



Price
Rs 125

Agent001 Needs His Gaming Gear

Careers And The Telecom Geek

September 2007

www.thinkdigit.com

digit

YOUR TECHNOLOGY NAVIGATOR

Logo Show!

Home In On The Best Branded PCs



Sci-Fi Becomes Fact
Stranger Than Fiction!

Beyond Boring Old
Windows And Icons

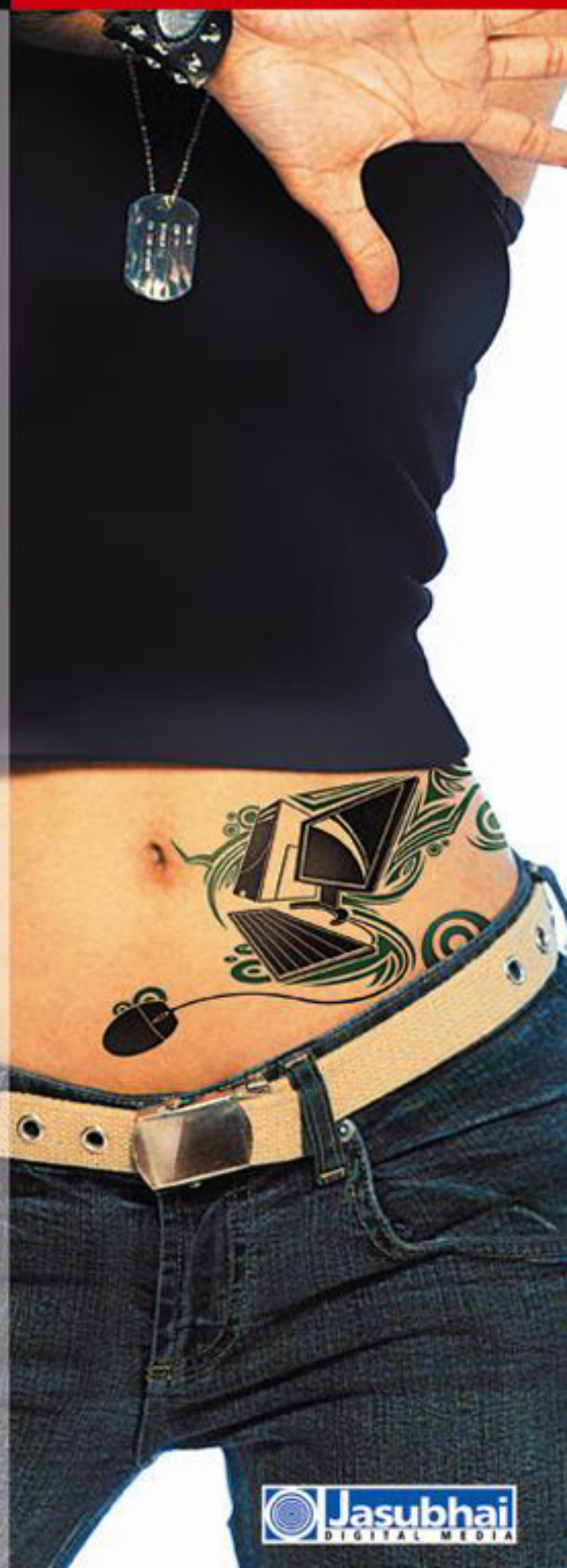


What Makes Your Washing
Machine So Smart?

See, Hear, Talk, Be There!
The Great Big Webcam Test



Advertise Yourself Online—
Even If You're Low On Cash!



Jasubhai
DIGITAL MEDIA

Editorial

To Connect Is Human

STATISTICS CAN SOMETIMES prove something. There are more than 1.1 billion Internet users; around three billion mobile phone users; a billion who use Internet Messengers and e-mail daily; and lately, a third of a billion on Web 2.0 sites—the now all-too-familiar Orkut and MySpace, and—the most interesting part—*Second Life*.

We've spoken about that online phenomenon quite early on in *Digit*, and even if most of us don't have the bandwidth to really be there, it's an *important* phenomenon.

Observe. There are two things central to all these popular manifestations of technology—they have raked in hundreds of millions of users in just five years, and, all of them have one core agenda—to link up human beings. They essentially foster increased communication, sharing of thoughts and opinions, and, exchange of content.

The second point deserves attention here—let me elaborate.

Any technology-led innovation that has met with instant success, been adopted globally, and topped popularity charts worldwide—language and cultural barriers notwithstanding—must satisfy one fundamental need of human beings: the need to socialise, express thoughts, and most pointedly, to communicate. We love to build communities, converse, and connect. If a technology helps us do these, we lap it up.

Why are MMORPGs such a rage, despite the fact that you can always play the game with a bot? That, I think, drives home my point. We want to connect—even if for a duel—with other people. Real people. Think about it... we might create virtual identities in *Second Life* and satisfy our desire to be that someone else, but eventually, we do it all to connect with other human beings (even if they're represented by a virtual identity themselves).

The achievements of these new technologies, if I may say so, also displace the popular notion that



Deepak Ajwani Executive Editor

“If a technology helps us build communities, converse, and connect, we lap it up”

the increased usage of computers isolates people, even making them vulnerable, prone to loneliness and depression. If a “computer addict” is glued to social networking sites, it's not necessarily an instance of isolation. For many introverts, these sites are their only recourse when they feel the need for social interaction.

Networking sites—and now *Second Life*—becoming so popular clearly indicates that the success formula for any technological innovation in this space, to quickly scale up and find favour globally, is to bring in an element of human connect—even if it's virtual.

A handwritten signature in black ink, appearing to read 'D. Ajwani'.

editor@thinkdigit.com

Chairman
Jasu Shah
Printer, Publisher, Editor & Managing Director
Maulik Jasubhai

Editorial

Executive Editor **Deepak Ajwani**
Head of Writers **Robert Sovereign-Smith**
Sr. Writer **Nimish Chandiramani**
Writers **Samir Makwana, Asfaq Tapia,**
B G Prakash, Bhaskar Sarma
Sr. Copy Editor **Ram Mohan Rao**

Test Centre

Assistant Manager **Sanket Naik**
Reviewer **Jayesh Limaye, Michael Browne,**
Rossi Fernandes
Trainee **Sumedh Phalak**
Product Reviews Co-ordinator **Yogendra Bagle**

Design

Creative Head **Kabir Malkani**
Head - Editorial Design **Rohit A Chandwaskar**
Chief Designer **Shivasankaran C Pillai**
Senior Designers **Vijay Padaya, Sivalal S**
Designers **Chaitanya Surpur, Shrikrishna Patkar,**
Nilanjana Ghosh
Photographers **Jiten Gandhi, Sandeep Patil**

Multimedia

Content Head **Robert Sovereign-Smith**
Content Co-ordinator **Nimish Chandiramani**

Sales & Marketing

Vice President
Bibhor Srivastava

Marketing

Marketing Communication **Thomas Varghese**
Senior Executive-Sales Support **Ramesh Kumar**

Production and Logistics

GM - Operations **Shivshankar Hiremath**
Production Manager **Mangesh Salvi**
Logistics **M P Singh, Vilas Mhatre, Mohd. Ansari,**
Shashi Shekhar Singh

Circulation & Subscription – Sales

GM Circulation **Milind Prabhughatte**
Co-ordinator **Rahul Mankar**
Subscriptions **Mahesh Malusare**
Customer Service **Perna Panchal, Sneha Sen**

Head Office: Editorial, Marketing and Customer Service

Plot No D-222/2, TTC Industrial Area, MIDC
Shirvane, Nerul, Navi Mumbai 400 706
Phone: +91 022-27629402/9403
Fax: +91 022-27629274

Cover Design **Rohit Chandwaskar**
Illustration **Chaitanya Surpur**
Photograph **Jiten Gandhi**

Printed and published by Maulik Jasubhai on
behalf of Jasubhai Digital Media Pvt Ltd,
26 Maker Chambers VI, 2nd Floor, Nariman Point,
Mumbai 400 021, India and Published from
Mumbai
Editor: **Maulik Jasubhai, 26 Maker Chambers VI,**
2nd Floor, Nariman Point, Mumbai 400 021
Printed at **Magna Graphics (I) Ltd,**
101 C & D Government Industrial Estate Kandivli,
Mumbai 400 067



Tell Us What You Feel About Digit

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



Product Testing

Want your product reviewed by *Digit*?
Contact our Test Centre at sanket_naik@jasubhai.com



Software On DVD/CD

To submit and suggest software for inclusion in the *Digit* DVD or CD, contact us at cdcontent@jasubhai.com



Help!

For subscription or copy-related issues, send an e-mail to help@jasubhai.com
You may also contact the following executives for local queries:
Bangalore: Devaraju N (09341809286)
Chennai: L R Laxmanan (09380229283)
Delhi: Samir Mehta (09313195354)
Hyderabad: Norbert Joseph (09396229281)
Kolkata: Jayanta Bhattacharyya (033-22317344)
Mumbai: Mahesh Malusare (022-27629400)
Pune: Sachin Kamble (09372429280)



Endorsements/Reprints

Interested in ordering article reprints, or using our logos?
Contact ramesh_kumar@jasubhai.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

Advertisers' Index

Client	Page
ACI	75
AOC	148
APC	21
Brother	101
Canon	Back Cover
Cricket Today	88
Dell	14-15
Depod Communication	135
Foxconn	97
Gigabyte	19
HP	7
IBM	24-26
IBM	Insert
Kingston	Inside Back Cover
MSI	39
NDTV	61,115
Rediffmail	51, 113
Ricoh	31
Rustomjee	85
Samsung	Cover Gatefold
Soft Aid	57
The Man	129
The Week	127
Tirupati	29
Topgun	105
Toshiba	35
Viewsonic	13
XFX	133

Products Reviewed This Month

HARDWARE

Desktop PCs 00

Acer AP E361
Acer Aspire IE3214
Acer Aspire L310
Compaq Presario SG3053IL
Compaq Presario SG3063IL
Esys EUC3223CI
HCL Beanstalk Classic Z944
HCL Dominator Q965
HCL Ezeeb Max XP Z999
HP Pavilion a6110i
HP Pavilion s3180in
Intex BA-73401
Intex BF-73411
Intex BM-45431
LG XDZ
Sahara 20CK16
Zenith PC 401G

Laser MFDs 00

Brother DCP-7010
Brother MFC-7420
Brother MFC-8460N
Brother MFC-8860DN
Canon MF4122
Canon MF4150
HP LaserJet 3052 All-in-One

HP LaserJet 3055 All-in-One
HP LaserJet 3390 All-in-One
HP LaserJet 3392 All-in-One
HP M1005 MFP
Lexmark X342n
Panasonic KX-FLB802CX

Web Cameras 00

Creative Live! Cam Optia
Creative Live! IM Pro
Genius Look 310S
Genius Look 312P
Genius Look 313 Media
Intex IT 305 WC
Logitech QuickCam Family
Logitech QuickCam Notebook Pro
Logitech QuickCam Pro 5000
Logitech QuickCam Sphere MP
Logitech QuickCam Chat
Logitech QuickCam Easy
Logitech QuickCam Go
Logitech QuickCam IM
Logitech QuickCam Messenger
Microsoft LifeCam NX-6000
Microsoft LifeCam VX-1000
Microsoft LifeCam VX-3000
Microsoft LifeCam VX-6000
Tech-Com SSD-640K

Tech-Com SSD-641-MP
Tech-Com SSD-642K
Tech-Com SSD-643K
Tech-Com SSD-644K
Tech-Com SSD-645K
Zebtronics 1300 WC
Zebtronics 350 WC
Zebtronics 480 WC
Zebtronics 280 WC
ZEN ZENX

BAZAAR 00

Hardware
BenQ T91W
Buffalo DriveStation Quattro
Cooler Master AquaGate S1
ECS 965PLT-A
HAVA Wireless HD
Lenovo 3000 N200
Nokia E65
Sennheiser RS130
Sony Ericsson Pti
Western Digital AV 160 GB WD1600AVBB
Software 00
Mundu Radio
Norton 360 All-In-One Security
Sony Sound Forge 9.0a
Toon Boom Storyboard Pro

To Advertise

South

Aamer Khan
E-mail: aamer_khan@jasubhai.com
jasubhai.com
Mobile: +91 9341118818,
Phone: (080) 25546370-73
Fax: 41518330
Phone: (044) 28235186/88
Fax: 28230731
Phone: (040) 27894167/ 55221051
Fax: 27720205

West

Manoj Sawalani
E-mail: manoj_sawalani@jasubhai.com
jasubhai.com

Mobile: +91 9820176965
Phone: (022) 40373636/
40373626/24494572/24467130/1
Fax: 24482059/24481123

East

Jayanta Bhattacharyya
E-mail: jayanta_bhattacharyya@jasubhai.com
Phone: +91 9331829284
(033) 22317344/46

North

Manish Sharma
E-mail: manish_sharma@jasubhai.com
jasubhai.com

Phone: +91 9312658374,
(011) 41608655/56/57/58

International Representative

Taiwan
Mr. Marc Sonam, Image Media
2F-2, No. 35, Sec. 2,
Fushing South Road, Taipei 106, Taiwan,
R.O.C.
Tel: (886) -2-8773 4199
Fax: (886) -2-8773 4200
marc@imagemediatw.com

Enter



16
Jan Blom talks to us about Nokia's new design studio in India

16
When social networking sites become targets for attack, it doesn't bode well

20
The University of Chicago says "no PPT skills, no admission!"

23
All about Moblin

Digital Passion

Lead Feature

27 Sci-Fa

Think science fiction—as in motherships and cyborgs. Then think about what's gone beyond fiction, what's not, what's being said today... think all such thoughts



Insight

32 Almost Intelligent

While they're hardly sentient beings, our appliances today baffle us with what they can think of. Here's what you need to know about the fuzzy logic that drives them



Tomorrow

36 Alterface!

Tired of the boring old window-icon-menu-pointer interfaces that we've been stuck with since the eighties? We are, too. We explore the reasons behind why things are where they are, and present a look at what's to come



40 Droolmaal

Gaudy speakers to hang from your ceiling, a classy new cell phone and oodles of portable storage in this month's Droolmaal. The pictures are pretty, and the things cost a pretty penny. Get your tissues ready!

38 Take A Crack At

Want to be called a Windows magician? We're sure you can impress your folks real easy—just make the Yahoo! icon! vanish! from! the! toolbar! But make Explorer's menu bar vanish at will, and then make it re-appear—and we'll suitably reward you!

Contents Magazine

Digital Tools

Cover Story

48 centrePieCe!

Sure, you can be the brave geek and assemble your family PC, but what happens when things go awry? The best thing about branded PCs is the tech support and peace of mind that come bundled with them... Here's a comparison of the best in the market, for budgets big and small



Agent001

80 New Ways To Play Old Games

You may be used to the keyboard and mouse for gaming, but what if you want more? Agent 001 goes on the hunt for wheels, joysticks and more!



Know More About

86 Touchscreens

All you need to know about different touchscreen technologies and how they work—and also about the hype vs. the matter



3 Incredibly Useful Sites

84 In Theory And In Practice

One for the science geek; getting serious, one for he who seeks management wisdom. One for photo buffs.

Enhance

43 Access: Granted

Got data? Here's our primer to Microsoft's Access, and how it can make your life much easier



Digital Business

Business Test

92 All-In-Wonders!

It's the era of the multi-functional device. So here's our annual test: we've tested a bunch of these do-it-alls, starting with the most basic to the powerhouses that even the big corporates swear by



Trend

108 Cause For Concern

Everyone worries about their organisation's security, and it's one area where companies aren't shy to pay through their noses. India's companies, too, are taking steps to keep their data safe—they're all aware of the gravity of the situation



Tech Careers

89 Powering The Tower

Join the wave of professionals heading into India's all-too-booming telecom industry!



Smart Business

104 Cheapest Trumpet

Thought you needed wads of cash to promote your business? Here's how you can do it on a shoestring budget! All you'll need apart from small change is time



September 2007

Digital Leisure

116 Webcam Test Talk Tonight

Webcams were never so cheap! Choose from among the best, and let your friends and relatives see you from miles away!



136 Game On

Here in this space, it's quite an adventure for us: *The Darkness* is upon us, and we fly into it with *Project Sylphed*, wielding the *Sword Of The New World...*



Touched by Tech

111 A Chain For The Chasm

Where do you go when you want to help the community? Stick to your armchair... some organisations will allow you to volunteer over the Net.



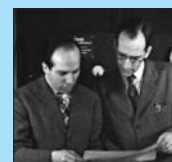
Tabloid Tech

147 Wallpaper Woman Wields Wiimote

The world's sexiest woman (*Playboy* thinks so!) loves her Wii, screaming "Bimbo with brains." Cool.



Escape



131

The ENIAC took us into the age of computing... meet the men who made it

130

Of all the st00pid H4x0rs! They "hacked" a wiki! You may commence laughing now

REGULARS

Opinion Poll.....	17
Security Watch	17
The Digital World	16
Beat That	18
Stat Attack	22

Buzzword Of The Month	22
Bazaar	58
The A-list	82
Tips & Tricks	67
Q&A	76

Whatever Happened To	130
Bluff Your Way Through.....	132
Digit Diary.....	134
Inbox.....	144
Tech Quiz	146

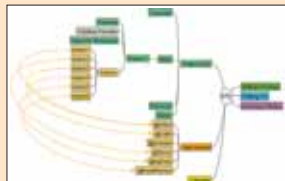
F

DUAL LAYER

8,700 MB Of Quality Content!

Productivity

THE FREE OFFICE FreeMind 0.9.0 Beta



FreeMind is a premier free mind-mapping software written in Java. The recent development has hopefully turned it into high productivity tool. We are proud that the operation and navigation of FreeMind is faster than that of MindManager because of one-click "fold / unfold" and "follow link" operations.

OpenOffice.org 2.2.1



OpenOffice.org is a multiplatform and multilingual office suite and an open-source project. Compatible with all other major office suites, the product is free to download, use, and distribute.

- Action Point Of Sale
- FreeProxy (Windows)
- JAMES
- Maintenance Assistant
- Mozilla Thunderbird
- Squid (For Debian-based Linux distros)
- Tunir Accountant 2007
- WAMP5

DEVELOPERS

Adobe FrameMaker 8



Adobe FrameMaker 8 software is a powerful tool for technical communicators that combines word processing and XML-based structured authoring with template-based publishing.

Visual C# 2008 Express Edition Beta 2



The next version of Visual Studio, Microsoft Visual Studio

2008, will provide an industry-leading developer experience for Windows Vista, the 2007 Microsoft Office system, and the Web. This is the beta release of Visual C#

- EasyEclipse for C and C++ 1.2.1
- Windows Media Center SDK 5.2
- Audio Formats SDK 1.6
- Zend Studio 5.5

Gaming

FREE Fate By Numbers



Fate by Numbers is a Full Motion Video adventure game filmed against a green screen and featuring 3D pre-rendered backdrops. The adventure games includes over an hour of HD-video with professional actors accompanied by a soundtrack written for the game. Private eye Alice Sanger is assigned to get a briefcase, but quickly finds herself immersed in a web of corruption and shadowy motives. It becomes personal when she finds out that one of mysterious people behind the briefcase is none other than her ex-husband whom was declared dead several years ago. What follows is a mysterious journey through the layers of a future metropolis with 50's noir influences.

De Blob

de Blob is a 3D game in which the player controls a ball of paint rolling through the city. The ball can absorb coloured NPCs to become larger and change its colour. With the paint, the player can



then proceed to paint the entire city. Almost everything is paintable: buildings, trees, cars and using the paint trace even the ground. The main goal of the game is to paint all 17 landmark buildings.

FlightGear Live CD

The FlightGear flight simulator project is an open-source, multi-platform, cooperative flight simulator development project. Source code for the entire project is available and licensed under the GNU General Public License. The Live CD lets you start playing the game as soon as you



boot—no installation, no changing files on your disk.

- Racer
- Privateer Gemini Gold
- TAGAP: The Apocalyptic Game About Penguins

DEMOS

Anderson and the Legacy of Cthulhu

The player impersonates Robert D. Anderson, private investigator from New York, who travels to Germany during the first months of WWII in order to solve his most frightening case to research his origins. Arriving at the castle of his ancestors, he discovers an occult secret society among the SS, called "The order of the black sun", revealing secrets powerful enough to endanger mankind itself.

- Tasty Treats Adventures—The Secret Recipes
- Tribal Trouble

Tools

MULTIMEDIA LEGO Digital Designer



LEGO Digital Designer is quite simply the best virtual building system out there - with its "Click-Stick" method of 3D modeling winning praise from children, parents, teachers and design enthusiasts everywhere. And, as the virtual design platform behind a growing number of LEGO products, LEGO Digital Designer is here to stay. A host of improvements and new features are already in development, including an improved user interface, new connectivity, more life-like building, Technic compatibility and improved train building and animation.



K-3D

K-3D features a robust, object oriented plugin architecture, designed to scale to the needs of professional artists. It is designed from the ground up to generate motion picture quality animation using RenderMan compliant rendering engines.



Anime Studio 5.5

Anime Studio is your complete animation program for creating 2D movies, cartoons, anime or cut out animations. Create your own desktop animated shorts in the style of SouthParkStudios.com and JibJab.com, or use it to produce full-length animation for film, video or streaming over the web.

- CaraQ maker 0.61
- DAZ Studio 1.7
- Stickman 4.8
- StudioLine Photo Basic 3.18.1
- Antechinus Animator Professional
- DigiCel FlipBook 4.55
- Filter Forge 1.009
- Flash Effect Maker Pro 3.5
- Grid Magic Senior 1.0.2
- MAGIX Movie Edit Pro 12
- PhotoProto

SYSTEM

My Friend Mikey 2



Use your voice and/or your mouse to quickly navigate to any Website, and launch any program. Mikey is animated, moves, floats, and talks to you. Mikey also reads your mail (or any text) to you. Common commands are included.

Autopatcher XP July 2007 Update

The latest update for AutoPatcher. To use this, you'll need to install the AutoPatcher May 2007 release and June 2007 update from the August 2007 DVD

- AirSnare 1.5
- Microsoft Windows Defender
- NVIDIA PerKit (Windows XP)
- PC WIZARD
- Vista Transformation Pack 7
- Automize—Linux 7.35
- DataPilot 52
- Direct Access 1.6.2.1
- MindSoft Utilities XP 9.8c
- MobilEdit 2.4.5.4
- Panda Internet Security 2008 12.00.00
- Super Utilities Professional 7.65

PC-BSD

Blender 2.42

Blender is the open source software for 3D modeling, animation, rendering, post-production, interactive creation and playback.



PC-BSD



PC-BSD

PC-BSD has been designed with the "casual" computer user in mind. Installing the system is simply a matter of a few clicks and a few minutes for the installation process to finish. Hardware such as video, sound, network and other devices will be auto-detected and available at the first system startup. NOTE: During our tests, we discovered that PC-BSD's hardware support can be shaky, so it might not install on all PCs

Also Included

- PC-BSD Disc 2 (the essential PBI installer pack)
- Java Runtime (JRE) 1.5.0.07
- KSmoothDock 4.5
- NVIDIA Driver 9746
- The Ur-Quan Masters 0.6.2
- VLC 0.8.6a

Entertainment

CHANNEL 9

Microsoft Research TechFest—XNA, a depth-sensing camera, an LCD projector, and some genius

This is probably the world's only example of real-time terrain generation with XNA through the use of a depth-sensing video camera and real world objects. Video provided by Microsoft Channel 9 (channel9.msdn.com)

- Byron Cook: Terminator—Proving Good Things Will Eventually Happen



AUDIO BOOKS

Love Among the Chickens by P. G. Wodehouse

Jeremy Garnet, a second-rate novelist, gets talked into joining his old pal Stanley Featheringstonehaugh Ukridge in an insane plan to start a chicken ranch. Garnet should bail out on his crazy friend, but he falls in love with one of Ukridge's neighbors, Phyllis. Soon he is up to his neck in sick chickens, bad debts, a hostile future father-in-law, a sinister plot, and dirty golf. It all gets a bit thick, what?

- The Adventures of Pinocchio by C. Collodi
- The Island of Dr. Moreau by H. G. Wells



MOVIES

The Amazing Mr. X

On the beach one night, Christine Faber, two years a widow, thinks she hears her late husband Paul calling out of the surf...then meets a tall dark man, Alexis, who seems to know all about such things. After more ghostly manifestations, Christine and younger sister Janet become enmeshed in the eerie artifices of Alexis; but he in turn finds himself manipulated into deeper devilry than he had in mind...

- Dracula's Guest
- Dracula's Message
- Dracula's Prisoner



MUSIC

The Red Line of Hydrogen by Talley Lambert

This is the first album released by Talley Lambert, home recorded in 1999. The album is mainly guitar-based singer/songwriter folk-rock with a full band. Songs are generally acoustic, laid back, and introspective. Preview this album in the Digit media player!

Port Angeles by Alex Bailey

Port Angeles, the most recent album of Alex Bailey was cut in Winter 2006 in Seattle Washington. Recorded on a mini disc recorder with an upright house-piano, Port Angeles carves through winding country songs celebrating singer/songwriters of the last 30 years.



- Anomalous Material by JT Bruce
- Getting Back From Where I've Been by Kelly Allyn
- I Don't Know What I'm Doing by Brad Sucks
- The Grasping Hands of Possibility by Ruined Machines
- underground horn by Daniel Brandell
- Words and Voices by Aesthetic Evidence



SYSTEM



Ashampoo Magical Security

A Digit Exclusive! Ashampoo Magical Security is the successor to the popular Ashampoo Privacy Protector. The new program is now even easier to use, with a new look and even more powerful security. You need to be connected to the Internet to register for this exclusive full version.

Digit
Exclusive
FREE

GAMING

FREE Mono

The object, as far as there is one in this game, is to turn the screen from black to white, or vice versa. You do this by controlling a round white circle which is capable of shooting beautifully arranged displays of firepower at faceless coloured circles which float around the playing field.



The Breakdown—A Snack-Sized Adventure Game NaaC



The Breakdown is a fairly short point-and-click adventure game where you've broken down in the desert and are in need of repairs so you can return your lottery ticket in time.

- NaaC
- Eternal Daughter
- Halo: Hell on Earth Trilogy Edition
- Wandering Knights
- Zep's Dreamland

DEMOS

- People Shooter
- RIP 3: The Last Hero

ENTERTAINMENT

MOVIES

ExtraStrong

ExtraStrong is a short stop-motion animation that tells the story of a fight between two pieces of paper.



- Star Wars: A Clone Apart—Episode 1

FUN SOFTWARE

Sketch Studio

Sketch Studio is an easy to use drawing program for children. Although there are a number of drawing programs available for children, Sketch Studio is unique in that it contains built-in drawing lessons.

Magic Whiteboard 1.8

Magic Whiteboard is a fun and colorful network drawing software, designed especially for kids' entertainment

MUSIC

Lies and Speeches by HYPE

HYPE is a Parisian band of 4 musicians whose taste for the pop melodies coupled with power rock'n'roll is somewhere between the West Coast and the London fog. They wish to share their sound—a "perfect blend of electric, pop lyricism and 'entêtante'"—to fans all over the world



TOOLS

MULTIMEDIA Flookey



Flookey is a free audio player that learns which music you like through observing your listening behavior and looking at your music library's metadata. It then uses this information to suggest songs from your library that match your listening preferences, to create dynamic playlists, and to provide an intelligent way of navigating your audio library.

M.I.R. 1.2.05

Manual retouching of long image sequences with thousands of images can be a time consuming and tedious task. With M.I.R. HS-ART offers an efficient and easy to learn solution for manual retouching of any kind of single image defects. For example dust spots, bad splices, tears, and the like can be fixed with a few clicks. M.I.R. can also be used for real-time player of long image sequences. You'll need a graphics card with at least 128 MB of RAM to use this program.

- Free Fast MPEG Cut 2.3.2.1
- SCREEN2EXE
- Wavosaur
- A4 Flash Menu Builder 2.14
- HyperCam 2.14.01
- Livid Union 2.1.2



By Demand

You get to choose what goes on Digit Interactive. This month, you chose:

Visual C# 2008 Beta 2

Size: 414 MB



Autopatcher XP June 2007 Update

Size: 38.5 MB



Subscribe

No more snail-mail! No need to visit post offices! All you have to do is log on to www.thinkdigit.com/subscribe and use your **Credit Card** to make sure you never miss another issue of your favourite magazine!



Digit Reader Poll

This Month's Question

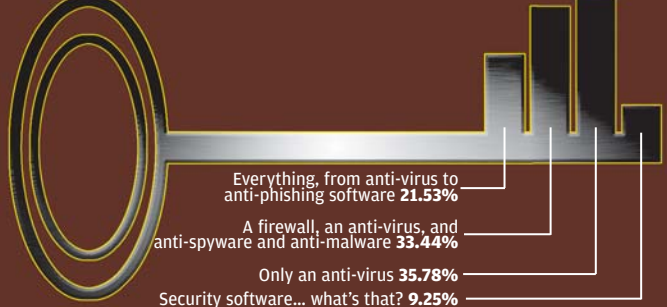
Which OS you think has the best GUI, and why do you feel so?

- ☐ Ubuntu
- ☐ Windows Vista
- ☐ Windows XP
- ☐ Mac OS X

To vote Log on to www.thinkdigit.com

Last Month's Question

What security software do you have installed on your computer?



taste technology at www.thinkdigit.com

THE BIG FIGHT (www.thinkdigit.com/forum)

Search through our Fight Club, and you never know what turns up...

Click here to go back to

thinkdigit.com

Open-mindedness vs Fanboyism

by adithyagenius

Please repeat after me

- 1) I am an intelligent person striving to be perfect/genius and not a retard striving to be fanboy/hindhole
- 2) People have unique requirements, learning curve, time to spend learning and customising, money etc for their software.
- 3) The software that I use is not the best for every individual in the universe.
- 4) If I want to suggest my software/product in a RELEVANT thread I will do so backed with logical reasons and explanations along with advantages AND disadvantages (if possible). I will not imply (directly or indirectly) that they are disgusting piece of animal/human excrement if they reject my suggestions.

5) Forcing my software choice upon people with ridiculous bandwagonism and fanboying is immature. This is only going to make people hate my software and make me look ridiculous. This might also force people to avoid conversing with me.

6) Every fanboy has the mental strength to become an open-minded, practical user.

I browse digit forum for technology news and some good discussions on software (I could contribute little due to my noobism). Recently the trend has changed here with lots of threads being instigated by fanboyism which give negligible information (The most significant information I got was how pathetic the fanboys are) with same arguments / fanboy wars. These threads come disguised as useful technology news or tutorials but have little use (The only use was that I could send those links for entertaining

my friends). They also bury the real informative threads. Of course a few posts boasting about your software might introduce new software and products to noobs like me but, fanboyism has crossed a line here.

I request all sane digit forumers (I hope I am not alone) to work together to prevent this forum from going to dogs/fanboys. I have noticed that fanboyism increases when a fanboy is challenged. So, I request forum members to ignore all fanboy posts and threads or read them (if needed) without replying, however insulting it might be to your software choice. This should cool them down from a fanboy to an open-minded fan. If this succeeds I will know Gandhigiri works.

Sorry, for any bad language or spellings. I apologise if I hurt anyone's feelings.

Got an opinion? Share it at:

<http://www.thinkdigit.com/forum/showthread.php?t=58763>

Windows Live SkyDrive: 500 MB—For Now

Microsoft has unveiled Windows Live SkyDrive, their new online storage service—currently available only for users in the US, the UK, and India! File sharing options are featured—such as Personal and Public—along with password protection. Visit skydrive.live.com. It's very user-friendly.



India Now Nokia's Second-Largest Market

India has overtaken the United States in the second quarter of 2007 to become Nokia's second-biggest market by sales, after China. The company shipped 60 million handsets from its factory near Chennai in the 18 months to August. Demand is expected to remain strong.



Enter



Jan Blom,
Head of the Nokia Satellite Design
Studio, India

Nokia recently set up the first in a series of satellite design studios here in India. We caught up with Jan Blom, Head of Nokia Satellite Design Studio, India, for a tête-à-tête.

What role will the Indian Design Studio play in the context of designing phones for Nokia? Will you design future mobiles specifically for the Indian market or also for a global audience?

Jan Blom: The main objective of the programme is to bring us closer to local cultures and traditions, helping us find new ideas that can be implemented across our global portfolio of products.

How do you see Internet services shaping up on mobiles here?

Jan Blom: Internet usage on the mobile phone is the new mega-trend. We are looking at what people want to do with mobile phones—sharing and creating content and building personalised networks.

What have you observed regarding Indian mobile usage habits and handset features preferred by Indians?

Jan Blom: We have conducted a lot of research into how cultures and traditions in India translate into colour and materials / texture preferences. Vibrant colours—reds and blues are important right now—signify a rich cultural identity and help your phone to be noticed. Metallic colours reinforce status in India. Silvers, Blacks, Golds, and metallic finishes are popular because of a strong link to a heritage of craftsmanship and artisans. Right now, it's all about colour. We are now looking at what colours will be in vogue next year and the year after that...

Indian consumers are looking at simple ways to navigate menus, so Nokia has introduced a one-touch feature for the music, Internet, camera, and GPS options.

VULNERABILITY 2.0

They're Invading Your Space

A majority of broadband users “share” music both legally and illegally and watch YouTube videos. No-one thinks they could be doing something potentially dangerous; turns out, it could be. Hacking pranks—and even serious attacks—are in the news in a fairly big way, probably for the first time.

The BlackHat conference, a gathering of computer protection professionals, was held in Las Vegas in the first week of August. Security specialists demonstrated serious vulnerabilities in social networking sites. This means cause for concern for everyone.

MySpace users, for example, customise their pages with various layouts, CSS, and HTML code. Unscrupulous hackers take advantage of poorly-written code, and inject malicious code into such pages. These aren't “real” hackers—this kind of hacking is all too easy.

Rick Deacon, a network administrator (and a benign hacker) in Ohio, discovered a “zero-day” flaw in MySpace. This is a security vulnerability that becomes publicly known immediately after the attack happens. The flaw allows intruders to take command of personal Web pages.

Clones of popular social networking sites provide streaming media, and the facility to share that content with others.



Illustrations Harsho Mohan Chatteraj

Many small- and medium-sized social networking start-ups centred on the streaming of audio-visual content are cropping up. User-generated content that social networking sites offer could now turn out to be a threat. Malicious code can even be injected into files streamed from such sites. According to David Thiel, iSEC researcher, “Stream formats are good for containing exploit code and are quite dangerous because of the widespread use of it with kids online these days.”

Incidentally, at last year's Black Hat conference, security professionals revealed how hackers Bad Code using RSS feeds.

Then, hackers and security professionals have talked about the vulnerabilities in social networking sites due to cross site scripting loopholes—this is for those who know what CSS is. We can't go into the

details here, but suffice it to say it's a bad thing.

The problem exists even at the browser level: CSS loopholes have been found in older versions of Firefox. Opera recently fixed a JavaScript flaw using a Firefox tool (!) called Fuzzer.

Millions of people who frequent social networking sites don't even have an anti-virus installed—or at least don't regularly update their virus definitions.

Web 2.0 stands tall on the trust model with

user-generated content. If that trust is going to be subject to exploit code, where do we go from here? On a non-technical note, what's frustrating is that what the bad folks are doing is just for fun, just for cheap thrills, pure and simple.

THE VIEW FROM THE MOUNTAIN

There's G In The Air

This is yet another Google tale that must be told. The (US) Federal Communications Commission's (FCC) wireless 700 MHz band auction to take place on 16th January 2008 was announced in July of this year. Google, as we learn, has intentions of stepping into the mobile advertising market—and the announcement was



Security Watch

Two New Vulns—Patch And Update!

The Problem

❑ A vulnerability has been reported in several editions of Microsoft Excel. It can be exploited to take control of a user's system. Memory could be corrupted and arbitrary code executed.

❑ Various Symantec products, including Norton AntiVirus 2006, Internet Security 2005 and 2006, SystemWorks 2006, and AntiSpyware Edition 2005 have vulns that can be exploited to compromise a user's system. They are caused due to errors in certain ActiveX controls under certain conditions.

What To Do

Microsoft has released patches for the various editions of Excel. Find them at www.microsoft.com/technet/security/Bulletin/MS07-044.msp.

Symantec Security Response has released Bloodhound.Exploit.148 to detect and block attempts to exploit the aforementioned vulnerability. Get the fix at <http://tinyurl.com/4kwu>. The vuln can also be fixed by updating virus definitions and signatures through LiveUpdate.

precisely what they were waiting for. Newspapers, columnists, and bloggers couldn't but talk about only one thing: Google's commitment to bid \$4.6 billion (Rs 19,320 crore) in that spectrum.

To elaborate a little: what happens when a party wins this auction is, it will have a say in what content uses that part of the spectrum. The winner would be able to roll out its services in conjunction with the partner(s) that it decides upon. Essentially, the winner will "own" that band—they would be able to pump whatever content they'd choose on it.

Google's plans to enter the mobile market tie in well with the fact that the company has already rolled out mobile versions of the YouTube service, Google Maps, and Gmail. Along with the applications themselves, Google has the potential to create revenue through ads, like it has created from Web advertising. *The Wall Street Journal* has reported that Google already has been working on a mobile search engine and browser, and that the company has

invested "hundreds of million dollars" in their own cell phone project. The phone prototype is currently being dubbed the Gphone. WSJ reports say The Company Based In Mountain View "is courting wireless operators to carry handsets customized to Google products, including its search engine, e-mail and a new mobile Web browser."

A key quote here from four months ago: "What's interesting about the ads in the mobile phone is that they are twice as profitable or more than the non-mobile phone ads because they're more personal," Google Chief Executive Eric Schmidt said, at *D: All Things Digital* in May.

Speculation about the whole Google / mobile affair is aplenty, and we don't want to get into it all. Still, we must wonder: will they be able to tap into India? Remember that wireless service providers are already inundating customers with their schemes and customised ads. Players like mGinger, m-Earn, and YouMint are even into things like "pay-to-read" SMS ads.

HOT

Wikipedia Scanner

A new tool called Wikipedia Scanner, just developed. It can reveal who is behind the edits in Wikipedia articles. Visit <http://wikiscanner.virgil.gr>. Please do—you'll find a lot of dark, interesting things!



NOT

Big Companies

Organisations (big ones!) like Disney, the CIA, the FBI, the BBC, and more have been found to be enhancing their own Wikipedia entries, removing or altering controversial topics.



Phone owners have good reason to be fed up: think VAS product schemes. But Google has the will, so they could well find a way. All you need do is think about the G-company's unobtrusive, targeted ads on the Web—including those in its Gmail service—and then hark back to the days when pop-up blockers weren't ubiquitous and pop-ups were in plenty.

Opinion Poll (You, too, can participate in this poll at www.thinkdigit.com)

This month, we asked a few of our readers which OS they thought has the best GUI, and why they felt so

1 Ubuntu 2 Windows Vista 3 Windows XP 4 Mac OS X

3



"I choose (3). Windows XP is the most easy-to-use OS. It has the best available manual help and one can achieve better looks with free third-party software."

Saurav Basu
Kolkata

3



"I'll say (3). It has an easy-to-use interface and the Taskbar is great. I like using [Alt] + [Tab] to navigate between windows."

Kushagra Srivastava
Nagpur

4



"It's (4) for me. Mac OS X has a very smooth look and a good balance between appeal and performance, while taking up very less system requirements for smooth performance. I like the glassy look and feel of a Mac—it looks polished."

Mayank Makhija
New Delhi

3



"(3) for me... I think XP is the best operating system because the user interface is easy to use, and simple enough for everyone to understand."

Pritish Kulshrestha
New Delhi

1



"(1) because it has various Desktop environments and window managers, which range from the minimalist Fluxbox and Xfce which are low on resources to the full-featured GNOME and KDE. Besides customisability, there is now Compiz Fusion, which can amaze you with its effects."

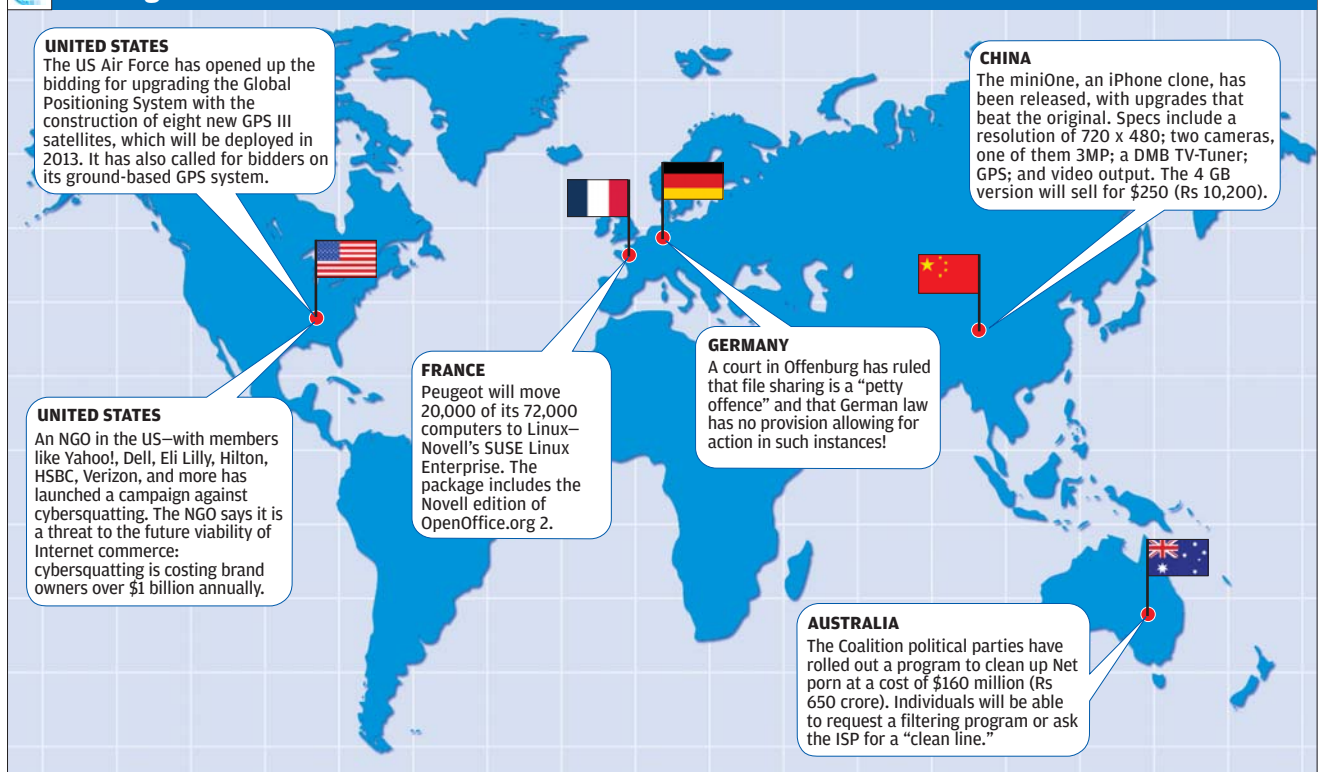
Gaurish Sharma
Jaipur

1



"(1). Ubuntu + GNOME is really simple to use and very customisable. And with Compiz added to Ubuntu, it changes how we looked at GUIs in the past."

Gopi Charan
Bangalore



NOW, THE MORE THE MERRIER

Software Reprogrammed

The advantages of multi-core processors—of which a lot is being talked about these days—include the use of cache memory, and more importantly, distribution of threads for processing to the various processors. So that you get a clearer picture, here's what threads are: think of a thread as part of a program *in execution*. A program is software; when it runs, it creates (one or more) thread(s), each of which do part of the overall task. So, for example, if your browser is loading a page, the browser is the program, and there is one thread that loads an image, one that loads another, one that runs a script, and so on. (This is simplistic, mind you.)

The hardware advantages are meaningless without software to take advantage

of it. The majority of common software applications cannot as of now take use multi-core to its potential—they just aren't coded to use multiple concurrent threads in an effective manner.

"The power of multi-core processors to increase software performance is fantastic, but not automatic and not happening fast enough," said Elliot Garbus, general manager of Intel's Developer Relations Division. In July of this year, Intel introduced a global-scale curriculum for training developers in better multi-threaded application design. (It should be clear why Intel took the initiative.)

Now, AMD has made available a specification called "Light-Weight Profiling" (LWP), which developers can use to code multithreaded applications and improve their performance using the features to be offered in future AMD processors.

In simple words, LWP manages to look at the threads in a program,

collect this data, and report to the programmer.

The Java Runtime Environment (JRE) is probably installed on your computer to facilitate interaction of your browser (for example) with Web applications. (Online Java games need the JRE.) The JRE, as an example, will benefit from LWP; it is capable of running multiple threads, and it is widely used in application development. LWP can also be implemented in the development of operating systems and compilers.

On the other side of the battlefield, Intel recently published eight papers on *programmable multi-core processors*. These focus on memory architecture, cache sharing, on-die integration of cores, and *hardware* architectural changes that will accelerate application multithreading and parallel programming.

These efforts will in all likelihood close, to some extent, the gap between where the hardware and software are today. The developer community hasn't

yet reacted in regards to the viability of the LWP proposition, though.

The best use of these developments can be made by virtual machines (cf. virtualisation) and allied applications at the server level. However, the gestation period for software that can follow multiple instructions cannot but increase. Software production costs will rise—developers will need to be trained in new coding methods.

CHINKS IN THE CHIP

Bypassing The Port

The EU, along with the US and twelve other countries have started issuing e-passports, which involve biometric recognition; in some cases, only to particular officials and citizens, and in the case of the US, to all citizens. The International Civil Aviation Organisation (ICAO), a transnational organisation that sets the standards and



Photograph S Bhojwani

Each month *Digit* will carry a caption for a photo. Come up with something funnier, and beat the *Digit* team at their own game! Entries accepted by the 20th of this month.

Beat That!

Digit Caption

"Sweet Chills @256kbps"

Last Month's Winner!

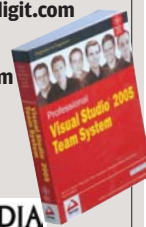
Sumit Banerjee,
Kolkata, West Bengal

"WINDOZE K9 EDITION"



E-mail your caption with the subject "Beat That", and your postal address, to beatthat@thinkdigit.com

and win
Visual Studio 2005 Team System
by Jean-Luc David,
Tony Loton,
Erik Gunvaldson
Published by



WILEY-INDIA

rules for conduction of international flights, issues the specifications for RFID-enabled biometric passports.

Security experts from all over have been saying for a while now that e-passports aren't safe. First, experts on the subject in the EU said the concept of the e-passport was "poorly conceived," and a week later, a chink in the armour of the e-passport was reported by *The Guardian* in the UK: the data on the RFID chip was easily accessible, it turned out.

Later last year, Lukas Grunwald, a German security researcher from consulting firm DN-Systems, demonstrated in collaboration with another researcher that e-passports carrying RFID chips could easily be cloned—in five minutes, at that—using an RFID reader.

Grunwald has now found another flaw. The RFID chip embedded in the passport is meant to thwart document forgery; Grunwald cloned a passport's RFID chip, manipulated the image file containing the photo, and

then used the altered chip to break the RFID reader that is currently used.

It has been pointed out, though, that Grunwald used a German passport with a fingerprint biometrics; his exploit would not hold in the case of other countries' biometric passports. Paul Proctor from Gartner's technology research group has commented that there is only a small probability of the same exploit being found in other e-passport systems, but that if one is found, it might have high impact. Still, the probability is there, and we'll be watching for developments. As of now, the biggest issue is that there exist no uniform biometric technologies and specifications for e-passports. India is completely out of the picture here, though Pakistan has been issuing machine-readable passports since October 2004!

We cannot go into the issues behind the need for e-passports in the first place—we'd have to talk about terrorism and such. But there are lessons to be

learnt: standards and international cooperation are a necessity if the whole e-passport thing is to take off worldwide; that the rollout of a technology in as important a field as citizen safety should not be rushed; that as our dependence on technology increases, even if we live with the fact, responsible bodies should be, well, responsible.

SUIT UP!

PowerPoint An Essential Skill

We've all made / laughed at / heard jokes about how the fancy corporate types live their lives by the spreadsheet and the PPT—and they do, too. PowerPoint skills are highly appreciated at the workplace—not only for effective communication, but (if used wisely) to keep people interested enough not to drop dead with boredom.

And now, the University of Chicago has finally bowed to the inevitable, decreeing that PowerPoint skills will figure in the criteria for their selection of potential B-school students.

Starting this year, hopeful candidates will be required to submit four pages of PowerPoint (or similar) slides with their applications. The goal, apparently, is to be able to judge students on creativity—something not entirely possible through their test scores, application essays or even letters of recommendation. The tactic, the university says, will help them attract truly creative students—the rare breed that can actually create an interesting presentation.

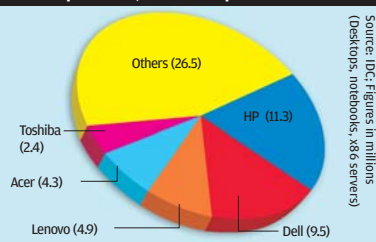
Microsoft estimates that the world is subjected to 30 million presentations a day—most, as we're sure you've noticed, highly unpleasant viewing. Oh, the stories... we've seen execs who think that using Comic Sans MS can magically "lighten the mood" of a presentation, or



Stat Attack

It's all in the numbers

Top five vendors, worldwide PC shipments, second quarter 2007



The number of active Internet users in India had increased to 60 lakh by March 2007 vs. 41.2 lakh a year before

Half of 25 to 34-year-olds in the UK would not be able to "carry on" without e-mail. More women (41%) than men (38%) were hooked to their Inbox

Desktop PC sales in India increased 19% in 2006-07 over the previous financial year. Notebook sales, a whopping 97%

Half of the 24 million homes in the US with HDTVs lack an HD cable or satellite feed. A quarter didn't even know they were still watching non-HD signals!

that using the cheesy "laser" sound effect makes for a "cool, dynamic" look... the list is endless.

Seriously, though, it's a good move. B-school students we know have also confirmed that one of the first and most important skills they learn while within those walls is to make good presentations. Your projects are worthless if you don't have the presentation summarising it, so it's only logical that your application should include something similar. We're just waiting for our Indian B-schools to follow suit. Maybe then this era of PowerPoint abuse will finally end.

THEY DO RESEARCH, TOO

Beyond Windows And Word

Microsoft, known rather more popularly for Windows and Office, recently bundled four applications into a design suite called Expression Studio. It comprises Expression Web, Expression Blend, Expression Design, and Expression Media. These tools work together for Web and Desktop applications to support Silverlight (which

we've spoken about in this space) and the .NET platform. What's interesting here is that this is significantly indicative of the fact that Microsoft is seriously looking at research, cutting-edge research beyond what we call mundane. (It takes a horizontal shift of thought to realise that research goes into operating systems, too.)

Whenever there's a mention about research in computer graphics, a few names are always at the top of the list—Adobe, Industrial Light & Magic, and, as if we need to mention it, NVIDIA. At SIGGRAPH 2007, Microsoft researchers presented one of every eight papers on industrial computer graphics. (SIGGRAPH is an international conference around research in computer graphics and interactive technologies; it is held every year, and have been active for more than three decades.)

Richard Szeliski, head of the interactive visual media group at Microsoft Research, said, "What we produce is of the same quality and calibre as the best universities in the world." The latest from the Microsoft Research stables includes image de-blurring software, which combines pictures blurred due to camera shake and reconstitutes them into a single high-quality image. Szeliski says the software can improve images taken even from a 1MP phone camera. So you'll be able to take a lot of bad pictures and use them to produce one good one!

Then there's Soft Scissors, which cuts an image with complex edges from one background to another—in real-time, on a regular PC.

For instance, you can add a picture of a pet to the family portrait using Soft Scissors. The outline of the pet could involve fur, and Soft Scissors' algorithm can deal even with such complex edges.

Enthusiasts and professional digital photographers will make the best use of such tools.

Mind you, Microsoft Research isn't the only set of teams out there working on such algorithms. But most research isn't productised, and Microsoft has the edge because, well, they're in the business of selling software.

An interesting issue here is copyright... if image enhancing tools such as these are made available to the public at large, then imagine the following: an enemy could pick up a portrait of yours and mess around with it. You could end up looking ridiculous. But it's been morphed beyond recognition, so it would be tough for you to claim it's *your* picture... and would you want to make that claim?

There is also speculation about whether the algorithms and final products Microsoft Research comes out with will be commercialised—or remain interesting online pastimes. But remember there's a "\$" in "M\$".

PROTECTION NEEDS PATCHING

Safe In The Knowledge

The last piece of software on your computer to have a security vulnerability would

Sandtiger

AMD has revealed its plans to release, in 2009, an eight-core chip code-named Sandtiger. AMD hopes that this new offering, coupled with its quad-core Barcelona and Shanghai (for its second-generation Opteron platform) processors, will tip the scales in its favour—with Intel on the other side, of course. Sandtiger will have an inbuilt memory controller and eight "Bulldozer" cores built using the 45nm fabrication

technology. It will be at the heart of AMD's third-generation Opteron platform.

Aimed at the high-end server and workstation segments, Sandtiger incorporates a slew of new technologies like HyperTransport 3.0 (which links individual cores) and Direct Connect 2 (which improves system speed and efficiency). Sandtiger will also support DDR3 memory.

Does Intel care about Sandtiger? Will it? We'll have to wait for 2009...

Buzzword
of the MONTH



Moblin.org

What is it?

An open source initiative, in partnership with Intel, to build a mobile entertainment and communications platform for use on tablet PCs and Intel-based Mobile Internet Devices (MID). Moblin.org hosts projects that will provide the kernel, multimedia applications, power management framework, etc. for open source projects.

Who is behind it?

Intel has mooted this project to work in collaboration with programmers from Canonical, Red Flag MidLinux, and Pepper Linux. Independent programmers can also contribute their development to these projects and build applications for these devices.

Why is it a good thing?

Moblin.org aims to ensure the interoperability of the various components used in open source platforms of the MID genre. It will provide all the source code and binary images that can run on these devices for developers to build on.

How does this help?

Developers, with access to shared information, can now learn of new developments and quickly build applications for the platform of their choice. For Intel, this move takes them closer to open Web standards while partnering with Linux architects who even participate in kernel development.

Where does this project intend to go?

It is hoped that the project will be a technology incubator for a lot of MIDs and handhelds that will be produced in the next three years.

When will the project be completed?

It is an ongoing endeavour and will not focus on deadlines. Intel says Moblin.org will only host the source code and tools such as documentation and mailing lists for programmers to use.



helpful feature in the software.

Well-known security firm Secunia rated the flaw “highly critical.”

Some are pointing out the silliness of those who do not update their anti-virus on a regular basis.

If you're stuck with a 2006 version in its original

be the anti-virus, you'd believe. Even if not you, many people would—they do consider they're fully “safe,” “secure,” and such—if they have that nice yellow icon in the taskbar, indicating protection from all that's bad on the Internet. You have the icon, nothing gets into your computer. It's that simple—for many people.

It turned out in the second week of August there's a major bug—with two ActiveX controls, to be precise—in the 2006 versions of Norton Internet Security, Norton AntiVirus, and others, including some 2005 versions. 2005 we can understand. But 2006 is more difficult to understand—you updated it just a year ago, and it's already gone to the bad. Symantec warned users, “This error could allow an attacker to crash IE, or possibly run (code) with the rights of the logged in user.” The security advisory also mentioned that the attacker would first have to sway the user to navigate to a specially-crafted Web site. (Which isn't all that hard, we should remind the more Net-savvy amongst you.) The answer is to run LiveUpdate, a rather

form (without having updated it), the fault lies with you—or so a lot of people would have you believe. But does the LiveUpdate program itself—tell users that updates are “critical”? That your computer might become vulnerable if you don't use it? Does even the installation guide, or the help file, mention explicitly the following: “It is of critical importance to use LiveUpdate on a regular basis; failure to do so could put your computer at risk”? It does not.

What if your car manufacturer suddenly told you you're accident-prone because you didn't service it often enough?

On the other hand, some commentators are taking a negative view of Symantec in general, saying the news of the vulnerability does not surprise them. We will not go one way or the other: it's up to you to use Symantec's products or pay for a different anti-virus or use a free one. But do remember to update it regularly, and this is the 3,428th time we're telling you this.

Our only comment is that the vulnerability hasn't done good to the company's already-diminishing reputation.

SO WHEN?

Déjà Vu

This is just about something we noticed in the news. November 2005, much of the Web—at least the part we frequent—was abuzz with: “Samsung challenges Japanese fuel cell tech.” The report was that Samsung had developed a prototype notebook fuel cell that could last twice as long as rival systems—and it was lighter and slimmer. Some speculated the cell would be in the market by 2007.

December 2006: “Samsung has made significant progress towards the battery life problem, demonstrating a 12,000 Wh fuel cell for its Q35 laptop.” It used Direct Methanol Fuel Cell technology. Speculators speculated it could come to market by end of 2007.

Now here's 13th August 2007: “The Direct Methanol Fuel Cell, recently showed off on a Q35 Samsung laptop in Korea, provides total energy storage of 12,000 Wh.

12,000 Wh... where did we hear that before? Hark back two paragraphs.

One analyst is now saying fuel cell technology is on the brink of becoming a very promising option for the future, *once final engineering work has been completed.* (Our italics.)

We're as befuddled as you are. Disclaimer: if Samsung does do something revolutionary, don't tell us we predicted something to the contrary—we aren't. We're just wondering about how the same news is coming out every year with clockwork regularity.

3rd October 2006: “Consumers will have to wait a few years before they (get) fuel cells, Nokia said.” It was something about the supply chain. But it could also be about the final engineering work. Hark back two paragraphs. ☒



32 Almost Intelligent



36 Alterface!



40 Droolmaal

Digital

Passion

Fuelling The Pursuit Of Technology Knowledge

Lead Feature

Sci-Fa

Imagination drives sci-fi; tech drives sci-fact; sometimes they intersect, sometimes they don't

Ram Mohan Rao

Zorks. Borgs and solar systems. Mother ships and Planet Zyclone and teleportation. Androids and cyborgs and robots and superhuman strength. Jetpacks and light-sabres and Snork guns and pulsar beams and Xanatron. All those "trons" and "orks." Those Science Fiction (SF) writers spared nothing—they were creative as hell, they imagined like no-one else did, they created cults. Sci-fi created a culture—a culture far removed from the goings-on on boring Earth. Those writers, some of them brash and in the limelight, some bespectacled and room-bound, were all creators of universes. They rambled.

But sometimes they told the truth. About the future.

What drove those science fiction authors to imagine weird stuff? Weird stuff apart, how did they manage to tell us tales of things to come? How does, as the popular phrase goes, "science fiction become science fact"? Why is sci-fi some kind of benchmark, as in "the truth today is stranger than science fiction"?

But these are idle questions, and the idea here is to explore stuff people said that is now fact, some stuff that will—in our limited opinions—remain in the clichéd realm of science fiction, and what debates are currently on about our future as a race. Think gizmos, universes, teleportation. But forget the Zorks. We made that up.

