



Introductory Price
Rs. 100

Join Agent 001 On An Electrifying Trail

Impress Your Valentine The Tech Way

www.thinkdigit.com

February 2005

digit

YOUR TECHNOLOGY NAVIGATOR

ICONS of Trust

Bought It. Experienced It. Voted For It.
Digit Readers Pick India's Most Trusted
IT Brands On Service And Reliability

Hacking Can Be An Ethical Business!
Meet The Men Who Have Proved It

The Ageless PC 27 Mid-Range CPUs
and Motherboards Tested To Make
Your PC Last Long. Really Long



IT-Ready, Get, Set, Go! Expert Tips
On Tech-Enabling Your Workplace

Supriya And Jigna Earn Thousands At Home, Thanks To Tech. You Can Too!

Tech To The Rescue How Cell
Phones And The Net Helped
Tsunami Victims Regroup



Jasubhai
DIGITAL MEDIA

Editorial

The Blog As Your Voice

LIKE THE POLAR bear that hibernates for extended periods of time, one of India's best-written blogs was in hiding for a year. It re-emerged mid-January, and Indian media professionals are secretly celebrating.

Sadly, though, for all our intellectual and technical superiority, there are few Indian blogs worth a mention. Rajesh Jain's views on emerging technologies—emergic.org—is probably India's best blog across all categories; and Pradyuman Maheshwari's aforementioned brutal take on the Indian media—mediaah.com—comes quite close.

Both Jain and Maheshwari are just two of a breed of what is now a sunrise sector on the Web. At last count, LiveJournal, one of the Web's most popular blogging tool, had nearly 6 million registrations, of which 2.5 million are active. Various studies on the Net mention a disputable, but believable figure: a new blog is created every 7.4 seconds. In the recently concluded US presidential elections, several bloggers were given media status by the government, and some blogs were as keenly followed by the voting public as were CNN.com or Fox TV network.

Here is the bitter truth about blogs, though: They just do not have the reach of a top-notch television channel, nor do they have the clout of a high-selling newspaper. Yet, like the independent aspirant in the elections who is sure not to win, but is an irritant to big-party candidates, blogs will make life a bit uneasy for existing media players.

Because, more than anything else, the blog is a release. Against urban angst; to propagate knowledge; to say the things you always wanted to say, but did not know where to publish, or worse, did not have anyone who would agree to publish.

Columnist Om Malik writes in *Business 2.0*, a respected US-based business and tech magazine: "We are seeing the rise of a new news network, thanks in large part to technology. Average Joes and Janes are now armed to the teeth with technology that can capture and distribute news almost anywhere."

He could not have put it more succinctly.

With blogs, the Web has finally delivered on its promise—to create an alternate social structure; one where an individual makes as much an impact as a



Sachin Kalbag Executive Editor

"With blogs, the Web has finally delivered on its promise—an alternate social structure"

multi-core media behemoth. What holds bigger promise is that traditional media, despite the fact that they use technology in every possible way to shore up their core competence areas, are averse to investing monies in new avenues, either out of ignorance or out of apathy.

This is the baggage bloggers do not carry.

It is this that will make the blog Your Voice.

sachin_kalbag@jasubhai.com

Chairman
Jasu Shah
Printer, Publisher and Editor
Maulik Jasubhai
Head, Publications & Web sites
Louis D'Mello

Editorial

Executive Editor **Sachin Kalbag**
Associate Editor (Technology) **Sumod Hajela**
Deputy Features Editor **Aditya Kuber**
Senior Writer **Ahmed Shaikh**
Writers **Meera Vankipuram, Preethi Chamikutty**
Copy Editors **Robert Sovereign-Smith, Ram Mohan Rao, Renuka Rane**

Test Centre

Deputy Head **Deepak Dhingra**
Senior Reviewer **Aliasgar Pardawala**
Reviewers **Sanket Naik, Bhaskar Banik, Varun Dubey**
Coordinator **Gautami V Chalkre**

Design

Lead Designer **Jayan K Narayanan**
Senior Designer **Shivasankaran C Pillai**
Designers **Atul Deshmukh, Shyam Shriram, Binesh Sreedharan, Vijay Padaya, Sivalal S**
Photographers **Mexy Xavier, Jiten Gandhi**
Coordinator **Rohini Dalvi**

Multimedia

Content Lead **Ahmed Shaikh**
Programming **Pradeep D'Souza, Ashwin Nikam, Sandeep Ayyer**
Design **Sani Mani**

