **Digit Festival Contest** and stand a chance to win your very own MAXI. You can also win prizes everyday by answering daily questions. To find out how to participate in the Digit Festival Contest head over to page 141.

SOMETHING BIG

is coming to
thinkdigit.com
in NOVEMBER

Log on or miss out