The Man, The Machine, The Cliché

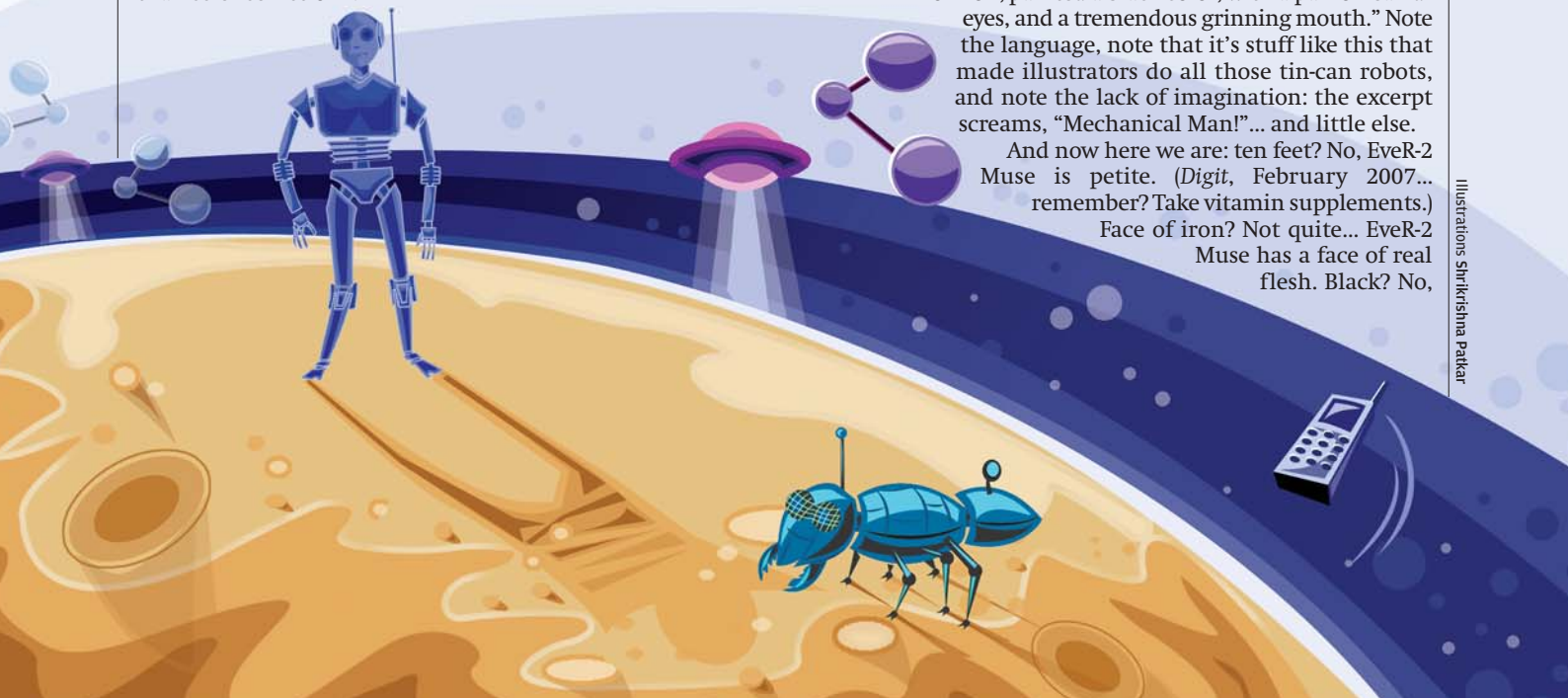
We'd be insulting your awareness if we were to tell you that androids, cyborgs, robots, and other superhuman stuff is the most common theme in SF. (Actually, these share top spot with space travel.) It's quite simple, really—if you'll let us be analytical. Desire drives imagination, and what desire is stronger than to be stronger, mightier, faster, ...? As for space travel, the underlying motif is freedom... but we digress.

Here's Edward Ellis, in *The Steam Man of the Prairies* (1868), about a robot of a sort: "It was about ten feet in height, measuring to the top of the 'stove-pipe hat,' which was fashioned after the common order of felt coverings, with a broad brim, all painted a shiny black. The face was made of iron, painted a black color, with a pair of fearful eyes, and a tremendous grinning mouth." Note the language, note that it's stuff like this that made illustrators do all those tin-can robots, and note the lack of imagination: the excerpt screams, "Mechanical Man!"... and little else.

And now here we are: ten feet? No, EveR-2 Muse is petite. (*Digit*, February 2007... remember? Take vitamin supplements.)

Face of iron? Not quite... EveR-2 Muse has a face of real flesh. Black? No,

Illustrations: Shikrisha Patkar



let's not get into racism and racist stuff... fearful eyes? Well, The Muse is supposed to have sensitive eyes (though she does end up having fearful eyes, in the sense of being as dead-looking as they are). A "tremendous grinning" mouth? EveR-2 Muse has a sweet, lipsticky mouth.

Much more importantly, the Steam Man was imagination, but EveR-2 Muse is a flesh-but-not-bled robot that exists.

There is, obviously, the "stronger and mightier" theme in the Steam Man: he possesses exceptional strength, so much so that he pulled a chariot in his role as Horse. Besides, he is 10 feet tall. Refer *Virtual Weapons In Real Life*, *Digit*, July 2007—the US now has an exoskeleton for soldiers that allows them to lift very heavy things, run very fast, and leap into the air like no-one leapt before.

Coming back, that steam-powered concoction was not called a robot; the first mention of the word was in the play *R.U.R.* (Rossum's Universal Robots) (English edition 1920) by a certain Karel Capek (don't blame him—he didn't name himself). Here, too, the robots are simply human-like machines. They also happen to be slaves, but badly-treated ones. Then someone gives them emotions, they revolt, kill most people, and take over. Bring on the clichés... but it wasn't a cliché in 1920!

No history lessons here, so we won't tell you why they were called "robots." Figure that one out. But we dug up this one about digging machines—that they feature in H G Wells' *War of the Worlds*—and here's one line: "So far as I could see, the (digging machine) was without a directing Martian at all." Meaning some directing was required, so the machine was self-directing... meaning it had some intelligence. That might be (in our opinion) the first mention of a "real" robot. This, in addition to the "taking over" theme, would involve some talk of AI. We'll come to that in a bit.

Androids are automatons that resemble human beings in the essential aspects, and so "android" is a generic term. But cyborgs are augmented in some way; they are super, well, super-something... either their senses are more acute, or they can live a thousand years, or something like that. But you already know, if you've been reading *Digit*. Refer a couple of our past issues.

Then take this one, from *Cloak of Anarchy*, 1972, by Larry Niven: "...when Ron was flush with



Biological evolution is too slow for the human species. Over the next few decades, it's going to be left in the dust"

Ray Kurzweil
Inventor and Futurist

money... he'd bought an implant-watch. He told time by one red mark and two red lines glowing beneath the skin of his wrist." Fascinating? No-one's done this, but we can. If a cyber-punk called Stelarc could implant an *entire ear* into his forearm (*Digit*, July 2007), why not a little watch with glowing hands? Stelarc's ear is clearly visible, meaning it's pretty close to the surface of the skin. A watch wouldn't be too hard. Ask a medical expert if you don't believe us. That guy went ahead and did it; you could if you wanted to. Not that you do.

Tanks, Logics, Metaverses

Now you know that in 1946, computers were huge and all that; they weren't networked; hell, they didn't even store information for other people to use. But in that year, someone called Murray Leinster was prophetic enough to write a story called *A Logic Named Joe*. Leinster is under-celebrated; in fact, he hardly is celebrated. Decide for yourself whether he should be—from this trimmed excerpt (our italics):

"You got a logic in your house. It's got keys instead of dials and you punch the keys for what you wanna get. It's hooked in to the tank... Say you punch 'Station SNAFU' on your logic. Relays in the tank take over an' whatever vision-program SNAFU is telecastin' comes on your logic's screen. Or you punch 'Sally Hancock's Phone' an' the screen blinks an' sputters an' you're hooked up with the logic in her house an' if somebody answers you got a vision-phone connection. But besides that, if you punch for the weather forecast, that comes on the screen too. The tank is a big buildin' full of all the facts in creation an' all the recorded telecasts that ever was made—an' it's hooked in with all the other tanks all over the country—an' everything you wanna know or see or hear, you punch for it an' you get it. Very convenient. Also it does math for you..."

First mention of the Internet? Could be. Computers in the house; connected to a server; podcasts; voice chat; a weather widget; Google servers that host much of the info we have access to; and servers connected to each other. And what else is the Internet?

1946! The mind boggles!

The Internet is quite something else when it comes to foresight: no-one knows what'll happen the day after tomorrow. *Snow Crash* by Neal Stephenson—1992—actually foresees *Second Life*!

"Hiro sees two young couples, probably using

The Present Of The Future: Featuring Ray Kurzweil, Futurist

Ray Kurzweil was fascinated by sci-fi in his childhood, and that's one reason we're talking about him. He invented many things, including OCR systems, a text-to-speech synthesizer, the CCD flatbed scanner, and more. Even so, he's now primarily known as a futurist—and here's some of what he says and what people think. (In 2005, *Gate* called Kurzweil "the best at predicting the future of artificial intelligence.")

☐ Kurzweil subscribes to the "Technological Singularity." This is the (supposed) creation of entities smarter than humans, which will accelerate technological progress beyond the capability of humans to participate in the progress. Think runaway bots doing stuff you can't understand. There are several criticisms we cannot go into,

but think of it as a hyper-extension of Moore's Law.

☐ Nanobots (which we've spoken about more than once in *Digit*) have the potential to help solve problems such as climatic change. They could also extend human lifespan significantly—even to the extent of immortality.

☐ (Another Herbert Simon?) Kurzweil says computers will become smarter than humans (crudely put) in 25 years from now.

☐ Elements of what you saw in *The Matrix* could very well come true in your lifetime.

Head to www.KurzweilAI.com for the complete picture. Such are the predictions of today: hedge your bets with confidence, because it'll happen (or it won't) in this life of yours.

their parents' computers for a double date in the Metaverse, climbing down out of Port Zero, which is the local port of entry and monorail stop. He is not seeing real people, of course. This is all a part of the moving illustration drawn by his computer according to specifications coming down the fiber-optic cable. The people are pieces of software called avatars. They are the audiovisual bodies that people use to communicate with each other in the Metaverse."

Stephenson's "Metaverse" is, of course, the Internet. Specifically, the part of the Net that hosts virtual life.

Still, as far as we know, no-one predicted the magnitude of the speeds we have today on our undersea cables—or the volume of the traffic—or even that they would be under the sea. Sci-Fa.

Artificial Idiots

It's time we quoted Arthur C Clarke, an SF god. Here's from *The City and the Stars*, 1956: "...the all-but-infinite intellect of the Central Computer. It was difficult not to think of the Central Computer as a living entity, localized in a single spot, though actually it was the sum total of all of the machines in Diaspar. Even if it was not alive in the biological sense, it certainly possessed at least as much awareness and self-consciousness as a human being." Primitive, simplistic, almost child-like.

But then here's from *Ralph 124c 41 +*, by Hugo Gernsback, 1911, in relation to voice recognition: "...she called out sharply: 'Lux!' The delicate detecophone mechanism of the Luminor responded instantly to her command; the room was flooded

at once with the beautiful cold pink-white Luminor light..." 1911 for voice recognition is prodigious indeed. But we're still at 99.8% accuracy or thereabouts, and that's the theoretical figure—and remember, 99.8 is very different from 99.9 is different from 99.99. Sad.

Let's cease and desist. They imagined what was to come; it turned out to be harder than anyone had imagined; and it didn't come.

Nobel Laureate Herbert Simon, an authority on AI and a pioneer in the field, said that by 1985, machines would be capable of doing any work a man could do. KRASH, KA-BOOM, and PLONK are the sounds of that ludicrously optimistic prediction falling flat—nuff said. Sci-Fa—not.

So Where's My Flying Car?

Way too many people ask that in sarcastic tones without looking up the facts. The Flying Car—as in everyday transportation, with no runway or airstrip required—happens to be a staple of way too many sci-fi novels. So where's your flying car? In Massachusetts.

2009 will be the year, if you can believe a company that will take 5 per cent of the cost of their flying car right now by credit card as a booking deposit. That company is Terrafugia (figure the URL—and no prizes). They are "roadable aircraft"

Herbert Simon, an authority on AI and a pioneer in the field, said that by 1985, machines would be capable of doing any work a man could do



Terrafugia's "Transition"—now *here's* your flying car!

www.corsair.com

Cool Performance



10 Years NO QUESTIONS ASKED 1-1 Swap Warranty



Power Supplies



Laptop Memory



PC/Server Memory



USB Drives



TIRUPATI ENTERPRISES
BRINGS YOU THE BEST OF DIGITAL WORLD
WWW.TIRUPATI.NET

Kolkata (H.O.) - 09339207519, Guwahati - 98640 68425, New Delhi - 09350172603,
Mumbai - 09323170474, Pune - 09370223844, Ahmedabad - 09377391919, Hyderabad - 09391012215,
Jharkhand & Bihar - 09334255970, Trivandrum - 0471 2339200, Bangalore 080-41205474,
Chennai - 09840077334, Cochin 09388953537.

developers: the thing, described by the company as a Personal Air Vehicle, can be a car and a plane—it can change its configuration. Price (in 2009): \$148,000 (60 lakhs—not obscene by any standards). You drive it from your garage to the airstrip. Fuel: premium unleaded. Range: 160 to 800 km.

Then there's the Moller Skycar M400. Takes off and lands vertically like a chopper. Cruising speed 550 kmph; range 1,450 km. Almost exactly Bangalore to Bombay and back. (Sorry, old names—that's the way it is at indo.com, where we found the distance.) Initial cost: a million dollar-bucks. Mass-produced price *could* come down to \$60,000 (Rs 25 lakhs). Sounds too good to be true, but let's see. (We might have to see for a long time; it's been a while since Mr Moller began his experiments.) If you're shaking your head, you'll shake it more vigorously when you visit www.autoblog.com/2006/10/13/moller-skycar-makes-it-on-ebay. And if you've gotten excited, please don't visit www.spectrum.ieee.org/jan07/4835!

But do you seriously think neither of these—or none of those at the Wikipedia entry for Flying Cars—will take off (ooh!) sometime soon? Place your faith in German Engineering: both CEOs have Teutonic names...

The Good Stuff

Poor you: you didn't think jetpacks existed. Or you thought (blast these miserable clichés!) they existed only in science fiction...

Enter Jetpack International. Their site showcases the JetPack H202-Z, T-73, and more—promising names indicative of their sci-fi origins. About the T-73... price: 80 lakhs not including life insurance, flight time 19 minutes, speed 130 kmph, and it goes 250 feet into the air. (When it's released, *December this year*.) Text won't do all this justice: visit the site for pictures and videos. No hoax this: they've done it at shows. Caveat: you can't just strap it on and hover. One needs to have an Officially-Certified Aviation-Authority-Approved Major Qualification Certification to even think of strapping it on, or something to that effect. Watch the popular video at www.youtube.com/watch?v=THECWzrnciY—we know you'll think it's been doctored.

At www.jetpackinternational.com/video.html are plenty more detailed videos. But no word on when you'll be able to get one off the shelf.

"Terminator Hand hits North America" is the YouTube caption for www.youtube.com/watch?v=5MkJk6797ml. Watch the video. Now. It features the iLIMB, a prosthetic hand with five fingers—the special thing being they're individually powered. The tiny electric signals from the remaining portion of the limb power the thing, and *each individual finger* can open and close! "Terminator Hand"... nice caption, we say. Sci-Fa.

And some people are calling even *this* "baby steps."

Miscellany

This almost-just in: a real mineral with most of the chemical properties of kryptonite was discovered in Serbia, April of 2007—just five months ago. Pure magic, this... but we'll leave the wonder to you.



The iLIMB thingy holding a coin

Moon Base. Tiberius Station et al. You know. But NASA is indeed planning a permanent base on the Moon by the mid-2020s. This one was easy prediction, actually—the Moon isn't too far away, and we'd need Lebensraum at some point or the other. Stephen Hawking, incidentally, says humans won't survive if they don't re-engineer themselves and go into outer space! Now that's a current prediction—

Fi or Fa? Or Fo, or Fum?

And then there's an official definition of "Communicator" in *Star Trek: Enterprise*: "A portable Personal communications device. Communicators provide individuals a means of voice transmission from a planetary surface to an orbiting spacecraft or other nearby facility... Early versions of the communicator were compact handheld units with a flip-up antenna grid." Now here's something lovely, almost delicious: re-runs of *Enterprise* were on when people were already talking on their cell phones! And those phones were pretty much like those Communicators... and "Communicator" is even a brand name. Duh.

Then, stun guns: for real. Look at this: "It uses a temporary high voltage, low-current discharge to overcome the body's muscular mechanisms. The recipient feels great pain and can be temporarily paralysed. But since the amount of current is low it is supposed to be safe—it won't kill." From <http://gadgets-tech.blogspot.com/2007/07/stun-gun-science-fiction-or-reality.html>.

We live in interesting times.

And Now It's Down To...

...to some nonsense. At least, let's look at what seems like nonsense to us. There's mind downloading / uploading, a popular theme with sci-factors. The idea here is, quite simply, that you hook yourself up to an info-server of sorts and upload or download your brain's contents onto it / from it. (Britney Spears' brain could probably be uploaded onto a CD, but never mind.) What this entails is a complete mapping of the brain. Nanotech can do it, true. But each and every neuron? All that would take the computational powers of a zillion bajillion universes, assuming they exist. Sure, quantum computing might step in, but when? Too far into the future, sorry. Not happening.

Then there's all this stuff—all too common, all too cheap—about "different worlds." No, not parallel universes, which is a deep idea; we're saying so many writers just go into imaginary worlds where you can fertilise a woman over the phone and such. There's *Liquid Sky*, directed by Slava Tsukerman (1983), about heroin users in New York City; an alien spaceship lands in one apartment, and starts to kill people by growing crystals inside their head. Yes. It's got a 4/5 at Amazon. Bur cheap sci-fi predicts nothing.

We'll sign off with faster-than-light travel. College students smoking illegal substances discuss such stuff late into the night, voices raised. You can do it if you like. But It's Not Sci-Fa. ☒

ram_mohan@thinkdigit.com



Nimish Chandiramani

Back in the good old days, you'd stare at your dirty laundry for a while, think, "Hmm... an hour for this lot," pop it into the old machine and twist the dial to the one-hour mark. The washing machine, like all the dumb machines of those times, would go about its business, little caring for how dirty the clothes are or how much water it's supposed to use. Ah, simpler times...

Today, your washing machine takes one look at your laundry, tut-tuts inwardly, and then tells you how much time it'll take to do its work. As it does so, it'll also make sure that not a drop of water is wasted, its temperature is just enough not to ruin your delicates without compromising on cleaning power. Short on detergent? No worries—the machine makes amends for that too. Regular super-*dhobi*, this.

And it's not just the washing machines, either—refrigerators, air conditioners and a

whole assortment of household devices are getting smarter thanks to the miracle of fuzzy logic (no, they're not smart enough to come after you in your sleep, so stop shaking)—though you're more likely to have heard the term in a washing machine commercial.

Thinking Different

In the peak of summer, when you exclaim, "Boy, it's a hot day!", other humans have no trouble understanding you. Of course, dwellers of the equatorial region may not agree, but they'll still appreciate the sentiment regardless. A machine—a PC, for instance—won't have a clue, though. How do you define "hot"? Let's say you've programmed your PC to accept 30° Celsius as "hot." But machines only understand binary talk—yes or no, this or that, hot or cold. You can't expect them to have any concept of "maybe" or "somewhat hot." So to your PC, even 29.999° Celsius doesn't qualify as "hot". Silly, yes?

Almost Intelligent

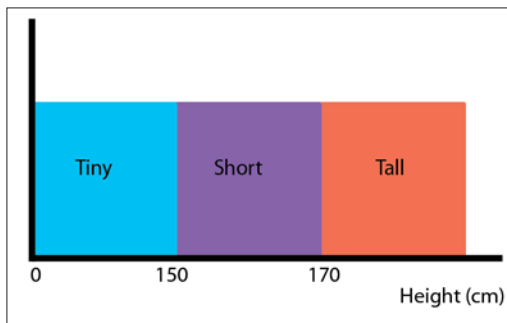
Ever wonder how the humble washing machine got so smart? And what's this mysterious "Fuzzy Logic" got to do with it?



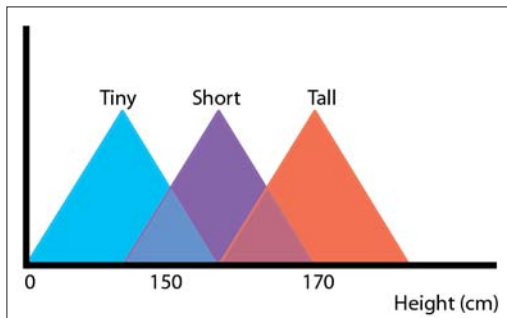
Imaging Shrikrishna Patkar
Photograph Sandip Patil

Human decisions are often based on “fuzzy” or imprecise data. Have you ever heard a human go, “Wow, her height is 174.25 cm!”? Of course not. “Wow, she’s tall!” is what you’ll most likely hear. Except in the Zulu tribes in Africa, where she’d be “somewhat tall”, and “gargantuan” amongst the pygmies. But enough with the tribes—the point is, there’s no real mathematical relationship between a person’s actual height and how tall they’re perceived to be. The most we can do is gather those perceptions to create “fuzzy sets.” In school maths, you’ve learnt that mathematical sets are groups of numbers or objects that meet a specific requirement—numbers greater than 2 but less than 80, for example. All nice and properly defined. The members of fuzzy sets, on the other hand, meet a vague (or fuzzy) definition—old people, dirty clothes, warm days and so on. The members of these sets overlap each other—a 50-year old, for example, is in that grey area between “middle-aged” and “old.” How deep in the grey area? Well, that depends on who’s making the sets. If

A 50-year old, for example, is in that grey area between “middle-aged” and “old.”



How machines really think. We’d get nowhere in a world like this



This is how fuzzy sets are usually represented. The peaks indicate complete membership (a value of 1). This will become clearer as you read on

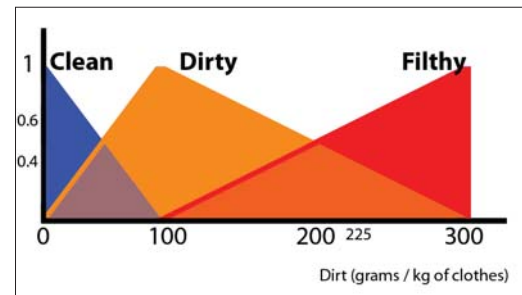
you’re having trouble with this, look at the image above and all should be clear.

Your First Washing Machine

We’ll use the washing machine analogy here—you’ve probably already seen it in action, but even if you haven’t, it’s easy enough to relate to. We’ll start simple—building a fuzzy relationship between your clothes’ dirtiness and the time it’ll take to wash them. Washing machines use dirt sensors to measure dirtiness—using either light or sound to detect the presence of dirt on your clothes (very RADAR-like, this is, but we can’t go too much in-depth

for lack of space). Let’s say the dirt sensors give us the weight of the dirt (in grams) for every kilogram of clothing. Obviously, we’re assuming our washing machine also comes equipped with a weight sensor.

The first step is to decide what our fuzzy set is going to look like. Let’s group clothes under “Clean”, “Dirty” and “Filthy”. If your load has zero grams of dirt for every kilo of clothes, then they’re clean. It goes downhill from there, and if your clothes have 100 grams of dirt for every kilo of clothes, they’re at the peak of the dirty set. Finally, at 300 grams, they reach the pinna-



The fuzzy set for dirty clothes

cle of filth (you’re free to make your own stipulations, though). This is what we end up with:

And now, we lay down the law.

The Rules Of The Game

We started out with the intention of building a relationship between dirtiness and time taken to wash—that time has come. The rules for a fuzzy controller are simple “if...then” statements—the kind you learn about when you first learn programming at school. They go thus:

IF {condition} THEN {result}
(No, there’s no ELSE)

Let’s now define the rules for our washing machine:

IF clothes are Clean THEN time = 10 minutes
(This is mostly for psychological effect. Some people want their clothes *extra* clean)

IF clothes are Dirty THEN time = 45 minutes

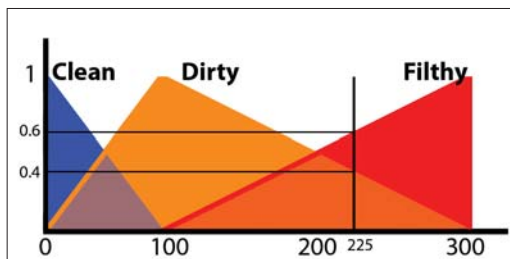
IF clothes are Filthy THEN time = 90 minutes

(In the real world, the creation of these rules and fuzzy sets are based on a lot of research and some highly-educated estimates; even if the manufacturers start with this random set of rules, they’ll be modifying them once they run the first simulation and discover that they were wrong)

Well, we’ve built our machine; now let’s see how it works.

The First Batch

When you dump your first load into the machine’s drum, the dirt sensor kicks into action and measures its dirtiness. The result: 200 grams of dirt per kilo. The machine takes this value and “fuzzifies” it—mapping it to the fuzzy sets we fed it in the beginning. As you can see overleaf, this dirt level falls somewhere between Dirty and Filthy—more specifically, it’s



Fuzzifying the measured dirtiness—the degree of membership is where the value intersects the Dirty and Filthy sets

0.4 Dirty and 0.6 Filthy. The numbers are called *degrees of membership*, and mathematically represent the value's position in the sets.

To find out how much time it's going to take to wash these clothes, we need to see what happens when we apply our rules to this value of dirtiness.

I Want The Truth!

Another new term we come across here is *degree of truth*—a mathematical representation of the extent to which our measured value satisfies a rule. Let's look at our conditions one by one, and consequently how much truth the corresponding results have.

clothes are Clean

They're not, so the result *time = 10 minutes* has no truth

clothes are Dirty

They're 0.4 Dirty, so the result *time = 45 minutes* has a 0.4 degree of truth

clothes are Filthy

They're 0.6 Filthy, so the result *time = 90 minutes* has a 0.6 degree of truth

Now that we have this information, we need to “de-fuzzify” it to get a single, non-fuzzy output.

Making Sense Of It All

We know that if the clothes were perfectly dirty (a degree of truth of 1 for the second rule, 0 for the others), it would take 45 minutes to wash them. Similarly, it's 10 minutes for perfectly clean clothes and 90 for perfectly filthy clothes. If we plot these values on a graph, we get something like this:

The Fuzz-less Life

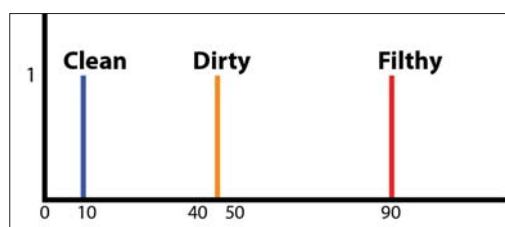
What would you do if you had to design a simple, smart washing machine (how's that for a mind-bender?) like the one we spoke about? One catch, though—pretend that fuzzy logic doesn't exist.

You'd need to develop a dirt sensor that's dead accurate even in a tangle of clothes, of course—but that's not the worst part. You'd need to develop a mathematical relationship between the dirtiness of clothes and the time that it would take to clean them. Even if you could, it'd end up being a complicated quadratic equation in the eighth degree, with fractional coefficients to boot (or as some mathematicians would say, “mind-numbing pain”). Just for fun, what if you were asked to factor in the concentration of the detergent used? Or water temperature?

And then, what if you (miraculously) did it all, only to find out that all the seemingly right calculations in the lab fell apart in the real world?

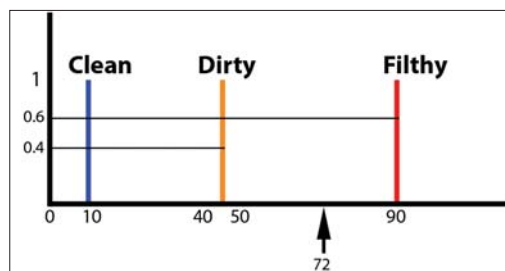
Fuzzy logic saves lives, you'll agree.

Remember that fuzzy logic systems aren't supposed to be overly complex—too many variables lead to too many rules



The relationship between time and degree of truth

Now let's put our findings—viz. 0.4 Dirty and 0.6 Filthy—on this graph. Using a mathematical technique called the Centre of Gravity method (which we won't get into here), we find that the answer we want is 72 minutes.



Voila! An answer!

Complicating Matters

We've just designed a very simple washing machine here, but you can see where all this can lead: you can bring more variables into the picture—clothes' greasiness, water temperature, the weight of the load (to optimally utilise water), and so on. It can be quite the intellectual exercise, this.

Just remember that fuzzy logic systems aren't supposed to be overly complex—too many variables lead to too many rules (just adding the “greasiness” variable to the machine above causes the number to increase to six), resulting in a lot of inefficiency.

Don't forget, the washing machine isn't the only place you'll find fuzzy logic used. It's been used in digital cameras to isolate faces from the rest of the scene, optical drives and heaven knows where potential applications lie.

Big Picture

Fuzzy logic is, as you might have guessed, the first step to artificial intelligence. After all, it is trying to duplicate the human thought process, no matter how primitively. For all its complexity, even game AI has its roots in a fuzzy logic system (“If health is low, take cover”—sound about right?).

Unlike true AI (which we've talked about a lot in these pages), though, fuzzy logic systems are perfectly realistic, and we'll continue to see them grow in applications where you don't need the mechanical versions of Einstein. We see them perfecting speech recognition systems, perhaps even bringing emotion to text-to-speech, and when the nanobots come, it'll be fuzzy logic telling them the difference between the harmful and harmless cells in your body. ■

nimish_chandiramani@thinkdigit.com

Alterface!

Either you're working with a keyboard and mouse, or reading what your computer displays on-screen. Don't you just wish user interfaces could go through a full makeover?



Imaging Chaitanya Surpur
Photograph Jiten Gandhi

Robert Sovereign-Smith

We've always been using boring-keyboard and boring-mouse to interact with computers. Why? Because that's what was in use when the PC gained in popularity. As if the case with PCs wasn't bad enough, some mobile devices have incorporated the QWERTY keyboard. You get tiny little keys that are generally used by the thumbs, which the keyboard layout wasn't designed for in the first place. Should we settle for mediocre (or worse) just because it's popular? When it comes to mass-produced devices, sadly, the answer is We Must.

What Choice Do We Have?

For now, none! But more and more innovative research is being done in the field of Human Computer Interaction (HCI), in fields as diverse as touchscreens, natural language processing, eye tracking, and more.

Before you think of questioning the need for new interfaces, think of the popularity of prod-

ucts such as every tablet PC, every PDA, the Wii, and the iPhone. These are popular only because they give you an alternative to pressing buttons or tapping away at a keyboard, and it's mainly their interfaces that set them apart from the crowd.

The GUI

The WIMP interface, short for Windows, Icons, Menus and Pointer, was revolutionary for its time. In 1984 the Macintosh was the first publicly-available computer; it featured the WIMP interface. Twenty-three years later, things haven't changed much, have they?

Now we're definitely not suggesting that interfaces change for the sake of change. The fact is as long as we're limited to a two-dimensional screen as the PC's output, we're probably not going to see anything but the WIMP interface. But with so much research happening to bring 3D realism to our screens, what happens when it does get here? Do you really want to be sitting and trying to use a mouse to drag a 3D window?

Another aspect to consider is the types of tasks we're trying to accomplish: for example, why bother taking word processing to a 3D level? It's not like you will be able to type along all three axes! It's quite obviously the application that needs to be looked at, and one common GUI for everything might not be the way ahead.

Take gaming for example. There are games that are built for consoles and those built for PCs. A racing game, for example, might be a lot easier to play on a console, while an FPS might only be playable on the PC. However, platforms be damned, because both the racing game and the FPS could be so much better if they were more immersive and in 3D. Also, the racing game is a lot more fun if you have a steering wheel control, while an FPS might be more fun if we had a controller that looked like a gun and we had to physically turn around to see what's behind us.

Touchscreens

From PDAs to Tablet PCs and now smartphones, everything is going the touch input way. If we're going to have to use the point-and-click interfaces, nothing beats just tapping a screen—especially

with handhelds or laptops.

The problem, however, is that our current WIMP system was built for mice and keyboards, so it's not ideal for touchscreens.

In our June 2007 issue, we spoke about Jeff Han's multi-touch interface, which allows you to use multiple points of contact, or even have multiple people using the same interface at the same time. Han's interface is revolutionary: it will allow users to actually get a feel for applications that needs graphics, zooming and interaction. But such an interface is useless for, say, gaming, because there's no interaction required. Ditto for word processing. However, let's say you're managing or editing photographs, browsing the Net, or using Google Earth. That's where Han's vision comes in. Perhaps the way gaming has broken away into the specially-made machines we know as consoles today, the future might see different hardware for different purposes.

Another example here is Microsoft's Surface, a 30-inch multi-touchscreen that's kept horizontally instead of vertically, and is embedded in a desk. It allows multiple users to use it at once. It uses Windows Vista, a PC embedded in the desk, and five cameras to sense motion. It can sense 52 simultaneous touches, computing them and translating them into on-screen inputs.

Check out Jeff Han's work at <http://cs.nyu.edu/~jhan/>, and the Microsoft Surface at <http://www.microsoft.com/surface/>.

Direct Interaction

You've come across Natural Language Processing (NLP) and Brain-Computer Interface (BCI) in this space. We've discussed them at length earlier, so we won't get into the details, but here's about two major technologies that promise to get us interfacing better with computers.

NLP: NLP is the ability of a computer to understand and compute a human's normal speaking voice. The perfect NLP system would allow you to talk to your computer the way you would talk to another person. We're far from achieving this—subtleties of voice patterns, background noises, accents, and more play spoilsport (refer *Tech Transcends Tongues*, *Digit*, April 2006.) Of course that doesn't stop us from trying, and there are a lot of NLP projects being worked upon: check out <http://opennlp.sourceforge.net/projects.html>, a list of open source projects related to NLP.

BCI: Imagine a computer that could read your mind—yes, your *mind*—there's no talking required. Imagine sitting in a restaurant talking to your laptop... now you know why NLP isn't really ideal for the way we currently use computers. However, a computer that can read your thoughts... now



We basically have to un-teach people what they have learned so far about computing, and convince them that they can use several fingers, that several people can work on the screen at once"

Jeff Han
Researcher
New York University



The much-hyped Surface takes boring computing to mind-bogglingly amazing new levels

that's something we all want. Imagine thinking out that letter, moving your character in a game just by thinking about it... even better, imagine having a random thought, "I wonder who does the voice of Bart Simpson?" while interfaced with your PC.

Currently, BCI is being researched by quite a few groups all over the world. Most notable is Fraunhofer's Berlin Brain-Computer Interface (BBCI; more at http://ida.first.fraunhofer.de/bbci/index_en.html), which is already showing off the ability for people to play *Pong* against each other or the computer, using their thoughts as controls. Fraunhofer also holds BCI-related contests to encourage the development of this technology. Currently, accuracy for such a system in ideal conditions is between 91 and 99 per cent, which is extremely good—and leaves us optimistic.

The Future

It will take years before we have decent prototypes (leave alone products). We are also faced with the challenge of making a billion people forget all they know about computers, and re-learn to use them from scratch. Technologies such as eye-controlling the mouse, which uses a camera to monitor your eye and translate it into data your PC can understand is all very well and good, but what use if we still have to type out our letters?

Brain-Computer Interfaces also have limitations: how do we stop the PC from trying to interpret thoughts we don't want it to? Imagine working in an office, looking over to that hot co-worker and thinking, "I wish I could send him / her an e-mail asking him / her out," then turning back to see that your PC just shot off a mail asking the boss out!

New GUIs for operating systems / software and new hardware bring us to the chicken-and-egg scenario—software waiting for new input devices to code for, and devices waiting to see what software or AI can make possible.

We loved the concept of Microsoft's WinFS, and were looking forward to having a file system that was built like a database. Unfortunately, looks like we won't be seeing anything like it for PCs soon. Still, we'll keep our fingers crossed. WinFS promised to be different from the WIMP interface, and perhaps just that excitement of seeing something new has us hooked.

Another trend we have to consider is the *divergence* factor. When PDAs were killed by smartphones, *Digit* told you all about Convergence—the coming together of gadgets, hardware, software, and services into one do-it-all gadget. Things are slowly beginning to shift in the opposite direction. Sure, we all want more powerful cell phones, and who wouldn't want a device powerful enough to run Vista yet small enough to fit in one's pocket, and which you can use to make and receive phone calls? Still, how do we explain gaming consoles and their runaway popularity? Then there are the Internet tablets that have been popping up, allowing you limited functionality as compared to a PC—while still being ideal for browsing!

Perhaps the future of BCI is planting a chip in the brain—who knows? Apologies for the corniness when we tell you that all we can do is wait and watch. ☒

robert_smith@thinkdigit.com

How would you disable and then re-enable the Menu Bar in Windows Explorer?

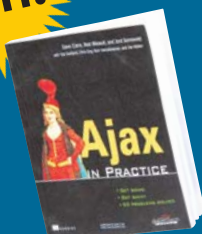
Send in your solution with the subject "Take a Crack", and your postal address, to takeacrack@thinkdigit.com

Make Explorer's Menu Bar Vanish, Then Re-appear



LAST MONTH'S CHALLENGE

Win!



Take a Crack and win

PC Upgrade & Repair Street Smarts

by Dave Crane, Bear Bibeault and Jond Sonneveld

Published by

WILEY-INDIA

LAST MONTH'S WINNER

No One Cracked It

Rules and Regulations

- ☑ Readers are requested to send in their answers by the 15th of the month of publication.
- ☑ Employees of Jasubhai Digital Media and their relatives are not permitted to participate in this contest.
- ☑ Readers are encouraged to send their replies by e-mail. Jasubhai Digital Media will not entertain any unsolicited communication.
- ☑ Jasubhai Digital Media is not responsible for any damage to your system that may be caused while you are trying to solve the problem.

CORRIGENDUM

The title for last month's *Take A Crack* was "Start And End Processes On A Remote Computer", while the text to the left of the title said "How can you prevent your computer from appearing in Network Neighbourhood?". These do not tally, and they refer to two different problems. The error is regretted.

How can you start and end processes on a remote computer?

Solution To Last Month's Challenge

Windows NT and Windows 2000 Resource Kits come with a number of command-line utilities that let you administer Windows NT/2K/2003/XP/Vista computers. For last month's *Take A Crack*, we require a collection of such tools—known as PsTools—find it at <http://download.sysinternals.com/Files/PsTools.zip>.

A Resource Kit is a set of software resources and documentation released with or after a major version of Windows. The tools help administrators streamline management tasks such as troubleshooting OS issues, configuring networking and security features, and such.

Before we begin, do note that some anti-virus scanners might report some of the tools contained in the archive you download as infected—specifically, by a "remote admin" virus. None of the PsTools contain any viruses, though. These tools are sometimes used by certain viruses, and therefore trigger the wrong virus notification. Exclude these tools in your anti-virus scanner to disable the warnings.

Extract the tools to a folder. These can be run as standalone programs and don't need installation. The beauty of PsTools is that you don't even need to install any client software on the remote computers at which you target them.

PsTools are interesting and useful; to learn more about them—and to clarify anything you might want to—visit <http://forum.sysinternals.com>.

To start a process on a remote computer, you will require a tool PsExec. This is a lightweight replacement for Telnet that lets you execute processes on other systems, complete with full interactivity for console applications, without having to manually install client software. A simplified usage of this command looks like the following:

```
PsExec \\computer -u username -p password command
```

where

computer = The name of the remote computer in UNC format

username = An existing username on the remote computer preceding the -u switch



password = The password associated with the username preceding the -p switch
command = The command that is to be run remotely

To stop a process on a remote computer, you will need the tool called PsKill. This is a utility that can not only kill processes on the local computer, but can also those on remote systems. Just copy PsKill onto your executable path, and type in pskill with the command-line options defined below. A simplified usage of this command looks like

```
PsKill -t \\computer -u username  
-p password process_id |  
process_name  
where
```

computer = The name of the remote computer in UNC format

username = An existing username on the remote computer preceding the -u switch

password = The password associated with the username preceding the -p switch
process_id = This specifies the process ID of the process you want to kill

process_name = This specifies the process name of the process or processes you want to kill

Note here that you can either specify the process ID or the process name of the process you want to kill. If you omit the computer name, PsExec will run the application on the local system, and if you enter a computer name as "*" (without the quotes), PsExec will run the application on all computers in the current domain.

If you wish, you can create scripts with multiple commands of the above kind to run it simultaneously against many computers. Space does not permit a detailed explanation of the scripting process in this case. ☐

Codex Portable

Professional filmmakers require high-quality video shooting equipment, and more importantly something to store their gigantic files on when out in the field. The Codex Portable is a compact field recorder. It supports recording of video formats all the way up to 4096 x 2048—that's like a little more than two times current HD resolution standards. 8-channel audio streams can be recorded. To store all this data, it has removable 400 or 800 GB hard drives! You can also plug in a cheap USB Flash drive.



Unlike its bigger brother the Codex Recorder, the Codex Portable weighs 4 kg instead of 45. The touchscreen allows you to use the interface, which can also be wirelessly controlled—through a laptop, for example. This whopper should be out towards the end of the year. Serious filmmakers might be the only prospective buyers, and they will be a very happy pack when it does arrive. No price has been stated so far, but our sixth sense (we've still got it!) tells us it isn't going to be cheap.

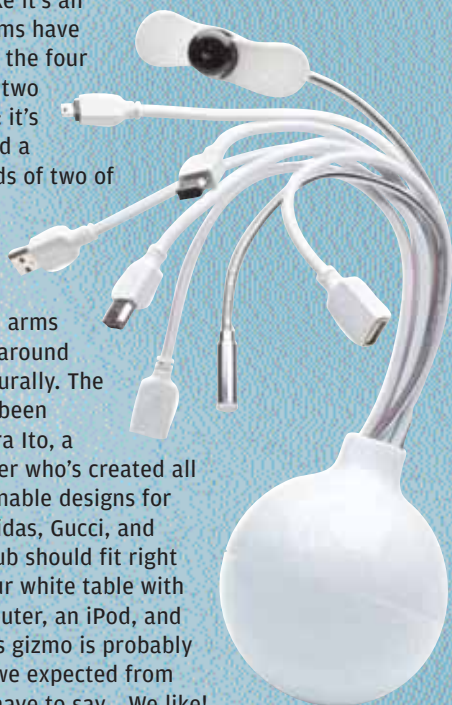


Droolmaal

The good stuff.
Stuff to lust after.
Stuff for the well-moneyed.

Lacie Hub

You've probably heard of Lacie products—they're mostly huge disks or highly-expensive monitors. Now this hub looks like a bulb, and it's got tentacles popping out like it's an octopus. Its arms have more than just the four USB ports and two FireWire ports: it's got a fan at and a light at the ends of two of its arms respectively. It also has an extendable USB cable. The arms can be moved around and bent... naturally. The Lacie Hub has been designed by Ora Ito, a famous designer who's created all sorts of fashionable designs for brands like Adidas, Gucci, and Swatch. The Hub should fit right in place on your white table with an Apple computer, an iPod, and an iPhone. This gizmo is probably the last thing we expected from Lacie, but we have to say... We like!



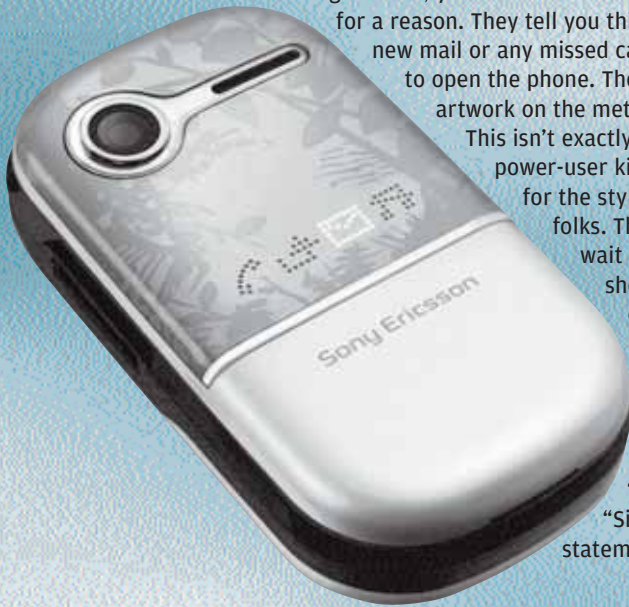
The Drop

A drop is literally what these things look like. They are speakers—and really good ones at that—from a little-known company called Scandyna. These 2.3 kg "Drops" are hardly your typical Desktop speakers: they're two feet high including the spiked legs. They can be set up for stereo or 5.1 surround. Equally stylish accessories are available; these can allow you to hang them off the ceiling or on walls. These speakers come in six gaudy colours—white, black, silver, blue, yellow, and red. (Yellow... ugh!) Very stylish, a Drop set costs £549 (Rs 45,000). That's the kind of price you pay for in-your-face design—the kind we love the most! (Except for the yellow).



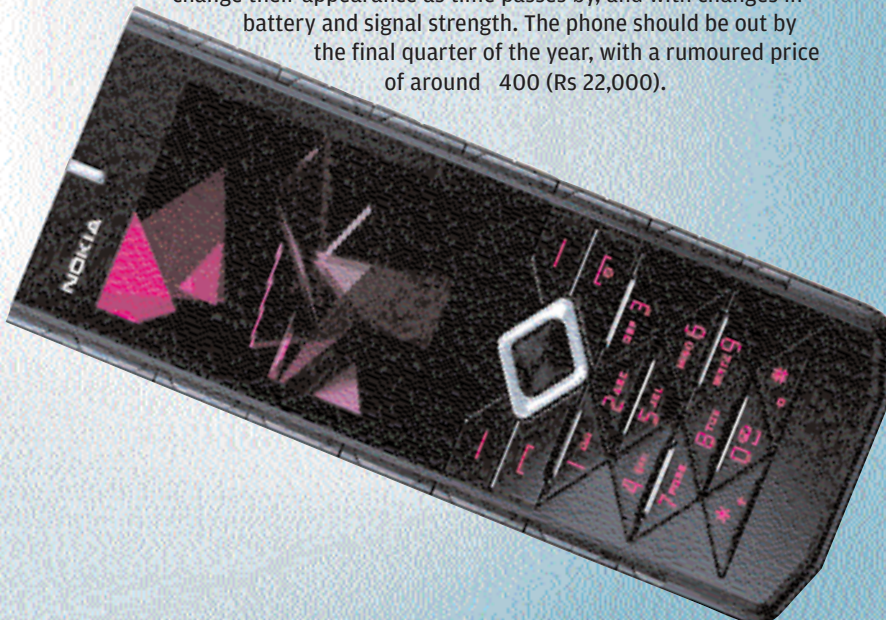
Sony Ericsson Z250i

Nokia throws punches and Sony Ericsson makes sure they return them with even more oomph. The Z250i is a sexy SE phone. With the cover of the clamshell design closed, you can see the icons on the back are there for a reason. They tell you things like if you have new mail or any missed calls, so you don't have to open the phone. The coolest part is the artwork on the metallic-finished cover. This isn't exactly a feature-packed, power-user kind of phone; it's more for the style-conscious younger folks. They won't have to wait too long—the Z250i should be out this quarter. The phones will be available in two colour schemes that Sony Ericsson likes to call "Silent" White and "Silent" Black. No statement on price so far.



Nokia 7900

The Nokia design department has gone extreme with the introduction of their new 7900—and its little brother, the 7500. The 7900 has jagged edges and cuts everywhere, which give it a unique look—as you can see. The surface has been etched, and you should be able to choose from 49 colours that can be used to light up the keypad. There's a whole gigabyte of space on this baby to store your 2MP images taken from its camera. There's a 16 million colour OLED screen to preview your dear photos on. Perks include wallpapers that change their appearance as time passes by, and with changes in battery and signal strength. The phone should be out by the final quarter of the year, with a rumoured price of around 400 (Rs 22,000).





48 Branded Home PC Test



80 New Ways To Play Old Games



86 Touchscreens

Digital Tools

Technology For Personal And SoHo Productivity

Enhance

Access: Granted

Do you get that sinking feeling when you see all that disorganised data?

Bhaskar Sarma

Every business generates data, and how a business manages it has a significant impact on performance. The traditional method of organising data was by using the humble pen and paper (no wonder they call it book-keeping), and as businesses grew, the increasing volume and complexity of data demanded drastic measures. With the advent of computers came software capable of managing huge databases. Earlier database management programs were tied to specific architectures; later software was standardised to run on all platforms. Oracle, DB2, Microsoft SQL Server, and MySQL are some enterprise-level data management tools.

But these tools are not entirely suitable for the home and the small office segment, because using them requires knowledge of relational database concepts and query languages, which could mean having to enrol in a course! Besides, using software like these to maintain the data generated by a small business is like using a cannon to kill a rabbit—it's simply not necessary.

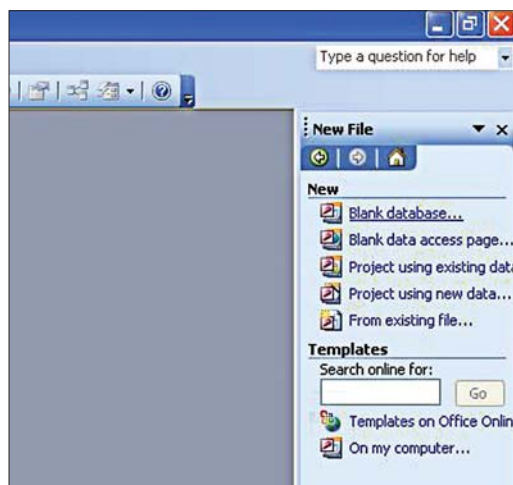
There is therefore the need for a middle-road software that's simple to use and gets your data-related jobs done. Microsoft Access fits into this category.

Inside Access

Microsoft Access is a database manager. It is part of the Microsoft Office suite and has many versions, the latest being MS Access 2007. Here we have used Access 2003, an earlier version because it has been around for a longer time, and chances are most people haven't been exposed to the newer edition. That said, the essential elements are the same for the two editions, with the only major difference being the user interface.



Access is a Desktop application, not a client-server one, and hence is not scalable for use over a wide network. It uses tables, forms, queries, and reports to store, manipulate, and access data. Here we are going to describe how to use these data elements to create and manipulate a database consisting of student records for a coaching academy. This is an example; Access can be used by a wide variety of small-and medium-sized businesses like bookshops, travel agencies, clinics, restaurants, etc. to store and handle data. In cases



Here's how to create a database in Access

where the database or the number of users becomes too large for Access to handle, it can be upsized by linking the front-end of the database (the user interface) with enterprise-level database management tools (like Microsoft SQL Server, Oracle, or MySQL, like we mentioned).

Tables

Tables are the backbone of any database management system—data is typically stored in tab-

ular form in a database. This is also the case with Access. To start storing data, open Access and select File > New. Click on Blank database, enter a name for your database, and save it. A Database window pops up showing all the elements in an Access database.



The database window is your primary handle on Access

You have three options there—Create table in Design View, Create table by using wizard and Create table by entering data. We don't recommend using the Wizard—it looks simple and is tempting, but you can easily foul up and have to return to square one. Use either the first or the third option. For beginners, the third option might be the best, but once you get the hang of it, you will be benefited by creating your table in Design view.

For our student record database we created two tables—student info and fees, using Design view. A tip: design the layout of your tables on paper before you get cracking at the computer. Think about all the fields you need to put in a

Access 2007—What's New?

Access 2007 is part of the newly-released Microsoft Office 2007, which had been timed for release along with Vista. As with other Office 2007 components, Access 2007 has been packed with a lot of new and useful features. Here is a low-down on some of them:

New look and feel: Access 2007 has a completely revamped look and feel. The "Getting started" page is a completely new experience compared to that in the earlier edition. The Ribbon—one of the most widely-talked about features in Office 2007—is used inside Access, replacing all the old-style menus, buttons, and toolbars. The benefit of the Ribbon is you don't need to dig deep into the menus to find out a particular option; the Ribbon displays it to the user according to the context. You get lots of slick templates to choose from—this gives your user interface that "cool" look. Also, Access now implements the Single Document Interface, where forms and reports open in new tabs.

New formats: The databases generated by Access 2007 are in a new format, .accdb. Old-style .mdb databases can be opened in Access 2007, but .accdb files cannot be opened by Access 2003.

Easier database construction: Access 2007 automatically assigns data types to fields entered in a database. This is a very useful feature for users who are not clear whether they ought to use, say, text or number as the data type for phone numbers.

New Form and report authoring tools: A new WYSIWYG editor presents itself. It lets users see, during design, what their final reports and forms will look like. This feature saves a lot of time otherwise spent in redesigning the look of the reports and forms. Exporting them to PDF format is a mouse click away. You can incorporate .png or .jpg images without increasing the size of the database and make your tables look prettier by colouring alternate rows in different colours.

Search capabilities: A search box enables you to search any field in datasheets and forms. This feature is useful especially with large documents.

Access 2007, though a big improvement over its previous avatar, suffers from quite a few bugs like compatibility and interface issues. There are also doubts as to how it will work with forms, pages, etc. prepared using Access 2003. As of now, therefore, most people are adopting the wait-and-watch policy regarding the use of Access 2007.

single table, and how many tables you need. A database is only as efficient as the table structure.

Each table needs a “primary key.” In plain English, this simply means a unique value—like a serial number or ID—that is not likely to be repeated in the table. So select a field as the primary key, or if you are not too sure, let Access do it for you. Take care with the data types of the fields. You get a short description of each data type, so it’s very unlikely that you’ll use Text as the data type if your field is Date. Browse through the options and select what seems to be the best fit. Give a name for your table and save it. This appears in the Database window.

Click on the newly-created table and enter your data. If you have done your spadework right, the data will fit nicely into their places. If you goofed up, sweat not: go to the Database window, right-click on the table, select Design view from the menu, and tweak the field types. If you need to add or delete columns, you can do so from inside the table.

You can edit the data in tables just like you would in an Excel worksheet

Student info : Table					
	Student ID	Name	City	Email	Phone number
	1	Vishal	Mumbai	vishal@xxx.com	2305687
	2	Madhur	Delhi	madhur@xxx.com	
	3	Radha	Mumbai	radha@xxx.com	3405676
	4	John	Bangalore	john@xxx.com	
	5	Amrit	Chennai	amrit@xxx.com	3459374
	6	Mayur	Ahmedabad	mayur@xxx.com	5607859
	7	Priya	Delhi	priya@xxx.com	2365437
	8	Meera	Mumbai	meera@xxx.com	
	9	Akash	Delhi	akash@xxx.com	
	10	Ravi	Mumbai	ravi@xxx.com	2313547
*	(AutoNumber)				

Record: 1 of 10

The student info table, one of the two tables used in our sample database

Fees : Table				
	Student ID	Subject taken	Month Joined	Fees payable
	1	Physics, Chemi	January	500
	2	Maths	February	250
	3	Physics, Chemi	December	750
	4	English, Hindi	January	500
	5	Maths, Chemist	February	500
	6	Sanskrit	February	250
	7	English	February	250
	8	Maths, Chemist	January	500
	9	Hindi	February	250
	10	Physics, Chemi	February	1000
*	(AutoNumber)			0

The second table used by us, the Fees table

You can add data to your table—or delete data—simply by choosing to edit it.

Queries

Queries are used to extract data from databases. In Access, queries are of five types—select queries, action queries, parameter queries, crosstab queries, and SQL queries. Most users

deal with select queries—those that retrieve required data from your tables and display them in spreadsheet view. Action queries do jobs like deleting or updating records. Parameter queries are interactive: a single query can give different results, depending on your parameter. Crosstab queries are used for restructuring data and doing operations like addition, calculating averages, etc. SQL queries are written in SQL (Structural Query Language) and are the most powerful of them all. In fact, all the other types of queries are converted by Access into the equivalent SQL forms and then executed. However, SQL queries are not suitable for the lay user because its grammar and syntax is complex.

From the Database window, click on the Query tab and select New. You get five options—Create query in Design view, and create query using the Wizards (for Simple Query, Crosstab Query, Duplicate Query, and Unmatched Query). Parameter queries and SQL queries can be created using the Design view. For our student database, we have used the Design view to create queries, though the job can be done using the Wizard too.

Click on Design view. Select the tables that contain the data for your query. In fact, you can also create sub-queries by selecting the queries you created earlier. Select the requisite data fields from the tables, add a sorting order if necessary, and save and name your query. That’s all—click on the created query in the Database window and view the results. As an example, we have used both the Fees and the Student Info table and selected appropriate fields to create a query that relates student ID, name, subjects taken, and month joined.

Parameter queries can be created by adding an expression typed in square brackets with a prompt in the Criteria cell of the Field to be used

Query1 : Select Query				
	Fees	Student info		
	* Student ID	* Student ID		
	Subject taken	Name		
	Month Joined	City		
	Fees payable	Email		

Field:	Student ID	Name	Subject taken	Month Joined
Table:	Fees	Student info	Fees	Fees
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:				
or:				

This query was created in the Design view...

Student city : Select Query			
Student ID	Name	Subject taken	Month Joined
1	Vishal	Physics, Chemistry	January
2	Madhur	Maths	February
3	Radha	Physics, Chemistry, Biology	December
4	John	English, Hindi	January
5	Amrit	Maths, Chemistry	February
6	Mayur	Sanskrit	February
7	Priya	English	February
8	Meera	Maths, Chemistry	January
9	Akash	Hindi	February
10	Ravi	Physics, Chemistry, Maths, Hindi	February
*	(AutoNumber)		

Record: 1 of 10

And here are the results of the query

as the parameter. For example, to find students who have fees less than a particular amount, type < [Fees lesser than:] in the Fees field of your table. When you click on the saved query, a message box pops up prompting you to enter a value for the chosen parameter. So if you need to find students who pay fees less than 500, enter 500 as the parameter.

Forms

These represent another data element in Access. Forms are mainly used to enter data into tables, and to view data. They can be used to edit data as well. They are also used to make a splash-screen or a “switchboard”—an entry screen where tabs and buttons guide you to the major parts of the database. Well-designed forms serve to demystify a database for first-time users who might be apprehensive of using one. Besides, they are easy on the eyes.

Forms are of five types—columnar, tabular, datasheet, pivot table, and pivot chart. Pivot tables and pivot charts are like bar diagrams—they are used to efficiently summarise and visually display large amounts of data according to set parameters. To create a form, you can use either Design view or the Wizard. For our sample database, we chose the Wizard.

Select your data fields from the field list. You can use tables or queries as the data source, but make sure the fields come from tables and queries where the fields have certain relations. Table relations may be one-to-one, many-to-one, or many-to-many: these refer to the different permutations in which fields in one table relate with fields in other tables. For instance, one single student might take up more than one subject. This would create a one-to-many relationship.

There is also the concept of subforms in Access. A subform is a smaller form that can be embedded in a larger form. Subforms are particularly suitable for complex databases. If you

Imagine building the same query every month—just use Reports for...well...regular reports!

table as the source. Choose all the fields from the source table, select layout and style, and click Finish. You will be able to check out the data in the Student info table, edit it, and add new data. Any changes or additions you make will be reflected in the Student info table.