Marketing & Sales

Head, Consumer Brands **Prashant Narekuli**
Head, Consumer Sales **Saurabh Pandey**
Brand Executive **Priya Yogendra**
Marketing Communication
Ashwin Boricha, Vasuki Padakandla, Siddharth Singh, Mona Talati, Elizabeth Jacob
Ad-sales Coordination **Ramesh Kumar**

Production and Logistics

Head Operations **Shivshankar Hiremath**
Managers **Harish Suvarna, Shiv Hiremath**
Manager (Operations) **Shailesh Iyer**
Deputy Managers (Production)
Mangesh Salvi, Prashant Nair
Production Executives **Ravindra Dighe**
Logistics **Sandeep Rane, Anant Shirke, Sriram Iyer, MP Singh**

Audience Development

Head **Vijay Adhikari**
Sr Manager **Nabjeet Ganguli**
Asst Managers **Nicholas Kiro, Puja Punj**
Executive **Nupur Nigam**
Digit Patron Cell **Ghazala Siddiqui**

Customer Service

Arpita Ganguli, James D'Souza

Head Office: Editorial, Marketing & Customer Service

Plot No D-222/2, TTC Industrial Area, MIDC
Shirvane, Nerul, Navi Mumbai 400 706
Phone: +91 022-27629191/9200
Fax: +91 022-27629164

Printed and published by **Maulik Jasubhai** on
behalf of **Jasubhai Digital Media Pvt Ltd, 26 Maker
Chambers VI, 2nd Floor Nariman Point, Mumbai
400021, India** and Published from **Mumbai
Editor: Maulik Jasubhai**

Printed at **Magna Graphics (I) Ltd**
**101 C & D Government Industrial Estate Kandivli,
Mumbai 400 067**

COVER

Design **Jayan Narayanan**
Spider-Man Original Art Work **Sony Pictures
Entertainment**



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 to editor@thinkdigit.com



Product Testing

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



Software on CD

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



Help!

For any subscription or copy-related issues, send an e-mail to help@jasubhai.com
You may also contact the following executives for local queries:
Bangalore: Marshall S (080-37629286)
Chennai: L R Laxmanan (044-33629283)
Delhi: Puja Punj (011-51608659)
Hyderabad: Norbert Joseph (040-33629281)
Kolkata: Jayanta Bhattacharyya (033-33629284)
Mumbai: Arpita Ganguli (022-27629200)
Pune: Sachin Kamble (020-33629280)



Endorsements/Reprints

Interested in ordering article reprints, or using our logos?
Contact: siddharth_singh@jasubhai.com



Digit Patron

Get more for being a loyal Digit reader.
Register for the Digit Patron programme at thinkdigit.com/digitpatron, or send an e-mail to: digitpatron@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

Product Index

Hardware

AMD Processors 72

Athlon64 3000+
Athlon64 2800+
Sempron 3100+
Sempron 3000+
Sempron 2800+
Sempron 2500+
Sempron 2400+

Intel Processors 72

Pentium 4 540
Pentium 4 530
Pentium 4 520
Celeron D 325

AMD Motherboards 74

Asus K8N-E Deluxe
Asus K8V-SE Deluxe

Asus K8S-MX
Gigabyte GA-K8NS
MSI K8N Neo Platinum

Intel Motherboards 74

Asus P5GD1-VM
Gigabyte GA-8I915G Duo
Gigabyte GA-8I915G-MF
MSI 915G Neo 2 Platinum
MSI 915G Combo
MSI 915P Neo 2 Platinum

New and Notable 88

Compaq V2036AP
Microsoft Fingerprint Reader
Logitech MX-1000 Cordless Mouse
Nokia 6670
O2 Xda II Mini
Orite MV-3115
Krome Intellect iq700

Advertisers' Index

Client	Page
Abacus	126,127
Acer	65
Aditya	124,125
Altec Lansing	13
BBC World	77
Brittanica	97
Busy	117
Canon	93
Cebit	31
Chemtech	56,57
Dell	14,15
Dlink	47
Enjay	132
Epson	23
HSBC	35
IBM	21
Intel	69,71,73,75
Kingston	128,129
Lexus	41
LG	IFC Gatefold
Millenium	133
Moser Baer	Inside Back Cover
Numeric	134,135
Proteam	136
Rashi	130,131
Samsonite	111
Samsung	7
Seagate	100,101,103,104
SMC Networks	138
Sony Hi-Fi	Back Cover
Top Gun	137
Viewsonic	19
Zenith	11