The Student Info Form

Reports

As the name indicates, reports are usually used to represent data in easily viewable or printable formats. Tables and queries are used as data sources for reports. You can design reports to represent the way you want to display the data: sort data in alphabetical or in increasing / decreasing order, and display sum, average, maximum, and minimum of data. If the report runs into multiple pages, you can add page numbers. Access gives you the option to display data in visual form.

For beginners, the best way of creating reports is using the Wizard. This way you can create autoreports—using a single table or query as the data source—in columnar and tabular forms, or you can pick and choose your fields using the Report Wizard. There are Wizards for representing data in visual format (the Chart Wizard) and another to print out labels.

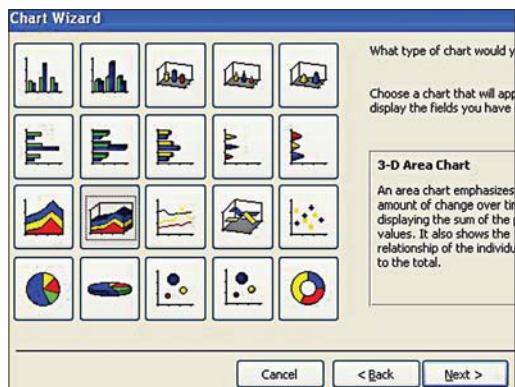
In the Report tab, click New and choose the type of report you want. For our student database, we used the Autoreport Wizard. We chose the data source as the query for the number of students joining in January. After clicking Finish, we got a nice, printed report.

The Form Wizard takes some of the headache out of form-making

want to create subforms or create other types of forms using the Wizard, select New in the Database window. Choose your form type and the table or query from where your form gets the data. In our database, we used forms to enter data for the student info table. Click on Create form by using Wizard and choose Student info

A sample view of the Report Wizard

If you don't want to use all the fields or if you want to customise the look and feel of your reports, use the Report Wizard. Follow the instructions and you will get the result. To export reports to other formats like .html or .doc, right-click on the saved report, select Export from the menu, and select the required format. The Chart Wizard has plenty of options (bar chart, column chart, 3D area chart, and more) to visually represent your data.



You get several visual options for your reports

Pages

Imagine a business with a Web site containing data that changes regularly. The data on the Web site needs to be updated regularly. If the data volume is small, the data can be manually updated. But for larger databases, this method is infeasible. Data Access Pages lets you connect your database to the Internet so that any changes made in the database are automatically reflected on your site. You can also edit an existing Web page. Pages are displayed using a combination of technologies like ODBC, Active Server Pages, IIS, and DHTML.



The Page Wizard in Access

Creating a page is simple. As with other data elements in Access you can create pages in design view as well as using a wizard. We recommend the Wizard. Click on New tab in the window and select the type of wizard you want. We selected the Page Wizard. The data sources for Pages are tables or queries. As in

Use Data Access Pages to update your web site every time your database changes

other Wizards, the process of creating a page is the same. The created pages are stored by default in C:\My Documents. If you intend to display the pages over a network, specify a network path.

A note here: pages created by Access are only visible if you use IE 5.0 or above. If you use other browsers such as Firefox or Opera, only the title of the page will be visible, not the data elements. This is a big drawback; those browsers are widely used today.

Macros And Modules

These are advanced features in Access. Both add functionality to your other data items like forms and reports.

Macros trigger specific events when run. For example, if you open a database, a switchboard that enables you to navigate to previously-constructed data elements like reports, forms, etc. can be displayed. This is done by a macro. If there is a Print button in your report or form, it is a macro that does the job when the button is clicked.

Modules are collections of user-defined routines, subroutines, and procedures that automate many tasks. Modules, once written, can be used with any data object in the database. For example, a simple three-line module can be written to launch a Word application from inside Access at the click of a button. You could write a module that can connect Oracle to Access or test whether a string contains alphanumeric characters.

The Big Picture

Microsoft Access gives a lay user the ability to create databases that have the structural robustness of databases built using enterprise level tools like Oracle. It is also extensively used by developers to develop database models for rapid application development. Access is packaged with an eclectic collection of templates; templates are also available online, from Microsoft's Web site and also elsewhere. A sample database called Northwind comes with every copy of Access. This database illustrates all the functionalities of Access. Take some time to go through the Northwind database. Believe us, it will be a wise investment.

After you are comfortable with the basics of Access, you will be able to explore features such as adding security options, using macros to automate tasks, and more. You could also look up sample databases on the Web (www.data-baseanswers.org/data_models is a very good repository) to see how they are structured.

There are similar database management tools, both paid and free, like Lotus Approach and OpenOffice.org Base. Access, however, is most widely used in this segment because of the ubiquity of the Windows / Office duo. The idea of databases and anything associated with them may sound geeky, but as you get more and more comfortable with Access, you will start to discover the sea change Access will bring to the way in which you deal with all those mounds of data. ■

bhaskar_sarma@thinkdigit.com

You've been seeing Desktop PCs move from the privacy of the bedroom to the living room... and all the family loves it! So which one will grace your centre-table?

Michael Browne

Pease of mind. The phrase probably has you thinking warm summer beaches, and coconut trees, gently swaying in the breeze—all taken in with cool lemonade in hand. But what about when you're not holidaying—hard at work at your Desktop, when suddenly, something goes wrong? Many PC vendors are elusive when it comes to offering after-sales support, and the wide, genuine smile fades the moment you hand over the cheque...

When it comes to purchasing a Desktop PC, a large chunk of users prefer to forego the small financial savings associated with assembling a PC, and buy a branded PC. In fact, the branded and assembled markets



centrePieCe!



have an equal fan following. We aren't here to propagate either vendors or brands—and the choice of assembled or branded largely depends on the kind of person you are, your exact needs, and how much you're willing to learn.

If you're new to the world of computers, you have a couple of options before making a purchase decision. This assumes you're interested enough in making an

informed decision. If you aren't interested in getting into computer components and want a ready-made solution, then a branded Desktop is for you. Or you could learn a bit about individual components like motherboards, processors, memory, hard drives, and others, and use that knowledge to assemble a PC where you get to play creator and hand-pick components.

The most important factor associated with branded PCs isn't their "hassle free" acquisition, but the fact that brands mean warranties—and warranties mean no hassles after

purchasing. All major brands now offer at least a year's warranty on their Desktop PCs; some of them offer support for three years. On-site support is another catch-phrase, and basically means you will have a support engineer dropping over the next time that box gives you trouble!

We did a comprehensive survey of the market and came up with the 17 contestants you'll see pitched side by side. Dig in and get comfortable—this promises to be quite the contest!

BASIC BOXES Desktops Between Rs 20,000 And Rs 30,000

If it sounds too good to be true, it *could* be true...! PC prices have well and truly crashed to new depths. While we aren't seeing very cheap (read Rs 10,000 and below) computers, we're getting better technology for our buck—for the last couple of years. Today a Core 2 Duo costs less than what an Athlon 64 cost a couple of years ago, which was in turn cheaper than the Pentium 4s of the early 21st century. And so, for the first time, this humble value category sees fast dual-core processors.

Features What...at that price?

Good PCs don't come cheap. We've been long-term believers of functionality over funkiness; however, the phrase "bang for the buck" comes to mind. The Intex PCs sport identical cabinets—only their mental acumen differ. The decent-looking (if plain) cabinet bespeaks functionality, and we liked the simple build. With easily accessible USB ports and well-built HIDs (human



3D Modelling Shrikrishna Patkar
Photograph Jiten Gandhi, Sandeep Patil

interface devices), these PCs are for those looking at something really simple yet attractive. It's a pity the chassis itself has a few sharp edges, as our fingers ruefully discovered.

Acer's Aspire IE3214 doesn't look radically different either. The cabinet appears to be as well built as the Intex cabinets—a knuckle rap on the side panel will give you some (not so good) vibes. Both Intex and Acer ship their products with 19-inch monitors, but the ultra-slim bezel on the Acer 19-inch widescreen really sets it apart visually. The Intex 19-inch LCD, in comparison, looks too bulky and rounded, with too large a bezel.

The Presario SG3053IL is another plain looker—nothing special here, and the cabinet is tinny (rap it with your knuckles and you'll figure!). HCL touts the EzeeBee Max XP Z999 as a value offering, and that shows. The cabinet build is a little better than that of the Presario, but that's not saying a great deal.

Incidentally, all the three Intex PCs have excellent expandability, with loads of space for installing additional hard drives and CD drives. The motherboards are pretty expandable too—four SATA ports and an x16 PCI Express slot. The Aspire IE3214 has a total of three PCI slots.

Hey! Where'd it go?

We were surprised to see an extremely rich software bundle with the Acer IE3214. A carton inside the main box contained a set of 11 CDs and DVDs. The contents ranged from games to movies, recipes, utilitarian software and even an encyclopaedia. Intex was not to be left behind and bundled Red Hat Enterprise Desktop Version 4 with each PC. A couple of useful software were also found in the DVD writing software disc. Intex provided both Windows XP and Vista drivers—a definite plus point.

The usual cables and other paraphernalia were also provided by all vendors—something that is typically overlooked in this category. None of the vendors provide wireless keyboards or mice. Shockingly, no speakers are provided either! You'll need to invest at least in a pair of headphones for any kind of aural experience on any of these desktop PCs.

Intex was thoughtful enough to provide dust covers for the entire PC with all three models—something Acer missed out on.

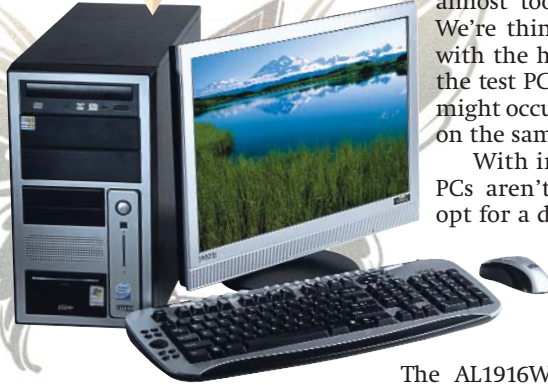
The EzeeBee Max XP Z999 comes with a pair of supraaural headphones (meaning they partially cover your ears).

Performance *Clash of the Tortoises!*

All these PCs are Intel-processor-powered. The newer budget Core 2 Duo processors (the E4x00 family) are fast, but not as fast in terms of clock speeds as the older Pentium D 925, which runs at a whopping 3 GHz on the Intex BF-73411—the fastest CPU (in terms of clock speeds) here. Heat could have become an issue, but the cabinet has sufficient vents to allow dissipation.

The Core 2 Duos in these PCs belong to the 4x00 and 2xx0 family. These are basically

BEST BUY
digit
SEPTEMBER 2007



Intex BM-45431
A value-for-money performer

stripped-down Core 2 Duos and their performance is around the same as that of the older Pentium D—with a lot less heat, of course. Incidentally, one of the areas where the Pentium D runs out of steam is while watching HD movies—our test 1080p clip experienced some stuttering on the Intex BF-73411. No such issues on the other three. The BF-73411 has another issue: its hard drive is very slow—in fact, almost too slow for a SATA drive. We're thinking this was a problem with the hard drive that came with the test PC, and not something that might occur with another hard drive on the same make and model.

With integrated graphics, these PCs aren't for gamers—unless you opt for a discrete graphics card. All four PCs have PCI Express x16 slots, so you can opt to upgrade to a discrete graphics solution.

The AL1916W monitor bundled with the Acer Aspire IE3214 is much better than the monitor provided by Intex (all three Intex Desktops have the same monitor). HCL also provides a good 19-inch widescreen. All the vendors are pretty stingy with storage space, with the exception of the Intex BM-45431, which has a 250 GB hard drive.

Conclusion

Have I made the right choice?

Intex's BM-45431 is our *Best Buy Gold* winner—good specifications, a large hard drive and great expansion possibilities. Intex's warranty will also keep you happy—one-year on-site support is available, after which you'll get another two years of carry-in support. This PC makes a good choice for someone looking for an affordable yet fully-functional Desktop. It's quite powerful too, and also a decent multimedia performer; how we wish Intex had bundled a widescreen monitor!

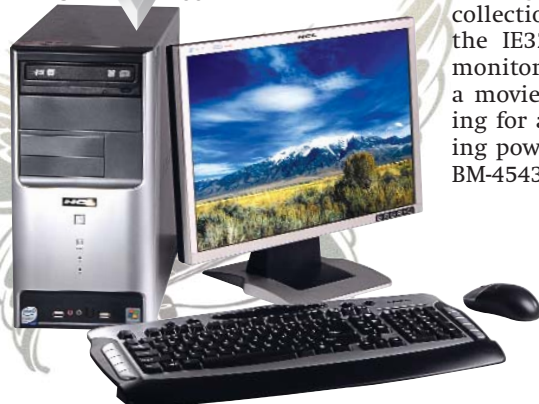
We're awarding a joint Silver to Acer's superb Aspire IE3214 and HCL's EzeeBee Max XP Z999: their scores just too close to make a decision one way or

BEST BUY
digit
SEPTEMBER 2007



Acer Aspire IE3214
Whatta bundle!

BEST BUY
digit
SEPTEMBER 2007



HCL EzeeBee Max XP Z999
Feature-rich, fancy-free

the other. Acer gets a nod ahead due to the superior bundle, though—11 discs consisting of games, movies, software, utilities, recipes, and an encyclopaedia. At Rs 25,000, if you're looking to start your DVD collection with a bang, get the IE3214. The widescreen monitor is attractive if you're a movie buff. If you're looking for a little more processing power, go with the Intex BM-45431.

A CUT ABOVE Desktops Between Rs 30,001 And Rs 40,000

This category is where the fun starts—all vendors

now have a good budget to work with. You can expect a better processor, perhaps more memory and a bigger hard drive. Discrete graphics is not a necessity unless you want to game a bit, but it's something to look for. (Integrated video solutions eat up valuable main memory to use as video memory.)

You should also look for at least a 19-inch LCD monitor—flat panels have become dirt cheap, and are easily available within this budget. If you're into multitasking a bit, then 2 GB of memory is the way to go.

Features *I want it!*

The LG XDZ caught our attention first. It deviates from the usual black colour scheme most vendors follow for a smoky grey hue. Opinions will differ drastically—some will love it, some will love to hate it: no lukewarm emotions here. A card reader has been cleverly integrated into what at first glance looks like a second CD bay flap. We also like the quality of the cabinet—it feels very sturdy, and the sheet used is quite thick.

Compaq's Presario SG3063IL looks just like its cheaper SG3053IL, except for the hardware under the hood. Zenith's 401G is passably usable as a mirror with its glossy front bezel. The rest of the cabinet is much the same: one sore point is the optical drives' eject mechanism—the front bezel that tilts outwards has the eject button built into it. When you eject the drive tray, the entire bezel (including the button) bends downwards—meaning you have to push the tray back into the drive.

Sahara's 20CK16 has the biggest cabinet of the lot—plenty of ventilation.

HP's Pavilion a6110in has an attractive transparent and backlit power button mounted atop the cabinet. In fact, all the HP and Compaq PCs had one common feature—when powering off, the button glows orange, and it'll glow green while powered. The card reader integrated into a floppy drive bay is functional.

How We Tested

PARAMETERS	WHAT WE LOOKED FOR
Features	
System Specifications	The hardware under the hood, correlated with price justifications. We gave points for larger monitors—widescreens got preference, as did bigger hard drives
Upgradeability	We looked at how much expansion is possible. After all, everyone needs to upgrade once in a while
Specifications And General Features	Number of USB ports provided, video connectivity, audio connectivity. We also checked for the software and add-on bundles and rated the PCs accordingly. Price points were considered
Ergonomics	How easy is it to access those USB ports? How good is the keyboard?
Performance	
PC Mark 2005	This synthetic benchmark tests the CPU, GPU, hard drive, and memory, and brings up scores. It is very sensitive to any change in components
SiSoft Sandra 2007	A little more detailed than PC Mark2005, this utility individually tests each performance-affecting hardware device, and lets us know how good each component is
3D Mark 2005	Tests the pixel and vertex shader capabilities of 3D acceleration hardware. Good for testing consumer graphics solutions. Its newer brother, 3D Mark 2006, is used to check enthusiast hardware
DisplayMate	Tests the capabilities of a monitor—since we were looking at multimedia capabilities like colour rendition and pixel response, we ran only the relevant tests
HD Movie Viewing	We played back a 1080p clip. Observations included stuttering, dropped frames, colour and crispness, and the suitability of the monitor for HD content
Video Encoding	Perhaps the most suitable real-world benchmark for testing a CPU's capabilities
File Transfer Test	Stresses out the hard drive, and is a good benchmark for storage. We used a 4 GB test file for sequential tests, and a mixture of different file types of varying sizes for random tests
Game Test: <i>Doom 3</i>	The OpenGL benchmark of choice—still one of the best geometry and shader engines in the business—scales very well with changes in CPU, memory, and GPU frequency or parts
Game Test: <i>FarCry</i>	The DX equivalent of <i>Doom 3</i> . This game features intensive shader operations and some great outdoor scenes with gorgeous detailing. Great for stressing out video solutions
Price	Cheap doesn't necessarily mean better—bang for your buck is what we're looking at
Operating System	Windows XP Professional with SP 2

Goodies Galore!

HP provides a fully-functional complete system recovery suite, but apart from that, the bundle is light. LG provides a system recovery suite from Stellar, and for some weird reason, FreeDOS!

Once again, no-one provided speakers. We were also disappointed to see wired keyboards and mice with all these PCs. We were equally shocked to see only 80 and 160 GB drives being shipped with all these.

In terms of expansion, the Sahara 20CK16 provides all that you'll need—the huge cabinet will handle four hard drives and two optical drives. The motherboard provides four SATA ports, and one PCI Express x16 slot with a 7600GS graphics card. Strangely enough, this card features 512 MB of video memory—this is overkill for the GPU core. Sahara has been miserly with the monitor—a 15-inch LCD just doesn't justify this kind of video hardware.

Performance
Duelling Desktops!

Up front, the Sahara 20CK16 has superb specifications. With a brand new Core 2 Duo E6320 and 1 GB of system memory, along with a graphics card of the GeForce 7 family, this PC can lay



Sahara 20CK16
Great components under the hood

claim to being something of a gaming machine. Although hardcore gamers will look at faster graphics cards, this one is definitely capable of running most current-generation games at medium settings and moderate resolutions.

The HP Pavilion a6110in features an AMD processor that is slightly slower than the fire-breathing Core 2 Duos, but tries to compensate by providing a very capable video solution—the integrated GeForce 6150 should be good for those looking for a multimedia PC—good HD video acceleration, among other things.

Compaq has another solid offering in the Presario SG3063IL, though we couldn't stomach the tiny 80 GB hard drive. The Zenith 401G is deceptively fast—the E6320 sees to all your processing needs quite well. The monitor makes for a crisp widescreen experience—definitely worth it for movie buffs.

Conclusion
Which is mine?

If you want something powerful enough to crunch through most applications and multitasking, look at the Sahara 20CK16 and the Zenith 401G. The 20CK16 is recommended for those looking to work with image editing or even casual 3D rendering work. It steals our *Digit Best Buy Gold* award on the basis of its sheer performance.

Another very capable multimedia PC, thanks in part to a very good integrated graphics solution, the HP Pavilion a6110in is our *Best Buy Silver*. We'd have liked to see a faster processor here, though. HP bundles

Advertisement

Rediff iShare

Rediff launches India's social content sharing platform

Rediff which already enjoys a 40% (approx) reach in India, recently launched its online content sharing platform – iShare. What sets apart iShare from other online content sharing products, is that iShare is a platform where users can upload not only videos but also music and photos.

iShare supports most of the formats of pictures, videos and music in mobile phones, digital cameras, camcorders and digital media players. This makes it extremely easy for consumers to upload on iShare.

iShare also opens opportunities for Indian youth to showcase their talent on the Internet and build friends and communities around common passions.



Scoreboard

BRAND MODEL	Acer Aspire IE3214	Compaq Presario SG3053IL	HCL EzeeBee Max XP Z999	Intex BA-73401	Intex BF-73411
					
* Rs. 30,001 to Rs 40,000 # Price exclusive of all taxes					
Price #	Rs 25,999	Rs 26,490	Rs 29,900	Rs 25,000	Rs 28,000
Comments	+ Good monitor & bundle - Plain looks	+ Good Monitor - Mediocre performance	+ Good specs - Plain looks	+ Airy cabinet - Low on storage space	+ Expandable - Low on memory
Grand Total (Out of 100)	58.45	49.62	58.39	57.86	55.09
Features (Out of 48/46*)	21.88	14.71	21.07	21.19	22.06
Performance (Out of 40/44*)	26.18	24.72	28.29	25.87	23.39
Price (Out of 12/10*)	10.39	10.19	9.03	10.80	9.64
Features					
System Specifications					
Processor Model No./Speed (MHz)	Pentium Dual Core/1600 MHz	Pentium Dual Core/1600 MHz	Core 2 Duo E4300/1800 MHz	Pentium Dual Core/1600 MHz	Pentium D925/3000 MHz
RAM (MB)/Type/Speed (MHz)	512 MB/DDR2/667 MHz	256 MB/DDR2/667 MHz	1024 MB/DDR2/667 MHz	512 MB/DDR 2/667MHz	512 MB/DDR2/533 MHz
Chipset	i945GZ	i945GZ	Intel i945GC	Intel i945GC	Intel i945GC
Graphics Chipset/Memory (MB)	Intel 82945G/Shared	Intel 82945G/Shared	Intel 82945G/Shared	Intel 82945G/Shared	Intel 82945G/Shared
Audio Solution/No. of Channels	Realtek ALC888/8	Realtek ALC888/6	Realtek ALC888/8	Realtek ALC888/8	Realtek ALC888/8
HDD Size Unformatted (GB)	160 GB	80 GB	160 GB	80 GB	160 GB
Screen (Inches)/Aspect Ratio/Resolution	19"/W/1440x900	17"/W/1440 x 900	19"/N/1440 x 900	19"/N/1280 x 1024	19"/N/1280 x 1024
Speakers (✓/✗)/Power (Watts RMS)	✗/NA	✗/NA	✗/NA	✗/NA	✗/NA
Keyboard/Mouse(Wired/Wireless)	Wired/Wired	Wired/Wired	Wired/Wired	Wired/Wired	Wired/Wired
Case Ventilation (So 10)	7	6.75	6.5	7	7
Upgradeability					
Memory (No. of Slots)	2	2	2	2	2
HDD (No. of SATA Ports)	4	2	4	4	4
HDD/Optical Drives (No. of Bays)	6/2	1/2	3/2	6/3	6/3
PCI Express x16 Slot (✓/✗)/No. of PCI Slots	✓/3	✗/2	✓/2	✓/2	✓/2
Specifications and General Features					
No. of Ports (USB (Front+Rear)/FireWire)	2+4/✗	0+2/✗	1+4/✗	2+4/✗	2+4/✗
Audio (Coaxial/SPDIF/✗)	✗	✗	✗	✗	✗
Video Connectivity (VGA/DVI/TV-Out)	VGA	VGA	VGA	VGA	VGA
Memory Card Reader(✓/✗)/Types of Cards	✗	✗	✗	✗	✗
Bundled Applications	Drivers, DVD & CD Value Pack–11 Discs <i>¹Art Explosion Scrapbook Factory Standard, Terminator 2: Judgement Day & Rambo: first blood part 2, American Pie & Rush Hour 2, The Laurel and Hardy Collection, The Jungle Book Vol 1, Desi Khana, Simon & Schuster New Millenium Encyclopedia</i>	Norton Internet Security 2007, Drivers	Drivers, Nero + utilities, CyberLink Power DVD and Power Producer	Norton Antivirus 2006, Nero Express, CyberLink Power DVD & Power Producer, Win2000/XP Drivers, Vista Drivers	Norton Antivirus 2006, Nero Express, CyberLink Power DVD & Power Producer, Win2000/XP Drivers, Vista Drivers
Miscellaneous Bundled Goodies	NA	NA	Headphones	Dust Covers	Dust Covers
Bundled OS	Windows XP Pro	Vista Home Basic	Vista Home Basic	Red Hat Enterprise Desktop	Red Hat Enterprise Desktop
Ergonomics					
Location of Front Panel Ports (So 10)	5.5	3	6	6.5	6.5
Keyboard Tactile Feedback/Layout (So 10)	5.75/6.5	5.25/5.75	6.5/6.5	6/6.5	6/6.5
Performance					
Synthetic Scores					
PC Mark 2005 (Overall Marks)	3196	3047	3345	3024	3064
CPU/Memory	4087/3415	4094/3410	4361/3654	4093/3551	4940/3478
Graphics/HDD	928/5980	896/5511	934/5647	1029/4654	927/4755
SiSoft Sandra 2007					
CPU Arithmetic (Dhrystone/Whetstone)	14176/9828	14072/10218	16514/11523	14714/10210	13000/10677
CPU Multimedia (Integer/Floating)	84536/45965	87889/47835	99222/54038	87750/47818	33081/38695
HDD (Drive Index/Access Time)	68 MBps/14 ms	68 MBps/14 ms	69 MBps/18 ms	55 MBps/14 ms	73 MBps/15 ms
Memory Bandwidth (Integer/Floating)	3226/3231	3296/3293	3195/3201	3650/3680	3384/3388
3D Mark 2005/CPU Score	402/2975	346/2585	440/3715	468/3429	434/3354
DisplayMate Colour Suite (So 10)	6.25	6.25	6.25	6.25	6.25
Real-World Tests					
HD Movie Viewing (So 10)	6.75	6.25	6.25	7	5.25
Video Encoding (100 MB file) (Sec)	136.07	138.70	126.04	127.81	125.32
File Transfer (MBps) Seq./Random	22.70/19.69	168.87/198.2	148.5/160	10.52/11.35	9.99/9.53
Doom 3 (fps) (800x600, medium detail)	7.50	6.30	6.40	13.00	9.80
Far Cry (fps) (800x600, minimum detail)	16.95	11.00	19.57	17.87	14.32
Warranty (On-site/Overall)	1 year/1 year	1 year/1 year	1 year/1 year	1 year/3 years	1 year/3 years

Intex BM-45431	Compaq Presario SG3063IL	HP Pavilion a6110in	LG XDZ	Sahara 20CK16	Zenith PC 401G
					
Rs 25,900	Rs 36,989	Rs 31,490	Rs 36,500	Rs 40,000	Rs 35,750
+ Balanced performance - Plain looks	+ Good monitor - Plain looks	+ Good monitor - Slower CPU	+ Good looks and bundle - None in particular	+ Great performance - Small monitor	+ Good CPU - Weird CD bay mechanism
60.92	42.79	52.47	50.41	58.34	45.25
23.35	12.40	20.82	19.88	18.26	13.63
27.15	22.73	22.65	22.77	32.99	23.69
10.42	7.66	9.00	7.76	7.09	7.93
Core 2 Duo E4300/1800MHz	Core 2 Duo E4400/2000 MHz	Athlon 64 X2/1900 MHz	Core 2 Duo E4300/1800 MHz	Core 2 Duo E6320/1866 MHz	Core 2 Duo E6320/1866 MHz
1024 MB/DDR2/667 MHz	512 MB/DDR2/667 MHz	512 MB/DDR2/667 MHz	512 MB/DDR2/533 MHz	1024 MB/DDR2/667 MHz	1024 MB/DDR2/533 MHz
Intel i945GC	i945GZ	nForce 6100	Intel i945GC	nForce 650i Ultra	Intel i945GC
Intel 82945G/Shared	Intel 82945G/Shared	GeForce 6150/Shared	Intel 82945G/Shared	NVIDIA GeForce 7600GS/512 MB	Intel 82945G/Shared
Realtek ALC883/8	Realtek ALC888/6	Realtek ALC888/8	Realtek ALC883/6	Realtek ALC885/8	Realtek ALC883/6
250 GB	80 GB	160 GB	160 GB	160 GB	160 GB
19"/N/1280 x 1024	17"/W/1440 x 900	17"/N/1280 x 1024	17"/N/1280 x 1024	15"/N/1024 x 768	19"/W/1440 x 900
X/NA	X/NA	X/NA	X/NA	X/NA	X/NA
Wired/Wired	Wired/Wired	Wired/Wired	Wired/Wired	Wired/Wired	Wired/Wired
7	6.75	7	6	7	7
2	2	4	2	4	2
4	2	4	4	4	2
6/3	1/2	2/2	2/2	4/2	1/2
✓/2	X/2	✓/2	✓/2	✓/3	X/2
2+4/N	0+2/X	0+4/1	2+4/X	2+4/X	4/X
X	X	Coaxial	X	X	X
VGA	VGA	VGA	VGA	VGA, DVI, TV-Out	VGA
X	X	✓/MMC, SD, CF, xD, MS Pro	✓/MMC, SD, CF, xD, MS Pro	X	X
Norton Antivirus 2006, Diskkeeper 9 Home Edition, CyberLink PowerDVD and Power Producer, Nero 7 Essentials	Norton Internet Security 2007, Drivers	HP Recovery Suite, Symantec Norton Utilities, Drivers	Nero Express, Power DVD, Power Producer, Stellar System Safeguard Suite (Shield, Smart, Revive-It, InstaBackup), Panda Antivirus, Free DOS	Drivers, Nero Utilities, CyberLink PowerDVD & Power Producer	Zenith PC drivers for Windows XP & Vista, Nero Express, CyberLink PowerDVD & Power Producer
Dust Covers	X	X	X	X	X
Red Hat Enterprise Desktop	Windows Vista Home Basic	Vista Home Basic	Windows XP Pro	Windows XP Pro	Windows XP Pro
6.5	3	6.5	4.5	6	4
6/6.5	5.25/5.75	6/6.5	5.75/6	6/6	5.75/6
3240	3459	2798	3469	3825	3342
4666/4209	5082/3892	3811/2871	4602/3643	4701/3974	4776/3893
2222/5524	1029/4806	683/5278	997/5987	3454/5367	1095/5198
13538/11327	18386/12769	13153/11754	16604/11488	17270/11878	17163/11832
100956/76216	109828/59533	36035/31660	98810/53799	102216/55677	102443/55787
55 MBps/14 ms	55 MBps/14 ms	62 MBps/20 ms	69 MBps/13 ms	50 MBps/13 ms	58 MBps/13 ms
3372/3294	3384/3295	3698/3727	3265/3267	3542/3560	3303/3325
461/3490	433/3305	588/5772	426/3229	4064/8871	528/6567
6.25	6.25	6.5	6.25	4.75	6.25
6	6.25	6.25	7	5.75	7.25
138.23	141.2	144.03	118.59	115.2	111.57
23.68/21.87	23.38/21.26	24.16/22.31	21.26/17.86	21.69/20.38	21.59/17.48
7.00	6.6	8.5	8.00	116.1	8.3
11.50	11.12	15.45	19.60	167.41	21.01
1 year/3 years	1 year/1 year	1 year/1 year	3 years/3 years	1 year/1 year	1 year/1 year

BEST BUY
digit
SEPTEMBER 2007

an excellent 17-inch monitor (the HP VP-17).

If you want something a little different-looking, the curvy and very grey LG XDZ should be worth considering. It's a very capable performer with a Core 2 Duo processor (E4300). It also comes with a very good LCD.

It's rather plain-looking, but the Compaq Presario SG3063IL does have a decent set of components and a noteworthy bundle—just buy a bigger hard drive.

MEDIA CENTRE DESKTOPS

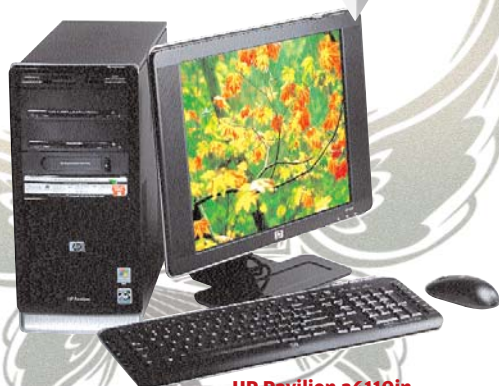
Home Entertainment With A Personal Touch

These PCs are also called Home Theatre PCs (HTPCs). Aimed at making your DVD player obsolete, such PCs have the added benefits of a full-fledged DVD / VCD / audio player, and all PC functionality is present as well. Most HTPCs include wireless remote controls, much like a home theatre system. They may also have wireless keyboards and mice to improve ergonomics. Finally, a good HTPC should have a large widescreen—a must for HD content. A decent graphics card also ensures skip-free playback, particularly of HD content.

Features

Why Didn't They Bundle A Sofa Too?

Although a media centre is usually associated with a remote control and a large screen, all our contestants break the mould in some way or the other... The unconventional contender in more ways than one was Acer's Aspire L310. By far the sexiest Desktop we've tested here, this stunner has an unbelievably tiny footprint, and stands just over a foot tall. A great-looking silver-grey finish complements the exceptional

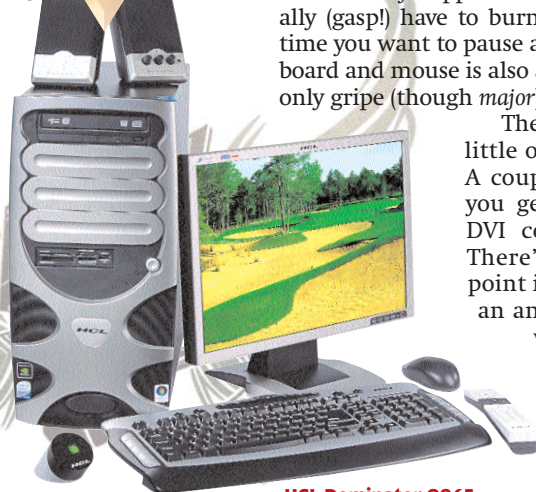


HP Pavilion a6110in
Great monitor & build quality

build quality. Your desktop will draw covetous glances with this sitting atop it... The fact that Acer provided the largest monitor in the whole shootout to partner this baby (a 22-inch widescreen LCD) speaks of its HTPC intent. Moreover, the monitor has a reed-thin bezel—very desirable.

HCL's Dominator will do just that—*dominate* your desktop. This was the largest HTPC cabinet we've seen. Bulky isn't good as far as anything media centre goes—to its credit, the cabinet is well-built and quite spacious. The third competitor in this category was another HCL—the Beanstalk Classic Z944. Slightly larger than the Acer L310, it comes decked in piano black. However, we didn't like the looks too much: glossy black looks good on curvy products. This one was a touch too angular. HCL bundles the same 19-inch widescreen monitor with both models.

BEST BUY
digit
SEPTEMBER 2007



HCL Dominator Q965
Four cores on a rampage!

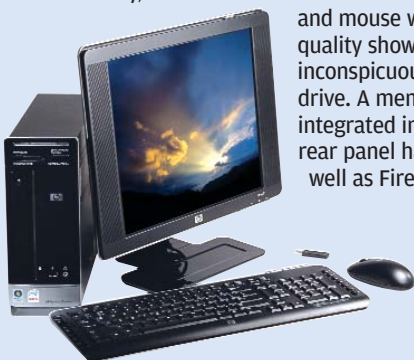
Hey! Where's The Popcorn?

Acer shockingly lets the Aspire L310 go without a remote control—criminal, really, considering Windows XP Media Center Edition is bundled. This severely cripples the couch potato—you actually (gasp!) have to burn precious calories each time you want to pause a movie. No wireless keyboard and mouse is also a shame—and this is our only gripe (though *major*) with this Desktop.

The software bundle is a little on the skimpy side, too. A couple of driver CDs is all you get. What we liked was DVI connectivity for video. There's a wireless access point in-built so WLAN is just an antenna away... Acer provides all the cables necessary to get you started. Unfortunately, the shrink in size comes at a price: there's a bulky power adapter to contend with, not very smart for your

The HP Pavilion s3180in

The first thing that'll strike you about the Pavilion s3180in is the extremely good use of piano black on the front bezel. Thanks to superbly-designed rubber feet, this cabinet won't budge on your desk, and is surprisingly heavy for a small-form-factor PC. The monitor supplied is the excellent VP 17, also finished in glossy black—unfortunately, it's not widescreen. HP bundles a wireless keyboard and mouse with this desktop, and the quality shows. The USB module is tiny, inconspicuous, and looks like a thumb drive. A memory card reader is integrated into the front bezel. The rear panel has Digital Audio Out as well as FireWire connectivity.



Windows Vista Home Premium is bundled. A recovery suite from HP has been provided, as is Symantec's protection and maintenance suite.

Windows Vista Home Premium is bundled. A recovery suite from HP has been provided, as is Symantec's protection and maintenance suite.

Powered by a Core 2 Duo E4300 and with 1 GB of memory, the s3180in cuts through most regular applications like a hot knife through butter. What we really liked was the large hard disk—250 GB is good (500 GB would have been fantastic). This PC is up to HD movie playback, but we'd have loved to see a larger widescreen monitor. Rest assured, though—everyone except image editing professionals and gamers are well-covered.

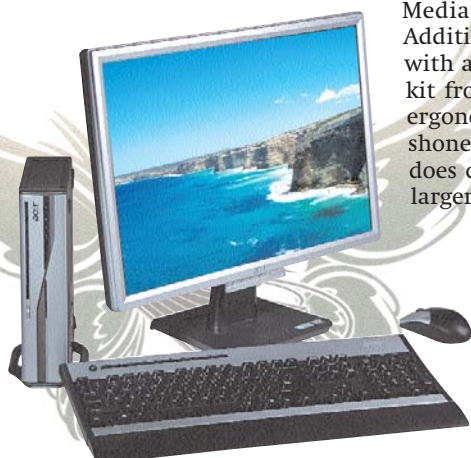
The real appeal of this Desktop lies in its diminutive size—only the Acer Aspire L310 is smaller—and its classy looks. There's that distinctive upmarket feel to the entire system that bespeaks status, and visitors will definitely take another look at this atop your desk!

If you're looking at something that gives solid bang for the buck, we suggest you look elsewhere—the same specifications will be available for a cheaper price point. At Rs 45,990, the s3180in is pricey—not value for money, but rather value for the moneyed! If you're looking for a classy Desktop PC that'll save you loads of room, look at this—but not before looking at the Aspire L310!

Scoreboard				Under Rs 20,000	
Home Theatre PCs					
BRAND MODEL	Acer Aspire L310	HCL Beastalk Classic Z944	HCL Dominator Q965	Acer AP E361	eSys EUC3223CI
  					
	<i>* Under Rs 20,000</i> <i># Price exclusive of all taxes</i>				
Price #	Rs 39,999	Rs 54,990	Rs 59,990	Rs 13,799	Rs 18,990
Comments	+ Great looker, great LCD - Slightly underpowered	+ Attractive-looking - Expensive	+ Quad-core, good ventilation - Bulky cabinet	+ Awesome value - CRT monitor	+ Great value - None in particular
Grand Total (Out of 100)	46.31	69.27	71.73	54.22	53.21
Features (Out of 50/)	18.56	37.30	33.40	16.75	19.45
Performance (Out of 40/36*)	18.75	25.42	32.33	24.87	24.60
Price (Out of 10/14*)	9.00	6.55	6.00	12.60	9.16
Features					
System Specifications					
Processor Model No./Speed (MHz)	Core 2 Duo E6300/1866 MHz	Core 2 Duo E6320/1866 MHz	Core 2 Quad Q6600/ 2400 MHz	Sempron/2000 MHz	Pentium Dual Core/1600 MHz
RAM (MB)/Type/Speed (MHz)	512 MB/DDR2/667 MHz	2048 MB/DDR2/667 MHz	2048 MB/DDR2/667 MHz	256 MB/DDR2/533 MHz	512 MB/DDR2/667 MHz
Chipset	i945GZ	i945GZ	Intel 965Q	ATI Xpress 200	Intel i945GC
Graphics Chipset/Memory (MB)	Intel 82945G/Shared	NVIDIA GeForce 7500LE/256 MB	NVIDIA GeForce 7500LE/256 MB	Radeon Xpress 200/Shared	Intel 82945G/Shared
Audio Solution/No of Channels	Realtek ALC888/8	SigmaTel STAC9227/8	SigmaTel STAC9227/8	Realtek ALC655/6	Realtek ALC888/8
HDD Size Unformatted (GB)	160 GB	500 GB	250 GB	80 GB	160 GB
Screen (Inches)/Aspect Ratio/Resolution	22"/W/1680 x 1050	19"/W/1440 x 900	19"/W/1440 x 900	15"/X/1024 x 768	15"/X/1024 x 768
Speakers (✓/✗)/Power (Watts RMS)	✗	✓/25W	✓/10W	✗/NA	✗/NA
Keyboard/Mouse(Wired/Wireless)	Wired/Wired	Wireless/Wireless	Wired/Wired	Wired/Wired	Wired/Wired
Case Ventilation (So 10)	5.75	7.25	7	7	7.5
Upgradeability					
Memory (No. of Slots)	NA	NA	4	2	2
HDD (No. of SATA Ports)	NA	NA	6	4	4
HDD/Optical Drives (No. of Bays)	NA	NA	4/4	2/2	2/2
PCI Express x16 Slot (✓/✗)/No. of PCI Slots	NA	NA	✓/2	✓/2	✓/2
Specifications & General Features					
No. of Ports (USB (Front+rear)/FireWire)	4/1	1+4/✗	2+6/✗	2+4/0	4/0
Audio (Coaxial/SPDIF/✗)	✗	SPDIF	SPDIF	✗	✗
Video Connectivity (VGA/DVI/TV-Out)	VGA, DVI	VGA, DVI, TV-Out	VGA, DVI, TV-Out	VGA	VGA
Memory Card Reader(✓/✗)/Types of Cards	✗	✓/MMC, SD, CF, xD, MS Pro	✓/MMC, sd, CF, xD, MS Pro	✗	✗
Bundled Applications	Drivers, Nero toolkit, CyberLink PowerDVD & Power Producer	Microsoft Works 8.5, Intel Business Application Suite, CyberLink PowerDVD and Power Producer, iPerform CBSE & ICSE Syllabus study material	Microsoft Works 8.5, Intel Business Application Suite, CyberLink PowerDVD and Power Producer, iPerform CBSE & ICSE Syllabus study material	Drivers, Utilities	Drivers, Nero Utilities
Miscellaneous Bundled Goodies	NA	MC Remote, headphones	MC Remote, headphones	NA	NA
Bundled OS	Windows XP MCE 2005	Vista Home Premium	Vista Home Premium	NA	NA
Ergonomics					
Location of Front Panel Ports (So 10)	NA	6.5	6.75	5.5	6
Keyboard Tactile Feedback/Layout (So 10)	5.75/6.5	7.25/7.25	6/6.5	5.5/6.5	6.25/6.75
Performance					
Synthetic Scores					
PC Mark 2005 (Overall Marks)	3429	3642	4673	2321	3066
CPU/Memory	4719/3545	4718/3876	7519/4881	2856/3543	4109/3467
Graphics/HDD	1109/5767	2187/5653	2243 / 5423	1201/4323	968/5018
SiSoft Sandra 2007					
CPU Arithmetic (Dhrystone/Whetstone)	17345/11900	17024/11764	44318/29826	9834/6575	14773/10209
CPU Multimedia (Integer/Floating)	102347/55714	100231/55233	262153/142898	43023/26409	87894/47854
HDD (Drive Index/Access Time)	71/13	59/14	72/13	65 MBps/14 ms	57 MBps/14 ms
Memory Bandwidth (Integer/Floating)	2968/3010	3428/3302	4887/4899	3142/3087	3568/3396
3D Mark 2005/CPU Score	386/3455	1576 / 3675	1707/14231	667/2321	419/3161
Display Mate Colour Suite (So 10)	6.75	6.25	6.25	7	5.75
Real-World Tests					
HD Movie Viewing (So 10)	8.25	6.5	7.5	4.5	5
Video Encoding (100 MB file) (Sec)	154.82	123.56	88.32	162.1	135.56
File Transfer (MBps) Seq./Random	21.27/16.59	24.51/22.46	31.41/24.68	178.2/186.3	160.43/200.85
Doom 3 (fps) (800x600, medium detail)	3.10	26.20	37.80	15.3	12.8
Far Cry (fps) (800x600, minimum detail)	12.60	45.43	93.88	24.75	17.69
Warranty (Onsite/Overall)	1 year/3 years	1 year/1 year	1 year/1 year	1 year/1 year	0/3-years

designer Desktop. Thankfully, the cable is a little longer than most.

HCL's Dominator and Beanstalk Classic Z944 come with a cartonful of goodies—loads of software, utilities, speakers, headphones, and Media Center remote controls. Additionally, the Z944 is bundled with a wireless mouse and keyboard kit from Microsoft—both have great ergonomics. The little Acer is outshone in this department—though it does come with a much better (and larger) monitor!



Acer Aspire L310
Designer Desktop!

Performance *Ready... Get Set... Go!*

Due to the small form factor typical to HTPCs, they don't run particularly cool. The Acer L310 does get hot owing to its small size—thankfully, it runs a relatively cool Core 2 Duo E6300. The real monster in this category is the Dominator, which features a mighty Core 2 Quad (Q6600) at 2.4 GHz. Thanks to the impressive hardware, this PC hammered the competition in most CPU-intensive tests and benchmarks.

Acer misses out on a graphics card, while both HCL PCs feature cards based on NVIDIA's GeForce 7500LE chipset. Having a graphics card doesn't necessarily make these PCs good gaming machines, but the HD video playback experience is enhanced.

What really impressed about the Z944 was the colossal hard drive—a 500 GB hard disk is a really positive step by HCL, and something we hope becomes a trend. Even the Dominator only manages 250 GB.

Despite the fact that Acer's 22-inch monitor is a real show-stopper, it is, in fact, a TN panel, and has minor colour rendition issues. That said, this LCD is miles ahead of the competition—movies and games are a delight with all the pixel real estate available. Pity it runs an onboard video solution.

Conclusion

So...do I get the job?

If you want something classy-looking and really compact with the added benefits of a large monitor and reasonably powerful components, look no further than the Acer Aspire L310. Even though it's intended as an HTPC, we'd heartily recommend it to bigwig corporates for whom a Desktop is all about making the right impression. With integrated Wi-Fi as a bonus, this little

marvel is a definite “must see before buying others.” A definite gold winner if beauty came before brains...

For sheer performance, it's hard to ignore HCL's Dominator. A quad-core processor, 2 GB of memory, and a GeForce 7-series graphics card make this one heck of a performer. It's not a hardcore gaming machine—the 7500LE will play most current-generation games at low to medium settings—but is a solid PC for multitasking and HD playback. The additional media player functionality and the feature-rich remote make it very attractive indeed—this is your *Digit Best Buy Gold*.

HCL's Beanstalk Classic Z944 is another powerful option in slim guise. It's as richly featured as the Dominator, but with a much smaller footprint, attractive looks and better speakers. The added advantage of a 500 GB hard drive is irresistible for data hogs: if you want loads of space, here's your PC...

MINNOWS Breaking the sub-20000 barrier

Although we only found two worthies in this category, it thrills to see some very decent machines at such throwaway prices! No matter what advertisements may say, a *proper* sub-20,000 PC is still partly fantasy and party wishful thinking. This is because of the extremely low margins on such a desktop, and the nightmare of providing support for comparatively cheaper (hence somewhat inferior) components. Acer and eSys have taken up the gauntlet and thrown in extremely pocket-friendly Desktops.

Features *Surprisingly enough!*

Acer's AP E361 sports a surprisingly sturdy cabinet, and is powered by a basic AMD Sempron processor running at 2 GHz. Acer's bundle is very spartan, and with a tiny 15-inch CRT, you won't be doing a lot of movie watching. We suggest upgrading to a 17-inch LCD—this will ensure a richer Internet and movie experience.

eSys' EUC3223CI provided an even sturdier cabinet, with a little more visual appeal—a partially meshed front bezel is never a bad thing.



Acer AP E361
Value has a new name!

Decision Maker			
You Want	Your Budget	We Recommend	The Price
The cheapest possible Home PC	Up to 15,000	Acer E361	13799
A basic PC with a little more punch	Up to 25000	Acer Aspire IE3214, Intex BM-45431	25999, 25900
Decent multimedia functionality	Up to 35000	Intex BM-45431, HP a6110in	25900, 31490
A decent gaming PC	Up to 45000	Sahara 20CK16	40000
Compact yet powerful Desktop	Up to 50000	Acer Aspire L310, HP s3180in	39999, 45990
Media Centre PC with remote	Up to 60000	HCL Dominator Q965 & HCL Beanstalk Classic Z944	54990, 59990
Powerful CPU-based PC for multitasking	Up to 60000	HCL Dominator Q965	59990
Large monitor for HD movies	Up to 45000	Acer Aspire L310	39999

Both bundles are on the skimpy side but you'd have to be a little barmy to expect something extra at this price point.

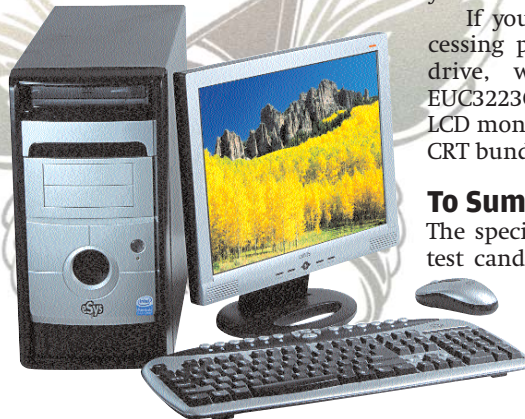
Performance Huh?

The eSys EUC3223CI outperforms the tiny AP361 both on paper and in practice, due to the huge difference in processing power—an AMD Sempron is no match for a dual-core Pentium processor. The AP361 has a capable ATI Xpress 200 graphics chipset, though—this will allow a variety of multimedia applications, though there's only 256 MB of system memory.

The EUC3223CI has double the system memory and double the storage space. This seems right, considering there's a 5,000-rupee price difference.

So...

The entry point to the world of computers is here! If you're extremely fund-shy and need a very basic PC to run office applications, dabble in a



eSys EUC3223CI
Good specs, great price!

little multimedia, surf the Net, or even as a second PC for downloading (an increasing trend), take a serious look at the exceptionally well-priced Acer AP361—Rs 13,799 with a whole one-year onsite warranty.

If you want a little more processing punch and a bigger hard drive, we'd suggest the eSys EUC3223CI. You'll also get a 15-inch LCD monitor instead of the 15-inch CRT bundled with the Acer.

To Sum It Up

The specifications on some of our test candidates were drool-worthy, but we expected more—especially from PCs priced at over a half-lakh rupees. For one, DX10 graphics cards, which cost below Rs

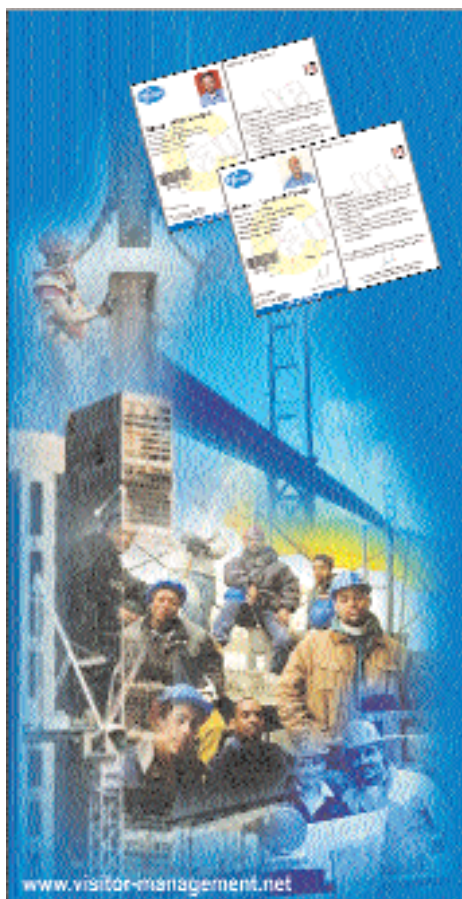
5,000. Another trend we'd like to see done and buried is the inclusion of tiny hard drives. There's absolutely no way a Desktop PC will cope with a family's storage needs with 80 or 160 gigabytes.

There's much to be appreciated though, like the inclusion of LCD monitors all round. Also, the inclusion of fast processors on cheaper PCs. Another heartening point was the *de facto* 512 MB of RAM.

In any case, if you want a Desktop PC without the headache of choosing components yourself, and running circles around dealers for support, take the branded way! ☑

michael_browne@thinkdigit.com

Contact Sheet		Branded Desktop PCs	
Brand	Company	Phone	E-mail
Acer	Acer India Pvt Ltd	9342172109	anup_agrawal@acer.co.in
Compaq	HP	9810061022	shubhodip.pal@hp.com
eSys	eSys Information Technologies Ltd	1800-1020304	in.info@esysmail.com
HCL	HCL Infosystems Ltd	9818989875	sachin.tyagi@hcl.in
HP	HP	9810061022	shubhodip.pal@hp.com
Intex	Intex Technologies Ltd	1800-116789	info@intextechnologies.com
LG	LG Electronics India Pvt Ltd	9811354331	ajaysurjan@lgindia.com
Sahara	Sahara Computers & Electronics Ltd	0120-4397777	info@saharacomputers.co.in
Zenith PC	Zenith Computers Ltd	1800-222004	info@zenith-india.com



Biometric enabled Labour Management System...



Security has become a paramount concern for any organization in the modern world. Physical security of the assets and the intellectual property protection has become a major challenge of any security department of an organization. Proper vigilance over the visitors, contractors, laborers, temporary employees is the first step towards achieving effective security in the organization. There are many temporary employees entering in an organization on a day to day basis. Normally these contract employees are hired from contractors. Usually the management of these employees is done through either a manual system like "Token System" or a partially automated system with access cards. There are many issues related to these systems.

Advantages of a Biometric enabled Labour Management System:

- Every labour gets a badge with photograph.
- Daily attendance with finger print authentication (optional).
- Maximum no of labour per contractor can be restricted and controlled.
- Any person can be authorized required a photograph & finger print.
- Repository of all labourers / temporary employees.
- In case of an accident or mishap all the details about the individual can be traced easily.
- Validity of the badge can be displayed prominently.
- Daily attendance sheets can be generated accurately.
- Allowed work timings are displayed on the badge and the same can be controlled.

That's why many companies like Accenture, Reliance Industries, Pfizer, Adani Logistics, Megaportal City and many more have standardized on ESM KIOSK.



Support: 867798 / 1907001-2005, HR/AN Compliance, ESM Enterprise version and Visitor Management System is also available.



Soft-AID Computers (P) Ltd.

3rd Floor, 4th Dimension, 135, Freshhouse, Pune - 411004 INDIA

Tel: +91 20 25457005 (3 lines)

Fax: +91 20 25456003

E-mail: sales@libroute.com

Mumbai (Sechin - 9324312133) Delhi (Amit - 9611839433) Bangalore (Ramar - 9844265564)

Hyderabad (Munish - 9946211906) Pune (Santosh - 9860511850) Vijay - 9822150885



Nokia E65 Not quite the E...

As much as common sense tells us to avoid slider phones for obvious reasons—as in moving parts, wear and tear—they're hot! The E65 is red-hot (literally), and it's available in mocha, too. The entirely matte-finished body offers good grip, and it manages to also look classy. Red-russet brown really—might not appeal to all, but the soft contours are nice.

With Bluetooth, Wi-Fi, 3G, EDGE, and more, the E65 is a business-oriented device with some artistic flair. The number keypad is well-laid-out with raised demarcations on each key, similar to the N95—but remember there's no QWERTY. Keypad backlighting is good. The 2MP camera and the music player are pretty ordinary.



Pop the hood and it's a Symbian S60 9.1 device. Quick Office has been provided, but it's Word and Excel editing at its barest (no document creation). GPS software is bundled: it'll work with any Bluetooth GPS

device. There's also a pretty nifty text-to-speech module that will read out data whose menus are placed in the Voice Aid folder. Contacts can be read out, as can phone numbers, recent calls, and the time. You also get a voice assist while dialling, which will help (only if you remember the number) in the event of mis-dialling while in a hurry. Still, we think the software needs a lot of work to be functional.

The phone is slow, though, especially while using the voice functions—which bespeaks low memory. Call quality is good, but not on par with some of the other Nokia phones we've

tested. Calls disconnect easily when reception strength is at one tower.

At Rs 22,469, the E65 isn't the definitive business phone that the E series label indicates it to be. A phone with very similar specifications and functions with a cheaper price tag comes to mind—the N80. But then all new phones are costly, and a couple of price cuts may see this hottie become popular.

Specifications

Weight: 115 gm; dimensions: 105 x 49 x 15.5 mm (L x W x H); screen: 240 x 320 (16M colours); 50 MB shared memory; 2MP camera; GPRS, EDGE, 3G, Wi-Fi, Bluetooth, IR, and USB connectivity

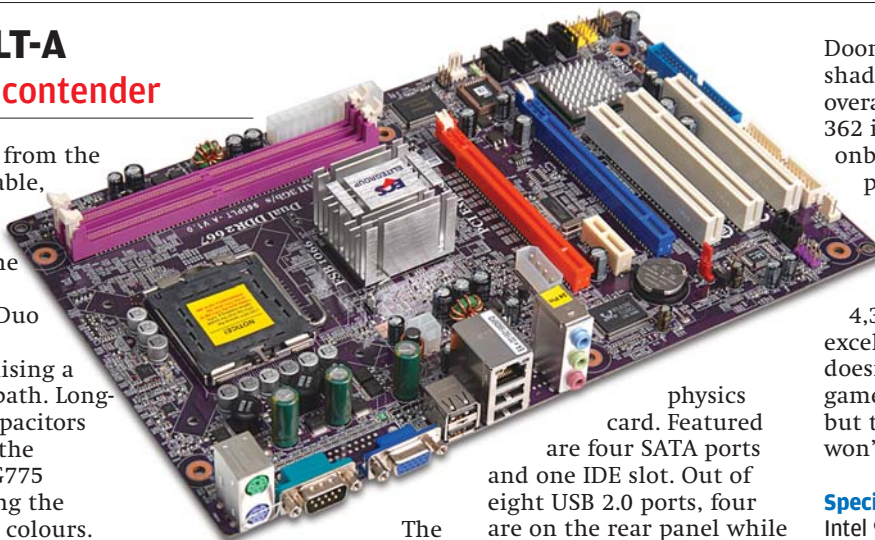
Contact: Nokia India
Phone: 30303838
E-mail: ext-manoj.goel@nokia.com
Web site: www.nokia.com
Price: Rs 22,469

RATINGS	
Features	★★★★☆
Performance	★★★★☆
Build Quality	★★★★★
Value for Money	★★★★☆
Overall	★★★★☆

ECS 965PLT-A The budget contender

The 965 PLT-A, from the Elitegroup stable, targets the value-conscious. Straight out of the box, the board supports Core 2 Duo and Core 2 Quad processors, promising a decent upgrade path. Long-life solid state capacitors are only used in the vicinity of the LG775 socket, showcasing the board's "budget" colours.

The use of the 946GZ chipset limits FSB support to 1033 MHz, which will get the job done only for now. Though there is dual-channel DDR2 support, addition capacity is restricted to two DIMM slots, meaning a max of 4 GB of RAM. Support for high-speed DDR2 modules is restricted to 667MHz.



The 16x PCIe slot provides the vital graphics expansion capability, along with one 4x PCIe slot for a

physics card. Featured are four SATA ports and one IDE slot. Out of eight USB 2.0 ports, four are on the rear panel while the rest of them are expandable through the on-board jacks using the PCI bracket provided alongside.

The board scored 3598 in PC Mark 05 when we used an Intel Core 2 Duo E6700, meaning it's an average performer. In our game tests, the board churned out 11.7 fps in

Doom 3 at 1024 x 768 with shadows disabled. The overall 3D Mark score of 362 indicates mediocre onboard graphics performance.

The 946GZ chipset does a respectable job for the price (Rs 4,300). The board doesn't excel in any department; it doesn't pack a punch for gamers and overclockers—but the just-average guy won't complain.

Specifications

Intel 946GZ and ICH7 chipset; Socket 775; Core 2 Duo / Quad ready; 1066 / 800 FSB; DDR2 667 / 533 MHz; integrated Intel Graphics Media Accelerator 3000; 4 SATA ports

Contact: Zenith Technologies
Phone: 9323584048
E-mail: malay.ray@zenith-india.com
Web site: www.ecs.com.tw
Price: Rs 4,300

RATINGS	
Performance	★★★★☆
Features	★★★★☆
Ease of use	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆



Buffalo DriveStation Quattro

Good on features, low on appeal

The new Buffalo DriveStation Quattro crams in four 250 GB hard drives to give you a terabyte. Structurally rugged, this drive is encased in a rather bulky black casing, with all sides made of metal. Weighing in at 6 kg, it is tough to move around.

The drives are SATA150 at 7200 rpm. The accompanying software allows you to configure the drives to work in five different modes: Normal mode (appearing as four separate 250 GB drives), JBOD (which shows the drive as one contiguous 1 TB drive), RAID 0 (also appearing as a single 1 TB drive but faster), RAID 1 (500 GB with mirroring), and RAID 5 (750 GB and a

combination of speed and reliability).

The Quattro supports USB 2.0 and the newer and faster eSATA interface. Buffalo even provides a PCI eSATA card with a bracket and a cable for those—and that's the majority—whose motherboards do not support that interface.

It took 43 seconds for a 1 GB file to get copied to the drive; a gigabyte of assorted data took 52 seconds. The unit tends to heat up

RATINGS

Performance	★★★★
Features	★★★★
Build Quality	★★★★
Value for Money	★★★★
Overall	★★★★



considerably during operation; the 12 cm fan at the back doesn't seem to be doing its job.

The Memeo Autobackup software that accompanies the drive is versatile. It automatically backs up your data to a wide variety of destinations such as hard disk, removable drive, FTP server, Network Places, iPod, and Memeo Internet Disk—an online service for Memeo

Backup users. Secure Lock Ware—another bundled application—uses 256-bit AES encryption to protect your data.

The absence of a backup button and the relatively slow speed bring down the appeal of the Quattro for system administrators, and the rather high price tag of Rs 49,000 doesn't help.

Specifications

1 TB (4 x 250 GB SATA); 7200 rpm; Seek time: 11 ms; Interface: USB 2.0, eSATA; eSATA PCI card with bracket; Software: Memeo Autobackup, Secure Lock Ware; Weight: 6 kg

Contact: Advent Infotech Pvt Ltd
Phone: 011-41436751
E-mail: buffalo@adventelectronics.com
Web site: www.buffalo-technology.com
Price: Rs 49,000

Sennheiser RS130

Good. Very Good.

Wireless is generally a strict no-no for audiophiles. Enter the RS130, aimed at making believers out of the aurally-discerning that wireless headphones can indeed deliver the goods. Turns out they're not audiophile-grade, but they're good—much better than you'd expect wireless headphones to be. The major problem with all wireless headphones is interference, and the fact that air isn't as good (gross understatement!) a medium to transfer disturbance-free sound waves as compared to, say, 99.9% oxygen-free copper cables!

The RS130 comprises a transmitter unit with an AC power adapter, and the circumaural-type headphones that feel very light (280 gm) despite the rechargeable AAA NiMH batteries inbuilt. Surround sound is a switch away; the

RS130 employs additional circuitry for this. Sennheiser has also touted "Self Learning Volume Controller," a newfangled name for automatic volume levelling. We must say it works reasonably well here.

The headphones themselves are extremely comfortable on the outer ear—no stress or pressure even after five hours of continuous use for this reviewer. This is partially due to the ear-cup design and the extremely soft padding. These are open cans (others will hear the sound too).

The RS130 has an impressive soundstage for a wireless set. Audiophile cans

these are not, like we said, yet they impressed us with clarity and depth in almost every genre of music. You'll find low bass a little lacking in grunt, and mid-range seems a little muted, especially vocals. Still, this set downs every other wireless set we've tested in the past couple of years, and manages to give some of the good wired ones out there a run for their money.

Coming to the personal aspect, these cans are huge, and while they offer a superb range of around 16 metres—with obstacles including walls—we don't really see anyone walking around with them. Still, if wired is a no-no for you, give the RS130 a look—if you can handle the steep price: Rs 10,900. Remember we're talking about the best wireless set we've tested in years—and the brand image itself will do a little to massage your ego after the liquidity plunge! But do remember that if you're OK with a cord,



you'll find something acoustically similar at half the price.

Specifications

Circumaural; frequency range 18 Hz ~ 21 kHz; wireless RF receiver; surround sound mode; 3 RF channels

Contact: Sennheiser Electronic India Pvt Ltd.
Phone: 0124-4187816
E-mail: Ankush.Agarwal@sennheiserindia.com
Web site: www.sennheiserindia.com
Price: Rs 10,900

RATINGS

Performance	★★★★
Features	★★★★
Build Quality	★★★★
Value for Money	★★★★
Overall	★★★★

Lenovo 3000 N200

Feature-packed, Santa Rosa-powered

Lenovo's 3000 series lineup makes up its mainstream laptops. The latest addition is the N200 and is based on Santa Rosa, the latest laptop platform from Intel.

A biometric scanner lets you log in to Vista with a swipe of your finger. Setting up the software for the finger scanner is simple, and logging in is convenient.

The performance in PCMark 2005—a test for measuring mainly the graphics subsystem performance—was more than satisfactory. The 1 GB of RAM makes sure Vista runs fine. The benchmark for *FarCry* recorded a frame rate of 5.70 fps, and *Doom 3* did 9.3 fps, both of which are pretty bad, but comparable to most mid-range laptops of today. The memory and drive benchmarks in SiSoft Sandra

show pretty good results—a 42 MB/s drive index and a score of 3786 for memory.

The 15.4-inch screen does a maximum resolution of 1280 x 800. It is crisp and vibrant—decent enough for day-to-day use, but you start to see the bandings in colour gradients with HD videos—a sign of a poor LCD.

The keyboard is sturdy; the keys have decent travel, and most importantly, lack the flimsy, plasticky feel you find in quite a few cheaper laptops these days. The right edge of the touchpad acts as a scrollbar. The blast of hot air from the left vent is noticeable, which clearly indicates that the laptop runs quite hot. The speakers are lacking in power, and despite the low volumes we kept it at, the laptop only stayed powered on for 2:41 hours on a full charge.

It's down to the extras, because the performance is pretty standard. You get Wi-Fi, Bluetooth, four USB ports, and a FireWire port. The Wi-Fi and Bluetooth can be turned on and off with the slide of a notch instead of through the OS. There's a VGA connector for an external monitor, a 5-in-1 memory card reader, and a 1.3MP webcam.

Gaming is out of the question because of the lacking graphics

RATINGS	
Performance	★★★★☆
Features	★★★★☆
Build quality	★★★★★
Value for Money	★★★★★
Overall	★★★★★



subsystem, but the N200 should be fine for students and business users for regular work—and the occasional movie or two.

Specifications

Core 2 Duo T7100; 110 GB HDD; memory: 1 GB; 15-inch widescreen; resolution: 1280 x 800; 5-in-1 card reader (SD, MMC, XD, MS, MS Pro)

Contact: **Lenovo India**
Phone: 080-22108412
E-mail: direct@in.lenovo.com
Web site: www.lenovo.com
Price: Rs 52,000

Cooler Master AquaGate S1

Water is good for you!

Today's powerful processors' cooling solutions are just too noisy, mainly because faster fans are needed to dissipate all that heat. We're looking at the perfect foil for all that racket... the 20 dB Cooler Master AquaGate S1. Suitable for nearly all sockets, this complete liquid cooler from Cooler Master is aimed at cooling your processor.

Liquid coolers have always been nasty things that most of us don't like to tamper with for the fear of

damaging internal components. Cooler Master takes away this from the equation with a completely assembled kit.

This one is extremely easy to set up—it's usually a hassle with liquid coolers, but we were able to do it in 11 minutes flat!

We used this cooler and compared it to the stock Intel cooler. The processor of choice was the Core 2 Duo X6800, which heats up with CPU-intensive applications. We overclocked too, just to

see what would happen. Note that these aren't idle temperatures. The results are in the graph.

As you can see, the AquaGate is effective at cooling an overclocked X6800. At 3.5 GHz, a temperature of just 52 degrees is good, though it's only 9

degrees less than what the stock cooler does; we expected more.

At Rs 4,500 the S1 makes a good choice for someone looking at an affordable and hassle-free liquid cooling solution with moderate to heavy overclocking. If you're

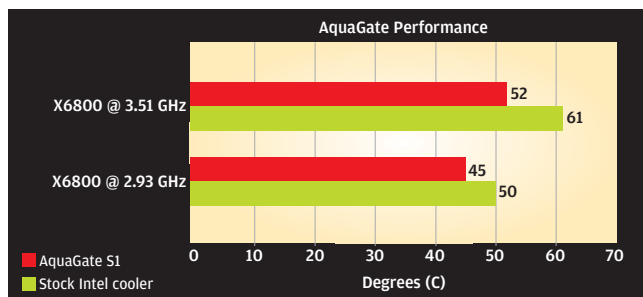


running an Intel or AMD processor at stock speeds, you won't really need the S1.

Specifications

Current 0.3 A; Ceramics Bearing pump (life 50,000 hours); 120 mm blue LED fan (life 40,000 hours); base material copper, other material aluminium

Contact: **SMC International**
Phone: 9810026658
E-mail: Himanshu@amigointernational.biz
Web site: www.coolermaster.com
Price: Rs 4,500



RATINGS	
Performance	★★★★★
Features	★★★★★
Ease of Use	★★★★★
Value for Money	★★★★★
Overall	★★★★★

Western Digital AV 160 GB WD1600AVBB

Tailored for the AV specialist

The AV series drives have been tailored to deliver optimised AV performance, and is targeted at the CE segment (HDD Recorders, Video Surveillance Recorders, etc.) and digital video professionals.

According to WD, a lot of research has gone into engineering these drives to incorporate enhanced features. These drives are touted to be very reliable with an MTBF (mean time between failures) of 1 million hours, and are rugged enough to survive high-temperature, always-on environments.

SilkStream technology provides continuous smooth playback of up to 12 HD streams with an assumed transfer block size of 2 MB per stream. Its compatibility with the ATA streaming

command set also enables CE customers to use standard stream management and error recovery options.

IntelliSeek is another technology incorporated here; it calculates optimum seek speeds to lower power consumption and vibration. Indeed, we found this to be a silent performer. The recording heads are parked off the disk surface during spin-up and spin-down and when the drive is off, to reduce wear and improve reliability and non-operational shock tolerance (350 G as opposed to 250 G

for standard drives).

The drive features Pre-emptive Wear Leveling, which means the drive arm frequently and evenly sweeps across the disk to reduce uneven wear on the disk surface—a common thing with AV streaming applications.

The drive consumes less power than non-AV drives; in fact, WD has removed the 3.3 V SATA power from this product. It also runs cooler than most.

The drive was better than most other non-AV drives in the synthetic benchmarks. In the real-world tests, it was fast in the sequential file copy test, but lagged behind all the drives we have tested thus



far in the assorted file copy test, taking at least 50% more time.

The 2 MB buffer appears to be too little in an age where 8 MB is the starting point (and it did hurt the performance). At the same price as a 320 GB drive, this fails to justify its price.

Specifications

160 GB; 7200 rpm; 2 MB buffer; SATA II

Contact: Compugage Infocom Ltd

Phone: 022-23842200

Email: info@compugageindia.com

Web site: www.westerndigital.com

Price: Rs 3,500

RATINGS	
Performance	★★★★☆
Features	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆

Sony Ericsson P1i

Filling the gaps

The P1i is the latest in Sony Ericsson's business line, succeeding both the P990i and the M600i—bringing the functionality of the former to the form factor of the latter. Its dimensions are nearly the same as those of the M600i, and its style statement is in Chinese—the shiny plastic sides and the chrome details look downright tacky. It's based on the same Symbian UIQ 3 platform as the P990i and M600i, with a few minor changes. The OS is definitely quicker, which is probably due to the oodles of program memory that the phone comes with—128 MB. Other than that,



there's nothing remarkably new here.

Just like the M600i, this one doesn't feature any soft-keys, and you operate it using either the stylus or your fingers on the touchscreen. There's also the three-way jog dial, which, thankfully, does away with the annoying protrusion featured on the previous phones. The screen itself is wonderfully vibrant and

quite responsive to the touch, but is, naturally, a fingerprint magnet. We recommend slapping on a screen guard the second you open the box—the screen's responsiveness will suffer a tad, but it'll be worth it.

The stylus is longer and easier to write with, and its locking mechanism seems much firmer than the M600i's flimsy setup. The QWERTY keypad is the same as that on the M600i—two letters to the key. Not too different from the M600i, but the keys do feel more tactile.

The 3.2MP camera is respectable, though not exceptional—indoor photos are a bit grainy, but overall, the clarity and colour balance of the photos satisfies. There's a second camera on the front for video calls, but you can't take self-portraits with it. Like the P990i, this model comes with a business card scanner. The feature works just as nicely (or as badly, depending on the card) as the one on the P990i.

The P1i supports 3G (but no EDGE) and Wi-Fi 802.11b. Wi-Fi speeds are decent, and battery life, thankfully, doesn't suffer for it.

The P1i isn't really light years ahead of the P990i, but it definitely nudges it off top spot. There's no annoying flip top, the QWERTY keypad can actually be worked with, the audio levels are louder, and the huge program memory has you multitasking like you've never multitasked before.

Specifications

Quad-band GSM; UMTS; Wi-Fi (802.11b); Symbian v9.1 UIQ 3.0; TFT touchscreen (256 K colours); 160 MB shared internal memory; Memory Stick Micro (M2) support (1 GB included); 3.2 megapixel camera; VGA video-call camera; FM radio

Contact: Sony Ericsson Mobile Communications

Phone: 3901111/1800-11-1800

E-mail: questions.in@

support.sonyericsson.com

Web site: www.sonyericsson.com

Price: Rs 24,000

RATINGS	
Performance	★★★★☆
Features	★★★★☆
Build Quality	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆

BenQ T91W

Good but pricey

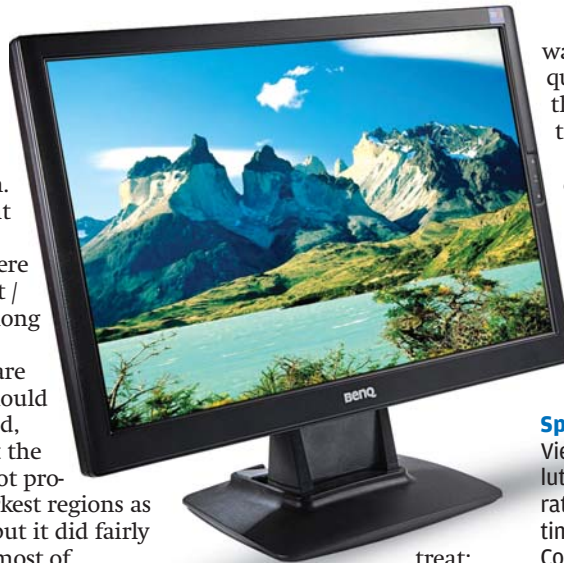
The T91W is the latest LCD offering from the BenQ stables. It can be tilted up to 20° up and 5° down vertically, but it can't be tilted horizontally. The three buttons on the monitor take care of all the functions, but they are placed behind the monitor—inconvenient. Furthermore, the buttons seem tacky, and are unresponsive at times.

This 19-incher is sleek, and weighs just 4.8 kg. It has a widescreen aspect ratio of 16:10, and supports a native resolution of 1440 x 900—something movie buffs will love. With a fast response time of just 5 ms (milliseconds) for grey-to-grey, this one will not disappoint gamers either; it is just as good for fast-paced gaming as your CRT.

The T91W has an excellent contrast ratio of 700:1. The 300 cd/m² brightness

spec is more than enough. The backlight is placed evenly, so there are no bright / dark spots along the border.

Colours are vibrant. It should be mentioned, though, that the LCD could not produce the darkest regions as pure black, but it did fairly better than most of the LCDs we've tested. It has wide viewing angles of 160° for text and 150° for movies. Movies on this monitor are a



treat; games look equally good. The black borders become inconspicuous while viewing, adding to the immersive experience.

VESA wall mounting is supported. Power consumption is 45 W at full load and 2 W in standby mode, meaning significant savings on your electricity bill. BenQ has put in a pair of speakers, though you might never

want to use them—the quality of these is nothing that really deserves a mention.

The sore point: a DVI connector is lacking. This will really be missed by videophiles who demand the purest of video signals. In the final analysis, we think Rs 13,400 for the BenQ T91W is a little too much.

Specifications

Viewable size 19"; Native resolution: 1440 x 900; Aspect ratio: wide (16:10); Response time: 5 ms (grey-to-grey); Contrast Ratio: 700:1; brightness: 300 cd/m²; Interface: D-Sub; power consumption: 45 W (max), 2 W (standby); Dimensions: 381.2 x 449.2 x 185.2 mm (H x W x D); Weight: 4.8 kg; Stereo speakers inbuilt

Contact: **BenQ India Pvt Ltd**
Phone: **1800-22-0808**
E-mail: **Sales.EnquiryIn@BenQ.com**

Web site: **www.benq.co.in**
Price: **Rs 13,400**

RATINGS	
Performance	★★★★★
Features	★★★★★
Build Quality	★★★★★
Value for Money	★★★★★
Overall	★★★★★

HAVA Wireless HD

The leap to video streaming

Wi-Fi streaming devices are a dime a dozen, but HAVA has several aces up its sleeve to differentiate from me-too products. To begin with, it's a video streaming device with a TV-Tuner inbuilt. Yes—TV programmes can be streamed within your home or on the Internet.

Setting up the HAVA unit requires a basic understanding of networking. Configuring the appliance does take considerable time, but it wasn't overly difficult. DHCP (Dynamic Host Configuration Protocol) is well-implemented, and the

settings are comprehensive.

Local wireless clients connect automatically once DHCP is activated in the embedded WebServer. If you so want, the device can be hooked up via a regular Ethernet connection—simple and effective. The setup Wizard is designed with two options, Basic and Advanced—thoughtful. Basic mode doesn't concern itself with Security or advanced networking protocols; one can use Advanced mode to configure these.

The unit comes bundled with and IR-Blaster (the IR emitter module), which can be used to control streaming devices such as a DVD player, satellite receiver, etc. attached to the HAVA unit. The remote control is software-based; it drives the IR Blaster. The software on the client side—



your PC or laptop connected to the HAVA over Wi-Fi or Ethernet—allows simple control over the TV-Tuner. It also allows recording of live streams onto the client PC.

On the performance front, the HAVA Wireless HD can stream 720 x 480 MPEG2 video at a constant 5 to 6 Mbps. We didn't encounter jerky video or lag in the audio stream. The device can directly stream to the Internet at 320 x 240 in the MPEG4 format, and it requires 300 Kbps+ bandwidth. Using the HAVA Mobile Player (available at the Web site), the live video stream can be

received on a cell phone; the Mobile Player only supports Pocket PC 5 / 6.

Rs 16,500 is steep for a device like this one, but it is unique, and is appealing.

Specifications

Video source (in/out): Composite, S-Video, Antenna, and Component Video; networking: Ethernet, Wi-Fi (802.11g); software: HAVA Setup Wizard, HAVA PC Player

Contact: **Monsoon Multimedia Pvt Ltd**

Phone: **011-32909146**

E-mail: **yogesh_dutta@adityagroup.com**

Web site: **www.myhava.com**

Price: **Rs 16,500**

RATINGS	
Performance	★★★★★
Features	★★★★★
Ease of Installation	★★★★★
Value for Money	★★★★★
Overall	★★★★★

Mundu Radio

Internet radio on your mobile: sound cool?

Listening to music on mobile phones while travelling has become one of people's favourite pastimes all across India. The sudden blossoming of radio stations everywhere has contributed to this trend. The creators of Mundu Radio believe streaming music from Internet radio stations could be the Next Big Thing. (Geodesic is the company that makes software for mobile devices with the "Mundu" name; we tested one of their other products—Mundu IM—a while ago.)

We tried out the Symbian OS version on a Nokia N70. The interface is colorful and elegant. Stations are stored by genre. There are some preset stations, and you can add more manually through their site, www.radio.mundu.com. Also, the default playlist, which contains all the stations, can be updated from your account on the Mundu Radio site. Recently-played stations can be viewed

quickly from a list that updates itself when you play a new station. We must say it would be nice to be able to add stations directly through the software interface instead of having to log in to the Mundu Radio site to add stations to your list.

We used a GPRS connection to access the streams on Mundu Radio; you can use Wi-Fi as well—if your phone supports it. The streams we used were 32 Kbps and 24 Kbps, and the performance was quite decent—they sounded good enough for a mobile phone. There was, however, a lot of buffering even with the slightest drop in signal strength. The other concern, if at all, is the rates at what

you are billed for downloads. For example, using a 32 Kbps radio stream for an hour will result in around 14 MB of data transferred.

There are lots of Internet-based radio stations, and you have no shortage of music to choose from. Mundu Radio is currently a free beta and upgrades can be downloaded from their site. How good the experience will be will eventually come down to the quality of service of your provider, and also the schemes suitable for long periods of radio listening. Either way, it's a great concept that can be implemented on the current infrastructure without

hassles, and it's definitely worth trying out. Mundu Radio is currently available for Palm, Symbian 7 and 8, and Windows Mobile devices.

Contact: Geodesic Information Systems Ltd
Phone: 022-28311849, 28306837
E-mail: enquiry@mundu.com
Web site: www.mundu.com
Price : Working beta; currently free



RATINGS	
Performance	★★★★☆
Features	★★★★☆
Ease of Use	★★★★☆
Value for Money	★★★★★
Overall	★★★★☆

Norton 360 All-In-One Security

Security simplified

Norton's latest product—the 360 All-In-One—is a complete security solution. The interface has changed a bit from the earlier software by Symantec; it now has a fancy, sleek, Vista-like theme. The colourful controls should suit beginning computer users.

It looks like Symantec has covered pretty much everything on the security front. You get an anti-virus and a spyware scanner to hunt down viruses, worms, and spyware. There's a firewall, and a Transaction Security feature which is meant to safeguard the online transactions you do—shopping and banking, for example. It verifies whether the sites are online scams or authentic.

The Tune-Up feature is very basic; its task is to

clear out your Windows and Temporary Internet Files and defragment your disk(s). You can set the software to automatically back up important files like the stuff in your My Documents folder and others. Schedules can be set for this.

You get 2 GB of online space that can be used to back up important data: once you've activated Norton 360, you register for the online space.

If Norton 360 finds anything that could hamper



security, it highlights this by displaying it in the main window. For example, if the firewall is disabled, or if the software isn't up to date, it gives out alerts. The software even reminded us that our Windows password wasn't strong enough!

360 All-In-One performed quite a lot better in terms of resources consumed than what we expected having

seen previous Symantec products—like Norton AntiVirus. When idle, RAM consumption was a mere 8 MB. With the interface on, it went up to 17 MB, and it was 75 MB while running the barrage of scans.

All in all, Norton 360 All-In-One Security as a complete security solution does make some sense. The software's focus is ease of use, so it cannot be compared to full-fledged anti-virus software or spyware detectors. Everything is automated, so it's great for those who don't want to be bothered with checking for viruses and backing up data frequently.

Contact: Ingram Micro India (P) Ltd
E-mail: deenu.m@ingrammicro.co.in
Web site: in.symantecstore.com
Price: Rs 3,699 (3 licenses per household; 2 GB online storage)

RATINGS	
Performance	★★★★☆
Features	★★★★★
Ease of Use	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆

Sony Sound Forge 9.0a

Expert-level audio editing made easy

Sony's Sound Forge 9 is the latest version of the highly-acclaimed sound editing software. There isn't much competition left in this space, but new releases and updates still keep pouring in.

The interface hasn't changed much since the previous releases. It is still easy to use for intermediate and expert-level users.

To start with, Sound Forge allows you to import from a wide range of formats—including video formats that contain more audio streams than stereo. Let your imagination run wild with the number of effects Sound Forge gives you—flange, chorus, and reverb are just a few of them. The overwhelming number of effects and tools is what makes Sound Forge unique.

Setting up parameters for each of the effects is easy. Windows pop up for

every effect you apply where parameters can be changed, and real-time previews are played back instantaneously.

It's not all fun and games either. The Detect Clipping feature finds instances of clipping in a track and marks them so they can be treated. The Plug-In Chainer queues up multiple effects. Several audio files can be processed and effects applied one after another automatically.

Support for scripts is inbuilt, as well as some presets for normalising, cropping and fading, etc. These can be used to run automated tasks like extracting audio CDs and

RATINGS	
Performance	★★★★★
Features	★★★★★
Ease of Use	★★★★★
Value for Money	★★★★★
Overall	★★★★★



encoding them, for example. A script editor is provided; anyone with some understanding of programming can make his own scripts.

Sound Forge stays well under the 50 MB limit while working on more than a couple of MP3s.

As it stands now, Sony's Sound Forge has become a well-refined and optimised audio editing software that performs well and manages to have as many features as you'd want. All is well, it might seem, but the price

tag of \$299.96 (Rs 12,150) is bound to create some hesitation for prospective buyers. Professional-level users already on older Sound Forge versions will have no such doubts, all thanks to support for new formats and standards—and the added effects and tools. Newcomers to the field of audio editing would be better off starting with open source alternatives—Audacity, for example.

Web site: sonycreativesoftware.com
Price: \$299.96 (Rs 12,150)

Toon Boom Storyboard Pro

Do your story on the computer

Toon Boom Storyboard Pro should help you do away with all the paper and pens that people normally associate with storyboarding without a computer.

The interface is somewhat dull, and the layout disappoints: tools like the colour palettes are not easily accessible enough. The drawing tools are very basic; Storyboard Pro is meant for rough sketching and basic drawing, and we'd have liked better brushes. Some changes to the brush can be done to improve on the default set, though. Sounds can be added to the shots; voice-overs can be recorded in the software and added. You can also add notes—useful for dialogues.

The Onion skin feature is especially useful: it allows artists to use earlier

panels as a reference and make accurate additions to the next shots.

A few templates are provided as well. You can select from ready-made characters and items and add them to a scene by a simple drag-and-drop move.

The colour selector in Storyboard Pro is pretty advanced; it displays a wide range of colours using three separate parameters—Hue, Saturation, and Value, for the three standard colours—red, green, and blue. However, this three-wheel selection mode

RATINGS	
Performance	★★★★★
Features	★★★★★
Ease of Use	★★★★★
Value for Money	★★★★★
Overall	★★★★★

window is too large to fit into a resolution of 1152 x 864. A minimum resolution of 1280 x 1024 is required.

Storyboard Pro has incorporated cameras similar to those in 3D modelling applications. The camera can be panned and moved about. Transition effects can be set between shots—this makes Storyboard Pro a viable option as an animation tool (to some extent). Prepared animations can be exported as rendered frames in TGA and JPEG or as QuickTime or Flash animations.

Toon Boom Storyboard Pro demonstrates that by moving the process of storyboarding to a computer, it's possible to exponentially improve flexibility—make changes effortlessly; easily put



detail put into pre-production plans.

Rs 50,000 for the commercial version may seem high, but remember that professional studios' 3D software and compositing software run into lakhs. Still, you can find similar storyboarding software at around half the price. The educational package for students—which adds a watermark—is expensive, at Rs 20,000.

Contact: Rahul Commerce
Phone: 020-26113853 / 54
E-mail: rahulsales@vsnl.com
Web site: www.toonboom.com
Price: 50,000 (Commercial), Rs 20,000 (Educational with watermark)

Tips & Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

TIPS

VirtualDub 67
Free Download Manager 69
FlashGet 71
Hacking Opera's INI Files 72

GTA—San Andreas 74

30 MINUTES EXPERT

Picnik 70
Speed Up Your Web Site 73

VIRTUALDUB



Illustrations Harsho Mohan Chatteraj

VirtualDub is used to encode videos. Video encoding isn't as difficult as it is often made out to be.

VirtualDub is a very popular software for the purpose. Encoding your videos brings down file sizes of your gaming videos, home videos recorded on your camcorder, etc. We look at some useful features in VirtualDub, as well as some finer tweaks. VirtualDub can be downloaded from, as expected, www.virtualdub.org.



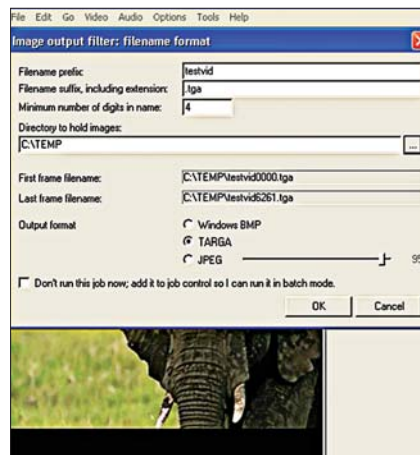
Opening And Saving Rendered Image Sequences

When animations are rendered through 3D modelling software, for example, they can be rendered as a sequence of images. They are generally easier to

handle in composition software. Using formats like TGA, for example, can store much better quality as well.

It is generally assumed that VirtualDub only allows importing and exporting of videos. But actually, VirtualDub can open up sequences of images as long as they are named with the standard convention, for example, RENDER001.TGA, RENDER002.TGA, RENDER003.TGA and so on. To open a sequence, select File > Open video file. Select the first file of the image sequence and click Open. The entire image sequence will be loaded as an animation. You can now do the same set of tasks with it like with any video file.

In the same way, a video can be exported as a sequence of images. When you have a video opened in VirtualDub, select File > Save image sequence. Enter a filename prefix, the location



VirtualDub can import and export videos as sequence of images

where you want the sequence to be saved, and the format you want to save it in. If you choose JPEG, you are allowed to set compression levels, though TGA is preferred for best quality.



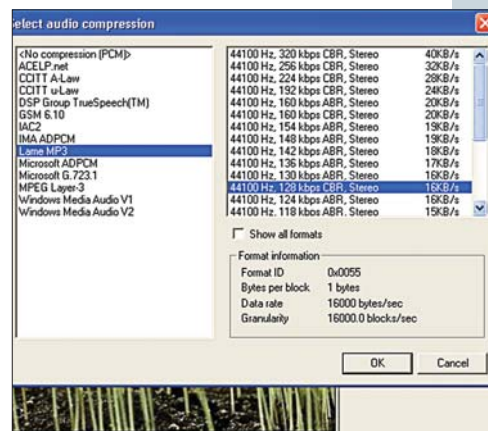
Encoding MP3 Audio Streams

Anyone using VirtualDub for the first time will immediately notice that audio encoding bit rates for MP3 will be limited to a maximum of 56 Kbps, whereas MP3 allows much higher bitrates. 56 Kbps is really low; to make sure you are limited to this bitrate, check by selecting Audio > Compression after switching to Full Processing mode from the same Audio menu.

Downloading a third-party MP3 codec such as LAME will allow you to encode at any bitrate up to 320 Kbps. You can download the LAME ACM codec from <http://rarewares.org>. Unzip



Installing the LAME MP3 Codec



Once installed, LAME MP3 Codec gives you a much wider range of bitrates

the file to a suitable location. Go to that folder, right-click on the LameACM.inf file and select Install. Click on Continue Anyway when prompted. Start VirtualDub and under the Audio Compression settings, a LAME MP3 entry should have appeared. This allows the complete range of bitrates.



Tweaking VirtualDub's Performance

Performance is key when you're talking about encoding large files, and this can take hours depending on the size of the video and the codecs used. VirtualDub allows you to make some small changes that can help boost performance.

Select **Options > Performance**. The sliders here can be used to change the amount of buffer for WAV and AVI output. Changing the buffer for AVI can help speed up performance while working with very large uncompressed files, although it must be said that making any drastic changes can cause major instability.

The other useful feature appears when the encoding process is on. You can use the drop-down from the processing window and change the processing thread priority. If you always want encoding to be set as high priority, select **Options > Preferences**. Under **Dub defaults** in the **General** section, set the process priority to the level you want. Setting it to **Idle** will allow you to work on other programs without VirtualDub taking up all the CPU. Setting it to **Higher** or **Even Higher** will not allow other programs to make use of the CPU, but performance can go up a little.



Combining Multiple AVIs

Home videos are most often multiple, small clips which we would like joined together as one contiguous video. VirtualDub allows you to add and then encode them as a single file. Just make sure the videos are AVIs.

First select **File > Open video file**. Choose the first video clip and click **Open**. Use the slider and move it to the absolute end of the video. Now select **File > Append AVI Segment** and choose the file you want to add to the end of the file. Follow the same steps for the rest of the clips before finally entering your encoder settings, then save the file.



Cutting Up Clips

You might want to know how to split videos and cut out unnecessary sections. Open the video that needs to be cut. Move the slider to the position of the start of the cut, and press the **[Home]** key or select **Edit > Set selection start**. Now move the slider to the end of the cut and click **[End]** (or select **Edit > Set selection end**). This creates a selection. Pressing **[Delete]** or selecting **Edit > Delete** will cut out the selection. You can also do other tasks like copying and pasting of selections in the same manner using the **Edit** menu.

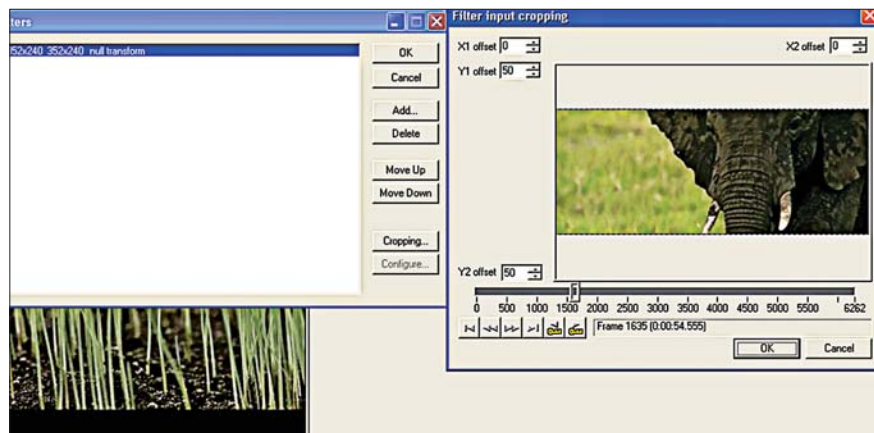
If you want to quickly be able to select certain portions and output them

to files, it can be done by creating selections using the steps we just mentioned. Now directly jump to setting up compression levels and codec settings, which can be accessed from the **Audio** and **Video** menus. Select **File > Save as AVI**. Only the selection will be exported.



Cropping Videos

Videos, depending on the source and aspect ratio, have black bands at the top and bottom. Unnecessary information such as logos and headers may be displayed in those areas, or the section might not be needed at all. You can crop out those areas using the **Cropping** feature. Open your video and select **Video > Filter**. Click **Add**,



The video cropping feature allows you to crop out unnecessary areas on-screen

choose **Null Transform**, and click **OK**. The **Null Transform** filter is a filter that is meant to be used for changes like cropping, and serves no purpose other than that. Now click the **Cropping** button. Change the values of the **Y** offsets to crop the video vertically. (You can also crop the video horizontally using the **X** offsets if needed.)



Fixing Audio Sync Problems

Some videos have audio sync problems; you have a person saying something on-screen with his voice lagging a second or two behind the video. It can be the other way round as well.

To fix this, you need to compensate by shifting the audio a little behind or forward in time. Select **Audio > Interleaving**. Under **Audio** correction, you can enter a suitable value in ms. Add a positive value to have the video lagging and a negative value for the audio to lag. You will require some trial and error runs to get it spot on.



Changing Video Frame Rates

VirtualDub can change frame rates of video in order to fix audio sync or just to bring down file sizes. Be well

aware that changing frame rates can create issues with already well-synced videos. Video frame rates can be changed by pressing **[Ctrl] + [R]** or selecting **Video > Frame Rate**. Click the radio button for **Change to** (text entry box) frames per second and enter a suitable value.



Capturing Video

VirtualDub can be used to dump video streams using your TV-Tuner card to your hard disk. This is useful for recording video clips from your camera, for example, or TV channels. To start capturing, select **File > Capture AVI**. A different window will take the place of the usual VirtualDub interface. You need to first select a

device: select the **Device** menu and choose from one of the devices. Then select a file where the video should be dumped. Select **File > Set capture file**, and set a file and location.

To start the capturing, you can click on **Capture > Capture Video**, or use the shortcuts **[F5]** or **[F6]**. To stop capturing, press **[Esc]**. Codecs and compression levels can also be set by clicking on **Video** and then on **Compression** before starting the capture. The same can be done with audio. It's best to have the uncompressed videos dumped on your hard disk first and then compressed at a later time.



Extracting Audio

Some videos have some great music playing; say you want to be able to save the music as an audio track. You can do this, too, in VirtualDub. Open the video file; click on the **Audio** menu and set it to **Full Processing** mode. Select **File > Save WAV** to save the file. Codec settings can then be set by selecting **Audio > Compression** if needed, or else, save the uncompressed WAV file and encode to MP3 (for example) using another program such as Winamp Pro or Foobar. ■

FREE DOWNLOAD MANAGER



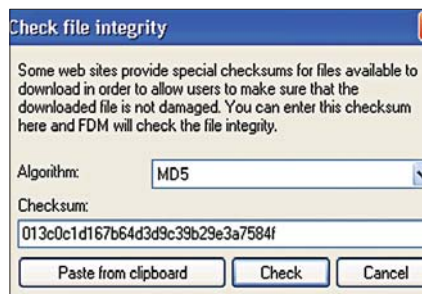
Free Download Manager (FDM) has been gaining popularity for being a minimal and clean download manager that has some really useful features built into it. We look at some of FDM's unique features.

Limit The Speed For A Single Download

Speed limiting is a feature available in almost all download managers, but what makes FDM unique is its ability to limit speeds for one particular download. When you add a new download by selecting Downloads > Create new download, click on the Advanced button in the window. Click the Limit traffic checkbox and set the maximum bandwidth you want the download to use.

Check File Integrity

People normally use download managers to download files that usually would take much longer than five to 10 minutes. Some huge downloads like Linux distribution ISOs come along with a MD5 checksum



Downloaded files can be verified using checksum values

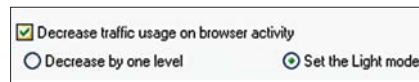
value—an alphanumeric value that can be used to verify whether the download was completed without corruption. Use the drop-down and choose the algorithm used to check the file. Under Checksum, copy and paste the value provided by the download site or developer. Click Check and you will get a confirmation on whether the download has any problems.

Remove The Advertisements

FDM has a small advertisement bar at the right top of the window, and that might turn some people off. You should know that it can be disabled by simply right-clicking on it and clicking Hide.

Better Browsing Speeds While Downloading

FDM gives you the option to use one of three bandwidth priority levels—Light, Medium, and Heavy. You can switch to any of them by pressing [Ctrl] + [1] / [2] / [3] respectively. FDM even has an option that allows it to detect any browsing activity and reduce its download rates immediately. To enable this option, go to Options > Download options > Network tab. Check the box called Decrease traffic usage on

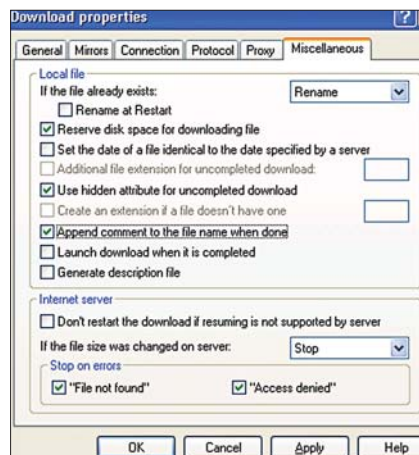


Download speeds can be reduced to allow better browsing speeds

browser activity. You can use the radio button to choose whether you want the bandwidth usage level to drop by one, or set it to Light mode.

Adding Comments To Filenames

Some of us need to add comments for downloaded files to avoid confusion due to odd naming conventions. FDM can rename your downloaded file with the



Comments for a download can be added to the downloaded file's name

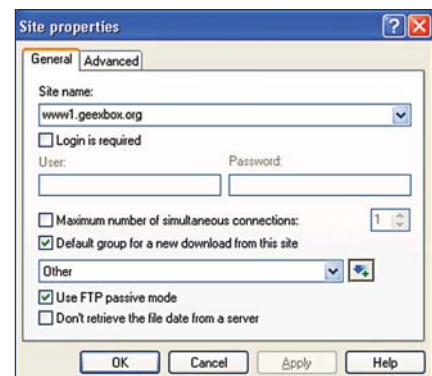
comment appended to it. To be able to set this option, you first enter a comment to a download that's about to begin. Select Downloads > Create new download. Enter, in the Comment text field, the text you want as the comment. Then select Advanced > Miscellaneous and click the box called Append comment to the file name when done. Click Apply and then OK.

Scheduling Selected Downloads

There may be scenarios when you want certain downloads to begin at a particular time and the rest to start a bit later. First create a schedule by clicking the Scheduler tab in the FDM window. Click the Scheduler menu and click Add task. Use the drop-down and click Start download. From the list of downloads that have been added, select the downloads you want to schedule. Click the "Up Arrow" button to add them to the schedule. Click on the Start time tab and select the schedule details. Click OK.

The Site Manager

Many a time, a site will have a limitation on how many connections can be made simultaneously to it. Any more and you can end up banned or have the downloads stopped or delayed. The site manager is a list where you can add rules for your favourite sites. It allows you to add settings to be used



The Site Manager is useful in setting permissions and settings for sites

while downloading, such as the maximum number of connections and authentication information. The site manager can be started by clicking the Site Manager tab in FDM. Here, right-click in the main window and click Add site. Enter the site address and input all the necessary settings. Click OK.

Quick Queuing Downloads

Pretty much every time you wish to download a file, you have to confirm it. The silent mode feature in FDM allows you start downloads in the background without popping up any



Picnik: Log On, Import, Edit, Share!

There's no need for image editing software any more—and no more the hassles of Desktop-to-Internet. It's all seamless

Rossi Fernandes

Getting perfect photos all the time is impossible, as you know, and all of us depend on a little image editing every now and then to tweak our pics to perfection. With all the Web 2.0 buzz, developers are moving applications away from your Desktop and to the Internet. They've already done it for office applications and operating systems; it's now the turn of image editing software.

We look at Picnik (www.picnik.com), an image editor that allows you to edit your pictures through your browser. Of course, before you begin, register for your own (free!) Picnik account.

Acquiring And Exporting Images

Picnik isn't an image creation tool; it's for editing. The first obvious step, therefore, is to get photos into Picnik. The tool offers many options from where you can import images, and also a wide



Photos can be easily imported from a number of locations

variety of formats. It allows for uploading of images from your local computer. This can be done by clicking on Photos and then on Get from Computer. Click on Get Photo and then choose the image you want to edit.

There's support for two of the commonly-used photo-hosting sites—Google's Picasa Web, and Flickr, which Yahoo! now owns. Click on the link of the site you have an account in and click Connect. Enter the username and password and sign in.

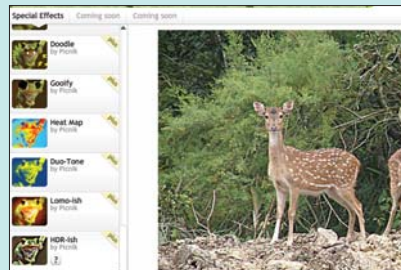
You also have the option to load images from random pages by clicking on Get from Web Site link and then entering the site address. The WebCam Photo features allows for capturing of images from your webcam.

After you're done with the editing, click on Save and Share. Here, you can choose to save images to your Flickr or Picasa Web Albums by clicking on the link. Enter information such as the tag, caption for the image, album, etc. and click Save Photo. You can also save the

image to your local hard disk, or have it printed. Use the links called Save to Computer and Print Photo. Clicking on Save to Computer gives you the option to resize the photo, and set the format and compression levels.

HDR And Other Effects In Picnik

Adobe Photoshop only recently included the HDR feature, which lets you create HDR images (HDR—High



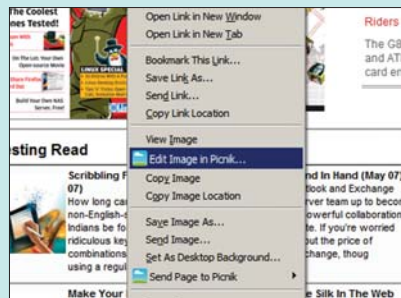
Picnik has a huge number of effects—among them, HDR

Dynamic Range—is a technique that uses photos taken at multiple exposures and merges them to give a more vibrant image). Picnik has a feature that simulates the HDR effect. Click on Create and then on HDR-ish. Use the sliders for radius, strength, and fade till you get the right look for your image. Click Apply when done.

Similarly, you can use the large list of effects such as sharpen, soften, matte, doodle, and many more using the same Create menu. All the smaller tweaks you need to do such as changing levels of colour saturation, brightness, contrast, etc. can be done from the Edit menu.

Installing The Firefox Plugin

The ability to quickly access and redirect data is a challenge, and addressing this are plugins for



Plugins for Firefox give quick access to Picnik

browsers. Click on the Help link on the top and then on Tools.

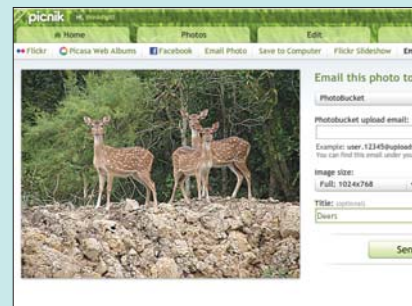
Firefox users can click on the link for the Picnik Firefox Extension v2.0. Click on the Install Now link on this page. Scroll down the earlier page and you'll find a bookmarklet that can be locked to your Bookmarks Toolbar. Drag and drop the link for the Firefox bookmarklet into the Bookmarks Toolbar.

Now when on a particular site, click the Edit in Picnik button from the bookmarks bar to open the URL in Picnik. All the images from that site will appear in Picnik. You can then double-click on any of the images to edit in Picnik.

To use the Picnik Firefox extension you installed earlier, right-click on any Web page and click Edit Image in Picnik. An extension for Internet Explorer is available in the same page.

E-mailing Photos To Sites

Picnik doesn't allow you to export images to all your photo hosting sites, so to be able to send images to the vast majority of the other sites, you can make use of the E-mail to Web Site feature. Most sites where you create accounts allot an e-mail address or some kind of ID to which you can mail photos and they'll automatically be part

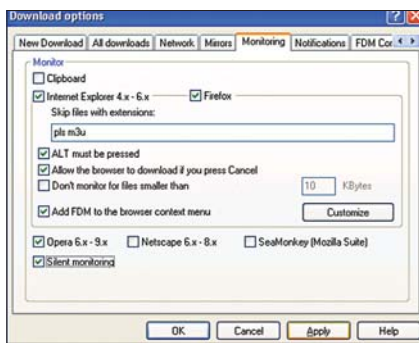


Export your images to sites via e-mail

of your online collection. Click on Save & Share. Then click on the drop-down and select your photo hosting site. Enter your e-mail address or ID for the site and then click Send Photo.

So there you have it—a quick introduction to what could quite possibly be the future of quick and casual photo editing for everyone. An advantage of services like Picnik is that they're Web based applications, so you can expect frequent updates. ■

rossi_fernandes@thinkdigit.com



The silent monitoring feature enables adding of downloads without confirmation

windows. To enable Silent mode, go to Options > Download Options > Monitoring. Check the box for Silent monitoring. Click OK. Now every time you click on a downloadable file, FDM will automatically queue and start downloading them without asking you. If you want to avoid getting any

unwanted files downloading by mistake, go back to the same window where you enabled Silent Monitoring. Check the ALT must be pressed box. Click OK. Now downloads will only be added if you have the [Alt] key held down while clicking.



Adding FDM Support For Firefox

If FDM hasn't integrated itself with Firefox, you'll have to manually add downloads. To enable integration for Firefox and any other browsers like Netscape, Opera, etc., select Options > Download Options. Click on Monitoring. Check the box for Firefox and any other browsers that you may have installed. Click OK. A plugin will be installed into Firefox. You can now right-click on a link in Firefox and click Download with FDM to download it. You can also download all the links in a page using the same menu. ■

FLASHGET

A few years ago, download managers were either ad-based or commercial software. FlashGet, Download Accelerator Pro, and GetRight were some that were used a lot despite them being shareware or adware. FlashGet, now, is totally free and ad-less. Support for some P2P protocols has been added as well in the latest release, which means FlashGet can become your universal downloading tool. We go through the latest version, FlashGet 1.9.2, looking at some of its key features.



Download Without Confirmation

Confirming every single download you add can be irritating. FlashGet has a workaround for this, which can be enabled with a couple of clicks. Select Tools > Options. Click Monitor in the left pane. Uncheck the boxes Add Job With Confirm for both the browser and the clipboard. FlashGet will now not pop up confirmation windows for adding downloads.



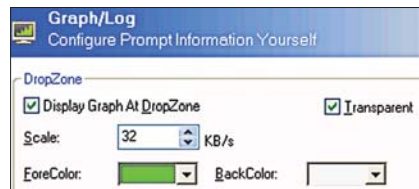
Adding Additional eMule Servers

FlashGet has added support for eDonkey servers and BitTorrent. A default set of eDonkey servers will already have been added when you install FlashGet. To add any favourite servers, go to Tools > Options > eMule. Click the Server List button. Enter a server name, its address, and the port provided by the site. Click Add and then OK.



Setting Up The Right Graph Scale

FlashGet's dropzone doubles up as a graph that shows the current download speed. The scale by default is set to 100



Set up the FlashGet graph to suit your connection speed

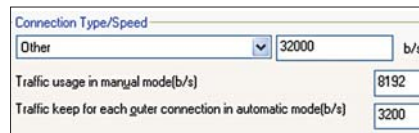
KB/s. This value needs to be changed to a suitable value for your connection; for example, a 256 Kbps connection would be 32 KB/s. To change the value, go to Tools > Options > Graph/Log. Under Scale, change the value to appropriately and click OK.



Connection Settings For Manual Speed Limits

FlashGet has a manual speed mode that allows you to limit the connection speed, which will help if you're also browsing, for example. With the latest few releases and updates of FlashGet, the speed limiting icon from the Desktop may not be visible in the toolbar. You can add it by right-clicking on the toolbar and clicking Buttons. Choose Speed from the Available toolbar buttons list and click Add and then Close. The button will appear on the toolbar.

To set the speed, go to Tools > Options > Connection. From the Connection Type/Speed drop-down, choose the type of connection you have.



Limiting speed leaves bandwidth for other applications to use

If it's not on the list, choose Other, and enter the speed in bytes per second. Click OK. When you have downloads on, click the Speed button in the toolbar and select Manual to set a limit. A slider will appear in the status bar below. Move it to set the appropriate speed to limit downloads to. To make it unlimited again, click the same button from the toolbar and click Unlimited.



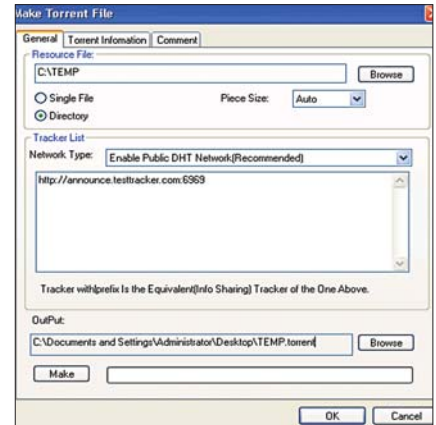
Disabling P2P

Most of us might prefer using our favourite BitTorrent and eDonkey clients, like uTorrent and eMule, for example. You can stop FlashGet from being the default torrent client, and even disable the eMule component from FlashGet. Select Tools > Options. Click BT and uncheck the box Make FlashGet as default BitTorrent client. To disable eMule, click General and uncheck the box Enable eMule. Click OK. A restart of FlashGet might be required for the settings to take effect.



Creating A Torrent

FlashGet acts as a full-fledged torrent client, allowing you to create torrent files and upload them to trackers. Select Tools > Make Torrent File. First add the file or directory you want to share by clicking the Browse button after choosing one of the two radio buttons called Single File and Directory. Choose a



FlashGet can create and then seed torrents

network type from the drop-down menu. Enter the address of the tracker in the text field. Entering multiple tracker addresses will allow you to have the torrent hosted on multiple trackers. Then, click Browse under Output to have the torrent file output to a different location (where the torrent file will be dumped for your friends). Click Make and then OK.

Now that the torrent is created, you need to open the torrent file so you can upload data to other users. Select File > Open torrent file. Select the torrent file and click OK. Choose to save the file or folder to the same location from where you created the torrent file. Click OK.

HACKING OPERA'S INI FILES

Opera and Firefox are nibbling away at IE's share of the browser market, as you very well know... Firefox has hundreds of downloadable add-ons if you need more features, whereas Opera comes preinstalled with many of them. Some of the features can be tweaked to become more useful, so we'll look at ways to customise the just-released Opera 9.3 using just its INI files.

Setting Up Fast Forward To Work Better

Opera has a feature called Fast Forward, which allows you to browse to the next page in sequence (for example, a sequence of pages in a Google search) without having to click the link. It works by using certain keywords or code in pages. Although it is a useful feature, it doesn't always seem to work as well as you want it to. You can add more or make changes to existing keywords to make this feature a little more useful.

The .ini file that contains the keywords is fastforward.ini, and is located in Opera's installed folder—usually C:\Program Files\Opera. (We'll assume you've installed Opera on your C drive.) Open it in Notepad. Add suitable keywords to the list, for example, To Page.

Opera Customisation From A Single Page

Like in almost all browsers, the "about:" scheme is used to display features and other information about the browser in Opera. The about:config link, specifically, allows you to change a lot more settings than you normally get access to through the Preferences window. Click on the address bar and enter about:config and press Enter. Here you can expand each of the features and make changes to the settings. Most of



Most of Opera's features can be customized using about:config

the tips that we'll be talking of won't be there on this list.

Fight Ads Using Opera's Filter

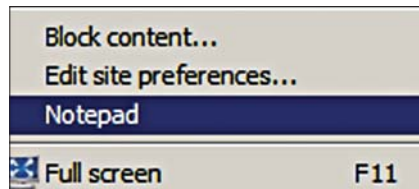
Ads are everywhere on almost any site you visit. Firefox may have Adblock Plus, but Opera has its own ad blocking system in place. The file urlfilter.ini in C:\Documents and Settings\Your_Username\Application Data\Opera\Opera\profile contains a list of sites to be blocked. Add site addresses and wildcards such as "*" (the Star) to block sites. There are several such lists available on the Internet ready for download. One such good list can be found at www.fanboy.co.nz/adblock/. Just download the Opera list and copy the file to the given location or its contents to the file that already exists.

Modifying Tab Width Range

Tabbed browsing is a boon, but the use of too many tabs in Opera causes the names to be cropped off. This makes reading the tab headings close to impossible. You can set a limit to how small and how wide a tab can be allowed to be. Extract the skin.ini from the skin.zip from c:\Program Files\Opera\skin. Open skin.ini in Notepad and modify these lines: Pagebar max button width = ____ Pagebar min button width = ____ to suitable values. If the lines aren't present, create them and then save the file. Add the edited file back to the skin's ZIP file. Restart Opera and select the skin from Tools > Appearance.

Adding Program Shortcuts To Opera's Menu

Opera's menu can be used not just for browsing-related functions, it also



Programs can be launched directly through the browser

allows you to start up Windows applications! First create a copy of your standard_menu.ini. Select Tools > Preferences. Click on Toolbars in the left pane. Click the lone Menu Setup, then click Duplicate. Now, you need to open the newly created duplicate standard_menu.ini in Notepad located at C:\Documents and Settings\Your_Username\Application

Data\Opera\Opera\profile\menu. To create an entry, scroll down till you reach the [Document Popup Menu] section. Create entries using the following format. Here, we've created an entry for starting Notepad. Item, "Start Notepad" = "Execute Program, "Notepad.exe" " Save the file and restart Opera.

Adding Shortcuts To Execute Programs

Keyboard shortcuts can be used in Opera to quickly start programs to go to a particular site. The trick is to add shortcuts to the shortcut.ini file located at C:\Documents and Settings\Your_Username\Application Data\Opera\Opera\profile\keyboard. Open it in Notepad. Creating shortcuts is done in manner similar to this:

```
G,G="Execute program,
"c:\WINDOWS\Notepad.exe"
```

Here, typing [G] [G] will start Notepad. In a similar manner, the path of the program can be replaced with a site URL, for example, ="Execute program, "www.thinkdigit.com". Opera will load the site when you use the shortcuts.

Opening A Page In A Different Browser

If you're visiting a page and want it to be opened in a different browser, which is sometimes needed because Opera

Open	
Open in new tab	Shift+Enter
Open in background tab	Ctrl+Shift+Enter
Open in new window	
Open in background window	
Bookmark link...	
Copy link address	Ctrl+Alt+C
Save target as...	Ctrl+Shift+S
Save to download folder	
Open in Firefox	

Sites can be viewed on different browsers if needed

can't render it properly, you can create a new entry in the menu when you right-click. Browse to C:\Documents and Settings\Your_Username\Application Data\Opera\Opera\profile\menu. Open the standard_menu.ini file in Notepad. Create an entry in the [Link Popup Menu] in the following format:

```
Item, "Open link in Firefox" =
Execute program, "firefox", "%l"
```

You can use a similar format for Internet Explorer. Save the file and restart Opera. ■



Speed Up Your Web Site

Lower loading times for your visitors!

Rossi Fernandes

Broadband may have arrived in India, but it hasn't gone mainstream: the large majority of people are still on dial-up. As for the broadband we have, it isn't exactly blazing fast... but bandwidth is getting cheaper, and so are Web hosting solutions. Here are some of the simpler things you can do while creating and maintaining your site to make it just that little bit faster.

Keep Images In Check

Images are, obviously, the biggest culprits when it comes to slowing down a site. In these times of Web 2.0, you find sites littered with images. Every single image means a separate request sent to the server. Use image maps: they bring down the number of requests. Image maps are basically single images with small sections within it, which can be used to link to other pages or images.

Image compression also plays a role in slowing down pages and sites. GIFs load faster than JPEGs, but don't match their quality. So use GIFs in less important places like banners and icons, and JPEGs for higher-quality content.

Compressed Pages

Most often, large pages are filled with redundant text and HTML code. You can have your site compress data before sending it to the client.

The compression module for the Apache Web server—mod_gzip (<http://sourceforge.net/projects/mod-gzip/>) is one of the most well known. Many Web servers today come with inbuilt support for compression, and the ones that don't use third-party modules like in Apache's case to implement the feature. Such compression techniques not only speed up your site, they also might bring down bandwidth bills by sending smaller amounts of data.