To Advertise

Bangalore

Vasuki Kashyap
E-mail: vasuki.kashyap@jasubhai.com
Phone: 5325670/88, 2899287

Chennai

Sahayaraj Prabhu
E-mail: prabhu.sahayaraj@jasubhai.com
Phone: 28235186/89

Kolkata

Jayanta Bhattacharyya
E-mail: jayanta_bhattacharyya@jasubhai.com
Phone: 22345100/5200

Mumbai

Bhaves Thakor
E-mail: bhaves.thakor@jasubhai.com
Phone: 56310515/14

New Delhi

Arvind Prabhakar
E-mail: arvind_prabhakar@jasubhai.com
Phone: 51608658

Pune

Bhaves Thakor
E-mail: bhaves.thakor@jasubhai.com
Phone: 022-56310515/14

Secunderabad

Sahayaraj Prabhu
E-mail: prabhu.sahayaraj@jasubhai.com
Phone: 044-28235186/89

Enter



16
Amar Singh
says he's not
too tech
savvy


16
'in' domain
names up for
grabs

17
Guard
yourself from
e-mail hoaxes

24
The lowdown
on Intel's
Sonoma

Digital Passion



25 The Codebreakers 
Hacking is not always about defacing or destroying. It also has a constructive side to it. Meet the ethical hackers who keep an eye on their enemy—the destructive hackers

30 Take a Crack
Create a bootable Windows XP installation CD with SP2 to win!

32 The Magic Bus

Are you ready to board the PCI-Express bus? Here's your ticket!

36 Beyond Music

Accessories and more to dress up your all-in-one Apple iPod

38 The Face Behind The Mirror

Identity theft is no longer a problem only for the western world. It is a real and present danger for India too

43 30 Days...

A month without the Internet...can't be done? Find out

45 Hindi Hain Hum!

Translating software to local languages and spreading the reach

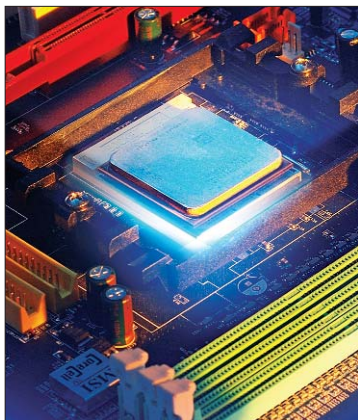



Contents Magazine

Digital Tools

63 Your Learning Your Medium

New-age classrooms go virtual using popular multimedia tools to facilitate learning



 **60 Future Perfect**
We test motherboards and processors from Intel and AMD, with a view to offering you the best solution for your budget PC. A comprehensive guide


88 New & Notable

The latest and most desirable products including the Nokia 6670, Microsoft Fingerprint Reader, Logitech MX-1000 Laser mouse and more

94 Upgrade Your Skill Set

Soft skills are essential tools for your career growth. Here are resources you could look up for honing them



 **96 Home Is Where The Money Is**
Have a computer at home? It could be your money-making machine...

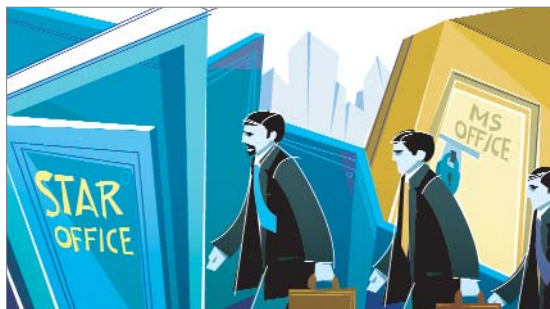
105 Agent 001

Agent 001 goes on his most powerful hunt till date

Digital Business

107 The Other Side ☑

Is StarOffice the better, cost-effective alternative to MS Office?



112 Inventory Management

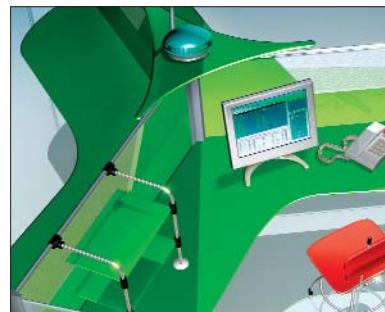
Customised Inventory Management software can make your job easier. Take a look...