Avoid Unresolved Domain Names

A large number of images and other components in your page linked to different sites by their domain names can delay page loading. Every domain name has to be resolved by the client's DNS server... Wherever possible, link using the IP addresses of the servers.

Select The Nearest Host

Location and routing to your Web hosts plays a fair role in the matter. If your site audience is in India, hosting a site overseas would mean that every transaction will have some delay because of the number of nodes of equipment it has to go through. On an average, the delay between a client and a server in India depending on the locations could be anything between 10 and 70 ms. A site in the US, for example, could have a delay as much as 250 to 300 ms or higher. Clearly, local servers are a better option. Routes are paths set by the ISP for data to pass through, and it's a good idea to check the delays before choosing a Web host.

Site Inspection Tools

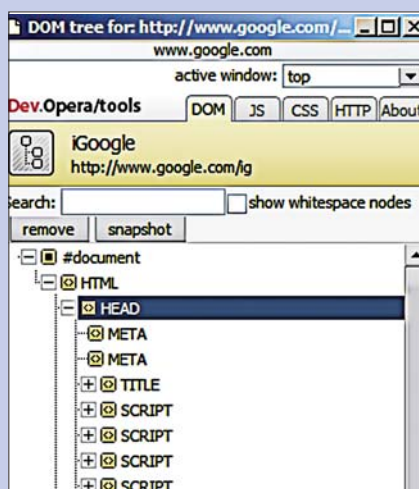
There are some software and sites that point out mistakes or poorly-

written code. One such is a plugin for Firefox called Firebug, which can be downloaded from www.getfirebug.com. It allows you view the code of a page and make changes to it. The changes are reflected in real-time for you to see. It also gives statistics of all the images and scripts downloaded from a particular site and the time taken.

Opera has a similar add-on that can be downloaded from the Opera site. Select Tools > Advanced and then go to the Developer console, or you can directly go to <http://dev.opera.com/tools>. Scroll down to the Opera Developer Console tool and drag the tool icon from the page to a toolbar in Opera. When on any site, you can click that button, and a little window will load—which, like Firebug, will allow the making of changes to the page, and will also

Console	HTML	CSS	Script	DOM	Net
subscribe1.g	thinkdigit.com	3 KB	219ms		
feedback1.gi	thinkdigit.com	3 KB	219ms		
customer1.g	thinkdigit.com	3 KB	188ms		
hiring2.gif	thinkdigit.com	3 KB	188ms		
patch.gif	thinkdigit.com	88 b	0ms		
Digit_Cover_	thinkdigit.com	86 KB	203ms		
CD-Face_Au	thinkdigit.com	13 KB	110ms		
DVD-Face_Au	thinkdigit.com	12 KB	125ms		
Fast-Track_	thinkdigit.com	32 KB	109ms		
greyline.jpg	thinkdigit.com	521 b	0ms		
thumbnailIm	thinkdigit.com	10 KB	109ms		
renew_160x	thinkdigit.com	18 KB	109ms		

Firebug—a Firefox plugin—shows statistics and allows real-time modifying of code



Opera's Developer Console is the alternative to Firebug on Opera

Inspect	Performance	Stats	Components	Tools
Console	HTML	CSS	Script	DOM
Performance Grade: A (91)				
D	1. Make fewer HTTP requests ▾			
A	2. Use a CDN ▾			
B	3. Add an Expires header ▾			
A	4. Gzip components			
A	5. Put CSS at the top			
B	6. Move scripts to the bottom ▾			
A	7. Avoid CSS expressions			
Done				

Yahoo's YSlow grades code and gives suggestions to improve it

allow viewing statistics and other information on it.

There's an add-on for Firebug; it's Yahoo!'s YSlow, downloadable from <http://developer.yahoo.com/yslow>. Click on the YSlow icon at the right bottom of the Firefox window, and it gives you a list of flaws if any, and tweaks that can help fix the page. YSlow also gives an overall grade to the page!

Clean Up Your Code

WYSIWYG HTML editors are notorious for leaving blank, unnecessary tags; many of them end up creating un-optimised, larger files. Use the cleanup feature in your WYSIWYG editor to optimise your code, and even manually go through the code for empty tags and comments before uploading it to your site. ■

rossi_fernandes@thinkdigit.com

GRAND THEFT AUTO: SAN ANDREAS

Rockstar has built a reputation of making some of the most controversial games ever but which are, quite frankly, highly entertaining. The last instalment of the *Grand Theft Auto* series—*San Andreas*—was no different in this regard. A great game it was, but today, we look at some things you might not have noticed. Now there are many cheat codes, but here are some of the funniest ones that should give anyone a hearty laugh—or at least a giggle. There are also a couple of tweaks and mods to try out.

Your Personal Radio Station In GTA!

GTA has a large collection of radio stations of all sorts of genres, but you can also create your own if things get boring. Simply dump your music to your `My Documents\GTA San Andreas User Files\User Tracks` folder. Start *GTA: SA* and go to `Options > Audio Setup > User Track Options`. Here, put on Automatic media scan. You can have your music folder scanned as well and change the mode of playback from sequential to random.

GTA Multiplayer?

GTA has never had multiplayer, but some developers have created multiplayer modes which a whole load of people play. Probably the only one and the most played is *SA: MP (San Andreas: Multiplayer)*. Download it from www.sa-mp.com. Install it to your game folder. Run the newly-installed program, and you can connect to a huge list of servers. You can also download a server program from the same site and have friends connect to it through a network or the Internet.

Altering Car Handling

All the cars in *GTA: San Andreas* can be modified to behave in a different manner. The file that contains all the parameters for all the vehicles is `handling.cfg` in the `{your game folder}\data` folder. Open the file in Notepad. The mass, transmission, and brakes settings are just some of the parameters that can be modified.

Flying Cars!

You can have cars flying around like planes in *GTA: SA*. While playing, type in `RIPAZHA`. After the message saying Cheats activated appears at the top left of the screen, jump into any car and accelerate down a road and your car will automatically take off like a plane! Be sure to have the throttle pressed—otherwise your car will drop from the sky.



Find a clear strip of road and take off with your four-wheeler!

Fast Cars

Typically, most cars in *GTA:SA* are painfully slow; faster cars are rare to come by. The cheat `EVERYONEISRIC` gives all the people on the streets faster cars to drive.

Exploding Cars

The cheat code `ALLCARSGOBOOM` explodes all the vehicles in your region. Enter it to witness an interesting fireworks display!

Adrenaline Mode

One of the best cheats for *GTA: SA* has got to be the so-called Adrenaline mode. The cheat gives you the power of a superhuman. In-game, type in `MUNASEF`. You also get something on the lines of bullet time from the Matrix with time slowing down for everyone but you. Another cheat that goes along well this is the single punch cheat. Type in `IAVENJQ`. Here on, you will be able to knock out people with a single punch.



Use tanks to wreak havoc on the streets...

You can have people flying off for metres together with a single punch.

Spawning Vehicles

Quite a few vehicles can be got in *GTA: SA*—everything from monster trucks to helicopters and tanks. Here are a few selected ones.

Tank: To have a tank spawn in front of you, enter in `AIWPRTON`. Use the mouse now to move the cannon around and the usual movement keys for driving the tank all over the place. It can be used to run over pretty much everything.

Helicopter: There's an attack helicopter complete with rockets, and you can play with it. Type in `OHDUDE` and you'll have it in front of you. The controls are pretty straightforward, and it's fun to fly it around! Use the `[W]` and `[S]` keys to throttle up and down. Use `[A]` and `[D]`—or the arrow keys—to tilt from side to side. The `Up` and `Down` arrow keys tilt the chopper forward and backward.



Or attack from the air using a chopper armed with rockets!

Jetpack: Yet another nice little vehicle. Type in `YECGAA` to get the jetpack spawned in front of you. Use the spacebar to throttle up and rise. The other movement keys are used as usual.

Crazy People!

You can have the crowds of people go completely berserk! The main cheat here is `CRAZYTOWN`, where all the people turn into clowns of sorts, wearing costumes. `IOJUFZN` turns on riot mode, and you find yourself between a war zone filled with masses of people fighting amongst themselves. To make the scenario even more hostile, type in `FOOOXFT`. This will get everybody armed.

Serious Note: Cheats and unlocks are meant for fun and laughs. The square thing is to finish this great game without any cheats or unlocks. We don't use them here at Digit! ■

Q&A

Your Questions, Our Answers

Questionable licenses and truant uninstallers—all dealt with right here!

When U're Hit...

Q While I was installing a game, a program named WhenUSave got installed on my computer. Now when I start my computer, it appears immediately on screen and starts connecting, and asks me to have patience as if it is trying to install something. The computer gets very slow. If I switch over to another user it hangs.

Satish Chandra

A WhenUSave is adware that installs with many free software, but it usually gives you the choice to install it or not. It can be easily removed using a spyware removal software such as Spybot—Search & Destroy (version 1.4.0) from www.safer-networking.org. Spybot is free-ware, and you'll find it on this month's CD.

It's The Drivers Again

Q I have two 250 GB Seagate hard drives and I want to set them up in a RAID configuration. When I try to install XP on them, they aren't detected during the installation. What could be the problem?

Aneesh Jagtiani

A We're assuming you've already set up your computer in a RAID configuration. XP setup needs to be provided the RAID drivers to be able to detect the hard drives in this configuration. When you run the XP installation, press [F6] at the start at the point you see Press F6 if you need to install a third-party SCSI or RAID driver (at the bottom of the screen). Keep ready a clean floppy with the drivers copied in the root. You can find these drivers at the manufacturer's Web site. Select from the list of devices enumerated in the next screen (usually the first). Press [Enter] and continue. Your drive will be detected, and you can proceed with the XP installation.

Power Play

Q I have an external USB 2.0 hard drive that works very well on my Desktop PC. But when I connect it to my laptop, it does not work.

Binu Mathias

A Windows XP can still find it tricky to deal with USB devices that aren't keyboards, mice, or printers. The external USB drive may not be receiving enough power to initialise, so try the following. Open the Device Manager by running `devmgmt.msc`. Open the Universal Serial Bus controllers tree and double-click on all the USB Root Hub entries. There should be two or more such entries. Click on the Power Management tab for each one and remove any check-mark in the box that has Allow the computer to turn off this device to save power next to it. Then disconnect the drive, restart Windows, and connect the drive. If doing that doesn't work, the drive may have come with a USB-to-5V cable, which you should use; it provides extra power. If it's not come with the drive, you can purchase one for Rs 100.

Doing Me A Disservice!

Q I recently installed a program after which Windows XP refuses to boot. I have searched on the Internet and found that this particular program installs a service at startup and causes the problem. But I have not been able to find a solution. I know the name of the service but am not able to disable it, because I cannot boot at all. I use Windows 2000 Server.

Atul Shrivastav

A To disable the offending service, start your computer with the Windows boot disks, or with the Windows installation CD-ROM if your computer supports booting from the CD drive. When the Welcome to Setup dialog box is displayed, press [R] to repair when prompted to do so. Then press [C] to start the Recovery Console. Choose to install Windows and log on to your computer using your Administrator account. From the `%SystemRoot%\System32` folder at the command prompt, type `listsvc` and press [Enter]. Since you know the name of the offending service, locate the service or driver that is causing the problem in the provided list. Note that selecting the wrong service or device could cause further problems. Type `disable servicename` where `servicename` is the name of the service, and press [Enter]. Note that the `disable` command displays the old `start_type` of the service before resetting it to `SERVICE_DISABLED`. You should note down the old `start_type`, just in case you need to re-enable the service. Type `exit`, and the computer will restart automatically. You should now be able to boot normally.

Let There Be Light!

Q When I Open the User Accounts in the Control Panel in XP Professional, I do not see the Administrator account in the list. I need to change the password for the Administrator account.

Ritesh Chakraborty

A The Administrator account is normally visible in the Normal mode booting of Windows XP only if there is no other user account, but is always visible in Safe Mode. To work around your problem in Normal mode, follow the following steps.



Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to sos@jasubhai.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!

You've Lost Mail...?

Q I upgraded to Windows XP from 98. My Outlook Express mails and address book are missing.

Aatish Thadani

A This happens only when you install XP in a location that is different from that of the previous version of Windows. Nevertheless, your e-mails and address book can be retrieved.

First, find your previous mail messages. On your Desktop, create a new folder called OldMail. If you use Identities, create a new folder for each identity. Start a search for all files and folders, and under the All or part of the file name option, type *.dbx. Under More advanced options, choose Search hidden files and folders.

Note that if you had previously used identities, each user will have his own Identity folder. Each of these will have a unique alphanumeric number (for example, {9EFEBDEA-CE00-4DD7-A4D6-CDB85C3EEDBF}) followed by "\Microsoft\Outlook Express".

Copy the old mail folders to the OldMail folder. Make sure to include the Folders.dbx file when you copy the folders. This file is necessary for the import function in Outlook Express. Perform this procedure for each Identity folder, but make sure to create a separate folder for each identity folder you find.

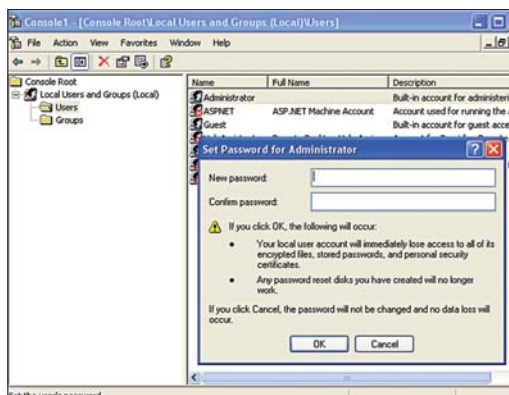
Then, Import your mail and folders. Open Outlook Express. Select File > Import. Click Messages. Click

Microsoft Outlook Express 5, and then Next. In some instances you may only see the options to import from Outlook Express 4 and Outlook Express 6. If your previous version of Outlook Express was version 4, use the option for Outlook Express 4. If you are importing from Outlook Express 5 or 5.5, you can use the Outlook Express 6 option. Click Import mail from an OE6 store directory, and click OK. Click Browse, select the OldMail folder, click OK, and then Next. Click All folders, and then Next. This procedure imports your previous mail into the current Identity. After this is done, click Finish. Repeat this procedure for each of the folders you created earlier.

Now find Your Windows Address Book. Start a search for all files and folders. In the What do you want to search for box, click All files and folders. Under All or part of the file name, type *.wab, and click Search. When the search is done, double-click each file to open it. When you find the correct one (it will contain your Contacts), note the location and name of the file.

Now import your Windows Address Book: in OE, select File > Import, and then click Address Book. Point the Look In field to the location you noted. Click the .wab file and then Open. Click OK, and the Address Book will be imported.

After you have verified that the import was successful, remove all the folders you created during the mail recovery process.



The Microsoft Management Console for when you need to set the Admin password

Start the Microsoft Management Console (Start > Run > mmc), and start the Local Users and Groups snap-in. To do this, go to File > Add/Remove Snap-in, click on Add in the Standalone tab, select Local Users and Groups, and go through Add > Finish > Close > OK. Under Console Root, expand Local Users and Groups, and then click Users. In the right pane, right-click Administrator, and click Set Password. Click Proceed in the message box that appears. Type and confirm the new password in the appropriate boxes. Click OK.

No SP2, No Problem

Q I am a programmer. I've found that my Windows XP Pro computer takes considerably longer to compile programs and access files from the network than it took when I was using Windows NT on the same hardware.

Samir Ahmed

A This is a documented problem; installing Service Pack 2 will fix it. If you are unable to install Service Pack 2 for some reason, here is a workaround.

1. Map a network drive to the SMB server. Follow these steps to do this:

Start Windows Explorer. On the Tools menu, click Map Network Drive. In the Drive list, click a drive letter. Then in the Folder list, type the UNC path of the shared resource on the server. Use the following format:

\\ServerName\SharedItem

Alternatively, click Browse, and then locate the shared resource. Click Finish.

2. Disable NetBT on a network interface. Do the following:

Run ncpa.cpl. Right-click the network connection you want to configure, and click Properties. If the connection is a local area connection, click the General tab, click Internet Protocol (TCP/IP) in the This connection uses the following items box, and click Properties. If the connection is not a local area connection, click the Networking tab. Click Advanced, and then the WINS tab. In the NetBIOS settings area, click Disable NetBIOS over TCP/IP. Click OK thrice.

3. Add the ScavengerTimeLimit value to the Registry:

In the Registry Editor, locate the key called HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MRXSmb\Parameters

Right-click on Parameters, go to New, and click DWORD value. Name it ScavengerTimeLimit. Double-click



Back Up And Restore With Nero BackItUp

You probably have it on your computer... and it serves all your backup needs: it's Nero BackItUp

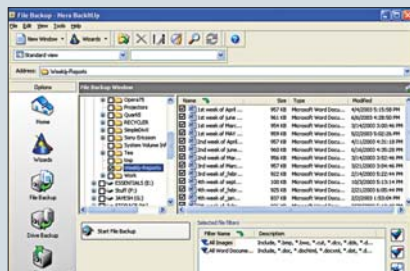
Jayesh Limaye

Most optical writers come accompanied by Nero Burning ROM, a bundle of useful applications including Nero Vision 4 and Nero Mobile. One of these bundled applications is BackItUp2. We take a look at how useful it is.

1 Getting Ready

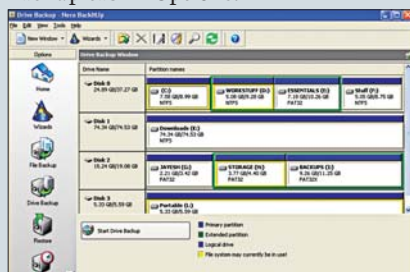
After launching the application, click on the File Backup icon.

You'll see a file-explorer-like interface on the right. Here, you can mark the files and folders that are to be backed up. You can also add files and folders to the backup by dragging and dropping them into the window. Click on Start File Backup to proceed to the backup screen.



Choose what you want backed up

You can use File Filters to choose the types of files you want to include / exclude from the backup. You can also add custom file filters, which you create in the File Filters section of the Backup tab in Options.



You can choose to back up an entire drive

If you wish to back up an entire drive, click on the Drive Backup icon. You will see the installed hard drive(s) with the partitions. Select the required partition and click Start Drive Backup to proceed to the backup screen.

2

Setting Up The Backup

You now need to specify the backup destination. This can be selected from the drop-down list and can be another drive, an optical drive, or an FTP server. For the latter, you can add the address of the FTP server to which you wish to backup / restore data in the FTP tab under Options. If the backup destination is an optical drive (as in our example), insert the appropriate medium in the recorder drive. Depending on the amount of data you're intending to back up, you can opt to use a CD or DVD (of any type).

From the drop-down, select the type of backup you intend to make. The options available are:

- ☐ Full backup (the only option if this is a first backup)
- ☐ Update backup (if a hard drive is the destination, all previously backed-up files will be replaced, but if it is an optical drive, only files that have been added or modified after the most recent backup will be replaced)
- ☐ Differential backup (a cumulative backup of all the files that have been modified since the last full backup)
- ☐ Incremental backup (which will back up all the files that were added or modified files after the most recent full or incremental backup).

Specify a name for the backup in the Backup name field, and add comments (if necessary), clicking OK to save them.

Under More, you can choose whether to compress and/or encrypt files before the backup. These options are a good idea as they save on disk space and secure sensitive data respectively. Click on the Compression Settings button to set the level of compression from the provided presets. Click on Set Password to set the password for the encrypted backup. Click Next to proceed.

3

Reviewing Your Settings And Backing Up

You can now review the backup options you have opted for—a green icon in front of a setting indicates a selected option; red indicates the option was deselected.

Click More. Check Verify data after backup to be doubly sure that

your data has been safely backed up. Select the writing speed and click Backup to begin the backup process.

4

If Bad Things Happen

If things go awry and you need to restore a backup, click on the Restore icon. You will be able to view the available backups on the right. Choose one of them and set the file filter at the bottom if necessary. You can even choose to restore individual files in the File View applet. Click Start Restore. You can then opt to restore to the original or to a different path. Click Next and then Restore to start the restore process.

Under Tools, you'll see an option called Create Bootable Disc. If you use this, a bootable disc with a stripped-down version of Nero BackItUp will be created, which lets you back up and restore a drive when your computer cannot start via your hard drive.

5

More Options!

Under Options is E-mail notification, which sends you e-mails when events take place.

- ☐ In the Expert Features tab, check the box next to Use the CRC checksum when comparing files to make sure that the backup is 100% perfect.
- ☐ Check the box next to Enable scripting if you want to specify any scripts to be run before or after the backup process.
- ☐ Enable intelligent compression will let you specify types of files that need not be compressed; this saves time.
- ☐ Check Use shadow copy for file backup to first prepare a copy of the backup before sending it to the destination (target), rather than doing it on the fly.

- ☐ BackItUp also allows you to schedule backups, and this is typically useful for a system administrator.

You've had this utility for ages, but just didn't care to take a look at how useful it really is. Backing up your data cannot get any simpler! ■

jayesh_limaye@thinkdigit.com

ScavengerTimeLimit, and In the Value data box, type 60. Click OK and close the Registry Editor.

A Sound Solution

Q I have a Creative SoundBlaster Live! installed on my Windows XP computer. Every time I try to shut down the computer, I get an error message that says, "DEVLDR not responding." When I click End Now, the computer stops responding.

Sarabjeet Singh

A This is most likely a corrupt driver. Go to Control Panel > System > Hardware tab > Device Manager. Expand Sound, Video and Game Controllers. Right-click on Creative Labs SoundBlaster, and select Uninstall. When you are prompted to confirm the deletion, click Yes. Then download and install the updated driver from the SoundBlaster Web site: www.soundblaster.com/support/winxp

Out, Junk!

Q I frequently get the low disk space notification on my C drive and so tried to run the Disk Cleanup utility, but it stops responding while searching for compressed files.

Veronica Gonzales

A This problem can be caused by a corrupt temporary directory. You need to clear this directory to get rid of the problem: close all applications. Run %temp% to open the Temp folder. Delete all the files there. Close Windows Explorer. Open the Control Panel and double-click the Internet Options applet. Select the General tab, and click Delete Files. Check Delete All Offline Content. Click OK.

Who's The Boss?

Q In Windows XP, I accidentally marked a partition on my hard drive as active, and am not able to boot ever since. I get this error message: NTLDR is missing

Press Ctrl+Alt+Del to restart
Please help.

Rajesh Pai

A The partition you've marked as active does not contain the Windows boot files. Try changing the active partition by booting via a floppy disk and then using disk utilities to manually change the active partition: boot to a command prompt using a Microsoft Windows 9x / ME boot floppy disk. At the prompt, type fdisk and press [Enter]. When you are prompted to enable large disk support, click



Yes. Click Set active partition, press the number of the partition that you want to make active, and then press [Enter]. Press [Esc]. Remove the boot floppy disk and restart the computer. If you don't have a floppy drive, use Parted Magic from our August DVD—it gives you a graphical interface to do the same thing.

Telling The Tale

Q I've often wondered that if Windows creates dump files when it crashes, shouldn't there be a way to read and interpret them?

Amit Chanana

A Memory dump file creation is a very useful diagnostic tool found in all Windows systems based on NT. A memory dump is an output file generated by the operating system during a crash and is very useful in determining the cause of the crash. This file is saved as a file with the DMP extension in the system32 directory. The option (if it is currently disabled) to create a dump file can be set up by opening Control Panel > System > Advanced tab > Settings button under Startup and Recovery. The dump file can be analysed using a tool from Microsoft known as dumpchk.exe, available for download from www.microsoft.com/whdc/devtools/debugging/default.mspx. There are different versions of this tool available for different versions of Windows; choose yours. Detailed information about using dumpchk.exe can be found at <http://support.microsoft.com/?kbid=156280>. To actually interpret the dump, though, you need to know Windows' ins and outs.

Reinstalling The Installer!

Q When I try to uninstall certain programs, I get the following error:

Error 1719. The Windows Installer Service could not be accessed. You may be running in safe mode or Windows Installer may not be correctly installed.

Manish Sen

A Your Windows Installer seems to be corrupt and reinstalling it should solve your problem. At a command prompt, type in the following line and then press [Enter] ("Drive" is the drive where Windows is installed; "%Windir%" is the folder where Windows is installed):

```
attrib -r -s -h drive:\%Windir%\system32\dlldata
```

For example, you might type in

```
attrib -r -s -h c:\windows\system32\dlldata
```

Then at the prompt, type in the following lines, pressing [Enter] after each line:

```
ren msi.dll msi.old
ren msixec.exe msixec.old
ren msihnd.dll msihnd.old
```

Exit the DOS prompt and restart your computer. Update the Windows Installer files on your hard disk to the latest version. Get it from the Microsoft Download Center at <http://support.microsoft.com/kb/893803/>. Shut down your computer, and then restart it in standard mode.■

New Ways To Play Old Games

Your favourite Agent—001, that is—isn't right up there, but he *is* a gamer. He's now paying attention to the equipment

Good carpenters need good tools; good gamers need proper equipment! I'd been contemplating upgrading my input devices for an upcoming rig. However, funds being ever the problem, this idea was shelved. Till a colleague at work started harping at me to accompany him to Lamington Road to pick up a new gaming mouse. This fellow is a newbie at *Digit* and fancies himself to be quite the Quaker—of the modern kind, that is. Excerpts of what we saw at aforementioned hallowed Road follow.

Joysticks are becoming pretty rare and Logitech's latest Attack 3 Joystick was not in stock with the distributors. Typhoon's Eagle-Max is available for as little as 2,000 bucks. There is a trio of brands making gamepads—Frontech, Zebronic, and Typhoon. Zebronic's Zeb 50JP is a decent-looking gamepad, with dual analogue sticks and 12 programmable buttons. It costs Rs 1,300. Typhoon's basic gamepad with six programmable buttons costs Rs 800. Frontech's Fantasy Pad JIL 1736, priced at Rs 1,000, has elongated handles that make it look something like the PS3's concept "banana" controller. The Josh stick (Frontech's joystick offering) is priced at Rs 1,850.

The Logitech MOMO wheel costs Rs 4,850—a sweet deal if you play racing simulations all the time. Saitek is another brand I was aware of, but to my dismay, one guy said their products are extremely rare. For those into a lot of button-mashing games, Microsoft's X360 controller is available for Rs 1,200. It saves your poor keyboard the hurt (and the long-term wear and tear) while button-hammering on games like *Prince of Persia* and *Mortal Kombat*. While the force feedback is gimmicky, the feel of the unit is good.

Zebronic has a racing wheel priced at Rs 2,500, but with no force feedback and the trouble it takes getting it to stick to your Desktop, the MOMO seems worth the premium if you're a serious racing fan.

Now for the old school keyboard + mouse legion of gamers... Logitech's G15 is a superb keyboard. Backlit keys, 18 macro keys, and a well-laid-out design mean the G15 is definitely for you if "4,500 bucks" doesn't cause an "ouch!" It also has a LCD that dishes up all essential game data, and will also serve as a pop-up window. Razer's Tarantula (which we recently spent *30 Days With*) is another option, but isn't really worth the price (1,300 bucks more than the G15), considering it has fewer macro keys, no LCD, and that the regular keys aren't backlit. There is also the Logitech G1—a combo of optical mouse and keyboard. This kit was just about to hit the market

and was un-priced when we checked—it'll be out by the time you read this.

Logitech's G11 (a G15 minus the LCD) is another "to be out soon" product, and wasn't available for pricing during my visit to The Road.

Logitech's G5 (Rs 2,900) is a 2000 dpi (500 Hz polling frequency) laser mouse—ultra accurate, and quite comfortable; it has weights provided to lighten or weigh up the mouse according to what you're used to. Its infrared counterpart, the MX518, is available for as little as Rs 1,500 now—a killer mouse with extra buttons and a 1600 dpi sensor. There's also the cordless G7 for Rs 4,200. It has hardware identical to that of the G5, only it's wireless.

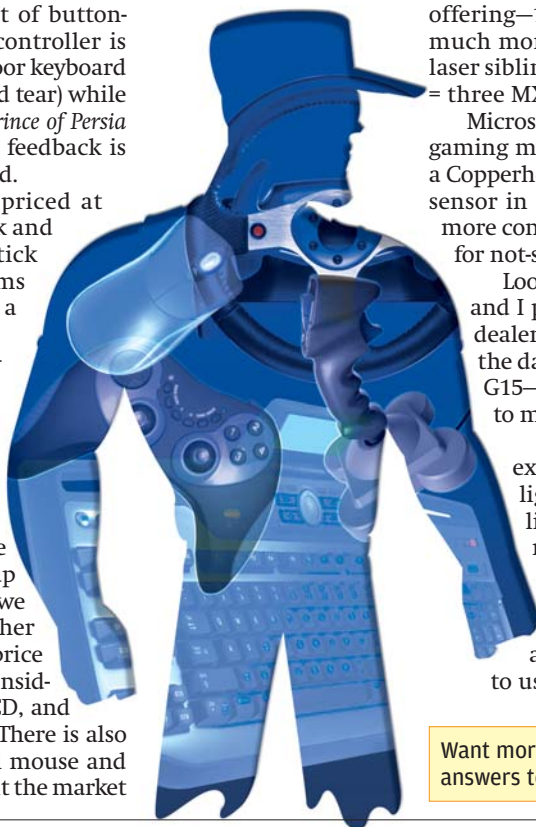
Zebronic has a gaming keyboard and mouse combo, but aside from the flashy colours and the *CounterStrike* theme, this looked like a regular keyboard. The combo costs Rs 1,200; the optical mouse bundled is IR-based (800 dpi).

Razer has two offerings for the discerning camper. The Copperhead has the same hardware as the G5. This one is smaller, and if anything, even faster than the G5 (albeit only by a tiny margin). It's more suitable for those with smaller hands, and you'll have to check both out to decide which to buy. The Copperhead has backlit side stripes (available in three colours) and costs Rs 4,500. The DeathAdder is the other offering—1800 dpi on an infrared sensor, and a much more comfortable design than either its laser sibling or the Logitech trio. Price = Rs 4,000 = three MX518s!

Microsoft's Habu is the last contender for the gaming mouse. It costs Rs 4,000, and is basically a Copperhead in DeathAdder guise. The 2000 dpi sensor in a much larger body makes the Habu more controllable (and less twitchy—geek speak for not-so-controllable) in my opinion.

Looking at the options available, my friend and I picked up an MX 518 each. We got the dealer down to Rs 1,425 apiece. At the end of the day I just couldn't resist the allure of the G15—I guess all those shimmering lights got to me. I ended up paying Rs 4,200 for it.

Playing *Warcraft 3* is a wonderful experience... I could now play with the lights off (keyboard backlighting is brilliant), and the macro keys really helped map complex unit selections. The extra spacing between keys is also a good thing. I've yet to subject the MX518 to some serious action, and am awaiting the weekend when I'll get to use my friends as frag bait! ☒




Want more of Agent 001? Turn over to read his answers to your buying questions

Two Uses, Two Options

Q I'm looking to buy a laptop. I have two options in mind. One is from your July review—the Compaq v3225AU—and the second is the Dell Inspiron 1420. The difference between the laptops in terms of price is around 10K. Which will be better? Do you know if Dell offers finance options?


Abhishek Tripathi

 First up, banks will flock to give you finance options; the laptop has become the single most-financed IT product in the consumer market. That said, it's also possible each vendor (HP and Dell) has tie-ups with certain banks for even better deals (lower EMIs, etc.) The Inspiron 1420 has a Core 2 Duo processor which offers greater performance. However, this is relative to your usage, and regular office applications, music, Internet apps, etc. will not see much benefit—the Presario v3225AU also has a reasonably fast CPU (the Turion 64). If you only plan on using your laptop for tasks of this sort, save yourself some cash and buy the Compaq. If you plan on a little more power usage, get the Dell. And please opt for 1 GB of memory—both laptops offer 512 MB in their base avatars.

As Vague As It Gets...

Q I want to purchase a mobile with a good camera and music playback. What are my options?


Amit Barla

 No budget mentioned, no preferred brands mentioned, and it's not clear if you want *good* music playback, but anyway... a "good" camera is relative to how much money you want to spend. On a budget of below Rs 10,000 I'd recommend the Sony Ericsson K750i (8,000 bucks street price). This phone is excellent value for money right now. It also has good MP3 playback. If you want something in the price range of 15K, look at Sony Ericsson's K790i. With a 3.2MP camera and great music quality, it's a great buy. Nokia's N73 also makes a good buy at around 1,500 bucks more—it has the same features but is based on Symbian's S60 operating system, which has a lot of application support and is more functional.

A Nod For The Pod

Q I want to buy a PMP. My requirement is: 40 to 80 GB, good battery life, best music quality, canal headphones, and compactness. No budget issues. Also, what is the difference between a regular iPod and a nano?

Satyam

 The iPod 80 GB seems right for you. It's a full-featured PMP with good audio capabilities. The regular iPod plays videos, while the nano doesn't. The nano is, however, just as good in terms of audio quality, and was designed with sleekness and weight in mind. It's much more portable than the iPod Video. It uses Flash memory, while the iPod Video uses

a hard drive—Flash makes the unit sturdier. Hard drives tend to get damaged with sharp impacts. If you travel a lot and your player might get banged around in your pocket, or even dropped a bit the iPod video isn't for you.


The nano will offer you up to 8 GB, while the iPod Video will give you the magic figure of 80 GB. If you want to lug loads of music along, then go the iPod Video way. However if all you need is a few gigabytes of music and if you want something really light, then look at the nano. The iPod Video 80 GB should cost you around Rs 17,000 (street price). The nano 2 GB, 4 GB, and 8 GB versions will cost you Rs 7,500, 10,000, and 13,000 respectively.

Ancient's Expensive

Q I am planning to buy a new AGP graphics card (AGP). Can you tell me about cards within Rs 10,000? Also, I have an unbranded 400 W power supply. Is that enough for powering such a graphics card? My current system specs are:

P IV 3 GHz
ASRock p4i65GV motherboard
512 MB DDR RAM
LG GSA-H12N DVD R/W
Samsung 160 GB SATA HDD
NVIDIA GeForce 4 MX 4000

Renjith N P


 As far as your query goes, the 7600GS has an AGP variant that should cost you Rs 6,000. The 7800GS is the most powerful AGP card you can get (Rs 11,000). I must caution you that AGP is now a dead interface with no more cards being made for it. Because of this, AGP variants of cards are also very expensive. The 7600GS PCI-Express card, for example, costs just Rs 4,500. I'd suggest you consider upgrading your motherboard, memory, and CPU to a PCI-Express platform.

A 400 watt PSU will not suffice. Look for a 500 watt VIP, which should cost you around Rs 3,500.

Old Is (Sometimes) Good

Q I have a Nokia N70, and I want to buy a second phone. My budget is Rs 5,000 to 6,000. I'm looking for a cell phone with a 1.2 MP camera, Bluetooth, a good colour display, a good MP3 player, and GPRS.

Abhigyan Sarmah

 Consider the Sony Ericsson W700i—it offers all you've mentioned, and a 2MP camera. It's a compact and good-looking phone. The real icing on the cake is the fact that this isn't the newest of models, and is therefore excellent value for money now (Rs 8,000 street price). The reason I have gone above your mentioned budget is that good music quality and expandability is not something we're seeing in lower-end phones right now. Sony Ericsson's K750i is also available for around the same price. It's an older model, with good music capabilities. The camera (2.0 MP) has auto-focus (the W700i doesn't). ☐



Ask Away!

Want a tech product, but don't know how to go about buying it? E-mail agent001@thinkdigit.com with your complete contact details, and he might answer them here! Please note that Agent001 only answers purchase-related questions in this space.

External Portable Hard Drives

WD Passport Portable (Black)

- Excellent performance, good value
- None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 6,500



Internal DVD-Writers

Lite-On LH-20A1P

- Fast performance, 20x writing to DVD+R and DVD-R
- None in particular

Contact Mediatech India Distribution Pvt Ltd

Phone 022-26361111
E-mail digit@mediatechindia.com
Price Rs 2,095



Digital Cameras (High-End)

Sony Cyber-shot W50

- Excellent image quality, vibrant colours
- Trouble focusing in low light

Contact Macro Photo
Phone 022-22618639
E-mail macro.photo@gmail.com
Price Rs 15,000



Graphics Cards (High-End)

NVIDIA GeForce 8800 GTX

- Blistering-fast
- Runs slightly hot

Contact Rashi Peripherals Pvt Ltd
Phone 022-67090810
E-mail navinderc@rptechindia.com
Price Rs 41,000 + taxes



Internal SATA Hard Drives

WD Caviar SE16 WD3200AAKS

- Value for money, performance
- None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 4,500

Internal SATA Hard Drives

WD Caviar SE16 WD5000AAKS

- Fast transfer speeds
- None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 7,500

Flash Drives

Transcend JetFlash 150 1 GB

- Fast
- Poor package bundle

Contact Mediaman Infotech Pvt Ltd

Phone 022-23828100
E-mail santosh@mediamangroup.com
Price Rs 1,500

Graphics Cards (Mid-range)

XFX 8600GTS

- Best of the mid-range cards
- Could do with more memory

Contact Rashi Peripherals
Phone 022-67090909
E-mail navinderc@rptechindia.com
Price Rs 16,000



The A-List



The best products tested so far in different hardware and software categories

Wi-Fi Access Points

Linksys WAP54G

- Great performance
- None in particular

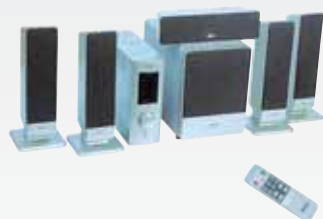
Contact Ingram Micro India Pvt Ltd
Phone 9323112279
E-mail sunil.z@ingrammicro.co.in
Price Rs 3,816

5.1 Speaker Sets

Artis S6600R/FM

- Good performance, radio
- None in particular

Contact Kunhar Peripherals Pvt Ltd
Phone 022-66345758
E-mail mail@kunhar.com
Price Rs 8,500



MP3 Players up to Rs 4,000

MobiBlu DAH-2100

- Good performance
- Tiny screen for video

Contact J.J.Mehta & Sons
Phone 022-24306356
E-mail info@jjmehta.com
Price Rs 4,000

MP3 Players up to Rs 10,000

Sandisk Sansa e250

- Good performance, feature-rich
- Tacky scroll wheel

Contact Rashi Peripherals Pvt Ltd
Phone 022-67090909
E-mail navinderc@rptechindia.com
Price Rs 8,150



Processors

Intel QX6700 Core 2 Extreme

- Extreme performance
- Expensive

Contact Intel Corporation
Phone 080-25075000
E-mail saranya.rustagi@intel.com
Price Rs 52,000

Projectors

Acer PD726W

- Great overall performance
- No remote sensor at rear

Contact Acer India Pvt Ltd
Phone 9880544226
E-mail alankar_s@acer.co.in
Price Rs 1,50,000



LCD Monitors (19-inch)

AOC 1975

- Good looks and performance
- Gloss finish catches smudges

Contact AOC India
Phone 1800-425-4318
E-mail info@in.aocmonitor.com
Price Rs 12,000



LCD Monitors (17-inch)

AOC 177V

- Good performance
- None in particular

Contact AOC India
Phone 1800 425 4318
E-mail info@in.aocmonitor.com
Price Rs 9,800

Desktop PCs Sahara 20CK16

- ☑ Great performer
- ☑ Slightly bulky

Contact Sahara Computers & Electronics Ltd
Phone 0120 - 4397777
E-mail info@saharacomputers.co.in
Price Rs 40,000



AMD AM2 Motherboards ASUS Crosshair AM2

- ☑ Great bundle and performance; accessories for the enthusiast
- ☑ None in particular

Contact ASUSTeK Computer Inc
Phone 022-40058888
E-mail media_india@asus.com
Price Rs 15,400

Intel High-end Motherboards Foxconn 975X7AB-8EKRS2H

- ☑ Inexpensive, good performer
- ☑ None in particular

Contact Mediatech India Distribution Pvt Ltd
Phone 022-26361111
E-mail info@mediatechindia.com
Price Rs 10,750



Intel Mid-range Motherboards Gigabyte GA-965P-DQ6

- ☑ Good build quality and performance
- ☑ Expensive

Contact GIGABYTE Technology India Ltd
Phone 022-26526696
E-mail sales@gigabyte.in
Price Rs 16,000

Home Inkjet MFDs

Canon PIXMA MP160

- ☑ Good performance
- ☑ No memory card reader

Contact Canon India Pvt Ltd
Phone 1800-345-33-66
E-mail info@canon.co.in
Price Rs 5,999

Mono Laser MFDs

Brother MFC-7420

- ☑ Great cost per page, fax
- ☑ No Ethernet Port

Contact Brother International India Pvt Ltd
Phone 1800 222 422
E-mail customercare@brother.in
Price Rs 18,000



PCI TV-Tuners

Leadtek Winfast PVR2000

- ☑ Excellent video quality and software
- ☑ Expensive

Contact Topnotch Infotronics (India) Pvt Ltd
Phone 044-42042565
E-mail naqui@zebronics.net
Price Rs 5,500



Mono Laser Printers

HP LaserJet 1020

- ☑ Good combination of speed, print quality, and warranty
- ☑ A bit slow in comparison to others

Contact Hewlett-Packard India Sales Pvt Ltd
Phone 0124-2566111
E-mail kakuni.mahto@hp.com
Price Rs 6,999

Multimedia Phones Rs 12,501 to Rs 20,000

Sony Ericsson CyberShot K790i

- ☑ Great all round
- ☑ Cam slider flimsy

Contact Sony Ericsson Mobile Comm. India Pvt Ltd
Web site www.sonyericsson.com
Price Rs 16,222



Up to 12,500 Nokia 6300

- ☑ Great screen, build
- ☑ Hard joystick

Contact Nokia India
Web site www.nokia.com
Price Rs 11,489

PDA Phones Above Rs.25K

Nokia Communicator E90

- ☑ Extremely powerful
- ☑ Heavy, bulky

Contact Nokia India
Web site: www.nokia.com
Price Rs 40,499



Up to 12,500

Samsung SGH-E840

- ☑ Great build, slider
- ☑ Keypad tactility

Contact Samsung Telecomm. India
Web site in.samsungmobile.com
Price Rs 10,700

Office Inkjet MFDs

HP Photosmart C4188 All-in-One

- ☑ Good print quality
- ☑ No fax

Contact HP India Sales Pvt. Ltd.
Phone 0124-2566111
E-mail kakuni.mahto@hp.com
Price Rs 7,999

PC Webcams

Logitech QuickCam IM

- ☑ Strong performer
- ☑ Manual focus

Contact Compuage Infocom Ltd
Phone 022 - 65297356
E-mail india_getcreative@ctl.creative.com
Price Rs 1,995



Mice

Logitech MX Revolution

- ☑ Has a flywheel
- ☑ Expensive

Contact Logitech Electronic India Pvt Ltd
Phone 022-26571160
E-mail response@logitech.com
Price Rs 8,000

Performance Laptops

HP DV6226tx

- ☑ Funky Looker, features
- ☑ Needs better graphics

Contact Hewlett-Packard India
Phone 0124-2838700
E-mail tapoti-t.tipnis@hp.com
Price Rs 56,990



In Theory And In Practice

Ram Mohan Rao

Students have it so much better these days...

www.sciencenews.org

Now this one isn't just "Incredibly Useful"—it's incredibly fascinating. Marvellous content here—pure science discovery and fun, totally cutting-edge.

"Saturn's strange moon Iapetus... has a ridge running along its equator. This feature and others of the walnut-shaped moon suggest that Iapetus has been frozen in time, giving astronomers a glimpse into the outer solar system's early development." If you enjoy and thrive upon such news, take one look at Science News Online and you'll be hooked.

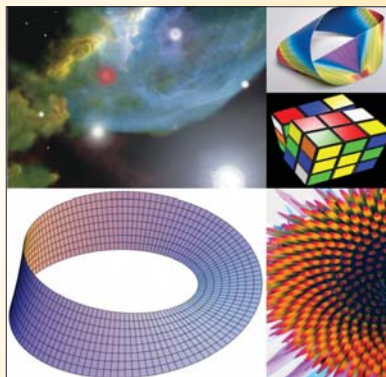
Mind you, this one is not for the fritter-brained. If you'd like to know why dirt roads develop a "washboard" surface, if you need to know what computer scientists are doing to crack the Rubik's Cube puzzle—then and only then head here. Zero frills: they won't make things for you "kiddie-friendly" the way *The Discovery Channel* does.

After that intimidating warning, we must say the language itself is simple enough. A sampler: "Rubik's Cube has approximately 43 quintillion possible configurations. Even a supercomputer can't search through every possible configuration to find the quickest way..."

Many articles are subscriber-only, yes, but there's more free stuff than you have free time.

Quick links include archives for many years, a blog as rich as the main site, and one to the most viewed articles. In terms of navigation, you're best off starting at the Table of Contents link.

If you're smart enough (and you are, since you're a *Digit* reader), do take a quick look regardless of whether you consider yourself a science buff. You might just find you are.



The kind of visuals you can expect at Science Online

www.ephotozine.com

"A veritable Swiss Army Knife of a site, ePHOTOzine has everything a photographer could wish for." That's the quote they use, and we'll agree. Subscription is not necessary, but it allows you to access the forums and the competitions—as in upload *your* photos. You can keep them up for modification (!) so you know what your photo *could* be. And thus, you learn.

You'll also learn a lot at the forums: general photography techniques, techniques specific to digital photography, gadgets and models and such, image editing issues...

pretty much everything. And the competitions! Submit your photograph to pit it against some of the coolest, most breathtaking photos we've seen.

There are plenty of reviews, and buying advice

to boot. The reviews aren't limited to cameras—they span everything a photographer (budding or otherwise) might encounter, such as display devices.

The Techniques area is all about techniques—at least, a lot. Summer portraits? Landscapes? B&W in CS3? You name it, it's there.

Photographer or not, you'll want to go to the most obvious section—the photos. Looking at all that art, you'll want to learn the techniques, then you'll want to get the equipment, then you'll want to ask questions. Photos, Techniques, Buyers' guides, Reviews, Forums, competitions. That rounds off the picture—this *is* an all-in-one site. Don't be intimidated by all the photoman-speak... you'll get into it in no time.

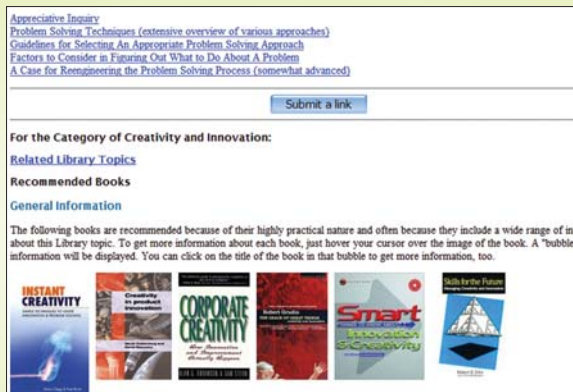


"Holy Sheds" by "jeanie" at ePHOTOzine

www.managementhelp.org

No pretty boxes to click on at this site. The focus is management, but it's a loose focus. Much of what applies to that discipline applies elsewhere, too. There's also information for the would-be entrepreneur, people working with non-profits, and more. The material is geared towards student, teacher, and worker alike.

At the main page are a whole lot of links; actually, five thousand for the site—and e-books on 650 topics. At or close to the main theme are such topics as Interpersonal Skills,



The only visual relief here: book covers. You get recommendations for all the main topics

Organisational Change, and Employee Performance. In the middle ground, we have Group Skills, Coordinating, and Ethics & Social Responsibility. Now take a look at Creativity & Innovation, Problem Solving / Decisions, and Communications (Writing)—and you know you can use this site even if you don't know the M of management.

Visit the main page. Click here and there. You'll probably find some more Incredibly Useful stuff. ☒

ram_mohan@thinkdigit.com

Touchscreens

They're all the rage, they're the buzzword, they're probably the hottest thing in tech right now!

Prakash Ballakoor

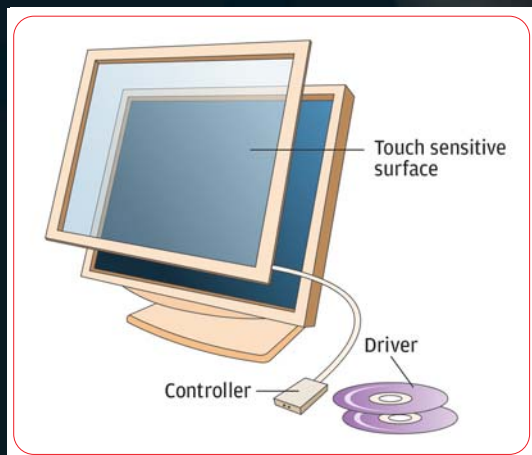
You've seen touchscreens at information kiosks, in museums, hotels, and ATMs, and you did marvel (at least the first time) the way they interacted with you. Touchscreen-based systems allow for easy navigation around a GUI-based environment. Tap on the screen twice for double clicks, and drag a finger on the screen to move the cursor. You can do almost everything the mouse does, and you do away with the additional device (the mouse)—leaving only the screen.

Falling prices and improved technology has fuelled the use of touchscreens in smaller consumer devices like mobiles, Tablet PCs, and handheld gaming consoles like the Nintendo DS.

As an aside, you don't need to buy a full-fledged touchscreen for touch-based interaction. Touchscreen components can be bought off the shelf (at least in developed countries) and used with an existing screen!

The Components

There are four popular touchscreen technologies we'll talk about, but all of them have three main components: the touch sensitive surface, the controller, and the software driver.



The three basic components of a touchscreen: the sensor, controller and driver

☐ The touch sensitive surface is an extremely durable and flexible glass or polymer touch-responsive surface, and this panel is placed over the viewable area of the screen. In most sensors, there is an electric current or signal going across the screen, and a touch on the surface causes a change in the signal depending on the touch sensor technology used. This change allows the controller to identify the location of the touch.

☐ The controller is an electronic device that acts as the intermediary between the screen and the computer. It interprets the electrical signals of the touch event to digital signals that a computer can understand. The controller can be integrated with the screen or housed externally.

☐ The software driver is an interpreter that converts what comes from the controller to information that the OS can understand. It is similar to a mouse driver, to take a common example.

Four Touchscreen Sensor Technologies

☐ **Resistive touchscreens** Based on an old technology, these are durable and resistant to humidity and liquid spills. But they offer limited clarity, and the surface can be easily damaged by sharp objects. Resistive touchscreens have two glass or acrylic layers. One of the layers is coated with thin conductive material, and the other is coated with resistive material. When in operation, electricity passes across the screen on the conductive layer; when pressure is applied, the two layers are pressed against each other and there is a change in the electric current due to the resist-

ance brought in by the resistive layer. This change is registered and the location of touch is calculated.

☐ Capacitive touchscreens

These are used for applications where clarity and precision is of concern—as in laptops and medical imaging. Such screens cannot be used with non-conductive inputs (like rubber-gloved hands or styli).

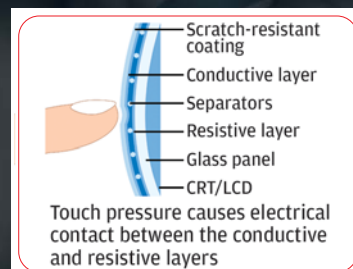
Here, we have a glass panel with a coat of charge-storing material on its surface. When the panel is touched, a small amount of charge is drawn at the point of contact. Circuits located at each corner of the screen measure the difference in charge and send the information to the controller for calculating the position of touch.

☐ Surface Acoustic Wave Touchscreens

This newer technology uses ultrasonic waves that pass over the screen. When the panel is touched, there is a change in the frequency of the ultrasonic waves, and the receiver at the end of the panel registers this change. Since only glass is used with no coating, there is nothing that can wear out.

☐ Other technologies

The above are the mainstream technologies; there are others as well. Strain gauge touch panels have springs mounted on the four corners; when touched, the change in the compression in



Resistive touchscreens—the most robust and affordable

each corner is measured to find the coordinates of the touch. Such panels weren't durable enough, so they flopped. More recently, we've seen optical imaging touchscreen technology. This uses cameras that sense usually far infrared light; when the light is interrupted by touch, the location can be calculated. Microsoft improved upon this technology and introduced the Surface, which you've doubtless heard about.

Microsoft's Surface

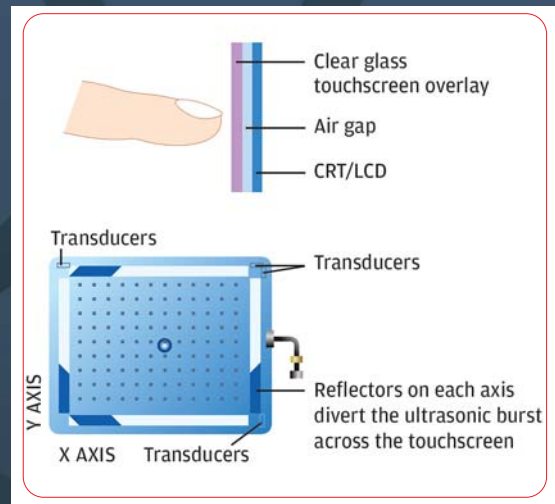
The Surface is a touchscreen computer that looks like a coffee table and allows for surface computing. Through "surface computing," you can seamlessly synchronise electronic devices that touch its surface. For example, the Surface allows you to connect a camera with a mobile. You can transfer images from your wireless-enabled camera to a Bluetooth-enabled mobile phone, with both on the Surface. On

ing of virtual objects like images and files across the table.

Misconceptions And Disadvantages

Misconceptions include the idea that grease will spoil the surface of a touchscreen. Not true; touchscreens with glass surfaces can resist dirt, grease, moisture, and also household cleaning agents. Another misconception is that touchscreen displays gets washed out when viewed under sunlight. This has nothing to do with the touchscreen in itself; visibility depends on the quality and contrast of the display.

With improvement in technology of touchscreens, precise pointing is also possible. Having said that, touchscreens have their share of disadvantages. People with fat fingers may mis-hit keys and find it tough to navigate. One needs to be careful while handling mobile devices with touchscreens because the screen gets damaged when kept in a pocket



Acoustic touchscreens—accurate, and good for big displays

provides plenty of tactile feedback. But recent demonstrations of the TouchFLO mobile phone from High Tech Computer Corp (who design, manufacture, and market smartphones and PDA-phones) have shown that the combination of a finger and a UI designed for the finger can make for data input as fast as with a keyboard.

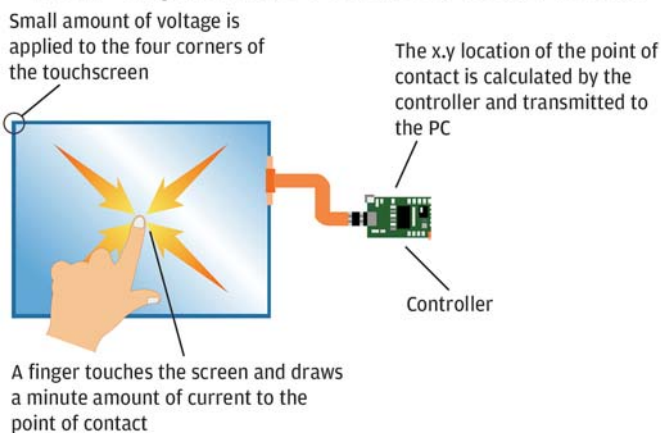
And There's More!

Many large companies—Microsoft and Apple included—have gotten on the touchscreen bandwagon, multi-touchscreens in particular. After the iPhone, rumour has it that Apple will soon come up with a tablet PC wherein multiple fingers (up to 15 simultaneous touches!) can be tracked. It's further been said that Apple has patented an "Integrated Sensing Display" wherein display elements are integrated with image sensing elements. (Think of "image sensing elements" as micro-cameras.) If this were to be put to use, you could have a single device—that looked like a monitor—for videoconferencing, wherein the monitor would be the camera!

As you've been noticing, keypads on mobile devices are getting cramped—with more and more buttons for launching all the various applications. With the number of buttons that can fit on a mobile device reaching its limit, it might not be far-fetched to predict the gradual death of the button, giving way to the touchscreen. ■

prakash_ballakoor@thinkdigit.com

How Capacitive Touchscreens Work



Capacitive touchscreens – clear screens, but at a high cost

placing the wireless-enabled camera on the tabletop, pictures are wirelessly transferred to the hard drive of the Surface. Using your fingers, you can fiddle with and pinch the images to rotate, crop, or resize them. To transfer images, you put your finger on the Surface and *just drag* the images to your Bluetooth-enabled phone!

Thanks to multi-touch, the Surface can accept input from multiple fingers and multiple users simultaneously and allow complex gestures like grabbing, stretching, swivelling, and slid-

ing with coins and keys. Touchscreens are complex items, and unlike keypads, there are many things that can go wrong: deteriorating response, unruly calibration, and dead pixels.

Touchscreen tech has its critics: of all people, Nokia's general manager for mobile devices, Antti Vasara, claims people don't like touchscreens and prefer keyboards and joysticks. He says they wouldn't like to use an interface designed for a mouse—such as a regular monitor—as a touchscreen, and that nothing beats a keyboard, which



92 All-In-Wonders



104 Cheapest Trumpet



108 Cause For Concern

Digital Business

How Technology Can Help Your Organisation

Tech Careers

Powering The Tower

Opportunities abound in the Indian telecom sector—be they hardware or software, technical or managerial, innovative or hands-on

Samir Makwana

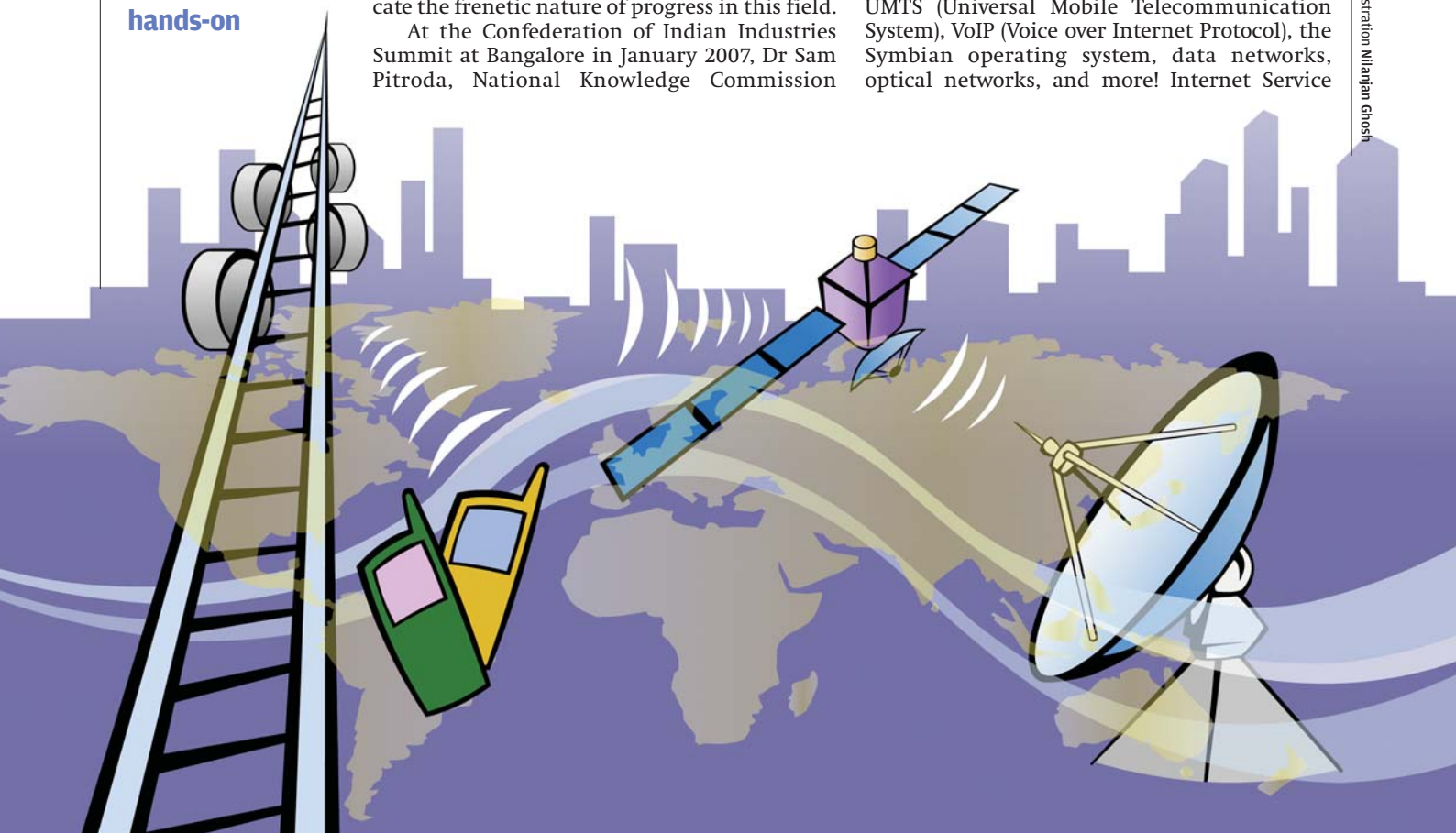
As you very well know, the Indian telecom industry is at a phenomenal stage of development. It is considered one of the fastest-growing industries of all time. The number of phone users in the country crossed 22.5 crore in June 2007. According to the Press Information Bureau of India, during 2006–07, the country saw the addition of about 7.2 crore phone subscribers—a 47 per cent increase over the previous year. These figures serve to indicate the frenetic nature of progress in this field.

At the Confederation of Indian Industries Summit at Bangalore in January 2007, Dr Sam Pitroda, National Knowledge Commission

Chairman and research pioneer in telecommunications and handheld computing, pitched for the manufacture, in India, of telecom equipment such as mobile phones. If manufacturing of phones does start in India, employment opportunities on a large scale will open up.

A wide range of career opportunities can be seen on both the hardware and software front. The list is long: mobile telephony, wireless communications, Internet protocol media system, GSM (Global System for Mobile Communications), GPRS (General Packet Radio Service), CDMA (Code Division Multiple Access), UMTS (Universal Mobile Telecommunication System), VoIP (Voice over Internet Protocol), the Symbian operating system, data networks, optical networks, and more! Internet Service

Illustration: Milanjan Ghosh



As mobile service providers install more antennas and base service stations, the demand for those who specialise in telecom design and implementation is bound to rise

Providers use telecom hardware and therefore employ telecom engineers for their network-related operations.

Opportunities In Hardware

Design and implementation: Designing telecom systems equipment, infrastructure, and networks is a career option—the installation of equipment such as switchers and routers at a base station requires proper design in the first place. However, design and manufacturing of original telecom equipment is yet to start off on a large scale in India. Equipment design engineers, therefore, see better prospects abroad.

For telecom infrastructure, the design architect / solution architect / business analyst is required to have the know-how of voice, data, and fibre-optic networks. Telecom infrastructure design is required for proper transmission voice, data, and other cabling solutions over a network.

As mobile service providers install more antennas and base service stations, the demand for those who specialise in telecom design and implementation is bound to rise.

Operations and maintenance: The telecom infrastructure requires operational support and maintenance to function at optimal capacity: this domain includes monitoring, troubleshooting, and analysis of the operations that take place at the base service station. Ultimately, the job of those in the operation and maintenance department is to ensure voice can be transmitted from one end to another.

Network: Job functions in wired, wireless, and data networks all fall under the “network” umbrella. Employed in this domain are engineers who specialise in wireless technologies. They are, for example, GSM engineers / specialists, GPRS engineers / specialists, and CDMA engineers / specialists. Specifically, installation, planning, administration, security management, troubleshooting, and testing of networks are what is involved in this domain.

It should be mentioned that freshers are usually absorbed into the industry in networking jobs. Network engineers at times design terrestrial networks and certify them. Vendor-specific certifications are a plus in a network engineer's profile. Of all the network functions, security is an area worthy of mention in terms of opportunities.

Services: Increased competition means telecom service providers must provide quality service keeping operational costs under control. They deploy solutions for service quality management, fault management, and performance management. This domain therefore comprises service desk functions, service assurance, quality of service management, and such.

Opportunities In Software

Software in the telecom industry usually enables signal testing and network monitoring. Real-time operating systems are of particular importance to aspirants.

Revenue and billing services: Those skilled in DBA (Database Analysis) software systems and data warehousing are employed in this sector. They specialise in working on vendor-based applications and software systems such as Oracle, Kenan, and Siebel. The professional here keeps a check on whether customers are properly charged, and prevents fraud or faulty billing.

Value-Added Services (VAS): A fiercely-growing domain, emerging as a separate industry, VAS includes entertainment, commerce, TV, and more—on the mobile. The majority of the opportunities in VAS are towards programming for the mobile platform. WAP (Wireless Access Protocol) specialisation is in particular demand. Programming and scripting languages used in mobile applications include C, Java, Delphi, Visual Basic, Pascal, PERL, SQL and MATLAB should also be mentioned.

Education

The most obvious and advisable path that leads to a career in the telecom sector is via telecommunications engineering. Only students from a science background can opt for telecommunications engineering or diploma courses: to join a telecom engineering course, one needs to have passed the higher secondary or a vocational course that includes physics, maths, and chemistry in the syllabus. These subjects have been made compulsory as the minimum eligibility criterion to appear for entrance tests such as the IIT Joint Entrance Exams.

In all cases, for employment with a telecom company, the first preference is telecom engineers. Next is electronics and communication engineers, and then those with a B. E. or B. Tech. in computer science.

“The industry generally prefers those with a B. E. / B. Tech. either in computer science or electronics. However, leverage is given for candidates with relevant experience and industry certifications,” according to Shinu Karim, ex-employee, Cable & Wireless Ltd. Aspirants should pursue their B. E. or B. Tech. degree in telecommunications only from universities and

Educational Institutions

The Indian Institutes of Technology

Bombay, Delhi, Guwahati, Kanpur, Madras, and Roorkee

The National Institutes of Technology

Durgapur, Hamirpur, Jamshedpur, Karnataka, Rourkela, Silchar, Srinagar, Trichy, and Warangal

Advanced Level Telecom Training Centre, Ghaziabad

Army Institute Of Technology, Pune

Assam Engineering College, Guwahati

Indian Institute of Science, Bangalore

Bangalore Institute of Aeronautical Engineering and Information

Technology, Bangalore

Bharat Ratna Bhim Rao Ambedkar

Institute of Telecom Training,

Jabalpur

Birla Institute of Technology, Mesra

Birla Institute of Technology and

Science, Pilani

BMS College of Engineering,

Bangalore

College of Engineering, Farmagudi,

Goa

Dayanand Sagar College of

Engineering, Bangalore

Dhirubhai Ambani Institute of

Information and Communication

Technology, Gandhinagar

Dr. Ambedkar Institute Of

Technology, Bangalore

Dr. Babasaheb Ambedkar

Technological University, Mumbai

Hughes Communication India Ltd,

Gurgaon

Jadavpur University, Faculty Of

Engineering And Technology,

Kolkata

Symbiosis Institute of Telecom

Management, Pune

Veermata Jijabai Technological

Institute, Mumbai

institutes recognised by the All India Council of Technical Education (A.I.C.T.E.).

Those willing to pursue higher education should opt for M. Tech. courses with a specialisation in telecommunications technology and management. One can opt either for a core technology area or for a specialisation in the management aspect of the telecom industry.

The telecom education curriculum covers subjects on telecom regulatory policies, which are essential knowledge for all aspirants. Telecom companies have begun to collaborate with the top educational institutions to improve the curriculum and also directly pull in skilled, qualified engineers.

Skills

Those with hands-on knowledge of installing, maintaining, and troubleshooting equipment are sought after. That apart, "The telecom industry looks to employ candidates with relevant experience. There are not too many telecom companies in India, so employees at the higher management level keep shuffling only between these few companies," says a telecom industry official who requested anonymity. This means it is a kind of "closed circle," meaning one cannot hop between job profiles as easily as in other industries—and that in turn means one needs to develop deep expertise in one specific area.

On the hardware side of the industry, experienced candidates with industry certifications are given first preference. Soft skills are a must at any level. Leadership skills, presentation skills, and such are also necessary. "Experience in the relevant field and industry certification is the prerequisite, and most positions emphasise soft skills," says Karim.

Freshers, Take Note

As mentioned earlier, the industry believes in hiring experienced and qualified candidates. Internships are offered to students and fresh graduates. Engineers who pass out of engineering colleges *might* get an equal chance.

Companies access their potential recruits through placement consultants, employee referrals, and advertisements. Campus recruitment for hardware functions is not common—it

Engineers who pass out of engineering colleges *might* get an equal chance

is more for software functions that freshers are recruited off campuses.

According to L K Bhatia, vice president of the resource management group, Tech Mahindra Ltd, "The expansion of the education system in general—and catching people young to put them into different streams of their interest and aptitude—could speed up the recruitment process. Taking higher technical education to tier 2 and tier 3 cities could uncover a vast pool of talent."

Fresh recruits undergo induction and training for a period ranging from seven days to six months. Classroom training sessions are often organised for officials and engineers working on new technologies adopted by a company. Training sessions are held by product (such as routers and switchers) vendors to enhance skills in the context of the use of the product.

The Money...

The remuneration offered by any telecom company would, in general, be competitive. A majority of employees keep job-hopping until they have the expertise and experience to grow vertically, like we hinted at earlier.

At the entry level, salaries offered range from Rs 1.5 to 3 lakh per annum. This can shoot to Rs 20 lakh per annum for technical positions, and for management positions, the remuneration can cross that figure.

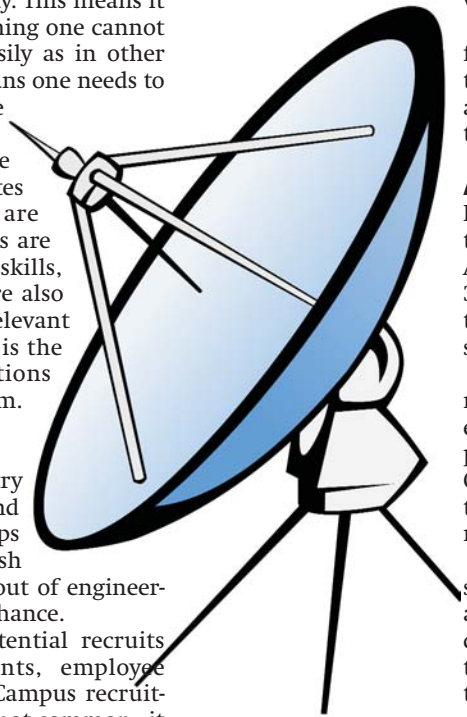
A Parting Word

Projects, technologies, and operations in the telecom industry are in a phase of expansion. A mention should be made of the ingress of 3G technologies. Most of the opportunities in this field come under the umbrella of the service industry.

However, service providers outsource their IT needs; Bharti has recently outsourced to IBM, for example. Network needs are outsourced to product vendors to leverage their expertise. Opportunities related to IT in telecommunications therefore lie also in those organisations, and not only with the service providers themselves.

Do take note: this industry demands super-specialisation in a specific area—you can't move around easily between domains. Choose that domain wisely, and you can be a proud architect or facilitator of one of the most fundamental of human needs: communication. ☐

samir_makwana@thinkdigit.com



The Number One
Technology Destination

www.zdnetindia.com

ALL-IN-WONDERS!

If your business is growing fast, you'll soon need a multi-functional device that can keep up with the needs of your organisation—here's what you need to decide on one

Jayesh Limaye

Office needs that have to do with paper—printing, scanning, fax printouts, and copying—have solutions primarily in the form of inkjet and laser devices. The other classification is standalone devices vs. MFDs. The latter is not much of a dilemma any more, really: MFDs are here to stay, and with good reason. But in regards to the former—inkjet or laser—you might ask: why a laser MFD test now, when we did an inkjet test two months ago?

It's simple. Inkjet MFDs are good for the SoHo consumer. They are great if your work requires colour prints such as photographs, and if you are on a tight budget. Now as your business grows, your needs grow too, and when your regular daily workload involves high-volume, high-speed printing—and if colour prints are not a daily affair—you need a faster and more cost-effective solution than inkjet MFDs. That's where the lasers come in. These are more expensive than inkjets, but the initial cost is recovered quickly—within a few months of printing.

To give you a good feel for what the market has to offer, in fact, to help you with a purchase decision, we rounded up quite a few laser MFDs and tested them to see if they perform as they promise. (You must go beyond the advertisements!) We reviewed four laser MFDs from Brother, three from Canon, five from HP, and one each from Lexmark and Panasonic.

The MFDs we've tested here range from the very basic to the heavy-duty, and we've also included copier-based MFDs that cost less than Rs 50,000.

From Brother, we have the DCP-7010, MFC-7320, MFC-8460N and MFC-8860DN. We have the Canon MF4122 and MF4150, along with the Lexmark X342n and Panasonic KX-FLB802CX. From the HP stables, we have the M1005 MFP, 3052 All-in-One, 3055 All-in-One, 3390 All-in-One, and the 3392 All-in-One—all of them under HP's LaserJet range of products.

We categorised the MFDs into three classes for your convenience:

Budget MFDs—priced up to Rs 16,000: These are for businesses just starting up and those that cannot afford to put in too much capital into a laser device, yet want a solution that is faster and more cost-effective than an inkjet machine. Small establishments would rather have a device that can do it all—print, scan and copy—than standalone devices, because of limited resources and office space. The MFDs in this category are the Brother DCP-7010, HP LaserJet M1005 MFP, and the Panasonic KX-FLB802CX.

SoHo MFDs—priced between Rs 16,001 and Rs 30,000: The products in this category are for businesses at the SoHo (Small Office Home Office) stage. Standalone fax functionality assumes some importance here. The Brother MFC-7420, Canon imageCLASS MF4122 and MF4150, HP LaserJet 3052 All-in-One and 3055 All-in-One, and the Lexmark X342n fall in this bracket.

SMB MFDs—priced between Rs 30,001 and Rs 50,000: Look in this category if you are a small or medium business (SMB) that requires very high-volume printing, speed, and also machines that can handle heavy workloads while having the capability of being networked. This bracket is populated by the Brother MFC-8460N and MFC-8860DN, and the HP LaserJet 3390 All-in-One and 3392 All-in-One.

With all the above in mind, read on to find out which products delivered and which didn't, which seem unlikely purchases for you and which seem right.



Photograph Jiten Gandhi
Imaging Shrikrishna Patkar

Brother DCP-7010

Decent, we say!

Compact with a footprint of 43.2 x 39.5 cm (which is quite small), the DCP-7010 is a mono laser printer, scanner and copier, but does not feature standalone fax functionality; you need to use it in conjunction with a PC to send faxes.

The printer has a claimed hardware resolution of 2400 x 600 dpi—rather high for an entry-level product. In our tests, this one took 19.1 seconds to warm up, and 10.3 seconds for the first text print. Print quality was average for text in Draft mode, but improved a lot in the best mode.

The scanner resolution is 600 x 2400 at 24-bit colour, and it supports a maximum paper size of A4. The scanner is a bit slow: it took 13.7 seconds for a mono scan, which is on the higher side for a scanner with the WIA driver interface. A full-colour A4 photo scan at 600 dpi takes just under 4 minutes, again very slow. The machine reproduced colours fairly well—we'd say it's good enough for

scanning photographs. The OCR test didn't see it fare well, however.

The printer features the USB and even the parallel interface (the latter for those with older computers). The MFL-Pro suite—a control centre to take care of jobs such as scanning, faxing, and more—is good, and also bundled is PaperPort 9.0SE (OCR software). The claimed printer duty cycle is 10,000 prints per month, while the toner has a duty cycle of 2,500. The DCP-7010 is decently priced (Rs 11,150); the toner cartridge costs Rs 2,150, meaning the cost per print is 86 paise. We still recommend this MFD because of portability, speed, and overall performance.



Panasonic KX-FLB802CX

A super-value copier

The Panasonic KX-FLB802CX is in a class of its own: it is the only copier-based MFD we tested. Being copier-based, it comes with separate drum and toner cartridges. The advantage of such a device over printer-based MFDs is this: the toner and drum have different duty cycles, and the drum's duty cycle is always more than twice that of the toner. In the case of printer-based laser MFDs, the toner and drum are integrated, and the duty cycle of the single unit is that of the toner—so you have to replace the whole thing even when the drum's duty cycle hasn't been expended. With copier-based laser MFDs, you need to change either the toner or drum as and when its duty cycle is over. This proves to be cost-effective. However, copier-based units have traditionally been more expensive to manufacture. This one breaks the mould, and costs just Rs 15,999.

At 44 x 44.5 cm, this MFD occupies a comparatively large area, but can just about fit beside a PC on a regular desktop. Installing the drum is very easy, but installing the cartridge is not. Input tray capacity is 250 sheets, and there is also a multipurpose tray for additional paper storage.

The printer supports 600 x 600 dpi. The initialisation time of this MFD is just under 20 seconds. For the text document, it took 14.7 seconds to print the first copy and thereafter printed at 16 ppm. It takes a couple of seconds longer to print the first copy of the combi-document, but thereafter prints at just about the same speed as the text print. Text is quite sharp, and inverse text was pretty good, too.

The scanner supports 600 x 1200 dpi, but the driver doesn't support the newer WIA interface—which many modern scanners do, because it is more standardised. The scanner is good at capturing colours and fine details, but is extremely slow, especially at resolutions lower than 600 dpi. Since

these are the resolutions at which people most often scan documents and even photographs, the scanner loses out on performance points. It

took 27.2 seconds to scan a monochrome document at 200 dpi, while a colour document at 600 dpi took just over 2 minutes—pretty good. The scanner did not fare well in the OCR test, committing 25 mistakes, which is bad.

The first copy took 18.3 seconds. We found the copies rather dark, and as a result, the inverse text was not very legible. Fine print didn't turn out legible, either.

This is the only contender that comes with a handset, which doubles up as a phone if you are using your phone line for fax (as is the case with most SoHo users). It can store up to 170 pages of incoming fax in case it runs out of toner. The hardware junk fax prohibitor filters out faxes from unwanted numbers, using caller ID.

The interface is USB, though there is the option to upgrade to an Ethernet port interface. The MFD comes with Readiris 7 OCR, Remote Control PCFAX to send faxes via the PC, and a Network Scan Module, which helps deploy the machine over a network. The duty cycle of the printer is 10,000, which is the same as that of its drum, while the toner cartridge has a duty cycle of 2,500. Cost per page comes out to be Rs 1.20—a bit on the higher side for a laser MFD. Still, like we said, it's cheap for a copier-based MFD.



HP M1005 MFP

A value product that delivers

The HP M1005 MFP is a printer, scanner, and copier targeted at the entry-level consumer or small SoHo. It is pretty sleek and doesn't take up too much desktop space—just 43.7 x 36.3 cm. It looks good, too, and weighs a manageable 8.5 kg.

The control panel is intuitive with a two-line, 16-character display, but the menu offers a limited set of functions to control. Input tray capacity is 150 sheets, which is fairly good for its class. Output tray capacity is 100—more than sufficient for this category of MFDs. Unlike with many HP drivers, the installation for this one was fast. One Windows restart later, the M1005 was ready to start multi-functioning...



Print resolution is the standard 600 x 600 dpi, and 32 MB of buffer is good enough to handle long print queues. It took only 14.2 seconds to warm up and start printing. The first text print took just under 10 seconds, while the combi-print required 12.8

seconds. Maximum print speed is around 13 ppm for all kinds of documents. The quality of the prints is not much to boast about, especially the graphics. Inverse text, though, is printed better than on more expensive machines.

The flatbed scanner scans documents of up to A4 size at 1200 x 1200 dpi in 24-bit colour. It took us just 7.3 seconds for the monochrome scan, but it got lethargic during the photo scan, taking over a minute and a half. Scan quality is excellent, though—colour and detail capture was superior to that of most of the MFDs we've tested thus far! This was the *only* MFD here that was perfect in the OCR test.

The first photocopy took 12.8 seconds, but the quality was below par—a little washed out.

HP does not bundle their software suite with this one: it is a "value" product. But they do supply the impressive Readiris Pro OCR software for PC as well as Mac. The monthly duty cycle of the M1005 is 5,000 prints; understandable, since this is an entry-level MFD. The cartridge has a duty cycle of 2,000 prints and costs Rs 2,961.

Rs 12,999 makes the M1005 an attractive choice if your work won't be hampered by the relatively slow printing speeds and the lack of standalone fax.

How We Tested

The Test Rig

For all the tests, we used 100 gsm (grams per square metre) A4-size paper from Berga.

Test Rig

Processor	Intel Core 2 Extreme X6800 @ 2133 MHz
Motherboard	Gigabyte GA-965G-DS3
Chipset	Intel 965G
RAM	1 GB Kingston HyperX DDR2 @ 533 MHz
Graphics Card	NVIDIA GeForce 7300 GS
Host hard drive	Seagate Barracuda 750 GB SATA II
OS	Windows XP with SP2

Features

We noted features such as printer and scanner resolutions, scanner type and size, presence of a fax unit and ADF (Automatic Document Feeder), input tray capacity, and more. For the copier tests, we noted the MFDs' ability to work as standalone devices, the maximum number of pages that can be printed in multi-copy mode, the facility to reduce or enlarge a copy, and more.

Warm-up Time

All laser MFDs need a "warm up" when they are first started, only after which they are ready to function. We noted how long each MFD took to warm up.

The Printer Tests

We used a text document to test the raw print speeds of the printers on the MFDs. To test the ability of the MFDs to handle the various aspects of a regular office document (which can have both text and graphics), we created a "combi-document" that has black text interspersed with graphs and images. We used the Draft and best quality settings for the text and combi-document tests. We gauged the speeds by sending the Print command and clocking the time the MFDs took to print the first sheet.

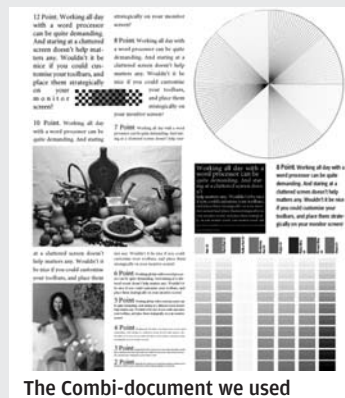
The Scanner Tests

We tested the scanners for speed using an average of five previews of an A4-size image. We did this with the scanner just turned on, so as to incorporate the warm-up time. We imported the same A4-size image at 150 and 600 dpi in Adobe Photoshop CS2, and scanned a full-text document in B&W mode at 200 dpi. We then put the scanners through a test to determine colour differentiating capabilities using the Kodak IT8 card (which has different shades of colour in a gradient). Next, we scanned the resolution chart at 300 dpi—this has five boxes consisting of parallel lines very close to each other, with the boxes arranged in order of density of the lines. This test was, of course, to check whether the scanners could scan and differentiate between the parallel lines, and gave us a measure of the scanners' ability to capture fine detail. Finally, we did an OCR test to check the scanner's ability to differentiate between light and dark areas: we scanned a print article to the trial version of ABBYY Fine Reader

Pro 8.0 PE, and counted the wrongly-interpreted letters.

The Copier Tests

We copied the colour combi-document to black-and-white and rated the MFDs on speed and print quality. Here, too, we noted the time it took for the first print, and then noted the number of pages printed in the minute after that to calculate the maximum achievable copies per minute (cpm) while multi-copying.



Canon MF4122 and MF4150

Inexpensive units, high running costs

BEST BUY
digit
SEPTEMBER 2007



Canon MF4122

We decided to club these two together because the only thing different about them is that the MF4150 has an ADF, sheet-fed scanner, and fax.

Both MFDs occupy 39 x 43.2 cm—relatively small. Their dashboards feature the same button placement; the MF4150, obviously, also has fax features such as a dialpad and speed-dial buttons to dial stored numbers (up to 100).

Both MFDs are built very well, but as is often the case, the trays seem a little delicate. The input tray has a capacity of 250 sheets; the output tray, 100. There is also a multipurpose tray that holds one sheet of paper—handy for one-off print jobs on media other than what you'd normally keep in the input tray. The ADF of the MF4150 accommodates 35 sheets.

The printer resolution of these MFDs is the lowest 600 x 600 dpi, but as you'll find out, that fact does not affect performance. These can't print as fast as any of the Brother MFDs, but their warm up times are markedly lower. The MF4150 takes 15.7 seconds to warm up, and the MF4122 takes just 7.4. This is the fastest warm-up time we've ever recorded for a laser MFD! The first print takes just under 9 seconds. A combi-document will take the same time to print as a text document. In text as well as graphics, the Canon MFDs print better than any of the other MFDs in this test. The only problem was they could not print white text on black (yes, they printed just a black block). This did not change even when we tried printing at the best quality.



Canon MF4150

The flatbed scanners support A4-size paper, and have an interpolated resolution of 9600 x 9600. The scanners brought up top-notch performance. In the Kodak IT8 card scan test, they were not only able to recognise all 22 shades of grey, but were also able to reproduce all shades of colour better than the other MFDs. The OCR test results were acceptable. These are the fastest scanners of all the ones we've tested, taking just over 6 seconds to scan a monochrome document and less than 40 seconds for an A4-size colour document.

Even in the copying department, these are two of the best! Fine text in the copies was legible, and shades of grey turned out as close to the original as we'd think possible. They were the fastest to print the first copy, taking under 10 seconds.

Canon provides OmniPage SE OCR and Presto! PageManager to handle your OCR needs. The MFDs have a monthly duty cycle of 10,000 prints. Now here's the sore point: while the toner duty cycle is just 2,000 prints—the lowest of all the ones we tested—the cartridge is not inexpensive either, and costs Rs.3,999. This brings the cost per page to an uncomfortably high 2 rupees.

The MF4122 is available for Rs 17,995, while the MF4150 is priced at Rs.25,995. The prices of the units are not too high, but the running costs make it hard to recommend these, even considering their excellent performance.

Brother MFC-7420

A good office all-rounder

BEST BUY
digit
SEPTEMBER 2007



The MFC-7420 is the bigger sibling of the Brother DCP-7010—refer to the *Budget Laser MFDs* section, earlier in this article. Similar in specifications to the DCP-7010, the extra this one features is fax functionality and an ADF tray that holds 35 sheets of paper.

The design, too, is similar to that of the DCP-7010, except that the 7420 has additional buttons for fax, such as the dialpad and eight one-touch dialling buttons. Even the footprint is the same. It is a bit heavier, though, at 9.45 kg. It is built fairly well, except the flaps don't seem too sturdy. The input tray has a capacity of 250, sufficient for most SoHos, while the output tray holds 100 sheets, again not bad.

The scanner happens to be a bit better than that on the DCP-7010 in colour scanning, but is very similar that one in the other aspects. The result of our OCR test was even worse than with the 7010.

The printer and the scanner specs are the same as those of the DCP-7010. Even the printer performance is similar. This unit has a fax memory of 500 pages.

Copying a page took around 21 seconds the first time, but the sustained ppm is around 20 after that. Pretty good, we should say.

This unit features the USB as well as the parallel port interface, and although it does not come with an Ethernet port, it has that option by means of a separately-purchasable Ethernet Print Server. The bundled software comprises the MFL-Pro suite with PaperPort 9.0SE OCR, and also a utility to set up the unit over a network.

The MFC-7420 has a toner duty cycle of 3,500, making for an economical cost per page of 61 paise. Rs 18,000 for this model is justified because of the fax, ADF, and sheet-fed scanner.

HP LaserJet 3052 All-in-One and 3055 All-in-One Something decent for the mid-range

HP takes care of the mid-range segment in the form of its LaserJet 3052 and 3055 All-in-One MFDs. These are identical in all but one aspect: the 3055 has a fax.



HP LaserJet 3052
All In One

These MFDs occupy 49.7 x 40.6 cm, which is on the higher side, but they weigh just 12.4 kg. The input tray holds 250 sheets, and an additional 10 in the "priority tray." The output tray holds a hundred prints, and the ADF holds 50 sheets.

The control panel is intuitive, with a two-line, 16-character backlit display. The 3055 also has an alphanumeric fax dialling keypad. This keypad is also there on the 3052, which does not have a fax unit, so they are only for input.

These MFDs feature high-resolution printers: 1200 x 1200 dpi. The input buffer is 64 MB, which is sufficient for large print jobs and long queues. The warm-up time we recorded was about 49 seconds. Text is crisp, and the legibility of fine print improves in the best mode, but greyscale graphics are not produced equally well.

The flatbed scanner supports 24-bit scanning at an optical resolution of 1200 x 1200 dpi, and this can be interpolated to up to 19,200 dpi. The drivers support both the WIA and the TWAIN interfaces. They clocked average speeds, and were able to resolve only two of the three blocks in our resolution chart. They did perform fairly well in the OCR test.

The first photocopy took 8.5 seconds—the fastest in this test. The copies were, however, a tad too dark.

These MFDs feature a 33.6 Kbps (about three seconds per page) fax with up to 110 pages of fax memory. The broadcasting and delayed fax features are standard, and you can broadcast to up to 119 locations. The MFDs feature an Ethernet ports as well as USB connectivity.

Both these models come with HP ToolBox FX, which allow you to monitor device status and also manage fax tasks and setup alerts. (Alerts are in the form of e-mail that is sent to you when events such as fax reception occur).

The monthly duty cycle here is 7,000 prints; other MFDs in this price range generally offer more. The cartridge has a duty cycle of 3,000 prints and costs Rs 2,961; cost per page works out to Rs 1.48, which is a bit steep.

The HP LaserJet 3052 and 3055 cost Rs 20,999 and Rs 24,499 respectively, and are almost at par with the Canon MF4122 and MF4150 in terms of speed, but trail the latter a little in terms of print quality.



HP LaserJet 3055
All In One

Lexmark X342n Très élégant!

Lexmark has paid attention to looks here. This is a rather tall MFD with a grey plastic body, broad at the top and tapering towards the bottom. The bottom is rather narrow, but it still requires a considerable amount of desktop space, with a footprint of 53 x 39.4 cm. Aesthetics have little to do with ruggedness, unfortunately. The hinges and the trays of the X342n are built rather well, but the flaps (especially the extension flap of the ADF tray) are flimsy.

This MFD has one of the largest paper capacities of all those we tested; the input tray holds as many as 550 sheets, while the output tray, 150. The two-line LCD is backlit.

A niggles here—as you go deeper into the menu to make changes and then go back, you are not returned to the previous menu, but rather to the root menu. You therefore can't make many changes at once.

This Lexmark can print at 600 x 600 dpi, and has 32 MB of buffer (which takes care of larger documents and long print queues). It initialises very slowly, taking 48.3 seconds to warm up. Once warmed up, it is rather quick; our first text

copy printed in 11.4 seconds, and the rest at around 27 ppm. Our combi-document took a bit longer for the first copy in Draft mode: 17.9 seconds. It took a much longer 32.1 seconds in the best quality mode. The rest of the copies of the combi-document were printed even faster than 30 ppm in Draft mode—this was the first MFD of the lot to achieve this.

Text quality was generally good. The faint portions of the concentric pattern in Draft mode weren't perfect, but were fine in the best quality mode.

In addition to the sheet-fed scanner, there is a Legal-size flatbed scanner capable of scanning at 600 x 600 dpi. Scanner scores were below average here; the machine was able to differentiate between shades of grey, but failed to differentiate well between different colour shades in the mid-range colours of the Kodak IT8 chart. In our OCR test, it made way too many errors, and even failed to recognise bold and large fonts.

The first photocopy took 11.9 seconds, and the rest were produced in 4.4 seconds each. Text quality was good, but the graphics looked washed out.

The Lexmark X342n has a USB as well as an Ethernet port. It comes with Presto! PageManager which is an OCR software. Lexmark provides a high-yield 6,000 page duty cycle cartridge, which costs Rs 4,500, meaning a rather affordable 75 paise per page. Priced at Rs 23,900, this Lexmark seems to be a good buy on every front.



HP LaserJet 3390 All-in-One and 3392 All-in-One Heavyweight performers

These two are for heavy workloads, and are therefore more expensive than most of the other MFDs we've tested here. They are almost identical, with just a few differences.

Build quality is very good, and the 3390 and the 3392 are as rugged as you'd want them to be for regular office work. The footprint is 49.5 x 40 cm; these are the heaviest MFDs of the lot, with the 3390 and 3392 weighing 17.8 and 21.8 kg respectively. They're certainly not meant to be moved around once set up!

While the 3390 has an input tray that holds 250 sheets, the 3392 can accommodate 500, thanks to its two trays. You can opt to augment the 3390's capacity to 500 by adding an optional tray. Both MFDs have an output tray capacity of 125 sheets. The ADF has a maximum capacity of 50 pages.

The control panel features alphanumeric buttons and menu and cancel controls. There are three discrete sections for fax, scan, and copy controls. Sixteen one-touch dialling buttons are also present allowing you to speed dial stored numbers.

The supported print resolution is 1200 x 1200 dpi—the highest we have

in this test; these two MFDs also support duplex printing. The 3390 has a 64 MB input buffer, while the 3392 has 128 MB. And if this weren't enough, there is the provision to add a 100-pin DIMM module to get a maximum input buffer of 192 MB! The 3392 also features a convenient electric stapler so you can quickly staple together as many as 20 sheets.

We saw high warm-up times in these cases: around 44 seconds.

Print quality is about average in Draft mode, but very good in the best mode. We should also mention that these printers produce very clean prints—no carbon splattered anywhere.

The A4-size flatbed scanner supports 1200 x 1200 dpi (optical) and an interpolated resolution of up to 19,200 dpi. The scanner supports both the WIA and the TWAIN interfaces. We saw average speeds at regular resolutions, but it was faster as the resolution and colour depth was raised. Captured colour quality is also not bad, but there were a few too many errors in our OCR test.



HP LaserJet 3390 All-in-One



HP LaserJet 3392 All-in-One



It all adds up; Foxconn motherboards offer enhanced reliability, usability and connectivity. With a 100% SOLID Capacitor design and an engineering process that improves durability, the P35A-S is reliable even under heavy loading. **No more Ctrl+Alt+Delete.**

Reliability + Durability =



**No more
Ctrl+Alt+Delete**



P35A-S

- Supports Intel® Core™2 Quad, Core™2 Extreme, Core™2 Duo Processors with 1333/1066/800MHz FSB
- ATI CrossFire™ & Foxconn Multi-Graphics support
- 100% SOLID Capacitor design with Foxconn Sustainable Engineering
- Intel® Matrix Storage Technology and Rapid Recover Technology
- Gigabit LAN, 7.1 Channel HD Audio
- 6* SATAII, eSATAII, 2* IEEE1394, 10* USB2.0



G9657MA-8EKRS2H

- Intel® Core™2 Quad, Core™2 Extreme, Core™2 Duo processors with 1066/800/533MHz FSB, LGA 775
- Integrated Intel® GMA X3000 graphics with Intel® Clear Video Technology™
- FoxOne™ technology
- Dual Channel DDR2 800/667/533 memory, max. 8GB
- 1* PCIe x16, 1* PCIe x1, 2* PCI
- 4* SATAII, 1* eSATAII, RAID, IEEE1394a, 7.1 HD Audio and GbE LAN
- Supports Vista Premium

For more information, pls contact our distributor.



Jupiter International Limited

Website: www.jil-jupiter.com

Tel: +91 33 2212 1406 / 1407 / 1408 / 1409 / 1410

Email: info@jil-jupiter.com

Add: 30, Jadunath Dey Road, 4th Floor, Kolkata 700 012, India

FOXCONN®

www.foxconnchannel.com

Featured here is a 33.6 Kbps fax with up to 250 pages of fax memory. The broadcasting and delayed fax features are standard, and you can broadcast to up to 119 locations. In addition to the RJ-11, there is an Ethernet port as well as USB connectivity, but there's no parallel port. Take note of this if you have an older system.

HP bundles along the HP ToolBox FX, using which you can monitor device status and also manage fax tasks and set up e-mail alerts—this means you'll receive an e-mail when an event, such as a fax reception, occurs. HP provides Readiris Pro 11 for Windows, a premium OCR software, and also Readiris Pro 11.5 for Mac.

The monthly duty cycle of these MFDs is 10,000 prints. We did expect a higher duty cycle, though, because these two MFDs are in the high-end category and also expensive. The cartridge has a duty cycle of 3,000 prints and costs Rs 3,025; cost per page works out to just over a rupee. While we'll admit that the print quality is in a class of its own, the running cost is on the higher side.

The HP LaserJet 3390 and 3392 are priced at Rs 36,999 and Rs 46,999 respectively. Get one of these only if print quality and speed is of prime importance and if running costs don't matter much.

Brother MFC-8460N and MFC-8860DN In the heavy-duty league

Meant to handle the most rigorous of office tasks, these two models from Brother are very similar on all fronts. They have the same footprint of 53.1 x 45 cm, meaning they're a bit too large for most desktops. They even have very similar dashboards; the MFC-8860DN just has one additional button for Duplex (this is signified by the D in the model name): the MFC-8860DN has an inbuilt duplexer that lets you print on both sides of a page. The 50-page ADF also duplexes, allowing you to scan and fax both sides of a page. You can opt to copy both single- and double-sided originals to your choice of single- or double-sided copies using the front panel menu and button. These feature a five-line backlit LCD that provides a lot of information.

Built very ruggedly, these weigh a little over 16.5 kg, making them the heaviest in this test. The input tray holds 250 sheets, while the output

tray supports 150 sheets—more than adequate, we'd say. They also have a multipurpose paper tray with a capacity of 50 sheets.

The printer, fax, and scanner specifications are exactly the same for the two. The printer supports a high hardware resolution of 1200 x 1200, and comes with 32 MB of buffer memory, expandable to 544 MB. Printing is very fast with text documents, and even with our combi-document, the first page takes 12 seconds instead of under 10 seconds for the text document—hardly a difference. Text is not sharp at Draft quality, but it is flawless at best quality. We saw fine text repro-

duced with good detailing in high quality mode.

Both these MFDs have large Legal-size flatbed scanners in addition to the sheet-fed scanner option. The scanner resolution is 600 x 2400 dpi (optical) at 24-bit colour depth. The scanner is fast, taking under 9 seconds to scan a monochrome document, and 100 seconds for a colour document. We saw colours and fine details captured beautifully. Both units performed very well indeed in our OCR test.

The dashboard sports the one-touch dialling option for up to 40 fax numbers. These MFDs have plenty of fax memory, 600 pages. A handset would have been a welcome addition, but neither of these two models even have the option to add one.

The first document copy took us 12 seconds, and it reached a speed of 30 ppm thereafter. The copies we saw were good, but shades of grey—and also some finer details—weren't perfect.

In addition to the USB and parallel port interfaces, these two also feature the fast 10/100 Ethernet interface. Bundled is the MFL-Pro Suite, which allows you to send faxes using your PC if you do not want to use the standalone fax exclusively. PaperPort 9.0SE adequately takes care of your OCR needs.

A bundled Driver Deployment Wizard helps you set up these as network MFDs. Like the other Brother MFDs, these ship with drivers for Mac in addition to those for Windows.

The MFC-8460N and MFC-8860DN have a toner duty cycle of 3,500; the toner cartridge costs just Rs 2,150, meaning an economical 61 paise per page. With a printer duty cycle of 20,000 pages per month, the MFC-8460N and the MFC-8860DN—which cost Rs 33,750 and 41,650 respectively—are more suited for larger businesses, of the order of an enterprise.



Brother MFC-8860DN



Brother MFC-8460N





Contact Sheet—Laser MFDs

Brand	Company	Phone	E-mail
Brother	Brother International (India) Pvt Ltd	40988900	info@brother.in
Canon	Canon India Pvt Ltd	1800-345-33-66	info@canon.co.in
HP	Hewlett-Packard India Sales Pvt Ltd	0124-256611	samir-s.shah@hp.com
Lexmark	Cyberstar Infocom	9343661888	achaiah@cyberstarindia.com








Scoreboard

SMB (Rs 30,001 - Rs 50,000)





BRAND MODEL	Brother MFC-8460N	HP LaserJet 3390 All-in-One	Brother MFC-8860DN	HP LaserJet 3392 All-in-One
				
All Brands Provide One Year On-Site Warranty				
Price	Rs 33,750	Rs 36,999	Rs 41,650	Rs 46,999
Price of Toner	Rs 2,150	Rs 3,025	Rs 2,150	Rs 3,025
Cost Per Page	Rs 0.61	Rs 1.01	Rs 0.61	Rs 1.01
Comments	+ Very economical; fast printing - High power requirements	+ Priced right, good print quality - Photocopies too dark	+ Good performer, economical - High power requirements	+ Dual input trays - Expensive
Grand Total (Out of 100)	74.45	67.21	76.90	66.68
Features (Out of 45)	33.03	33.50	35.73	33.91
Performance (Out of 50)	36.92	29.61	37.52	29.54
Price Index (Out of 5)	4.50	4.10	3.65	3.23
Features				
Printing				
Printing Engine	Printer-based	Printer-based	Printer-based	Printer-based
Hardware Resolution (dpi x dpi)	1200 x 1200	1200 x 1200	1200 x 1200	1200 x 1200
Input Buffer (MB)/Upgrd. Possible (MB/✗)	32 MB / 544 MB	64 MB / 192 MB	32 MB / 544 MB	128 MB / 192 MB
Input/Output Tray Capacity	250 / 150	250 / 125	250 / 150	500 / 125
Multipurpose Paper Tray (✓/✗)/Capacity	✓ / 50	✓ / 1	✓ / 50	✓ / 1
Automatic Duplex Printing (✓/✗)	✗	✓	✓	✓
Printer/Toner Duty Cycle (Prints)	20000 / 3500	10000 / 3000	20000 / 3500	10000 / 3000
Scanning				
Scanner Type	Flatbed and Sheet-fed	Flatbed and Sheet-fed	Flatbed and Sheet-fed	Flatbed and Sheet-fed
Optical Resolution (dpi x dpi)	600 x 2400	1200 x 1200	600 x 2400	1200 x 1200
Size/Bit Depth	Legal / 24	A4 / 24	Legal / 24	A4 / 24
ADF (✓/✗)/Capacity	✓ / 50	✓ / 50	✓ / 50	✓ / 50
Scanner Lock (✓/✗)	✓	✗	✓	✗
Standards Compliance	TWAIN, WIA	TWAIN, WIA	TWAIN, WIA	TWAIN, WIA
Copying				
Enlarge/Reduce (✓/✗)	✓	✓	✓	✓
Multi-copying (No. of Copies)	99	99	99	99
Fax				
Handset Provided (✓/✗)	✗	✗	✗	✗
Number of Pages Stored	600 pages	250 pages	600 pages	250 pages
Misc				
Menu Interface (Scale of 10)	7	7	7	7
Connectivity	USB, Parallel, LAN	USB, LAN	USB, Parallel, LAN	USB, LAN
Weight	16.5 kg	17.8 kg	16.7 kg	21.8 kg
Footprint (W x D) CM ²	53.1 x 45	49.5 x 40	53.1 x 45	49.5 x 40
Power Consumption: Max/Ready/Stdby (W)	1092 / 85 / 14	355 / 15 / 11	1092 / 85 / 14	355 / 15 / 11
Build: Flaps/Hinges/Trays (Scale of 10)	7 / 7 / 7	7 / 7 / 7	7 / 7 / 7	7 / 7 / 7
Drivers and Setup				
Driver UI/Ease of Setup (Scale of 10)	7 / 7	8 / 5	7 / 7	8 / 5
Bundled Software	MFL-Pro Suite, PaperPort 9.0SE, BRAdmin, Driver Deployment Wizard	HP ToolboxFX, Readiris Pro for PC and Mac	MFL-Pro Suite, PaperPort 9.0SE, BRAdmin, Driver Deployment Wizard	HP ToolboxFX, Readiris Pro for PC and Mac
Performance				
Warm-up Time	25.6 sec	43.9 sec	22 sec	44.1 sec
Printing				
First Text Print (Draft)	9.2 sec	14.2 sec	9 sec	14 sec
First Text Print (Best Quality)	9.3 sec	20.9 sec	9 sec	21.2 sec
First Combi-print (Draft)	12.2 sec	22.8 sec	12.4 sec	22.6 sec
First Combi-print (Best Quality)	12.4 sec	45.2 sec	12.4 sec	45.4 sec
Text Print (Draft/Best) (Scale of 10)	6.5 / 8	7 / 8.5	6.5 / 8	7 / 8.5
Concentric Ptnr. (Draft/Best) (Scale of 10)	7 / 8	6 / 6	7 / 8	6 / 6
Scanning				
Mono@200 dpi/Photo@600 dpi (sec)	8.8 / 102.7	17.9 / 59.8	8.7 / 98.2	17.7 / 59.7
OCR Test: No. of Errors	2	13	27	11
Copying				
Speed/Max Copies per Minute	12 sec / 24	14 sec / 20	12 sec / 30	14.3 sec / 20
Quality (Scale of 10)	6.5	6	6.5	6

Scoreboard

Budget (Up to Rs 16,000)

BRAND MODEL	Brother DCP-7010	HP LaserJet M1005 MFP	Panasonic KX-FLB802CX	Canon imageCLASS MF4122	Brother MFC-7420
					
<i>* For SoHo (Up to Rs 16,001 to Rs 30,000) All Brands Provide One Year On-Site Warranty</i>					
Price	Rs 11,150	Rs 12,999	Rs 15,995	Rs 17,995	Rs 18,000
Price of Toner/Drum	Rs 2,150 / NA	Rs 2,961 / NA	Rs 3,000 / Rs 4,000	Rs 3,995 / NA	Rs 2,150 / NA
Cost Per Page	Rs 0.86	Rs 1.48	Rs 1.20	Rs 2.00	Rs 0.61
Comments	+ Fast, economical printing - No fax	+ Sleek; excellent scanner - Poor in the graphics test	+ Inexpensive copier-based - No WIA support	+ Good print quality - High cost per page	+ Great cost per page - No Ethernet port
Grand Total (Out of 100)	64.01	62.48	61.17	64.56	65.66
Features (Out of 40)	19.90	19.36	25.04	23.08	24.36
Performance (Out of 45/50*)	30.61	31.54	26.72	32.48	32.30
Price Index (Out of 15/10*)	13.50	11.58	9.41	9.00	9.00
Features					
Printing					
Printing Engine	Printer-based	Printer-based	Copier-based	Printer-based	Printer-based
Hardware Resolution (dpi x dpi)	2400 x 600	600 x 600	600 x 600	600 x 600	2400 x 600
Input Buffer (MB)/Upgrd. Possible (MB/✗)	16 MB / ✗	32 MB / ✗	32 MB / ✗	32 MB / ✗	16 MB / ✗
Input/Output Tray Capacity	250 / 100	150 / 100	250 / NA	250 / 100	250 / 100
Multipurpose Paper Tray (✓/✗)/Capacity	✗ / NA	✗ / NA	✗ / NA	✓ / 1	✗ / NA
Automatic Duplex Printing (✓/✗)	✗	✗	✗	✓	✗
Printer/Toner/Drum Duty Cycle (Prints)	10000 / 2500 / NA	5000 / 2000 / NA	10000 / 2500 / 10000	10000 / 2000 / NA	10000 / 3500 / NA
Scanning					
Scanner Type	Flatbed	Flatbed	Flatbed and Sheet-fed	Flatbed	Flatbed and Sheet-fed
Optical Resolution (dpi x dpi)	600 x 2400	1200 x 1200	600 x 1200	NA	600 x 2400
Size/Bit Depth	A4 / 24	A4 / 24	A4 / 24	A4 / 24	A4 / 24
ADF (✓/✗)/Capacity	✗ / NA	✗ / NA	✓ / 40	✗ / NA	✓ / 35
Scanner Lock (✓/✗)	✗	✗	✗	✗	✗
Standards Compliance	TWAIN, WIA	TWAIN, WIA	TWAIN	TWAIN, WIA	TWAIN, WIA
Copying					
Enlarge/Reduce (✓/✗)	✓	✓	✓	✓	✓
Multi-copying (No. of Copies)	99	99	99	99	99
Fax					
Handset Provided (✓/✗)	NA	NA	✓	NA	✗
Number of Pages Stored	NA	NA	170 pages	NA	500 pages
Misc					
Menu Interface (Scale of 10)	5	5	6	5	5
Connectivity	USB, Parallel	USB	USB	USB	USB, Parallel
Weight	8.3 kg	8.5 kg	15.5 kg	12.4 kg	9.45 kg
Footprint (W x D) CM ²	43.2 x 39.5	43.7 x 36.3	44 x 44.5	39 x 43.2	43.2 x 39.5
Power Consumption: Max/Ready/Stdby (W)	460 / 75 / 10	230 / 7 / 7	900 / 28 / 11	710 / NA / 3	1032 / 75 / 10
Build: Flaps/Hinges/Trays (Scale of 10)	6 / 6 / 6	6 / 6 / 6	6 / 6 / 7	7 / 7 / 6	6 / 7 / 7
Drivers and Setup					
Driver UI/Ease of Setup (Scale of 10)	7 / 7	8 / 7	7 / 5	8 / 7	7 / 7
Bundled Software	MFL-Pro Suite, PaperPort 9.0SE, BRAdmin, Driver Deployment Wizard	Readiris Pro for PC and Mac	Device Monitor, Readiris 7, Remote Control PCFAX, Network Scan Module	OmniPage SE OCR, Presto! PageManager	MFL-Pro Suite, PaperPort 9.0SE, BRAdmin, Driver Deployment Wizard
Performance					
Warm-up Time	19.1 sec	14.2 sec	19.8 sec	7.4 sec	21.7 sec
Printing					
First Text Print (Draft)	10.5 sec	9.7 sec	14.7 sec	8.8 sec	10.8 sec
First Text Print (Best Quality)	10.9 sec	9.8 sec	14.9 sec	8.9 sec	10.9 sec
First Combi-print (Draft)	14.1 sec	12.8 sec	16.9 sec	12.8 sec	14 sec
First Combi-print (Best Quality)	13.7 sec	12.8 sec	16.9 sec	13.2 sec	14 sec
Text Print (Draft/Best) (Scale of 10)	6 / 8	6 / 7	7 / 8	8 / 7.5	6 / 8
Concentric Ptnr. (Draft/Best) (Scale of 10)	7 / 7	5 / 5	7 / 7.5	6 / 6	7 / 7
Scanning					
Mono@200 dpi/Photo@600 dpi (sec)	13.7 / 231.1	7.3 / 91.5	27.2 / 122.6	6.6 / 37.1	12.9 / 230
OCR Test: No. of Errors	41	0	25	3	51
Copying					
Speed/Max Copies per Minute	19.7 sec / 20.69	12.8 sec/13.95	18.3 sec / 16.67	9.8 sec / 18.18	21.1 sec / 20
Quality (Scale of 10)	7	5	4	8	7

SoHo (Rs 16,001 - Rs 30,000)

HP LaserJet 3052 All-in-One	Lexmark X342n	HP LaserJet 3055 All-in-One	Canon imageCLASS MF4150
			
Rs 20,999	Rs 23,900	Rs 24,499	Rs 25,995
Rs 2,961 / NA	Rs 4,500 / NA	Rs 2,961 / NA	Rs 3,995 / NA
Rs 1.48	Rs 0.75	Rs 1.48	Rs 2.00
+ Good software bundle - No fax, yet expensive	+ Good looks, economical - Slow in graphics documents	+ Fast copying, good scanner - Slow warm-up	+ Good print quality - High running costs
57.71	63.20	58.74	64.06
23.24	27.10	25.38	26.46
26.76	29.32	26.75	31.37
7.71	6.78	6.61	6.23
Printer-based	Printer-based	Printer-based	Printer-based
1200 x 1200	600 x 600	1200 x 1200	600 x 600
64 MB / x	64 MB / x	64 MB / x	32 MB / x
260 / 100	550 / 150	260 / 100	250 / 100
x / NA	✓ / 1	x / NA	✓ / 1
x	✓	x	✓
7000 / 2000 / NA	15000 / 6000 / NA	7000 / 2000 / NA	10000 / 2000 / NA
Flatbed	Flatbed and Sheet-fed	Flatbed and Sheet-fed	Flatbed and Sheet-fed
1200 x 1200	600 x 600	1200 x 1200	NA
A4 / 24	Legal / 24	A4 / 24	A4 / 24
✓ / 50	✓ / 50	✓ / 50	✓ / 35
x	✓	x	x
TWAIN, WIA	TWAIN, WIA	TWAIN, WIA	TWAIN, WIA
✓	✓	✓	✓
99	99	99	99
NA	✓	x	x
NA	NA	110 pages	256 pages
7	7	7	5
USB, LAN	USB, LAN	USB, LAN	USB
12.4 kg	16.33 kg	12.4 kg	13.4 kg
49.7 x 40.6	53 x 39.4	49.7 x 40.6	39 x 43.2
300 / 13 / 10	420 / 70 / 13	300 / 13 / 10	710 / NA / 3
6 / 7 / 6	5 / 7 / 7	6 / 7 / 6	7 / 7 / 6
8 / 5	4 / 7	8 / 5	8 / 7
HP ToolboxFX, Readiris Pro for PC and Mac	Presto! PageManager	HP ToolboxFX, Readiris Pro for PC and Mac	OmniPage SE OCR, Presto! PageManager
47.5 sec	48.3 sec	49.1 sec	15.7 sec
13.2 sec	11.4 sec	13.4 sec	8.5 sec
19.9 sec	11.4 sec	19.7 sec	8.8 sec
22.1 sec	179 sec	22 sec	12 sec
45.1 sec	32.1 sec	44.5 sec	14.4 sec
7 / 8	8 / 7	7 / 8	8 / 7.5
6 / 6	4 / 4	6 / 6	6 / 6
19.9 / 67.3	17.4 / 71.9	19.8 / 67.6	6.2 / 38.3
1	36	1	3
8.7 sec / 19.35	11.9 sec / 13.64	8.5 sec / 19.35	9.8 sec / 18.75
6	5	6	8

At The Podium

Taking into account all essential aspects—features, overall performance, price, and running costs—we can state our recommendations by saying which products won our awards.

In the Budget category, the Brother DCP-7010 and the HP LaserJet M1005 MFP fought it out for Gold. While the DCP-7010 offers great value as well as speed and performance, the M1005 has one of the best scanners in this test. We award the Brother DCP-7010 the *Digit Best Buy Gold* in this category for its better print quality and its unmatched cpp of 86 paise.

Nothing came close to the Brother MFC-7420 in terms of features in the SoHo category. It prints very fast and produces decent output. Monthly printer duty cycle is a healthy 10,000 prints. Fax-modem memory is as large as 500 pages, and cpp is just 61 paise—all meaning a *Digit Best Buy Gold* in this category!

The Canon imageCLASS MF4122 excels in print quality. The MFD with the lowest warm-up time in the entire test, it did not disappoint in speed. The scanner is very good in terms of capturing colour and detail, and it was fairly accurate in our OCR tests as well. Based on this, it receives the *Digit Best Buy Silver*.

Now for the SMB category: the Brother MFC-8860DN and MFC-8460N not only support a memory upgrade to 544 MB, but also a very large monthly duty cycle of 20,000 prints. These are fast performers, and print quality is decent. These are the only MFDs in this category with a Legal-size flatbed scanner. They feature all three interfaces—USB, Ethernet, and parallel port. Complementing all this is excellent speed and a cpp of just 61 paise. We award the Brother MFC-8860DN the *Digit Best Buy Gold*, and trailing a bit on features, the Brother MFC-8460N wins the *Digit Best Buy Silver*.

A Few Concluding Notes

If you mostly print large text documents, we believe you should choose a mono laser MFD. If you need to print colour photographs, there are colour laser MFDs, but are expensive; a colour inkjet makes more sense. Also consider the running costs: the average laser MFD consumes a lot of electricity—some heavy-duty ones can even go past the 1000 W mark.

The HP machines performed well; they produced the cleanest of all the prints, but their pricing was the problem.

We should also mention that HP MFDs have come up with little things that make for a better MFD—such as the inbuilt electronic stapler and the superb OCR application from IRIS. Also, the wide availability of their products and services across the length and breadth of the country—an important factor for any consumer—needs to be borne in mind.

The above could have led to the higher pricing, but HP's products did walk the talk.

We return to what we stated at the outset. If you're worrying about whether it's wise to go with an MFD rather than multiple devices, we say an MFD these days is more likely than not to prove reliable. ■

jayesh_limaye@thinkdigit.com

Cheapest Trumpet

The Internet can be an inexpensive way to advertise your business. Find out how!

Asfaq Tapia

Advertising your business used to be a costly affair; now, however, if you have a small business and want to advertise it without spending too much, there is a range of methods by which you can effectively reach your target audience—thanks to the Internet. Read on: we'll show you the best ways to build your brand on the Internet, with just a yearly kitty of a lakh!

Search Engine Marketing

Before you do anything, get your Web site up and running (domain names for your site can be bought for as little as Rs 500 a year). If it's pretty and professional-looking, so much the better.

Your site can act as a brochure of services your business offers. These days, most new business is facilitated by searches conducted on search engines, predominantly Google. If you are a small business, it is hardly likely for customers to search for your company name—the industry you work in will likely be searched for. Hence search engine marketing.

It is important to create content with your target audience in mind in order to make their experience of visiting your site relevant and useful. It is also essential to have your Web site built by a professional who will optimise it so that your name appears among the top search results for a search query relating to your industry. Search Engine Marketing (SEM) comprises two methods: Search Engine Optimisation (SEO) and Pay-Per-Click (PPC) Marketing. We've mentioned SEO in *The Future of Search* (August 2005) and *The First Page* (November 2005). PPC refers to paid search results that appear at the top and in the right-hand columns on Google, Yahoo!, and Live Search when most searches are conducted.

The SEM strategy for your Web site could revolve around the following factors:

☐ Time frame: Since SEO relies on the Web site first being indexed by the search engines, it takes longer to start working for you than does PPC. Search engine “spiders” need to index the changes to your site made by the SEO before you see improvement in your site ranking. If a business owner wants to see his site ranking higher in search results over a longer period, SEO is the way to go. However, if you need to market for a specific occasion, like selling fireworks during the *Diwali* season, and plan to advertise this in September, PPC marketing would work better—it can be implemented in a very short span of time. PPC means you bid for an ad spot and you pay the search engine each time someone clicks on your listing. You could end up paying Rs 1,500 a month (our estimate for this example) by “targeting” four keywords. (To explain the idea a little, you could target the keywords “[your city]”, “fireworks”, “crackers”, and “discount”. When any of these keywords are searched for, your ad will appear in the search engine).

☐ Keywords being targeted: It is difficult for a business with a new Web site to rank high for very generic keywords like “laptop” or “car”. Here you need to take a call on the geographical area you want to do business in, and then work on specific keywords, keeping budget in mind. Again, it is possible to target a specific city using PPC by using the city name as a keyword, which is not possible with SEO.



Illustrations Chaitanya Surpur

▣ Age of the site: It is easier and quicker to rank an older Web site with more unique content pages compared to a brand new Web site. A call therefore needs to be taken for the marketing strategy keeping the age of the site in mind.

A search for "Search engine optimisation India" will bring up some of the top companies that provide that service. SEO is not cheap; it can take you anywhere between Rs 30 to 40 thousand to SEO your Web site for six months. Going with a PPC campaign depends on the number of keywords you target, and the duration of the campaign.



“It is better to optimise a site using SEO, which will ensure a steady flow of traffic over a longer period of time, rather than go in for PPC”

Vishal Sampat
CEO, Convonix Inc.


Corporate Blogging

According to Jupiter Research, a leading authority on the impact of the Internet and emerging consumer technologies on business, 35 per cent of large companies plan to start corporate blogs this year. The idea behind corporate blogging is to form a direct and lasting impression on your customer, and to build trust, which translates to more business.

A corporate blog should aim to highlight the issues, concerns, successes, and future strategies of the company, and can be used as an effective tool to target the right audience. It can also be used to announce new services or products. Once your blog is ready, you can advertise its presence by adding it to online wikis—these are freely modifiable, so you can include your blog. Sites like NewPR (www.thenewpr.com), BlogFlux (<http://dir.blogflux.com/tag/corporate>), and Bloggeries (www.bloggeries.com/Business/Corporate) allow you to index your blog in directories related to your field. The blog can then be used to quickly gather feedback about new and existing products and issues.

Creating a blog is relatively inexpensive. We'd suggest WordPress (<http://wordpress.org>)—it's free, and gives you detailed instructions on how to set up a blog. All you really have to do is host it on your Web space. However, maintaining a blog—as in keeping it up-to-date—is time-consuming. Remember a blog doesn't help much if your business is not directed towards the end user.

A negative with corporate blogging is that there could be negative comments and feedback on the blog. Still, companies like WATConsult (www.WATConsult.com), RelevantNoise (www.relevantnoise.com), and Cymfony (www.cymfony.com) specialise in "Blog Monitoring and Crisis Management," and for about Rs 8,000, will advise you on the right course of action if and when things go sour.



Specialize in Networking & Security

@
Best IT Infrastructure Labs in India

* Lab: 80 Cisco Routers (3600, 2600, 2500, 1700, 800 Series), 17 Catalyst Switches (5000, 3750, 3550, 5000, 2950, 2900, 1900 Series), ISDN (Frame Relay / X.25 WAN setup, Ethernet / Wireless / Token Ring LAN Setup, Cisco PIX/ASA, HP Hubs/Switches, Netgear, HP, IBM) VPN Appliances, Cisco 3000 VPN Concentrator, Cisco 4200 IDS, Sensor Switches (Monitoring and Firewall)

* Students Placed @ Wipro, COWTOS, Microsoft, HCL Technologies, HP, VSNL, IBM, TI, Sify, Intel, Cisco, AT&T, Technologies Data Craft, JP Morgan Chase, Electronics Associates, Network Solutions, Tata Nova

First Time In India

CCIE Program for Fresh Graduates

Cisco Certified Internetwork Expert (CCIE) Training
 CCIE: Security Track
 CCIE: Routing & Switching Track

On Enrollment Collect Appointment letter for Rs.6 lakh P.A.

Courses Offered:-

- Networking: CCIE, EIGRP, OSPF, BGP, RSTP
- Wireless Networking: CWSP, CWNA
- Security: CCIE, CCSP, CISP, CISA, CICS
- System Administration: Microsoft MCSA, MCSM

LEAD INSTRUCTOR :

Mr. AJAY PANDEY, B.E. MS (USA)
CCIE # 14792, (Security / R & S)
CISSP # 43675, CCSE, MCSE, ASAP
 Most qualified Network/Security Instructor in India / Ex Deloitte Consulting & Lucient Technologies, USA

Others Promise We Deliver!

Top Gun CCIEs in 2007

Mr. Fahad Bakhshi/Makkani	CCIE#18121
Mr. Udaykumar Thappa	CCIE #18083
Mr. Balu Paul	CCIE#17588
Mr. G. Young Kim	CCIE #17888
Mr. Liu R. S.	CCIE#17507
Mr. Deepakshis Arora	CCIE #17585



Authorized Distributor

We Accept   

Top Gun Network Technologies Pvt. Ltd.
 Corporate Office :
 1050/112, 11st Floor, 1st Top Gun Road, Heggadikote
 Bangalore - 560 010
 Tel: 080-29528500 / 85616600 / 41277710
 Email: info@topguntechnologies.com
www.topguntechnologies.com

If You Find A Better Institute To Learn Any Of These Courses, Join It

“It is very important to read the profile of those on social networks to make sure you are targeting your prospective audience”

Rajiv Dingra
Founder,
WATConsult.com



Micro-Marketing

A fast-emerging medium for advertising your online presence are social networking sites. These sites allow users to create micro-communities amongst themselves based around user interests. This gives you the opportunity to advertise your products to the correct audience. So if you are a dog-food manufacturer, just go to a dog lover's community and post on the forums there! You can create excitement by offering discounts. You *could* mass e-mail the entire community, but that is risky. People just might not like unsolicited e-mail... it might seem like you're being too pushy.

Mobile Marketing

This medium is fast catching the fancy of many advertisers. Currently, all methods to advertise on mobile phones remain invasive, as in annoying SMSes and phone calls. There is, however, a fast-increasing list of Web sites that *pay* users to receive SMSes. Sites like Adginger (www.adginger.com) and YouMint (www.youmint.com) allow users to list their likes and preferences when they sign up, so you advertise to a select target audience.

One of the most compelling reasons to use this form of marketing is that the user has requested to receive ads of a specific nature. This is one of the most personal mediums to advertise on—people carry their mobiles with them. This therefore has the fastest time-to-market. There is also a small component of viral marketing involved: a user could forward your message to others who might be interested.

Costs vary from site to site. However, approximate costs per SMS go like this:

Number of SMSes	Cost per SMS (Rs)
1 to 5,000	2.00
5,001 to 10,000	1.75
10,001 to 25,000	1.50
>25,000	Negotiable

Since these are the initial days of mobile advertising, the database of registered users is not very large; it's a good idea to advertise in the 1 to 5000 band.

Viral Marketing

This term is often defined as a technique that uses existing networks to produce increased brand awareness by word of mouth. PR companies manage portfolios of small businesses in the manner of press releases for new products or services, and profiling corporate stories for submission to news Web sites as well as magazines

and newspapers. These can be handled for approximately Rs 15,000 per year.

This technique could involve, for example, the creation of eye-catching Web promotions in the form of Flash animations and videos that can be viewed at YouTube (www.YouTube.com) and similar sites. If you are in the consumer goods, entertainment, or foods industry, you could collaborate with sites like Hungama (www.hungama.com) or Contests2Win (www.contests2win.com) to create promotional games around your products. With prizes as an incentive, you can engage in brand-building—customers might recommend interesting games to their friends, for example.

According to Sandeep Krishnamurthy, associate professor of marketing and e-commerce at the University of Washington, firms planning to implement viral marketing must understand its negative aspects:

❑ **Brand control:** There is no control over the branding of your products. You can't predict who an individual will contact after seeing your message. There is no control over what may be added to your original message—and that can affect your product branding.

❑ **Uncharted growth:** Since viral marketing depends so much on users to advertise your product, it might lead to unwanted growth paths for the brand. You might look at Hotmail, which grew to be one of the leading Web mail providers in India. Thanks to the Hotmail ad appended to the bottom of every outgoing mail, quite a few users out of India signed up for the service. This worked well for Hotmail, but it could be a negative for a small business if the advertising is not done correctly. If users perceive the “viral ad” negatively, a damage control exercise will take up more time and money than originally allocated.

❑ **Lack of measurement:** You can't always track who viewed your promotions and what actions they took thereafter. In most cases, it is not possible to gauge if new business was generated due to your viral marketing efforts.

❑ **Spam Threats:** Especially when there are incentives to promote a product to a friend, an unscrupulous individual may resort to spamming, which could ruin your reputation.

Having said that, there are several instances where viral marketing has been used to good effect. Take Zapak.com for example, India's largest gaming site, who recently part-



“The PR industry has started creating a digital influence at a budget well below 1 lakh rupees”

Meenakshi Bhalla
President,
Ogilvy Public Relations Worldwide (India)

nered with St Xavier's College in Mumbai to host their college fest, Malhar. They become their "Official Internet Partner." They generated a buzz about their services by hosting games and events at the fest. More recently, Ogilvy, large PR company, handled a viral marketing campaign for Cadbury, which aimed at highlighting the idea that contamination in their chocolates was caused not during manufacture but in storage.

Business Directories

Registering your business under the myriad of B2B directories is one of the surest bets for getting new business. There are tons of Web sites, free and paid, that allow you to catalogue your business.

Advertising in prominent international B2B directories is important. Directories like Business.com allow you to buy a yearly listing for \$199 (Rs 8,100). Closer to home, some of the most prominent B2B directories are IndiaMART (www.IndiaMART.com), IndianYellowPages (www.IndianYellowPages.com), Yahoo! Directories (in.dir.yahoo.com), and ElIndiaBusiness (www.ElIndiaBusiness.com). Several testimonials from these sites suggest that a lot of business can be generated from them. All these directories are free to list in.

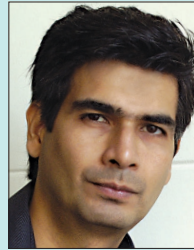
Niche B2B directories are another option. For example, there are sites like MagicBricks (www.magicbricks.com), on which you can put up information about all your properties on sale, lease, or rent, and RentACoder (www.rentacoder.com) from where one can choose to take up programming projects.

Other Methods

There are quite a few other ways to promote your brand on the Internet; quite a few of which don't require you to spend a rupee.

❑ **Content Participation:** These days, it is not only important to have a Web site, but also to participate in creating information. Sites like Wikipedia (<http://en.wikipedia.org>) and Yahoo! Answers (<http://in.answers.yahoo.com>) attract a lot of traffic and can be a great place to advertise. The idea is, you participate in building the content at these sites. Just having a small link to your site in the References section of Wikipedia—or among the answers at Yahoo! Answers—can drive traffic to your site. Another avenue is social news sites like Digg (www.digg.com) and Reddit (www.reddit.com) which display content on their front page based on the number of times that content has been voted for by its users.

It is important to con-



“Adding links to Google Talk and your e-mail signature is the cheapest way to market yourself online”

Rajesh Lalwani
CEO,
Blogworks.in

tribute meaningful content. Spam-posting your site's link all across such sites will cause your brand more harm than good. Post intelligently and mention your company only when required or under a relevant topic. Also take up membership at various Internet forums and add those links to your signature. Then, whenever you post in the forums, your signature with your company URL will appear below every post in that forum.

❑ **E-mail signatures:** Add your Web site URL to your e-mail signature.

❑ **Affiliate Marketing:** This involves your placing ads and links on a Web site in exchange for having their links and ads on yours. Then there are high-traffic sites that unknowingly facilitate affiliate marketing, such as eBay (www.ebay.in). These have a large number of users who advertise their Web sites within their store pages or at the end of every item up for sale.

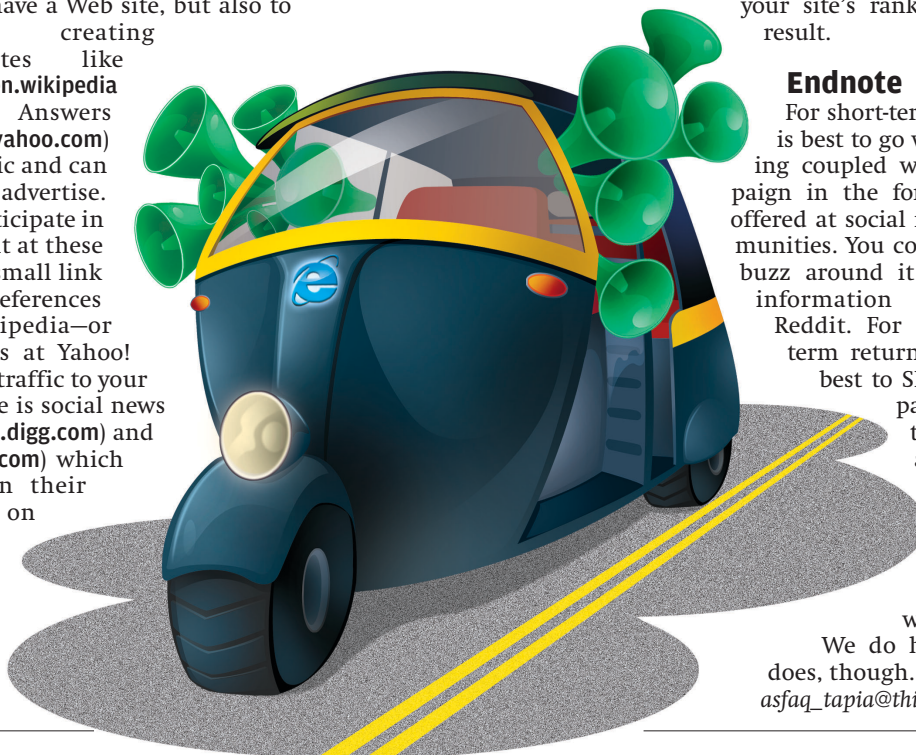
❑ **Link Building:** This is a grey area in SEO; the ranking of your Web site in a search result depends on how many URLs on the Internet link back to your site. To increase the number of links that link back, you can have many links on a page that cross-link to various sections of your own site. When a search engine crawler indexes your page, it will see a large number of links, thereby increasing your site's ranking in a search result.

Endnote

For short-term advertising, it is best to go with PPC marketing coupled with a viral campaign in the form of discounts offered at social networking communities. You could also create a buzz around it by posting the information on Digg and Reddit. For recurring, long-term returns, however, it is best to SEO your site and participate in content-building activities on the Internet.

Naturally, not everything we've talked above will work for you.

We do hope some of it does, though. ❑
asfaq_tapia@thinkdigit.com



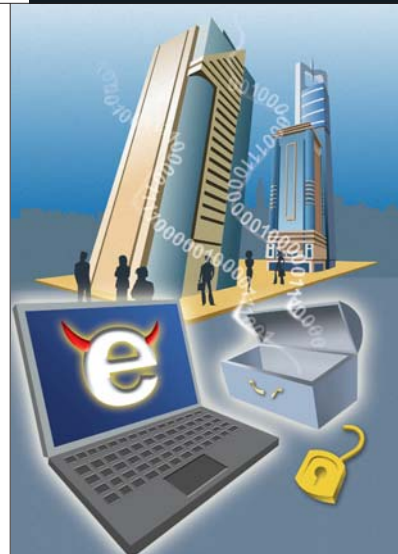


Ravish Jhala
Manager, ICT
Mars Hotels and Restaurants
Pvt Ltd

We have deployed security solutions in keeping with our budget, requirements, and nature of business. All our Desktops have McAfee's anti-virus software installed, and we've also deployed SonicWALL firewall. That acts as the Intrusion Detection System. The best feature of SonicWALL is the option of multi-Ethernet connections, which isn't found in any other firewall.

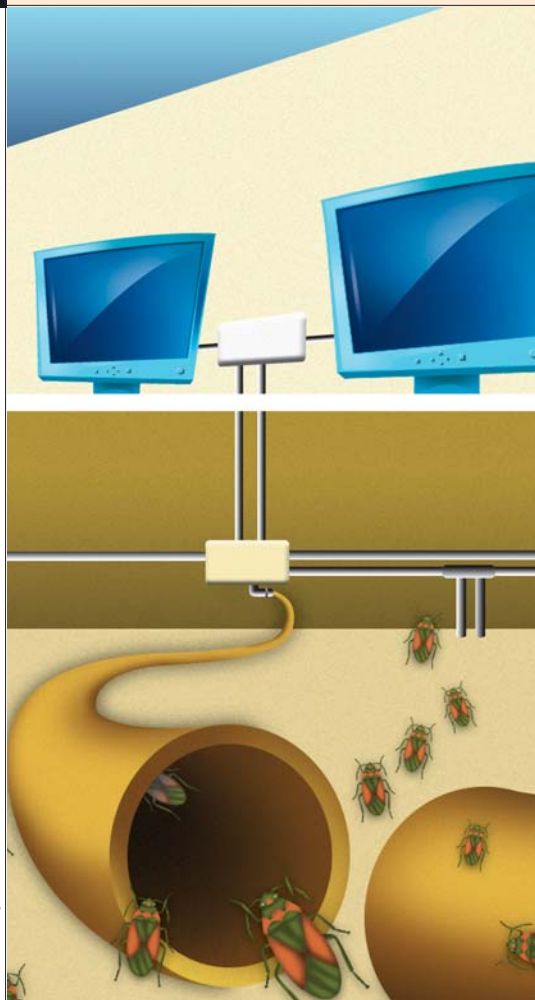
McAfee's ePolicy Orchestrator auto-updates virus definitions and sends them to connected machines, and the Microsoft Windows Security Update Service downloads the latest security patches and pushes them to all the machines. We use Netcore's mail solution—which keeps out spam and phishing mails.

Constant monitoring of the network security is done through a single console, and reports from the logs generated are automatically sent to pre-defined users. After deploying our security solutions, we've enjoyed high protection from viruses and better bandwidth management.



CAUSE FOR

We're increasingly seeing companies of all kinds becoming aware of security issues. What are they doing about it? Some outsource, some see internal users as the biggest threat... these and other viewpoints discussed



Rajesh Krishnappa
Principal IT engineer
FCG Software Services India
Pvt Ltd

Every company has a wide variety of diverse network components that have an effect on security—users, firewalls, and network topologies. The various security tools in the market are worth investing in if they have a substantial ROI.

Security programs and services are designed to meet the needs of small and medium businesses—basically to reduce costs, improve productivity, and protect data. By deploying a well-designed firewall along with DMZ (De-Materialized Zone, to host all Web-based applications), Desktop anti-virus, and operating system patch updates—apart from implementing freeware tools like Snort and Nesses—we can find and fix vulnerabilities in the network.

Each company has its own network infrastructure, security policies, and tools for managing security. How you seamlessly integrate these acquisitions into your company and still keep all IT assets secure should be part of your IT security project plan.

An easy way to begin looking at network security is via the well-known CIA (Confidentiality, Integrity, and Availability). Nearly 80 per cent of the threat is from internal users; keeping this in mind, we can plan accordingly to keep our business secure.



Falgun Shukla
Sr Gen. Manager IT
Hikal Ltd

Security of data and the network is crucial for any business, irrelevant of size. At Hikal Ltd, we have deployed security solutions at the Desktop, Network, and Service Provider levels. For the Desktop level, we've been using three levels of security—McAfee's AntiVirus software, special data-encryption software, and user authentication for accessing any machine and the Internet. This is necessary to ensure security at the internal level.

At the network level, we use a proxy server for converged Internet access. We have outsourced our mail solution to IBM and about 60 per cent of spam as well as infected and phishing mails are blocked. We're thus able to save our network resources, and this also means time saved for senior management. Outsourcing means no efforts are required on our part to monitor and manage security—important, because getting people with multi-faceted skills to manage all IT needs is very difficult. We believe that other businesses should outsource their security solutions such as mail systems and choose products / services specialised for their security needs.

CONCERN



K. Ramaswamy
M. I. S. Manager
The Ruby Mills Ltd

The security solutions deployed at The Ruby Mills are in a three-tier mode for both e-mail and storage devices. A Unified Threat Management appliance (UTM) has been deployed, and there is also Kaspersky anti-virus at the gateway. At the Desktop and server level, McAfee's TOPS managed services—virus scans, spyware protection, and inbuilt intrusion protection—work round the clock.

The UTM package installed also provides intrusion detection, protection against spyware, and content filtering. SonicWALL ViewPoint is a good reporting server for monitoring and reporting content accessed on the Web. All security-related events regarding contents of Web access and e-mails are reported to the server, which is monitored. Access to the Web is done through authenticated user login.

All enterprises should adopt security measures with defined security policies. Windows Domain functionality is useful—you can have three security levels for user access. A business enterprise should evaluate their needs and then deploy solutions from scratch.



Sanjeev Raiphale
Kipa Architects

Our IT requirements are fairly limited. Only basic computer systems are required at our office. We use Quick Heal's anti-virus solution for the Desktops. All systems undergo regular scanning for viruses and Trojans. We have outsourced our IT security services.

Reports and logs of the scanning are maintained. So far, we've never had a problem with the security of our network or data. Still, we always look to keep our systems protected from virus attacks and spam. The biggest threat today in terms of security is from internal resources. However, outsourcing our security needs helps us stay protected against virus attacks and we can concentrate on our business.

As told to Samir Makwana (samir_makwana@thinkdigit.com)



116 Webcam Test



136 Gameon



147 Jessica Loves The Wii

Digital Leisure

Technology Beyond Work

Touched By Tech

A Chain For The CHASM

What separates you from those who need your help? Just a keyboard, the will to serve, and a bridging organisation

Prakash Ballakoor

You know all too well your help is needed, and that's true in any country, any time. You can help by recycling stuff. You can help by approaching governments and supporting social causes. You can help by directly feeding the poor. This is all confused, but the idea is: Your Help Is Needed. But let this not be a sob story, and let's get to our point.

Various hindrances prevent you from contributing towards causes. Helping with child welfare means working with NGOs after having understood the problems. Educating weaker sections of society means volunteering as a teacher, possibly in a language you don't (yet) know. And so forth... and in today's busy life, there are time constraints. Yes, you can take time out, but what can possibly stop you from crashing in front of the telly at the end of a hard day? In addition, this is India, and volunteering organisations—assuming you can't help directly—may be located far away or even in other countries. So here's the broad picture: you want to help. You have the time, strictly speaking. You have the skills. NGOs and other helping bodies exist. So what's to be done?

Yes, The Internet!

It turns out you can now volunteer over the Internet—and so, much to your initial dismay, you have no excuse. (But if you have a conscience, you'll be glad.) What you first need is a strong desire to contribute for a cause. You can do your part by taking up tasks that do not require an on-site presence. Various tasks—such as reading out and recording of passages from textbooks for visually impaired students, and documentation of activities and writing



“Virtual volunteers can help NGOs not just technically—like choosing the Web server, scripting language, and database server—but also as advisors on how to gain best from the Internet”

Shalabh Sahai
Director
iVolunteer

proposals for grants from organisations—can be done at home (or office, boss permitting). Imagine this: you’re helping a blind child somewhere while perched on your favourite chair at home, in the wee hours when you’re most comfortable.

Charity First

We’ll come to the middlemen in a bit—the people who get you in touch with the NGOs. Before that, here’s a flavour for exactly what NGOs need of “virtual volunteers.”

Opportunities in virtual volunteering are usually spread through word of mouth and not via advertising or press releases: organisations simply don’t have enough money! It’s in that spirit that we’re here informing and encouraging you.

First off, you can write for the newsletters of NGOs and do design and layout work for them. If you have a flair for Web designing, you can build a Web site for your favourite helping-out organisation, or through research on the Internet, build content for the site, identify sources of funds, and rope in more volunteers. Those of artistic inclinations might consider creative designing of brochures, campaign posters, T-shirts, and presentations. Volunteers with a marketing background can help in online fund raising through marketing of in-house products produced by the NGO—for example, candles, greeting cards, and sweaters—which can be sold online. Coming to

more skilled areas, those with the skills can contribute to database management and translation. And remember, all this without leaving that favourite chair.

Now for the really difficult part. You don’t want to go running around looking for NGOs. And here’s where iVolunteer comes in: the organisation (www.ivolunteer.org.in) is an exchange platform where volunteers get connected with NGOs in India and abroad.

The Middlemen

Rahul Nainwal and Shalabh Sahai founded iVolunteer in 2001. They were then students at the Institute of Rural Management Anand (IRMA), Gujarat. They conceptualised the idea in order to create what iVolunteer is today—a platform where volunteers and voluntary organisations could meet. Right from the outset, then, iVolunteer had the aim of contributing to society in terms of giving time to and sharing skills with those in need. The organisation now has a network of over 300 credible non-profits spread across India, and is working on a variety of issues to create a database of opportunities for volunteers to get involved. iVolunteer mobilises volunteers and profiles them based upon their interest, skills, and availability. Its Volunteer Relationship team helps match volunteers to suitable opportunities.

iVolunteer also has programs that cater to those who don’t just want to help online: they

Organisations Where You Can E-Volunteer

Lend a hand if you can!

- ❑ VolunteerMatch Support has loads of opportunities in diverse fields like Advocacy and Human Rights, Crisis Support, Media and Broadcasting, and more. Find a field that suits you: www.volunteermatch.org/opportunities/virtual.jsp.
- ❑ Macdonald Youth Services has various opportunities in diverse fields. To find out about openings here, subscribe to their newsletter: www.mys.ca/volunteer.
- ❑ Daily Dump is a Bangalore-based organisation that runs a project on home composting so as to ensure homes manage their own organic waste at source. They need a visualiser for DTP work. bangalore@ivolunteer.org.in Ph.: 080-41466568
- ❑ Maithri Educational and Charitable Organization in Chennai deals with providing scholarships to physically-challenged students. They’re looking for volunteers to read out and record passages from textbooks for visually-impaired graduate students. chennai@ivolunteer.org.in Ph.: 044-42892791
- ❑ Abhyudaya, who help people reach a stage of self-sustenance by training them to make textile products like *Dari*, bed-sheets, scarves, toys, etc. needs volunteers to assist in documentation and proposal development. delhi@ivolunteer.org.in Ph.: 011-26217460
- ❑ The South India Cell for Human Rights for Right Education and Monitoring (SICHREM) works for human rights and seeks to empower *Dalits*, tribal people, women, children, and minorities. They’re looking for someone who can write a four-page e-newsletter and update their Web site. Ph.: 080-41466568 bangalore@ivolunteer.org.in
- ❑ Suyam Charitable Trust, which works in child and youth welfare programmes, needs volunteers to assist in documentation work, online fund raising activities, and media and corporate publicity. chennai@ivolunteer.org.in Ph.: 044-42892791
- ❑ GNAPE works in the field of nature conservation, preservation, and education through various research, documentation, and outreach programmes. They need volunteers to design their Web site and develop content. chennai@ivolunteer.org.in Ph.: 044-42892791



“I came to know about iVolunteer through word of mouth. I am usually free during my weekends, and I thought, why not utilise this time to do something beneficial for society?”

Devang Bhatt
Virtual volunteer for Akshara

have iVolunteer Indian Fellow, iVolunteer Overseas, Employee Volunteering, and National and International Volunteering. Refer box *More About iVolunteer*.

NGOs are realising the importance of the Internet to be able to reach out to people in far-off places (as in funding and mobilising volunteers); they also find it difficult to commit resources to build and manage their Web sites. Sahai, director of iVolunteer India, has this to say: “Virtual volunteers can help NGOs not just technically—like choosing the Web server, scripting language, and database server—but also as advisors on how to gain the most from the Internet.”

Richa Sood, relations executive at iVolunteer tells us, “Resource mobilisation—particularly fund-raising, is a lifeline to almost all non-profits. Often these require no face-to-face interface with the organisation, and campaigns can be carried out using the various mediums that IT offers.”

One needs to remember that the efforts you put in can possibly also help in career growth. Web sites you create for NGOs can be listed on your résumé. In the case of a businessman, the Web site could stand testimony to your organisation’s skills. NGOs are always looking out for people to help spread awareness in regards to relevant issues, and Web sites being the best medium, volunteers for Web site development are the most sought-after.

iVolunteer is seeking people to help with writing and designing reading material. Those with modest skill-sets are placed in back-office work like keeping records of finances and day-to-day activities. People who know more than two languages are placed as translators, who are in great demand by NGOs: as they grow, they require people to localise all the reading material they generate.

And coming to figures, iVolunteer has thus far placed over 5,000 volunteers in various programmes. However, they admit that virtual volunteering is a small part of this figure. Yes, it is just taking off, and again, *you* can help.

On The Other Side

Volunteers working over the Internet have helped Ashoka, which we mentioned earlier, even in areas such as research. Researchers at Ashoka are working on projects as diverse as rain water harvesting and genetically engineered crops. Such research allows both scientist and entrepreneur to attract fresh participants and resources to the long-standing problem of rural development. As an example of how such work affects rural development, research on genetically engineered crops and foods helps in examining their impact on the environment, human and animal health, and traditional agriculture.

Bill Drayton, a social entrepreneur, founded Ashoka in 1980 in Washington DC with an annual budget of \$50,000 (Rs 20 lakh). He elected its first Fellow in India a year later. In its early years, the focus of this NGO was on promoting social entrepreneurs. Now with over 1,800 volunteers from 60 countries rang-

More About iVolunteer

Here are iVolunteer’s programmes besides their online volunteering coordinating efforts:

iVolunteer Indian Fellow

Here, undergraduates spend six weeks living and working with rural NGOs.

iVolunteer Overseas

The volunteer goes to other developing countries for work in the field of child education, housing, and sanitation.

Employee Volunteering

Employees of corporate organisations work with local communities to contribute towards the community and environment.

National And International Volunteering

This is for individuals, both Indian and foreign, contributing to social causes in India.

ing from businessmen, journalists, investors, and academics, Ashoka is helping out in a wide range of programmes and initiatives that deal with the basic necessities like food and water around the world.

Ashoka has various other virtual volunteering opportunities. They need people to promote funding, strategic planning, marketing, designing of their Web site, and translation. Opportunities can be found listed in the Ashoka Volunteer bimonthly newsletter. You can sign up for the newsletter by writing to volunteers@ashoka.org with “Newsletter” in the subject line. It carries information about whom to directly contact if one wishes to help.

One must never forget that motivation is an important aspect for a volunteer working at home or office. Of course, this is important anyway, but is especially so for a virtual volunteer: it’s easier to fall asleep at your chair than on the field! In addition, volunteers can tend to feel isolated and undervalued, and over time, decide to leave a project halfway. It is important that a volunteer be willing to take ownership over the experience.

If You Have A Heart And The Time...

Before embarking on any virtual volunteering project, you need to remember—once again, it must be repeated—that virtual volunteering begins with a strong belief in the cause, so be sure it’s something you want to, and can, commit to. You can also make your contribution to a cause over the phone or via fax if you don’t have access to the Internet.

With over a billion Internet users in the world, even if a tiny fraction take up this route of helping out, there can be a huge impact. We won’t end on a weepy note... but we’ve told you what’s possible. It’s up to you—remember, you needn’t set foot in uncharted, unmapped territory, weather boots and all! ■

prakash_ballakoor@thinkdigit.com

Talk Tonight

Get closer to relatives and friends with the best webcams on the market

Sumedh Phalak

You've noticed it: webcams are everywhere these days. At least, they should be: they're useful, they're fun, and they're cheap now—barring the few that have some really cool features. Instant messengers—Yahoo! Messenger and Windows Live! Messenger included—now have the embedded video chat option. VoIP-based applications like videoconferencing use webcams so face-to-face meetings can take place in virtual space. Videoconferencing is also used by SoHos as a cheap and effective medium of communication between various branches.

If you're in the market for a webcam, we encourage you to read what follows—we'll tell you all about what's available, while also helping you make a purchase decision. And here's our customary cautionary statement: don't just take what your dealer dishes out as the best-selling cam!

Our categories here are Vanilla Webcams—the really basic ones; Mid-range Webcams, which are probably the most popular; Performance Webcams, for the discerning; and The Niche Category—for those who want, well, something different.

VANILLA WEBCAMS

This first category comprises webcams below Rs 800. Cheap, yes? They offer just basic functionality, as you might expect, and are just about adequate for video chat.

This lower end of the test spectrum was populated by 10 models from four brands. Logitech and Intex contested with one contender each, and Zebronic sent in two. Tech-Com features prominently, with six models.

Features

Manual focus is standard in this category. A few webcams—the Tech-Com SSD-644K, Tech-Com SSD-645K, and the Intex IT 305 WC—support digital zoom, but this tends to be of little help; the images captured are grainy.

Night Vision

Several webcams in this category feature night vision technology (not to be confused with IR NightVision)—they have bright white LEDs in the front, which act as light sources in low-light conditions. This doesn't make much difference when it's dark, but it improves capture quality in dim lighting.

The Tech-Com SSD-644K has a manual switch on the camera to power the LEDs; the others have

automatic LED brightness control, which varies according to the ambient light. This ensures that the light on the subject is bright enough. The option to override the automatic brightness control for the LED is there in the drivers, just in case the bright LEDs hurt your eyes.

The Snapshot Button

A snapshot switch is useful—you can take still shots in conjunction with the application bundled with the webcam.



Imaging Rohit Chandwaskar
Photograph Sandeep Patil

The Clamp

The clamps on the Tech-Com SSD-644K and SSD-642K are not suited for LCD panels, but work well with laptops. The other webcams that have a clamp for attaching to a LCD panel adopt almost the same mechanism.

The Desktop-only webcams—the Tech-Com SSD-640K and SSD-641-MP, and the Logitech QuickCam Go, don't have the clamp required to support them on laptops and LCDs. However, the stable base of the QuickCam Go means it won't topple easily.

Image Capture Resolution

Software interpolation allows captured images to be scaled to higher resolutions, and is found on many webcams. This allows them to take higher-resolution still images compared to the maximum video resolution supported, a useful feature if you want to set the image as the Desktop background or print high-resolution images.

Aesthetics And Build Quality

The Tech-Com SSD-644K with eight LEDs surrounding the lens looks attractive, but the use

BEST BUY
digit
SEPTEMBER 2007



Tech-Com SSD-644K

Fragile yet firing performance

of cheap plastic means the lifespan will be short. The Tech-Com SSD-642K is shaped like a foot (!), with four LEDs on its "fingers," and the snapshot button on its "toe."

The ball-shaped, pretty, white QuickCam Go boasts of rugged build quality with a flexible rubber base. Both the Zebronic products—the 480 WC and 280 WC—have average build quality.

Accessories

The QuickCam Go is installation-friendly with its long 180-cm USB cord, as well as good software with detailed documentation. In addition to this, the Vista support in the Logitech drivers in this price bracket is a welcome feature. The Tech-Com SSD-640K bundles Ulead software.

Performance

In Daylight

Webcams work best in good lighting conditions, as you know. However, the performance of the Tech-Com SSD-640K and 641-MP was just passable. Colour reproduction was not a problem for most of the contenders, but sharpness was. Still images captured by the Logitech QuickCam Go and the Tech-Com SSD-644K and SSD-645K were better in terms of sharpness.

In Fluorescent Light

Under fluorescent lighting conditions, colour tones reproduced are greatly affected by the auto exposure / white balance controls of the webcam. The SSD-644K excelled in our colour reproduction test, and close behind were the SSD-645K and the Intex IT 305 WC. The SSD-644K had a fine balance between brightness and contrast.

Night Vision

The Tech-com SSD-644K was the best performer in dark lighting conditions; most of the others failed to generate viewable images. The Zebronic 280 WC, too, performed notably well.





Tech-Com SSD-645K
Pricy underdog

MID-RANGE WEBCAMS

The Rs 801 to Rs 1,700 price range is where most consumers gravitate to. Clarity and sharpness at lower-resolution images / streams is the deciding factor when it comes to competition.

Nine webcams made it to this category, from five brands Logitech sent in four; Zebronic, two.

Features

The basic feature set here remains the same as in the previous category, but these are better built and designed.

Night Vision

The Zebronic 1300 WC implements a pop-open top that hides three LEDs for better performance in low-light conditions, and also a dual-lens design: one for short distances and other for long

distances (30 to 150 m). The provision by Zebronic of a manual rotor to control the intensity of the night vision LED's is noteworthy.

The Clamp

The Genius Look 312P uses a flexible frame structure; yet it tends to fall off. The clamping mechanism implemented by Logitech is the best, and poses the least problem in clamping onto LCDs. Microsoft's foldable clamp is one of the better-designed ones, but this poses problems in clamping to thicker LCD bezels. The clamps on the Zebronic aren't wide enough to clamp onto LCDs with thicker bezels.

The Snapshot Button

The Logitech QuickCam series is studded with a snapshot switch on the camera. The provision of snapshot switch on the USB cord by Zebronic on its 1300 WC is a more practical approach; it minimises the chances of the webcam shaking while taking a snap. The Microsoft VX-1000 implements a similar button, but this is used instead for making calls using Windows Live! Messenger.

Accessories

Logitech's drivers support Vista. The software bundled with the HP PhotoSmart and the QuickCam V10 is feature-rich. Vista is also supported by the Microsoft VX-1000's drivers. The software bundled with the LifeCam 1.2 has only a basic feature set—albeit with a quick, easy-to-navigate interface. The Genius also has Vista support, but the DD PlayCam 2 software is buggy in terms of navigation. The Look 312P from Genius is supported in Linux, unlike the others.

Aesthetics And Build Quality

The puppy-shaped Genius Look 312P is the most attractive of the lot. The Microsoft VX-1000 sports good build quality with a small, foldable clamp that makes it easy to install on

How We Tested

The *Digit* Printer test image was used as the subject in this webcam test. It was set 60 cm in front of the webcams under test. All the webcams were then evaluated on the basis of three basic parameters—Features, Performance, and Price. These basic parameters are given relevant weightages based on the importance each parameter plays in its category. The three parameters put together contribute to whether a product gets awarded the *Digit Best Buy Gold* and *Digit Best Buy Silver* for each category.

Features

The feature sets of the webcams were looked at according to category, and points were awarded on the basis of the part the feature plays in terms of usability and the buyer's application. Features looked at included whether there is automatic, manual, or fixed focus. We also checked for zoom, audio capture, a separate headset / microphone, a snapshot button, swivel, whether it is motor-driven, length of the cable and whether it is detachable, a provided stand and a clamp for fixing the webcam to LCD panels (some feature we expect only on high-end webcams). We also checked the quality of each of these components.

Bundled software, their usefulness, ease of use, and support for different operating systems was also noted. So were extra features such as face tracking, and noise cancellation. In addition, the sturdiness of the webcam, its stability, and aesthetic appeal were also awarded points.

Performance

The tests were performed under both fluorescent lighting and daylight conditions. The test for daylight conditions was conducted indoors with a large window open to allow natural light to enter the test area. We noted image capture quality and colour reproduction compared to the original *Digit* Printer test image, and the amount of brightness and detail.

The fluorescent lighting condition test is more important, because most people use webcams indoors. The testing area was lit up with a tubelight and note was made of the quality of image capture. We rated the captured image quality. Performance in the dark was gauged on both the regular as well as night-vision-enabled webcams.

A scale of 10 was used in both cases (daylight and fluorescent) to rate sub-parameters like colour reproduction and image brightness, contrast, and sharpness.

LCDs. The ZEXX webcam from Zen has its complete body built of metal, with a screw mechanism to adjust the swivel—if the screw loosens too much, the camera tends to pop out of the base.

The Logitech QuickCam Easy is the black-coloured clone of the QuickCam Go, and has a flexible base. The Logitech trio—the QuickCam Family, Chat, and Messenger are identical but employ a different colour scheme. Logitech's good build quality remains on par for its complete range in this category. The Zebronics 1300 WC looks distinct, sporting two lenses on the front, but it has a somewhat cheap plastic feel to it.

Performance

In Daylight

Compared to the Logitech QuickCam Easy and QuickCam Messenger, the Logitech QuickCam Family and QuickCam Chat performed poorly. The Microsoft VX-1000 was average in terms of sharpness and contrast, but in terms of brightness, it was slightly below par. The ZENX was average; the Zebronics 1300WC outperforming it

by a huge margin. The Zebronics 350 WC performed much poorer than the 1300 WC. The Genius Look 312P failed to impress—below-par performance.

In Fluorescent Light

The QuickCam Easy and the QuickCam Messenger webcams were the better performers. The Microsoft LifeCam VX-1000 and the Zebronics 1300 WC lagged in our colour reproduction test compared to the Logitech QuickCam Messenger and Easy.

Night Vision

The Zebronics 1300 WC produced the best images in the dark in this category.



Zebronics 1300 WC
Two lenses, twice the fun

Software For Your Webcam

Booru WebCam (www.booru.net)

This simple program allows capturing of images from a webcam and saving them to GIF, JPEG, BMP, TIFF, or PNG. The option to upload to an FTP server is also available. Support for text as well as image overlays with transparency is available.

Yawcam (www.yawcam.com)

Yawcam, a Java-based freeware, has some useful features over standard webcam software. Yawcam has support for motion detection, with video streaming built in. It allows for FTP upload of captured images / videos and also has an inbuilt secure Web server with password protection—this requires the motion detection feature. If you want to schedule SMS or e-mail alerts from the motion detection engine, you can use GrabMotion (www.grabmotion.com).

VirtualCamera (www.soundmorning.com)

A webcam tool that allows you to stream virtual video feeds from your computer. Even without a webcam, you can use it to send video or feed images, recorded videos, and other items through IM to friends. This program is a solution for anyone wanting to share pictures and video over the Internet. The video formats supported by the player are WMV, AVI, ASF, MPEG, RM, RMVB, and more, and image formats including JPEG, GIF, and BMP. The menu provides an easy switch for the input source (virtual / real camera).

Barcodepedia (<http://en.barcodepedia.com>)

A community-based online barcode database. Barcodepedia can be used as a barcode scanner using your webcam—just hold the barcode in front of the cam such that you can see the entire barcode in focus in the preview area of the Web page, and Barcodepedia will recognise the barcode and search the article in several databases. It then gives you all the details about the product.

Splitcamera (www.splitcamera.com)

A virtual video cloner (for webcams and camcorders) and split video capture driver (for TV-Tuners) that supports up to 64 clients (applications running on one personal computer) from a single video source. Extremely useful if you want to use a mix of multiple IM clients and videoconferencing tools at the same time. Splitcamera supports multiple video resolutions; each client can have its own resolution and disable unused resolutions to lower processor load.

Cameroid (www.cameroid.com) Phozi (www.phozi.com)

These are two cool Web sites every webcam owner should visit. It's like Mac PhotoBooth loaded into your browser. Both sites use Flash code to detect the webcam on the local client system and load images from your webcam. Cameroid allows applying different effects like colour, morph, and scene on uploaded images. Phozi supports a wide range of frames and stamps (stick-on images) and colour pencil tools too. Images created from these sites can be used as avatars on IMs and also on social networking sites.

VideoMage Producer (<http://www.hollix.com/downloads.html>)

This one allows superimposing and manipulating (fade, resize, and move) graphic images over real-time images and video received from sources like webcams, TV-Tuners, or pre-recorded files. The telestrator effect allows one to highlight special areas of a video image by drawing shapes over it. The output is stored as compressed files in the AVI and WMV formats.

Webcam Diagnostics (<http://noeld.com/programs.asp?cat=video>)






Webcam Diagnostics, as the names suggest, provides webcam-related information. Driver installation and USB issues become easy to diagnose; red circles mark serious issues, and yellow triangles point to minor issues. Right-clicking on the red / yellow marks provides a context menu to fix the problem or a potential way to fix it. In the case of corrupt USB drivers, Webcam Diagnostics points out the problem and suggests reinstallation of the drivers.

BEST BUY
digit

SEPTEMBER 2007

BEST BUY
digit

SEPTEMBER 2007

Scoreboard					
Vanilla Webcams (Up to Rs 800)					
BRAND MODEL	INTEX IT 305 WC	LOGITECH QuickCam Go	TECH-COM SSD-643K	TECH-COM SSD-644K	TECH-COM SSD-645K
					
* Mid-range Webcams (Rs 801-1700)					
Price (Rs)	Rs 796	Rs 695	Rs 350	Rs 495	Rs 595
Comments	+ Strong performance - Overpriced	+ Good looking - Bad indoor performance	+ Value for money - Dull images	+ Best performer - Poor build quality	+ Strong Performer - Night vision unsatisfactory
Final Score (Out of 100)	47.9	42.7	47.0	54.6	50.6
Features(Out of 38/45*)	20.3	17.8	17.2	22.5	20.6
Performance(Out of 50/45*)	23.8	20.6	21.2	26.0	25.0
Price Index(Out of 12/10*)	3.8	4.3	8.6	6.1	5.0
Features					
Specifications					
Maximum Video Resolution	800 x 600	640 x 480	640 x 480	800 x 600	1280 x 960
Maximum Still Resolution	1600 x 1200	640 x 480	640 x 480	1280 x 960	2304 x 1728
Audio Capture (Microphone) (✓/✗)	✓	✗	✓	✓	✓
Number Of LEDs	6.0	NA	8.0	8.0	8.0
Snapshot Button	✗	✓	✗	✓	✗
Optical Features					
Fixed/Manual/Automatic Focus (✓/✗)	✗/✓/✗	✗/✓/✗	✗/✓/✗	✗/✓/✗	✗/✓/✗
Zoom	✓	✗	✗	✓	✓
Physical Features					
Horizontal Swivel (✓/✗)	✓	✓	✓	✓	✓
Vertical Swivel (✓/✗)	✓	✓	✓	✓	✓
Clamp For LCD/Laptop Mounting (✓/✗)	✓	✓	✓	✓	✓
Adaptability of Clamp (So10)	4.0	NA	4.0	3.0	4.0
Cable Length (metres)	1.35 m	1.8 m	1.31 m	1.36 m	1.36 m
Detachable Cable (✓/✗)	✗	✗	✗	✗	✗
Other Features					
Software And Documentation					
Driver Support	Windows 2000 / XP	Windows 2000 / XP / Vista	Windows 2000 / XP	Windows 2000 / XP	Windows 2000 / XP
Bundled Software	AmCap / Video Power	QuickCam v10	AmCap	AmCap / Camera Fixer / USB Camera Plus	AmCap / USB Camera Plus
Software Bundle Rating (So10)	4.0	5.0	3.0	3.0	3.0
Other					
Build Quality (So10)	4.0	7.0	4.0	4.0	4.0
Stability Of Webcam (So10)	5.0	6.0	4.0	6.0	5.0
Aesthetics (So10)	5.0	6.0	5.0	6.0	5.0
Ease Of Installation (So10)	4.0	5.0	4.0	4.0	4.0
Performance					
Image Quality (So10)					
Fluorescent Lighting					
Colour Reproduction	5.0	2.5	3.5	5.5	5.0
Image Brightness	4.5	2.5	3.0	5.0	4.5
Image Contrast	4.0	3.0	4.5	5.0	4.5
Image Sharpness	3.5	3.0	3.0	4.0	4.0
Daylight					
Colour Reproduction	6.0	6.0	4.0	6.0	6.0
Image Brightness	5.0	5.0	6.0	5.0	6.0
Image Contrast	6.0	6.0	6.0	6.0	5.0
Image Sharpness	4.0	5.0	4.0	5.0	5.0

So10 = Scale of 10

					Rs 801–1700	
TECH-COM SSD-640K	TECH-COM SSD-641-MP	TECH-COM SSD-642K	ZEBRONICS 480 WC	ZEBRONICS 280 WC	GENIUS Look 312P	LOGITECH QuickCam Family
						
Rs 275	Rs 290	Rs 325	Rs 650	Rs 425	Rs 1,600	Rs 895
+ Packs great bundle – Poor performance	+ Affordable – Only for CRTs	+ Great value for money – Poor clamp	+ None in particular – Overpriced	+ Good at night vision – Poor indoor performer	+ Looks attractive – Poor performer	+ Great value for money – Poor performer
40.4	45.2	47.2	42.2	43.1	35.9	46.7
14.5	14.0	19.3	17.6	15.7	17.6	23.7
15.0	20.9	18.7	19.9	20.4	13.3	14.1
10.9	10.3	9.2	4.6	7.1	5.0	8.9
640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480
640 x 480	640 x 480	640 x 480	640 x 480	640 x 480	1280 x 960	640 x 480
x	✓	✓	✓	x	✓	x
NA	NA	4.0	6.0	6.0	NA	NA
✓	x	✓	x	x	x	✓
x/✓/✓	x/✓/✓	x/✓/✓	x/✓/✓	x/✓/✓	x/✓/✓	x/✓/✓
x	x	x	x	x	x	✓
✓	✓	✓	✓	✓	x	✓
✓	✓	✓	✓	✓	x	✓
x	x	✓	✓	✓	x	✓
NA	NA	3.0	4.0	4.0	NA	6.0
1.36 m	1.31 m	1.35 m	1.41 m	1.44 m	1 m	1.8 m
x	x	x	x	x	✓	x
Windows 2000 / XP	Windows 2000 / XP	Windows 2000 / XP	Windows 2000 / XP	Windows 2000/XP/Vista	All Windows/Linux	Windows 2000/XP/ Vista
AmCap / Smart Camera / Ulead Photo Express / Ulead Photo Explorer/Ulead Photo Cool360	AmCap	AmCap	AmCap	Video Cam	DDPlayCam 2.0	QuickCam v10 / HP PhotoSmart / ArcSoft Collage Creator
7.0	3.0	3.0	3.0	3.0	6.0	7.0
7.0	6.0	5.0	4.0	4.0	6.0	7.0
6.0	6.0	5.0	5.0	5.0	4.0	7.0
5.0	5.0	5.0	5.0	5.0	7.0	6.0
4.0	4.0	4.0	4.0	4.0	5.0	5.0
2.5	4.0	3.0	3.0	3.0	2.5	2.5
3.0	3.0	3.0	2.5	4.0	3.0	3.0
2.5	5.0	4.0	3.0	2.5	2.5	3.0
3.0	3.0	3.0	3.5	3.0	3.0	3.0
3.0	3.5	4.0	6.0	4.0	3.0	3.5
3.0	6.0	5.0	5.0	6.0	2.5	3.0
4.0	6.0	5.0	5.0	7.0	4.0	4.0
3.0	3.0	3.0	4.0	3.0	3.0	3.0

BEST BUY
digit

SEPTEMBER 2007

BEST BUY
digit

SEPTEMBER 2007


Scoreboard Mid-Range Webcams (Rs 801–1700)

BRAND MODEL	LOGITECH QuickCam Chat	LOGITECH QuickCam Easy	LOGITECH QuickCam Messenger	MICROSOFT LifeCam VX-1000	ZEBRONICS 1300 WC	ZEBRONICS 350 WC
Price (Rs)	Rs 1,495	Rs 1,345	Rs 1,645	Rs 1,275	Rs 1,100	Rs 990
Comments	+ Feature rich - Costly	+ Strong performer - Average looks	+ Feature rich - Overpriced	+ Good Looking - No snapshot button	+ Feature rich - Mediocre in night vision	+ Good value For money - Poor night performance
Final Score (Out of 100)	47.4	51.0	53.7	49.8	54.5	47.2
Features (Out of 45)	27.1	19.2	24.9	21.8	23.8	21.1
Performance (Out of 45)	14.9	25.9	23.9	21.7	23.4	18.0
Price Index (Out of 10)	5.4	5.9	4.9	6.3	7.3	8.1
Features						
Specifications						
Maximum Video Resolution	640 x 480	640 x 480	640 x 480	640 x 480	1280 x 960	640 x 480
Maximum Still Resolution	640 x 480	640 x 480	640 x 480	640 x 480	1280 x 960	640 x 480
Audio Capture (Microphone) (✓/✗)	✓	✗	✓	✓	✓	✓
Number Of LEDs	NA	NA	NA	NA	3.0	6.0
Snapshot Button	✓	✓	✓	✗	✓	✗
Optical Features						
Fixed/Manual/Automatic Focus (✓/✗)	✗/✓/✗	✗/✓/✗	✗/✓/✗	✗/✓/✗	✗/✓/✗	✗/✓/✗
Zoom	✓	✗	✗	✗	✗	✓
Physical Features						
Horizontal Swivel (✓/✗)	✓	✓	✓	✓	✓	✓
Vertical Swivel (✓/✗)	✓	✓	✓	✓	✓	✓
Clamp For LCD/Laptop Mounting (✓/✗)	✓	✗	✓	✓	✓	✓
Adaptability of Clamp (So10)	7.0	NA	7.0	6.0	5.0	4.0
Cable Length (metres)	1.8 m	1.8 m	1.8 m	1.75 m	1.78 m	1.45 m
Detachable Cable (✓/✗)	✗	✗	✗	✗	✗	✗
Other Features			RightSound			
Software And Documentation						
Driver Support	Windows 2000/XP/Vista	Windows 2000/XP/ Vista	Windows 2000/XP/Vista	Windows XP/Vista	Windows 2000/XP	Windows 2000 / XP
Bundled Software	QuickCam v10 / HP PhotoSmart / ArcSoft Collage Creator	QuickCam v10 / HP PhotoSmart / ArcSoft Collage Creator	QuickCam v10 / HP PhotoSmart / ArcSoft Collage Creator	LifeCam 1.2	AmCap	AmCap
Software Bundle Rating (So10)	7.0	7.0	7.0	6.0	3.0	3.0
Other						
Build Quality (So10)	7.0	7.0	7.0	6.0	4.0	4.0
Stability Of Webcam (So10)	7.0	6.0	7.0	7.0	7.0	5.0
Aesthetics (So10)	6.0	6.0	6.0	7.0	6.0	6.0
Ease Of Installation (So10)	5.0	5.0	5.0	6.0	5.0	4.0
Performance						
Image Quality (So10)						
Fluorescent Lighting						
Colour Reproduction	3.0	5.5	5.5	4.5	5.0	3.5
Image Brightness	3.0	5.0	4.5	5.0	4.5	3.5
Image Contrast	3.0	5.0	5.0	4.5	5.0	4.0
Image Sharpness	2.5	5.5	5.5	3.5	4.0	3.0
Daylight						
Colour Reproduction	4.0	7.0	5.5	5.0	6.0	4.0
Image Brightness	4.0	6.0	5.0	5.0	5.5	6.0
Image Contrast	4.0	5.5	5.5	6.0	5.5	5.0
Image Sharpness	3.0	6.5	6.0	5.0	6.0	3.0

So10 = Scale of 10



Rs 1,250

+ Well build

- Poor performance

44.1

17.7

20.0

6.4

800 x 600

800 x 600

x

4.0

x

x/✓/x

✓

✓

✓

x

NA

1.48 m

x

Windows 2000/XP

AmCap/Web Eye/VP

Eye / VP Hotline

5.0

7.0

5.0

6.0

4.0

4.5

4.5

4.5

4.0

4.0

5.0

4.0

5.0

**Logitech QuickCam Messenger**

Price that pierces the performance shield

With the Zebronics 350 WC, the problem was that all the light fell on a particular part of the subject. The performance of the ZENX was comparable to that of the Zebronics 1300 WC; colour reproduction took a small hit, though.

PERFORMANCE WEBCAMS

Webcams in the Rs 1,701 to 3,000 category sport superior build quality. Use of better-quality lenses and CMOS sensors ensure better performance compared to the earlier categories. The cameras in this category are not fast movers on shop counters. Bandwidth-intensive streaming like videoconferencing being buyers' chief applications, so a better-quality picture at high resolutions are demanded. We reviewed five webcams here, with Microsoft, Logitech, and Creative with one contestant each, and two from Genius.

Features

The Genius Look 313 Media is a feature-rich, multifunctional device: it flaunts a 2-watt RMS stereo speaker, a USB hub, headphones, and a microphone socket. The Genius—the Look 310S is the smallest camera we received; it uses a screw to clamp onto LCD panels. The Microsoft VX-3000 implements a Live! Call button.

The Clamp

The Creative Live! IM Pro and the Logitech have well-designed clamps; few problems clamping onto thicker LCD bezels. The Genius Look 310S uses a screw mechanism as a clamp: the small clipping width precludes it clamping to some Desktop LCD monitors, but is good enough for most laptops.

Enhancements

Logitech features RightSound in the QuickCam IM: this reduces background sound by using compensation for the feedback received from the mic. Creative's Live View Auto Tuning technology automatically adjusts exposure in real-time, meaning better images. The Creative Live! IM Pro and Microsoft VX-

3000 both support face tracking, this tracks face movement and generates a frame in which the subject's face is prominent. The face tracking mechanism on the Creative has an edge over the Microsoft.

Accessories

All manufactures have future-proofed their products, having incorporated Vista support in the drivers. The DDPlayCam software, though feature-rich, has a comparatively poor interface. Creative and Logitech bundle a highly usable package. Both the Genius webcams have a detachable mini USB connector.

The Logitech QuickCam IM comes bundled with a monoaural headphone and microphone combination (153 cm long); Creative provides a similar ear-set made of rubber with its Live! IM Pro. Genius bundles a microphone with the Look 310S. The Genius Look 313 Media has headphone and microphone-out jacks. The unshielded speakers of the Genius Look 313 Media cause gaussing of CRTs: not for CRT owners!

Aesthetics And Build Quality

The Microsoft VX-3000 is the best looker here. The Genius Look Media has two foldable speakers, so you can have them point forwards or to the sides, as your tastes dictate. The Creative Live! IM Pro is slim and tall.

Logitech has the best build quality in this class. Microsoft and Creative follow closely, and are similar. The plastic used in the Genius is slightly below par. The Genius Look 310S is slightly unstable due to its small base; the Genius Look 313 Media provides slightly better stability than the Look 310S due to its larger base. Creative and Logitech pose minimal problems regarding stability, but the smaller base in the case of Microsoft's webcam means less stability.

**Logitech QuickCam IM**

Price and performance none can match






SEPTEMBER 2007



SEPTEMBER 2007

Scoreboard Performance Webcams (Rs 1,701–3,000)

BRAND MODEL	CREATIVE Live! IM Pro	GENIUS LOOK 310S	GENIUS Look 313 Media	LOGITECH QuickCam IM	MICROSOFT LifeCam VX-3000
					
* Niche Webcams (Above Rs 3,000)					
Price (Rs)	Rs 2,999	Rs 2,050	Rs 2,450	Rs 1,995	Rs 2,100
Comments	+ Good clamping mechanism - Slightly Overpriced	+ Good value for money - Poor clamp quality	+ Features rich - Costly	+ Strong performer - Manual focus	+ Value for money - Low on features
Final Score (Out of 100)	50.1	47.7	50.5	60	46.6
Features (Out of 48/40*)	25.8	25.2	22.5	29.5	22.5
Performance (Out of 42/54*)	18.3	13.6	20.7	21.5	15.5
Price Index (Out of 10/6*)	6.0	8.8	7.3	9.0	8.6
Features					
Specifications					
Maximum Video Resolution	800 x 600	640 x 480	800 x 600	640 x 480	640 x 480
Maximum Still Resolution	1280 x 960	640 x 480	800 x 600	1280 x 960	1280 x 960
Audio Capture (Microphone) (✓/✗)	✓	✓	✗	✓	✓
SnapShot Switch	✓	✓	✓	✓	✗
Optical Features					
Fixed/Manual/Automatic Focus (✓/✗)	✗ / ✓ / ✗	✗ / ✓ / ✗	✗ / ✓ / ✗	✗ / ✓ / ✗	✗ / ✓ / ✗
Zoom (✓/✗)	✗	✓	✓	✗	✗
Physical Features					
Horizontal Swivel (✓/✗)	✓	✓	✓	✓	✓
Vertical Swivel (✓/✗)	✓	✓	✗	✓	✓
Motorised Swivel (✓/✗)	✗	✗	✗	✗	✗
Clamp For LCD/Laptop Mounting (✓/✗)	✓	✓	✗	✓	✗
Adaptability of Clamp (So10)	7.0	4.0	NA	7.0	6.0
Cable Length (cm)	1.72 m	1.5 m	1.5 m	1.8 m	1.75 m
Detachable Cable (✓/✗)	✗	✗	✓	✗	✗
Other Features	Creative Live View Auto Tuning, Face Tracking		Stereo Speakers, USB 2.0 HUB, Headset and Microphone slot	RightSound	Face Tracking
Software And Documentation					
OS Supported By Drivers	Windows XP/Vista	All Windows/Macintosh	All Windows/Macintosh	Windows 2000/XP/Vista	Windows XP/Vista
Bundled Software	SightSpeed, Muvue AutoProducer, Creative Photo Calendar, Creative Photo Manager	DDPlayCam 2.0	DDPlayCam 2.0	QuickCam v10/HP PhotoSmart/ArcSoft Collage Creator	LifeCam 1.2
Usefulness Of The Software (So10)	7.0	6.0	6.0	7.0	6.0
Other					
Build Quality (So10)	6.0	5.0	5.0	7.0	6.0
Stability Of Webcam (So10)	6.0	4.5	5.0	7.0	6.0
Aesthetics (So10)	6.5	6.0	6.0	6.0	7.0
Ease Of Installation (So10)	5.5	5.0	5.0	5.0	6.0
Performance					
Image Quality (So10)					
Fluorescent Lighting					
Colour Reproduction	3.0	3.0	4.5	4.0	4.0
Image Brightness	3.5	3.5	4.5	4.5	3.5
Image Contrast	3.5	3.0	4.0	5.0	3.5
Image Sharpness	4.0	3.5	4.5	4.5	3.0
Daylight					
Colour Reproduction	5.5	3.0	6.0	6.0	5.0
Image Brightness	6.0	4.0	5.0	5.0	4.0
Image Contrast	5.0	3.0	6.0	7.0	4.0
Image Sharpness	4.5	3.0	5.0	5.0	2.5

So10 = Scale of 10

BEST BUY
digit

SEPTEMBER 2007

BEST BUY
digit

SEPTEMBER 2007

Niche Webcams (Above Rs 3,000)

CREATIVE Live! Cam Optia	LOGITECH Quick Cam Notebook Pro	LOGITECH Quick Cam Pro 5000	LOGITECH Quick Cam Sphere MP	MICROSOFT LifeCam NX-6000	MICROSOFT LifeCam VX-6000
					
Rs 8,990	Rs 5,895	Rs 5,895	Rs 9,195	Rs 4,150	Rs 4,150
+ Best performer - Low value for money	+ Good build quality - No lens protection	+ Flexible clamp - Fixed Focus	+ Can take panorama shots - Expensive	+ Lens cover - Poor clamp quality	+ Good performance - No snapshot button
59.5	51.9	56.9	55.6	55.6	58.8
22.7	20.2	26.8	23.0	22.1	25.4
34.1	27.6	26.0	30.0	27.7	27.6
2.7	4.1	4.1	2.6	5.8	5.8
640 x 480	960 x 720	640 x 480	960 x 720	1600 x 1190	1280 x 1024
1280 x 960	2304 x 1728	1280 x 960	2304 x 1728	3200 x 2380	2560 x 2048
✓	✓	✓	✓	✓	✓
✗	✗	✓	✗	✗	✗
✗ / ✓ / ✗	✓ / ✗ / ✗	✓ / ✗ / ✗	✓ / ✗ / ✗	✓ / ✗ / ✗	✗ / ✓ / ✗
✗	✗	✓	✓	✓	✓
✓	✗	✓	✓	✗	✓
✓	✓	✓	✓	✓	✓
✗	✗	✗	✓	✗	✗
✓	✓	✓	✗	✓	✗
7.0	5.5	7.0	0.0	5.0	6.0
1.72 m	0.75 m	1.8 m	1.85 m	0.73 m	1.75 m
✗	✗	✗	✗	✗	✗
Creative Live View auto tuning ,Face Tracking	RightLight2 ,Face Tracking	RightSound, RightLight2 , Face Tracking	RightSound, RightLight 2, Face Tracking		Face Tracking
Windows XP / Vista	Windows 2000/ XP/Vista	Windows 2000 / XP / Vista	Windows 2000/XP/Vista	Windows XP / Vista	Windows XP / Vista
SightSpeed, Muvuee AutoProducer, Creative Photo Calendar, Creative Photo Manager	QuickCam v10/HP PhotoSmart / ArcSoft Collage Creator	QuickCam v10 / HP PhotoSmart / ArcSoft Collage Creator	QuickCam v10	LifeCam 1.2	LifeCam 1.2
7.0	7.0	7.0	7.0	6.0	6.0
6.0	7.0	7.0	7.0	6.0	6.0
6.0	7.0	7.0	7.0	6.0	6.0
7.0	6.0	6.0	6.0	7.0	7.0
5.5	5.0	5.0	5.0	6.0	6.0
5.0	5.0	4.0	4.5	4.5	3.5
5.5	4.5	5.0	5.0	5.0	4.5
6.0	4.5	4.0	5.5	4.5	5.0
7.0	5.0	4.5	5.5	5.0	5.0
6.0	5.0	5.0	5.0	5.0	4.0
6.0	6.0	5.0	6.5	6.0	7.0
7.0	6.0	6.0	6.5	6.0	6.0
8.0	5.0	5.0	6.0	5.0	6.0



Genius Look 313 Media
The Swiss army knife of the webcams



Features

The Logitech QuickCam Notebook Pro and Microsoft LifeCam NX-6000 are meant to be used with laptops. They come with carry pouches. The Logitech QuickCam Notebook Pro also has a 12-inch, sturdy stand, making it Desktop-friendly as well. The Microsoft LifeCam NX-6000 and VX-6000 provide a call switch for Live! Messenger, but miss out on a snapshot button.

The Clamp

The clamping mechanism for laptops is better in the case of the Microsoft VX-6000 than that of the Logitech QuickCam Notebook, but the Microsoft's clamp is not wide enough to work with laptop that have thicker tops. The spring-based, hinged mechanism of the Creative Live! Cam Optia allows it to be clamped to any LCD with ease. The Logitech QuickCam Pro 5000 implements a flexible base instead of a clamping mechanism, which allows easy adaptability to any LCD panel.

Enhancements

All the webcams here support face tracking, except for the Microsoft NX-6000. The

Performance

In Daylight

The snaps we took with the Logitech QuickCam IM had the best contrast here, with richer natural colour reproduction. Excessively high-contrast images by the Creative Live! Pro meant the captured frames were poor. The Genius Look 313 Media was better. The Genius Look 310S doesn't match up to the competition—capture quality was not up to the mark.

In Fluorescent Light

The Genius Look 313 Media's capture quality was good, but the Logitech QuickCam IM produced better contrast ratio. The Creative Live! IM pro was the better performer of the rest, with the Microsoft VX-3000 missing out largely on sharpness and slightly in brightness levels. The Genius 310S colour reproduction was below par, missing out on natural colour tones.

THE NICHE CATEGORY

Cameras above Rs 3,000 have features like motorised swivel, face tracking, and better capture quality at higher resolutions. Software like Muvee Auto Producer bundled with the Creative Live! Cam Optia provides features rich enough for authoring home videos, but the short USB cable hampers free movement and usability as a camcorder.

We reviewed six contenders in this category. Three were from Logitech. Microsoft sports two products, and Creative, one.



Creative Live! Cam Optia
Rock solid performance that gels with its looks

Minimise Webcam Niggles!

If you already own a webcam or are on your way to becoming one soon, here are some lighting tips to help you get the best possible images from your webcam. Lighting plays an important role in any image, as in highlighting the subject more than the background.

- ☐ Webcams are generally placed on top of LCD or CRT monitors, with the light falling directly on the face of the subject (the monitors act as light sources). Faces will reflect the colour of the window on the Desktop, and spectacles (if any) will have reflections on them as well. The solution is obvious—reduce the brightness and contrast of the monitor and dim the lights in the room.
- ☐ Use a table lamp to highlight the subject. The bright light causes the webcam to lower its exposure, dropping background objects a little. If the table light turns to be too bright or harsh, use typing or butter paper to cover the mouth

of the table lamp so as to soften the light. Adjust the background lights again; if possible, turn them off completely. The light reflected off the walls and close-by objects due to the table lamp will help.

- ☐ If your face tends to change colour or tone during a webcam session, that's the webcam's white balance / auto-exposure at work. Tackling this is simple: wear white clothing! The prominence of white in foreground further reduces the effect of background light.
- ☐ Getting a backdrop helps greatly, though it can be expensive. One can even use curtains as the backdrop, just as an alternative. A grey backdrop is best suited for the purpose.
- ☐ Don't get too close to the monitor while typing. A relaxed sitting posture not only looks better, it also helps the soft light of the table lamp bounce off all of your face, thereby producing a clearer image.

Logitech's face tracking was the best; the QuickCam Sphere MP even uses a motorised swivel (pan and tilt, which can be controlled using the software). Logitech's RightLight and Creative's Live View Auto Tuning technologies both support real-time (dynamically-adjusting) exposure control for their webcams. The QuickCam Sphere MP supports single-click 2304 x 1728 panorama shots.

Accessories

The QuickCam software bundle with the QuickCam Sphere MP allows for software control of the motorised swivel. The Advance Video FX functionality in the Creative's Photo Manager software, and Logitech's Video Effects, allow using avatars during Web chats. Microsoft's Kiwe9 Theme pack needs to be downloaded and is a limited trial.

The QuickCam Notebook Pro has a 153 cm earphone and microphone combo—great for laptops. It has a 12-inch Desktop stand, too. The Logitech QuickCam Sphere MP is provided with a 9-inch extender to raise its height—a very effective add-on for a security camera.

Aesthetics And Build Quality

The Creative Live! Cam Optia is the coolest-looking webcam we received. The blue LED lights up while in use. The Logitechs are not the best-looking ones here; the Microsoft scores better. Even in the case of notebook cameras, it's the same: the Microsoft NX-6000 looks better than the QuickCam Notebook Pro. Logitech, however, leads in build quality. The Logitech webcams are much more stable than the others, with their slightly heavier base. The QuickCam Notebook Pro's Desktop stand and the QuickCam Sphere MP's heavy base prevent accidental toppling.

Performance

In Daylight

The use of good-quality CMOS sensors in this category is evident. The Creative Live! Cam Optia is unmatched in terms of sharpness, with excellent natural colour tone reproduction. The Microsoft VX-6000 excels in reproducing the accurate amount of brightness along with good contrast ratio and sharpness.

In Fluorescent Light

The Creative Live! Cam Optia remained unbeaten in terms of sharpness and colour reproduction. The QuickCam Pro 5000's performance was below par. The colour reproduction of the Microsoft VX-6000 was off the mark. The Creative Live! Cam Optia's matchless image quality in fluorescent lighting conditions makes it the most



Microsoft LifeCam VX-6000

Convergence of performance and value



practical webcam we reviewed—most users typically use webcams in low-light and fluorescent lighting conditions.

Rounding It Up

In the Vanilla Webcams category (up to Rs 800), most have average build. In terms of price as well as performance, Tech-Com bags both the Gold and the Silver. The Tech-Com SSD-644K, despite its poor build quality, takes the *Digit Best Buy Gold* on the basis of its performance in our image quality tests. The snap switch on the SSD-644K, along with the power switch for the night vision LEDs, boost its score. The runner-up—the SSD-645K—is the *Digit Best Buy Silver*, with performance way better than the others in fluorescent lighting, along with good performance in daylight conditions. Crafted in alloy with a plastic base, the SSD-645K promises to be long-term companion.

In the second category (Mid-range Webcams, Rs 801 to 1,700), the Zebronic 1300 WC wins the *Digit Best Buy Gold*. It has the right blend of performance and features. Remember, it uses a dual lens, one for short distances and other for long ranges. The snapshot button on the USB cable is an innovative feature that will be useful for many; it reduces the possibility of the webcam shaking while taking a snap. The Logitech QuickCam Messenger takes the Silver medallion on the basis of better colour reproduction in fluorescent lighting than the Zebronic 1300 WC.

Under Performance Webcams, Rs 1,701 to 3,000, the Logitech QuickCam IM is the best—*Digit Best Buy Gold*. The Genius Look313 Media is a feature-rich product that manages to come in a close second, losing out on the price front to the QuickCam IM.

In The Niche Category (above Rs 3,000), the Creative Live! Cam Optia was the best-looking, and it didn't disappoint on the performance front either. The Creative Optia takes the *Digit Best Buy Gold* on the basis of performance. The Microsoft LifeCam VX-6000 is an average performer compared to the Optia, but scores well on the price front—taking the *Digit Best Buy Silver*.

Webcams aren't overly expensive, and are cheaper than ever before. Now you even know what you should be buying... go ahead, take the plunge! You never know how much fun you might have with your webcam—and it's not just "fun": Web chats become so much more personal with a camera on.

It's also nice to have a webcam on top of your monitor. Even if you don't use it. ☒

sumedh_phalak@thinkdigit.com

Contact Sheet		Webcam	
Brand	Company	Phone	E-mail
Creative	Compuage Infocore Ltd	022-65297356	india_getcreative@ctl.creative.com
Genius	KYE Systems Corp	011-28855229	sales_india@geniusnet.com.tw
Intex	Intex Technologies (India) Ltd.	011-30888920	info@intextechnologies.com
Logitech	Logitech	022-26571160	kavita_nath@logitech.com
Microsoft	Microsoft India Pvt Limited	01800-102-1100	kaverm@microsoft.com
Tech Com	Shree Sagarmatha Distributors P. Ltd.	011-26428541/42	contact@techcomindia.com
Zebronic	Zebronic (TopNotch Infotronics)	9380288850	naqui@zebronic.net
ZEN	H.T.Impex	022- 66587586	zenthemaster@gmail.com

Be Virtual When Online...

A judge who wanted to blow off steam against some prosecutors unfortunately did so in his MySpace profile. His boss noticed the offending profile and promptly handed the hammer-man marching orders. Moral: never use your real name online. Even if it's YourSpace.



GSOH: Hard To Come By(te)

You can't tell your computer jokes, but the University of Cincinnati has written a program that recognises the humour in puns and wordplay. The folks behind it say it's rudimentary—so it probably won't recognise there's a byte of humour in this sentence. But we'll watch for more.



Escape

THEY DON'T NEED NO EDUCATION

One MPEG Per Child

There's been plenty of news about the OLPC foundation and the laptop design for kids that resulted, and about how children in seventh-world countries are going to gain Wisdom through Education by using those laptops. Wise they have become of what grown-ups do in bed, and Educated they have become as in sex education. Which isn't bad per se, but sex education via porn isn't what the OLPC (One Laptop Per Child) Foundation foresaw, it's not something they liked, and they're going to do something about it.

The news came via the Nigerian News Agency. Formally, they said the laptops that some kids in that country received were being used to surf porn sites. Kids will be kids... in this day and age, of course. These are neo-kids. The folks at *Digit* who pondered this issue only

knew that birds have cloacae, and that bees have a Queen that lays eggs.

So, anyway, reporters from the Agency visited classrooms where the XO operating system fitted laptops were being used. They noticed more flesh on the screens than should have been there, which is almost zero. (Decent folks doing decent things wear clothes.) One of the scribes borrowed a laptop to browse the operating system, and shock came to her vintage mind: sexually-explicit images and videos were stored on it.

As of this writing, efforts are underway to include porn filtering software so the children won't be able to access What Boys Want, involuntarily or otherwise. But we're betting these little perverts will figure a way to bypass the filters. Because kids will be kids... neo-kids, we should say.

KID'S PLAY

Gobbler Hackers Hack Wiki!

In an dizzying display of über-l33t hacking skills, a Turkish hacker group going by the deliciously uncreative name of Turkish Professional Hacker Groups defaced the Doctus Information Security Wiki (<http://wiki.doctus.net>).

Now we're not saying we're über-l33t hackers ourselves—so we can't LOL too much when a Hacker Group thinks they've Hacked when they haven't. In case this is the first time you're picking up a copy of *Digit*, a wiki is, informally, a Web page anyone can edit. All you need to do is click the Edit button and type away.

That's exactly what these "script kiddies" (hacker-speak for junior or

Whatever Happened To...

Caltiger

Remember the good ol' days just beginning to get affordable. New ISPs sprang up every day and in the melee, a Calcutta (now Kolkata)-based ISP called Caltiger, came up with a cool new idea, called, in short, "free."

Yes, *free* dial-up! It was a huge sensation. Go to www.caltiger.com, register an account, describe your likes, and download the software to access The Free Internet. The software acted as a dialler; it would, umm, also place an ad toolbar on your Desktop.

Users abandoned ship as quickly as they got on. Getting connected was like winning the lottery, and just in case you did, getting a reliable connection was like winning the state lottery and the national lottery on the same day. Add to that the toolbar, which blocked a quarter of the screen; and yes, it was a resource hog too (on the 64 MB RAM machines of the day), causing them to freeze. The company soon walked the plank.

Actually, the idea could never have lasted. Imagine something like that today: we'd probably have a Firefox add-on to get rid of the ads. And there's broadband: no-one would be stuck on dialup just because it was free. And coming down to silly things, there's always the idea of using your monitor's controls to make the screen larger vertically and then moving it down!

Win! My Desktop

No Winner this month! Better luck next time!

Participate in this contest and win next month
Mastering Maya 8.5
by John Kundert-Gibbs
Published by

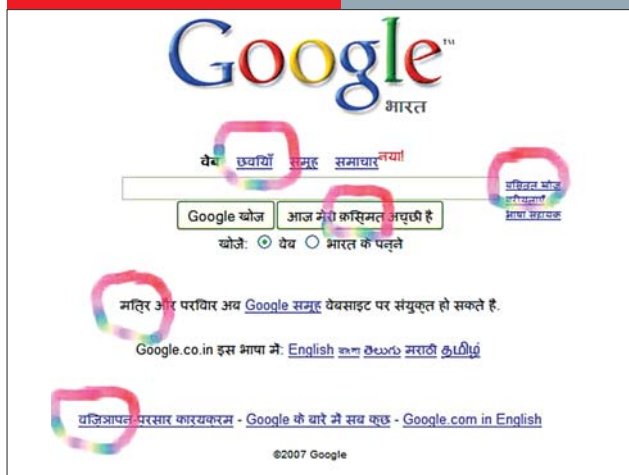
 WILEY-INDIA



Send us your desktop with a description of how you made it to mydesktop@thinkdigit.com with the subject "My Desktop", and tell us your postal address, too.

DigiPick of the month

Desi Search!



Last month's winner:

Chetan Panchal
Ahmedabad - 380063

Participate and
win next month:

**PC Upgrade
& Repair**
by James Pyles



Published by

WILEY-INDIA

WIN!

Send in your entry and you could win an exciting gift by sharing an amusing picture with a tech angle to it. The picture should have been shot by you, and should not have been published anywhere earlier. E-mail your picture with "**DigiPick**" in the subject line, mentioning your postal address, **on or before the 20th of this month** to digipick@thinkdigit.com. One prize-winning picture will be published each month.

upcoming hackers) did: they clicked the Edit button on the aforementioned wiki, erased all the contents, and wrote out their H4x0r (hacker-speak for "hacker") message. And that message is rather more than the icing on the cake. It tells the site administrator to "Fix your vulnerabilities in your site."

Vulnerabilities? Very apparently, the Elite Group of Hackers (or whatever they call themselves) didn't know what a wiki is. Such news elicits belly-busting guffaws from men and hankie-drenching tears of hilarity from women who do know what a wiki is.

See, we're reasonable: we'll pardon the poor grammar. Turks aren't native English speakers. We neither in India are—see?

Actually, damn the being nice. Here's the accompanying message on the main page, which slaughters the P of Poetic License: "While you were passing this roads, we were returning. While you are with girls in your dreams, we are in a war with our keyboards.... (and other such

nonsense). Defaced By KontDrakula"

The people running the Doctus Wiki (the page in question) do seem to have learnt a moral from the story: it does not now allow anonymous users to edit the wiki any more. One needs to be a registered user to do so.

There's a moral from the story for us, too: expect absolutely anything from the men of a country that names itself after a bird. Especially one that gobbles instead of chirping.

BILLS, CRAZY BILLS

The Gory Details

Justine Ezarik got her phone bill in the mail packed in a cardboard box. Shipping and handling for the cardboard box was \$7.

Now the bill was \$274.81 (Rs 11,540), the phone company was AT&T, and the now-world-famous cardboard box was large. But the two details of real interest are that the bill

was 300/- (three hundred only/-) pages long, and that Justine Ezarik uses a hallowed iPhone.

Unanswered questions abound at this point, and we'll answer them all.

Q. Why was the bill 300 pages long?

A. Because the now-famous Ezarik sent out 15,000 messages in one month from her iPhone. She didn't eat, she didn't sleep, she didn't visit the bathroom, she did nothing but type and type and type, and type and type, and type.

Q. Are you kidding me?

A. In regards to not having visited the bathroom, we are. That's pure speculation. But how else could she have typed out 15,000 messages?

Q. So how *did* she?

A. We don't know. But then, you see, we got this bit of news off the Net like everyone else, and something could have morphed over the wires.

Q. Why did Justine Ezarik type out so many messages?

A. Because she was using her brand new iPhone! Don't you get it?

People Who Changed Computing

The Duo Behind The Dawn

Most notable amongst the firsts in computing is, of course, "the first computer." One good candidate is the ENIAC, the Electronic Numerical Integrator And Computer. The men behind the beast were J Presper Eckert and John Mauchly.



Eckert and Mauchly

We do not name the one after the other, but what we do know is it was Mauchly who'd conceived the architecture, and Eckert had the engineering smarts. The ENIAC was the first digital, commercial computer that could be programmed to solve general numerical problems—quite like what we have. It was a thousand times faster than any other calculating machine up until then (1946). And if that wasn't enough, Eckert and Mauchly led the development of the UNIVAC, which became an American household name—it had correctly predicted the outcome of a presidential election!

Mauchly, the archetypal prodigy, began experimenting with electricity very young, building a flashlight at age five. His favourite pastime (a little later, of course) was weather prediction(!). A desk calculator wasn't enough, Mauchly decided; he needed something more powerful. He was soon ordering various electronic parts, explaining, "I am intending to construct an electrical calculating machine." Famous first words.

<http://www.seas.upenn.edu/~museum/> says the ENIAC "launched the world into the computer age." Proud, perhaps true... read about it.

Bluff

YOUR WAY THROUGH

Markup Languages

Most of the content you see on the Web exists because markup languages like HTML and XML exist. That you know. But you might not know that this class of languages is not limited to two or three.

DHTML: Dynamic Hyper Text Markup Language can be described as a combination of several technologies like HTML, client-side Java Script, and Cascading Style Sheets. Most of the pages and multimedia content on the Web are created using DHTML. (Very popular.)

XHTML: extensible Hypertext Markup Language. Traditional HTML does not impose much structural strictness, sometimes resulting in poorly-displayed pages. The use of XHTML enables content to be displayed similarly across different browsers. (A good thing.)

VoiceXML: Used in voice interaction between humans and computers, mainly in systems that enable you to, for example, check your credit card balance over the phone. The logic-like dialogue management and speech recognition—is defined by VoiceXML. (Sometimes iffy.)

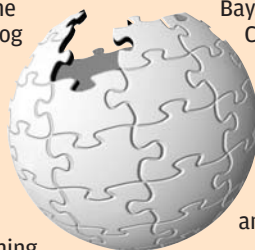
LaTeX: A document markup language used mainly by mathematicians, authors, etc. to typeset their content. It is suitable for representing mathematical formulas. (For the boffins.)

Usage Hey, just looked at your page... Schrödinger wouldn't recognise his equation if he clicked on that link there... you haven't used LaTeX at all! And you know what—use DHTML and XHTML for your page; don't get stuck on HTML, you lazy bum, you. Pages should look nice wherever. Oh, and just BTW, my Amex is maxed out. Two clicks and I knew... somebody finally got their VoiceXML right.

Wild Wild Web

Edit Away (Don't)

You, we, and the neighbour's dog can edit Wikipedia. The People's Encyclopaedia should state, we think: "First, be unbiased." But that's not happening, no. People and groups have been merrily editing the 'pedia without giving two hoots for neutrality. This motivated a geek to create an online scanning tool (www.wikiscanner.virgil.gr) to track edits. Many people already have been caught with their pants down. IPs from the FBI have edited



pages related to Guantanamo Bay. Church groups (for Christ's sake—literally!) have edited out reportage about sex scandals. Visit that site. It's going to get interestinger and interestinger.

Big Mother—And Others

The next time you're about to post a picture of yourself at a beer-drinking contest, think again. And again. Your mom could see it. Reports are in that employers have taken to checking out new recruits' profiles to go beyond what's in their CVS—

and that includes looking at gory details in social networking sites. Now parents have been snooping around their kids' Facebook profiles to find out what misdemeanours junior is up to as well! Momma is never far away, children.

Another potential problem is when the boss sends out friend requests. Poor employees are caught between the devil and the deep sea: ignore the request and get into his sad books, or risk him going through all those scraps or posts that describe how, in George Costanza style, they spiked his drink that time when... The times they have a-changed.

It's just a fabulous piece of machine, and she just had to use it.

Q. Are you serious?

A. We're speculating here, to be perfectly honest.

Q. In this age of paperless communications, why did AT&T not just tell her to pay up the \$200 whatever?

A. They have a policy. Every data transfer has to reflect in a customer's bill. So now you know. It's refreshing to see such red tape outside of India.

Q. What do I gain from all this?

A. Nothing much, just the idea that you shouldn't buy an iPhone. It'll get you hooked to text messaging. In fact, Justine Ezarik had to have her fingers amputated after all this.

Q. Are you kidding me?

A. Yes.

DUPED IN LOVE

Machete, No Marriage

The Internet is a happy hunting ground for conmen. They peddle scams ranging from Nigerian oil bonds to free

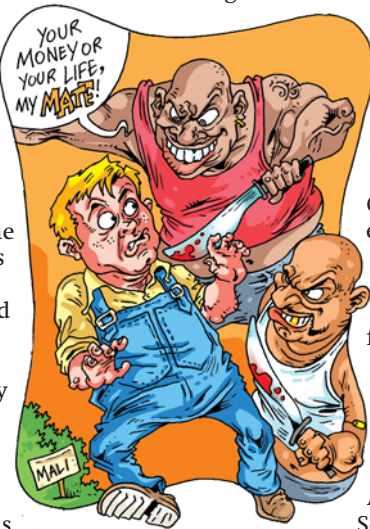
iPods and trips to Tahiti. Folks we contemptuously call stupid fall for these, and give out such details as their credit card numbers and whether they like to be whipped during sex. This one scam caught our attention because the man in question almost lost his life. A sad one, this.

A misguided Australian farmer was surfing on the Net and he seems to have hooked up

with a chick in, of all places, Mali. (That's somewhere in Africa.) The "lady" was willing to marry, and she also seemed rich, ready with a dowry of gold bars worth \$85,000 (Rs 35 lakh). Not to miss up on the chance, our boy from down under went to Mali to formalise the nuptials. All went well until the prospective

groom found himself shepherded into a room where two machete-wielding goons robbed him of his cash and credit cards, thrashed him, and threatened to hack his limbs off unless he gave them that \$85,000 as the price for his life. Talk about the shoe being on the other foot...

To cut a long story short, the shaken man got off without serious harm when Australian and Malian police lured the kidnappers into the Canadian embassy and arrested them. And escorted the farmer, probably swearing bachelorhood for life, back to Sythe Austrylia. Someone said—in a Dave Barry book—"Look man, I don't trust anybody on the Internet, man! Heck, not my mother! Not even myself!" Now that's a lesson!



AMERICAN BEAUTY

Lawsuit: Badderies

Jose Trujillo bought an iPhone for \$500. He was not happy when he learnt, from the Internet, that its battery would function at only 80 per cent of its original capacity after 400 recharge cycles (a full battery drain followed by a full charge).

In true-blue American fashion, Trujillo decided he'd exercise his legal rights as a resident of the United States. In simple words, he saw a lawsuit here. Apple was soon sued for "concealment of information," and for charging customers \$85.95 (visit www.xe.com, "The World's Favorite Currency Site") as part of the battery replacement programme.

Some technicalities are warranted here—the one-year warranty on the iPhone entitles one to a new battery for free if its charging capacity drops below 50 per cent. There is also a provision to extend that warranty to two years by

Mutiny!

Ever heard of those bosses who won't "sink" to the level of their teams? Sure you have—they're the ones who'll get things done without actually *doing* them. Deepak, our most exalted grand poo-bah, is such a boss. It's not necessarily a bad thing (the writer's adding this bit to stay in the ed's good books, obviously—unlike you, *he* knows who's typing this) but we've often wished he'd see the view from the Bottom every once in a while—to experience all the trials, tribulations, hardships and betrayals, and to have someone nag *him*, for a change.

And then came the day that Ram, likely under the influence of a substance or substances unknown, decided that enough was too much. "Deepak," he said, "the

time has come. Many long months have passed, and you have come of age. We seek stories for *Enter* (that's what this magazine starts with, incidentally); and you must contribute in the effort."

But, dear reader, our ed—he's made of sterner stuff than you'd think. He squirmed for but a half-second, and then with the skill of an Olympic fencer and the stealth of a cat burglar, dodged the topic completely, leaving Ram in a blur. And poor, brave Ram, inexperienced as he was in the ways of The Executive, suddenly found himself saddled with the very work he came to get Deepak to do! And so, the balance of power restores itself.

Perhaps we'll be editors of our own magazines someday, and become masters in this mystical art form.

DIGIT DIARY

paying \$69 (visit www.xe.com again). And the two central points here: (a) Trujillo, rather, his lawyer, claimed he didn't know the battery was sealed inside the phone, and (b) "The battery enclosed in the iPhone can only be charged approximately 300 times before it will be in need of replacement, necessitating a new battery annually for owners of the iPhone." Aha. He even wanted a class

action suit. But according to Apple, the battery "is designed to retain up to 80% of its original capacity after 400 full charge and discharge cycles." When contacted, Trujillo was unaware of any incorrect information in his lawsuit, and was hoping to reach a settlement with Apple. Commentary is warranted.

1. An American lawsuit is one that says "I didn't know this at the time."

2. A dumb lawsuit is one that doesn't look up the facts and presents a flawed case.

3. A fanatabulously dumb lawsuit—one that qualifies as the worst ever—is one that tries to make its way to the class action league.

Here's what Steve Jobs said when he read about this one: "Awright, naxt." Now file a suit against us for making up stuff. ■

Blog WATCH

The much-talked-about Skype outage has burnt a hole in eBay's credibility—at least, bloggers seem to think so. And Google News manages to pique the scribes... yet again

Om Malik on the Skype outage of mid-August
<http://tinyurl.com/2qb5bv> (<http://gigaom.com/2007/08/18/skype-crisis-where-were-the-ebay-management/>)

The outage that caused anxiety amongst millions who depend on Skype for communications exposed the fragility of our digital lives. Ebay and Skype management are happy to talk to the press when delivering the good news, but in this crisis situation, the silence was deafening.

Ebay CEO Meg Whitman, Skype co-founder Niklas Zennstrom, and other Skype management made no statement, gave no assurances to their community, leaving their PR agency and the blog to keep people informed. Of course, this led to even more speculation, rumours and innuendoes.

Karin Meier talks about the Burning Man festival... in Second Life, that is
<http://tinyurl.com/2fpjdc>
(<http://blogs.msdn.com/karinm/archive/2007/08/17/burning-life-a-virtual-burning-man.aspx>)

I've always wanted to go to Burning Man, the annual countercultural arts festival, but with both Windows Server 2008 and Visual Studio 2008 screaming towards RTM I can't possibly take time for a jaunt to

the Black Rock Desert in Nevada. Luckily, I can easily visit the virtual Burning Life in my Second Life. This will be the fifth year that Second Life publisher Linden Lab is donating some virtual land in their virtual world for a virtual Burning Man festival.

Just like the Burning Man in the real (?) world, organisers will create a temporary zone in which residents can create amazing works of art that will last for a short period and then disappear forever.

Adding comments on Google News is "original and fresh," says Philipp Lenssen
<http://tinyurl.com/2lm67c> (<http://blogoscoped.com/archive/2007-08-08-n65.html>)

Google News USA is rolling out an experimental feature that lets people or organizations who are part of a news story add a comment to the news.... You can start by searching for your own name in Google News. For any story you find that you feel deserves a second view, you can then write to news-comments@google.com.

I'm curious to see how this Google News process will work out; it's an original, fresh way to look at news aggregation. News reports already often interview "all sides" of the story, but they don't always do—and they might also use selective quoting to skew an issue, to push through an agenda of the publishing house...



Turn Out Those Lights!

On his twenty-first birthday, contract killer Jackie Estecado underwent some strange changes (no, no, not *those*—they happen earlier)—he watched his friends die while he figured out how to work a shotgun, and stared in amazement as two snake-like creatures and a number of tentacles sprouted from his back and started whispering highly un-sweet nothings in his ear. Thus begins the story of *The Darkness*, and you must play as Jackie and figure out what this Darkness is, why it's infesting you, and, of course, kill people. And other... beings. That'll teach them to make fun of your hair.

The Darkness is a well-made game—I'll give it that. It looks good—even if the HDR effects are a tad overdone—

and the background score is brilliant. And it's definitely got style, right down to the loading screens—instead of boring “Loading...”, you get little bites of mafia wisdom from Jackie, and the game itself has you shuttling between the real world and a version of hell where World War I never ends. Jackie sometimes “sees things,” making for some very *F.E.A.R.*-esque heebeegeebee-inducing moments.

The concept of this dark force itself is interesting. The creature feeds off shadows to gather dark energy, which in turn protects you from bullets and other forms of harm. You can also use one of the snakes to sneak around and kill enemies in beautifully gruesome glory. And then comes the best part—to gain more darkness levels, you have to consumes enemies' hearts. Ah,

the merits of evil... You can also summon darklings: little minions, who lend a little comedy to the game (à la *Overlord*)—to do your bidding, be it blowing up things, riddling enemies with bullets or other activities of general carnage. This is all very well the first time you encounter it, but *The Darkness* suffers from some very annoying flaws.

First, there's the matter that first-person shooters and consoles don't go well together. Second, the story—it drags awfully in places, especially the beginning, which tempted me to throw my controller away and call the whole thing off.

Thirdly—and this is the silliest—to keep the Darkness from being harmed by the light, you end up worrying more about lights in the room than enemies. It's like being

trapped in a very stupid arcade shooter. Fourthly, this game, too, doesn't escape some of the annoying bugs that plague so many FPSes—you can be stopped dead in your tracks by a lowly tree-root or knee-high obstacles that four-year olds wouldn't think twice about: the same old nonsense. Tch, tch.

Finally, the enemy AI is quite pathetic. The fact that I was more worried about the lights than enemies should have given you some clue to that end.

The Darkness is a decent game—the evil, it gets addictive—but not beyond the first couple of hours. There are much better things to do with your 360. Like play *Gears of War*.

nimish_chandiramani
@thinkdigit.com

Rating: 6/10; Developer: Starbreeze AB; Publisher: 2K Games; Distributor: Redington;
Contact: xbox360@redington.co.in; Price: Rs 1895; Platform: Xbox 360



Sword of the New World: Granado Espada

Of late, it appears the Ragnarok hype has fizzled down. Now I'm holding a DVD of *Sword of the New World*, an MMORPG that was launched around May; the person behind this project is the same guy who made *Ragnarok Online*.

Well, you start the game and there is this painful wait while it gets updated off the Internet... Once logged in, you create a character (like in every MMORPG or RPG out there). There are five races to choose from—Fighter, Musketier, Wizard, Scout, and Elemental, each with its own set of strengths and weaknesses.

(For those who aren't familiar with MMORPGs, they are multiplayer games played alongside thousands of players, completing one mission after another. Experience is gained when you kill monsters, which moves your character to the next level.)

Nothing really special there, but what's special is, you can create up to three different characters, and move all of them around the game maps while still having control over every character individually! There are plenty of quests and missions to keep you occupied for a long time.

It's fairly easy to level up, but some of the more powerful monsters can be a little difficult at times, and the lag doesn't help—so choose your monsters wisely.

All seemed to be going fairly well, but then came this monster camp. Get this—first you have crocodiles hopping around like kangaroos. Then you have roosters as large as the crocodiles. Just when you think you've seen

everything, some of them explode when killed, into a mango, which you pick up to regenerate health. Perfect! Just like in real life...

The character outfits are very well-made, and more importantly, unique; not cheesy like in most MMORPGs. The environments are simple but colourful and fresh.

We knew lag was going to be the major issue with MMORPG servers based far away from India, but it didn't feel all that bad, surprisingly. There is a slight delay of one to two seconds every time you execute a Move or Attack command, but nothing that really dampens the experience.

Unfortunately, you don't come across a lot of players in *Sword of the New World*—it's a very young community as of now.

This MMORPG is only getting started and can be a crowd-puller given the right amount of exposure. No Indian servers yet, so we'll have to do with the European and American ones. *Sword of the New World* goes far beyond *Ragnarok Online*, but it's going to be a tall order to knock over heavyweights like *World of Warcraft* and *Guild Wars*. Personally, I'm not very impressed—I don't see myself playing it for months together. Still, the game is fun—in a weird manner. It's an over-the-top experience *Ragnarok* fans will undoubtedly appreciate.

rossi_fernandes@thinkdigit.com

digitGAMING PC

NVIDIA GeForce 8800Ultra,
Intel Core 2 Duo E6600,
4 GB RAM, Windows Vista
Ultimate x64, WD 250 GB



Rating: 6/10
Developer: IMC Games
Publisher: K2 Networks
Site:
www.swordofthenewworld.com



PROJECT SYLPHEED

I'm overjoyed at seeing a 32-inch LCD TV connected to our Xbox 360 for one of this month's games to play. Well, I move my focus from the setup to the game title—Project Sylpheed—a space combat arcade game. We haven't seen a game from this genre for a while now, so I feel a bit of excitement building up and some curiosity.

I pop in the disc and all of a sudden I'm in the middle of a good looking CG movie with anime-styled characters—something like *Final Fantasy*. At the end of the cinematic, I decide to get the game going but I'm delayed by some more cut-scenes.

In the game, you play the role of one Katana Faraway, a pilot whose job it is to blow the enemy's ships and destroyers into kingdom come with your ship. To help you do this, you fly a small combat ship alongside your "comrades," who are of no

use other than screaming at you and keep whining about your higher-ups. You can have your vehicle upgraded with all kinds of weapons from simple machine guns to lasers and lock-on missiles that make mincemeat out of enemies.

The game looks nice—it's cramped with colourful exhausts and weapon rounds from all kinds of ships and space vehicles. The environment is made up well—empty space with stars scattered all over, and an occasional planet. The on-screen display is filled with statistics and pointers meant to lead you to enemies. There are speed meters and a hundred gazillion other things. This is both messy and scary when you first sit down to play this.

The controls are a little difficult in the beginning. The lock-on missiles make everything very easy, though. You hold down a key and manoeuvre your ship so you have your

enemy ship into the crosshairs till you get a lock-on. Let go of the key and the rockets will home into the ship, destroying it. The challenge comes in the form of numbers. The missions are quite long due to the masses of enemy ships. The entire gameplay is made up of you chasing one ship after the other—and that's it. This continues till a mission ends, after which certain weapons and achievements are unlocked. You can then add these to your ship before moving to the next mission.

The sounds of the ships are lacking considering it's an arcade game. There's some fairly decent character voice acting, but the music is just plain cheesy.

The game gets repetitive, and you end up using the same set of weapons and the same strategies over and over. It can provide satisfactory entertainment if played once and once

only. There is no multiplayer option either.

All said, it's good to have a space combat game around—something we PC gamers haven't had a chance to enjoy in a while—but then these games are best played on consoles or with a good gamepad, not a keyboard. Retro space-combat-lovers will find a fulfilling experience in *Project Sylpheed*. I can't call this game fun for everybody; it's not really deep, nor is it very interesting.

rossi_fernandes@thinkdigit.com

Rating: 6/10
Developer: Game Arts
Publisher: Square Enix,
Microsoft Game Studios
Distributor: Redington
Contact: xbox360@redington.co.in
Price: Rs 1895/-
Platform: Xbox 360



August 2007

A Thanks For The Thankless!

Considering that there is a 50% probability that my letter be published, I'll write just a little about myself, lest people who read it come to know the state of the writer.

To be honest, I am no alpha geek. No, I don't know what 90% of files in the system32 folder do. But my life is under no evident threat (or I may be ignorant) for that. Like an average guy, I encounter technology the way you may expect me to, maybe a little more owing to my inquisitiveness. But a fan of the digital world, that I am. And thanks to *Digit*, proudly so. Every issue makes me realise how little I actually know and how much more there is. And I know how it feels to be ignorant as far as technology is concerned.

All this time, I've read the letters you receive from cynics, protagonists, fans, followers and critics. All go about the "stuff" you provide along with more "stuff" they'd like (your team tackles *all* letters with robust diplomacy, humility and honesty, I must say). But apart from the DVD, CD and *Fast Track*, I'd like to mention a few things.

I am more than glad for the computer info you provide, but what's more that makes an otherwise dreary, all-geeky article is the language you guys muster. *Awesome* is hardly the word for it. It is real fun to read the articles, the *Escape* section, and the rest of the mag - full of pun, humour and satire. Actually, I also learn a lot of *good* English from your magazine too. Thanks for that and keep up the amazing articles. For the digital part of life, I'm soulfully dependant on you, and satisfied *fully* with everything you are putting up. So no suggestions from me, except maybe: just keep rocking our gadget infested, mundane lives!

Siddhartha Mukherjee

Thanks, Siddhartha, for your kind remarks—especially from our copy editors! From what I understand, it is primarily them you're thanking—and it is primarily they who are responsible for quality control in terms of language, and little things like humour. (That's not to say their roles are limited to these functions, of course.)

A copy editor's (or sub-editor's) job is seldom appreciated, because they get no formal credit for anything they do—and rarely do they even get informal credit. It is, in general, a thankless job. Your mail has motivated them to buck up and keep up the good work—and I must thank you for that!

— Executive Editor

A Pal's Praise And Problem

I'm a regular reader of your excellent magazine. *Digit* is simply the best. I want to wish Team *Digit* a happy Friendship Day. If you're wondering why I'm wishing you, well, seriously, *Digit* is the best friend to guys like me who want to know more and more about technology. I live in a remote village in the eastern part of India where the use of technology is still a dream for most people. I face so much trouble to get simple software, and CDs or DVDs of games, music, and movies. I have to travel 10 km from my home to gain access to the Internet. I can't gain do that regularly, and an Internet connection to my PC is a dream in here. But in spite of this, I love to know more about technology, and you are who helps me a lot. That's why you are my best friend, and I'm sure we will be friends for a really long time!

In your August issue, you've mentioned that the price of the Nokia N73ME is Rs 24,349. I was planning to buy a good camera phone, so I went to a Nokia priority dealer. When I asked them about the N73ME, they told me the price was Rs 18,500, and when I told them about the price mentioned in *Digit*, they said the price you've mentioned was in the market five months ago, and that they'd reduced since then. I'm a bit confused.

Hirak Ghosh
Dist. Hooghly

We do our best to serve the needs of all our readers, but more so readers like you, who don't have easy access to technology and the Internet. Thanks for the appreciation, Hirak.

Regarding the price of the Nokia model you've mentioned, what we publish is the MRP (maximum retail price), which is consistent throughout the country. Dealers often quote the MOP (market operating price), which is affected

by local taxes, VAT, and other levies. Hence the discrepancy.

— Executive Editor

Faster, Higher, Stronger!

I wrote to you exactly two years ago. You published that letter in August '05 as the Letter of the Month. Much has happened since then. My hobby of assembling systems turned into a profession. I joined a small computer sales and service centre; I assembled systems as a hobby. I learnt networking. In 2006 we turned to importing PC hardware and marketing it only through dealer channels. We registered our own trademark and are marketing our own brand. We have mice, webcams, card readers, etc. Our stockists and distributors are spread all over India. I will soon be starting a cyber cafe.

You're probably wondering why I'm telling you all this. It's because *Digit* has been my guide and companion all these years. It has guided and taught me to build a career out of a hobby. I want to give credit where it is due.

I am still pursuing my creativity with hardware. In April '07, you showed us how to build a modded case. I'm thinking about starting work on one. But instead of using an old CRT, I've decided to use an old 0.8 tonne AC cabinet... I am currently experimenting with various flavours of Linux using Virtual Box. Thank you for keeping me young at 64 years of age.

D S Bapat

Dear Mr Bapat,
What can I say? All I can think of is that I've sent out your mail to my team, and it has been appreciated as hugely motivating. Thank you.

— Executive Editor

Misunderstanding Notwithstanding...

Digit is my technology friend, philosopher, guide, and my Guru. But this is about the August 2007 Inbox. I'm referring to the letter by Navin D'Cunha and your reply. It is interesting and surprising!

Navin has rightly pointed out the wonderful cover of the July '07 issue of *Digit*. He wrote: "...the cover left me with a pleasant feeling, at the same time surprising me." Most of us had that feeling. This is certainly an appreciative note, and there is absolutely nothing negative about it. He continues his words, very simple and honest. But it looks that you, in your reply, were confused and offensive. Navin's comments are highly

Write to the Editor

E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul Navi Mumbai 400 706

Digit will publish the best letters on these pages. Letters may be edited for clarity. Please include your complete address in all communication.

For subscription queries, call the help desk at 022-27629191/9200, fax 022-27629164, or send an e-mail to help@jasubhai.com

Inbox

LETTER
OF THE
MONTH

positive, and you've misunderstood them. Your elaboration (as if no one understands the psychology behind the cover page!) clearly reflects that. May I request you to read (be cool!) Navin's comments once again? I can now hear your "Oh... Yeah... That's right..."

The cover was really excellent. Keep it up, *Digit* designers! And, Navin, I'm sure you're checking that cover over again to confirm... I too do that quite often since I got that issue!

Prasanna

Thank you, Prasanna, for giving me an opportunity to rethink myself... I've gone through Navin's mail again, and I must say that while I have not taken enough note of the positive tone there, you've missed Navin's sarcasm.

What seemed a defense—on my part—of the cover design was not really a defence. It was an explanation, and I still say I'm not an expert in such matters: although I do approve of the cover before it goes to print, I leave the psychology behind it to the designers! And coming to that, I have passed on your congratulations to my design team. They're pleased as punch!

— Executive Editor

Beyond Tech

The great enlightened Maharishis of our time are warning everyone that electromagnetic field (EMF) damage to the nervous system and health of the physiology is real. You'll not find Wi-Fi in their *Ashrams*. In the 1990s, significant scientific research linked leukaemia and skin cancer to the EMF coming from poor building wiring. More evidence on damage from mobile phones and other powerful electrical transmitters is coming. The fascination of wireless communication and entertainment is real, but why not open your hearts and mind to the experience of Totality and the Kingdom of Heaven within?

Vidhyapeeth
Uttarkashi

Dear Mr Vidhyapeeth,
As I've heard—and as I see it—EMF having a negative effect on physiology is a controversy-ridden topic, with some people crying themselves hoarse that there is a link, and some doing the same thing to convince people there is none. As a result, I must admit, I cannot say anything for or against the idea.

In regards to all this vis-à-vis what you refer to as the Kingdom of Heaven within, some might subscribe to your view, some might not. We are a technology magazine, and our only aim and duty is to educate and motivate people on that front. We might, perhaps, take an in-depth look

at what the truth really is about wireless radiation and health.

— Executive Editor

The Disc Is In The Mail!

Your team always proves that *Digit* is the best. I've never subscribed to any other magazine all the past five or six years—nothing can make me feel complete with its quality and overall growth. But it's only *Digit* that I've been reading regularly. Every time I think *Digit* is repeating itself or that there's nothing in it to spend my time on, you come up with something new... thanks!

This issue (August '07), though, spoil my holiday. The DVD isn't working. I found nothing wrong at my end. It's not the only problem I've had with your magazine. The December issue, too, arrived with damaged discs. Thank God there was no problem with the anniversary issue... is there anything you can do?

I have some suggestions: please make sure the packaging of the discs and of the June and December special issues is good. Second, always think about those who do not have high-end computers—and you could increase your circulation, helping more people use technology. Then, I am still waiting for a *Fast Track* on programming.

Adding video or Flash-based tutorials can help us understand new software. This is one area *Digit* lacks in.

Shift some reading material to the discs—like *Tips & Tricks* and *Q&A*.

Inderdeep

Hoshiarpur, Punjab

Thanks for your suggestions, Inderdeep—we'll be thinking about them, but there are lakhs of readers to please, and we need to find the best way to please as many of them as possible. I must say, though, that adding something like Flash-based tutorials would be a considerable added expense, one we cannot bear.

We welcome suggestions, though, because that's the only way we know what our readers want. Letters like yours are especially valuable—feel free to write in again, with as many suggestions as you can think of!

Regarding your damaged discs, all you need to do is mail us with your subscriber number and postal address with PIN code, and your replacementss will be on their way!

— Executive Editor

India Online

In your May 2007 issue, the absence of a vernacular Web presence was discussed, and the features of "uRekha" were brought out. It is necessary to bring your notice that there is a single software to create documents in almost all Indian languages, and it's free! Kindly go to www.baraha.com and assess its versatility and utility in a field which, you lament, is neglected. You can inspire enthusiasts to create Web portals using the resources available. The economics of maintaining a Web sites is perhaps the main reason for the current situation.

Here's an extract from that page: *Baraha is a word processing application for creating documents in Indian languages. It is developed with an intention to provide a free software to enable and encourage Indians use their native languages on the computers. Baraha can be effectively used for creating documents, sending emails and publishing web pages. Baraha 7.0 supports Kannada, Devanagari, Tamil, Telugu, Malayalam, Gujarati, Gurmukhi, Bengali, and Oriya scripts.*

"With 35,000 downloads/month, hundreds of thousand users have downloaded Baraha so far. Baraha is used in publications, schools, banks, government and private offices, various Indian organizations and millions of homes around the world."

M N Sathyanarayana Rao

Dear Mr Rao,
Thanks for bringing the site and software to our notice. As we can see, the Baraha software has its utility—it makes it easy to type in several Indian languages using the regular US keyboard layout. There is also a feature where you type in something in English, choose a supported Indian language, and you get character output in that language—which you can then paste into any application. (However, that feature is not quite perfect.) We do encourage our readers to visit www.baraha.com.

I'd also like to say that we made special mention of uRekha because it is gesture-based, making it very easy to learn—in fact, there is hardly any learning required (for supported languages) to be able to input text. That is something that is sure to be appreciated in our villages and other rural areas, where people don't know the English alphabet, or are not comfortable using a keyboard, or both.

— Executive Editor

Rob Peta To Pay Paul

1 Logitech is the first company to have brought out

- (a) A mouse that works in the air
- (b) A waterproof mouse
- (c) The laser mouse
- (d) A mouse with fur and big ears



2 Name the technology by which Vista can use a Flash drive as cache.

- (a) Turbo Cache
- (b) ReadyBoost
- (c) Power Cache
- (d) InstaBoost

3 What processor does the XO-1 (the laptop in the OLPC programme) use?

- (a) Celeron
- (b) AMD Geode
- (c) UltraSPARC T2
- (d) VIA C7 M

4 You should know this one. GSM stands for...

- (a) Groupe Spécial Mobile
- (b) Global System for Mobile communications

(c) General Standard for Mobility
(d) Gesellschaftliche Schema des Motorolas

5 All FLAs, and the odd one out is...

- (a) CDMA
- (b) GPRS
- (c) HSCD
- (d) EDGE

6 (Tough!) What was the code-name of Windows CE?

- (a) Prescott
- (b) Worcestershire
- (c) Wyvern
- (d) Foxwood

7 Bill Gates and Paul Allen wrote a version of BASIC for which microprocessor?

- (a) The 8080
- (b) The 8088
- (c) The Z80
- (d) The Motorola 68000

8 And then, how much memory did Gates famously say would be "enough for anybody"?

- (a) 5 MB
- (b) 64 KB
- (c) 640 KB
- (d) 1 MB

9 How many gigabytes are in a petabyte?

- (a) One million
- (b) One hundred
- (c) One thousand
- (d) Ten million

10 Richard Stallman is well-known in the context of...

- (a) The GPL (GNU Public License)
- (b) Cryptography (As in RSA)
- (c) E-mail (He sent the first one)
- (d) DRM (He's a strong advocate)

In the Deep Web, the part of the Web not catalogued by search engines, information is said to be 500 times more than on the WWW. Database queries, for example, can access some of that information.

Did You Know?

Answers

1. (a) A mouse that works in the air	5. (a) CDMA; the first use GSM
2. (b) ReadyBoost	6. (c) Wyvern
3. (b) AMD Geode	7. (a) The 8080
4. (b) Global System for Mobile communications	8. (c) 640 KB
9. (a) One million	10. (a) The GPL

Got an interesting question? Send it in with the answer to **TQ@thinkdigit.com** Mark "TQ" in the subject area.

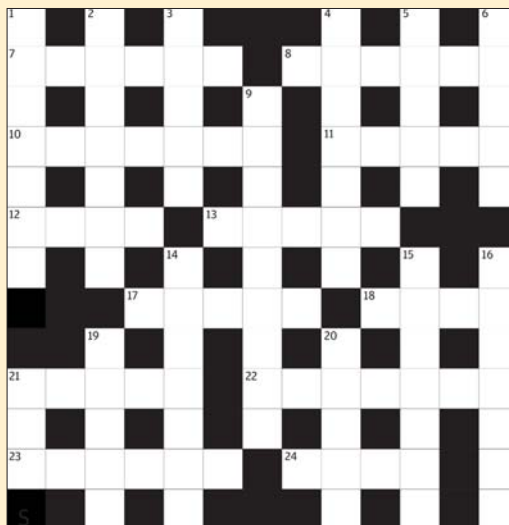
Crossword

ACROSS

- 7. Extended Data Out Random Access Memory (abbr) (6)
- 8. The process of locating information on the Internet (6)
- 10. Electrical device that receives or sends radio or television signals (7)
- 11. Spreadsheet programme from Microsoft (5)
- 12. Connection of two web pages or websites (4)
- 13. One more hardware unit put in a computer to increase its utility (3,2)
- 17. Multi-.....sound and video on computers (5)
- 18. Front End Programming Interface(abbr) (4)
- 21. Computer cubicle in a cyber café (5)
- 22.-pair- copper wire that connects home and business computers to the telephone company (7)
- 23.-pages or the telephone directory (6)
- 24. Testing stage of a commercial hardware or software product (4)

DOWN

- 1. Factory setting for user-configurable options (7)
- 2. E-mail security firm bought over by Google (7)
- 3. Net-.....child safety Internet software (5)
- 4.-processor- Intel Corporation's trade name for its family of Pentium II microprocessors (7)
- 5. Breaking-in or getting around a software programme or password (5)
- 6. Programme that mediates access to a particular system or server (5)
- 9. Information carrying capacity measured in Hertz (9)



- 14. 'D,T' in DTP (4,3)
- 15. 'C' in CPU (7)
- 16. Microsoft-.....operating system for computers (7)
- 19. Digital-.....programme that can quickly clone drives to drives or files to files (5)
- 20. The smallest unit of a picture on a computer screen (5)
- 21.-board- input device (3)

August's Winner:
Vivek Goel, Meerut - 250001

Send in your entries to **TQ@thinkdigit.com** on or by 20th of this month. One lucky participant will win **Beginning Excel Services**

By Liviu Asnash, Eran Megiddo, Craig Thomas
Published by **WILEY-INDIA**



Win!

Last Month's Solution



Crossword by Nitta Jaggi

Tabloid TECH

People And Events That Grabbed The Headlines—For Better Or For Worse

It Kills The Mind

In general, people think the Internet is here to stay. They seem to like it. Yes, there are people who say the Internet is good. John, Sir Elton, is not one of them. This Sir-bloke hates the Internet—



he can't wait to go back to the good old days when the Big Network was only for the boffins and geeks in universities.

So here's his reason: there has been a surfeit of technology, and this has made people too lazy. The Internet is creating a lot of mediocre stuff, which is good most of the time, but that it is hampering the creation of masterpieces.

Never a man to rant about a problem without suggesting a solution, the admittedly talented musician says the only solution is to shut down the Internet for five years and see what sort of stuff is created then. Food for thought, is our only comment. (Who knows?)

Eminem Raps Apple

Marshall Mathers II—better known as Eminem the wannabe nigga—recently sued Apple for featuring one of his tracks in an iTunes Store ad without consent. In the ad, aired on MTV (who is also facing the music), Eminem's *Lose Yourself* was belted out by a ten-year-old. (White, black, or confused, we don't know.) Now the record company that owns the copyrights—Eight Mile Style, if you really

want to know—is crying foul on behalf of the “Wigger”—and claiming about \$10 million in damages. There were efforts to settle the deal out of court, but, etc. etc. and now both sides are readying themselves for a court battle. Incidentally, a number of Eminem's tracks are available for sale on the iTunes store, and that's another legal matter.

Apple has had run-ins with the music industry earlier (pardon us for insinuating that Eminem's stuff is music). They was sued twice by the Beatles' music label Apple Corp. for using its name. Then there have been the lawsuits relating to restricting iTunes music to iPods only... litigators just seem to love the company. But it's reciprocal. Let's not get into that.



We Don't Need No Censors

Pearl Jam hates Dubya. And in case people doubt it, they make their distaste amply clear through lyrics like “George Bush leave this world alone” and “George Bush find yourself another home.” Problem is, nobody heard them—those lyrics were edited out. This happened during a

cybercast of a Pearl Jam concert hosted on an AT&T Web site. The company later apologised in pleading tones; they said a subcontractor was responsible for what had happened. Come on out, conspiracy theorists and free speech advocates—tell us about what politics went into this. We can't figure.

Wallpaper Woman Wields Wiimote



Recognise the picture? That's Jessica Alba. She's featured on your wallpaper at some point or the other—if you're a reasonably red-blooded male, that is. If you aren't—or if you're female—you'll need a line of an introduction: Ms Alba is an actress. She starred in *Fantastic Four*, *Dark Angel*, and other movies. In addition, Jessica the natural brunette (!) has been dubbed the sexiest woman in the Milky Way or some such epithet by practically all the authorities out there: *FHM*, *Maxim*, *AskMen.com*, and even *Playboy*. Which is over the top—she's just a good-looking woman, especially on wallpapers.

Then, someone seems to have done body scans of her (and why not?), and characters that look just like her (she's said this is “completely cool

and bizarre”) have been spotted on the games based on those movies.

But Ms Alba hasn't just been featured (in a sense) in games, she also plays them. Quite a bit, apparently. She loves the Nintendo DS, and now, the Wii. Body movements translate into movements in the game, see? So that's her exercise plan... As a matter of fact, her favourite is *Wii Sports*, which includes baseball and tennis games; an hour of this at the Wii burns quite a few calories.

Women gamers are hard to come by, and celebrity gamers are hard to come by, too. Now take the two and you have a woman celebrity gamer—rare indeed!

Seriously, it's refreshing to see a body-based celebrity whose first and last attribute is not the curves.