114 The Money Managers ▶

Value Added Tax is set to change the way businesses compute tax. Is your Financial Accounting software ready for VAT?

118 Tech-furnishing Your Office ▶

Make the most of your office using the latest technology to increase efficiency



120 When Will You Upgrade?

When will you upgrade your software? What are the reasons that will make you upgrade?

122 Online Advertising v/s Offline Advertising

Would you rather your ads be seen online or through traditional media? Here's weighing the pros and cons of both



February 2005

Digital Leisure

141 The Ocean Rises

Amateur technology scored over sophisticated and complex systems as it survived the Tsunami and aided relief efforts

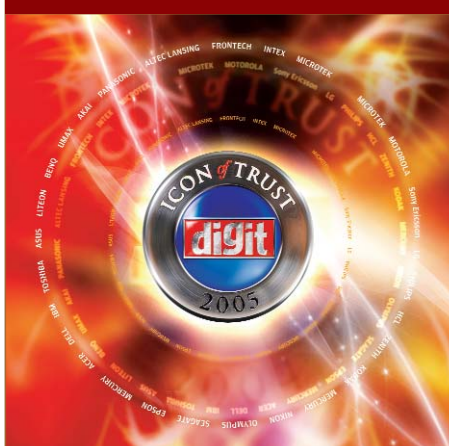
146 Prince Of Persia

The Prince is back and this time, he's up against nastier adversaries. Can he beat them? Should you help him win his princess?

144 Floor Your Valentine

Presenting five simple yet effective ways of impressing your beloved using digital photography

Icon of Trust



48 We find out who are the best IT products companies in India when it comes to customer service, reliability and satisfaction

Escape

150

Apple Sues Teen Over Web Site



151

Gates Witnesses Windows Crash



REGULARS

Incredibly Useful Sites	16
Gender Benders	22
Geek Dreams: Sony Vaio X505.....	37
Net Gain: DPReview.com.....	87
Tips & Tricks	79

Old Way Tech Way: Creating A Digital Playlist	89
Q&A	90
Tech Quiz	144
TechCritique	145

Mediawise/Adwise	148
Bluff Your Way Through	150
Blogwatch	151
Inbox	158
Tabloid Tech	160

Contents Interactive

DVD

DIGITAL PASSION

GAMERS

Act Of War: Direct Action

Spanning one large mission, this real-time strategy experience puts you squarely in control of counterterrorist forces to defend the world's cities



Flatout

The Punisher

An action-packed game based on the popular comic character



VIDEO REVIEWS

Sony PlayStation Portable



- Sony Vaio U70P
- Sony Vaio X505

DEV TOOLS



■ Eclipse 3.0.1 SDK
 The Eclipse SDK includes the Eclipse Platform, Java development tools, and Plug-in Development Environment, including source and both user and programmer documentation
 ■ C/C++ Plugin for Eclipse (CDT 2.1)
 ■ Boost 1.32.0
 ■ Dev-C++ 4.9.9.1
 ■ Python 2.4
 ■ Zope 2.7.3
 ■ Apache 2.0.52
 ■ DOSbox 0.63
 ■ D-Fend 2.0.62.42
 ■ Plone 2.0.5
 A user friendly and powerful open source Content Management System

DIGITAL TOOLS

SYSTEM

- WindowBlinds 4.4
 - Iconpackager 2.5
 - Autopatcher XP
- The all-in-one updater for Windows XP



MULTIMEDIA

AVI Maker

AVI Maker is a simple, but useful video creator. Using AVI Maker you can create custom-designed AVI Files.

- FrameShow
- ImageForge PRO
- Autolmager
- Virtual CD 6.0
- All Audio Recorder
- Grandmommys Finger Painter



INTERNET

- Power Siphon 1.9.6.0
- VisNetic MailServer 7.6
- Blog Express
- Feed Demon
- FeedReader
- Free Launchbar
- Gmail (mail notifier)
- MyWeb Browser

ESSENTIALS

- Adobe Acrobat Reader 4.0
- Ad-Aware SE 1.05
- Ad-Aware SE1R24 29.12.2004 definiton file
- avast! Home Edition 4.5.549 and its latest update
- .NET redistributable
- Flashplayer 7
- Quicktime Alternative
- Real Alternative

SYSTEM

- SafetyBar for Outlook Express 2.5.1
- SafetyBar for Outlook 4.0.1
- Babylon English Dictionary
- Acronis Power Utilities
- Spam Alarm
- Google Desktop
- Onfolio (BETA)
- Surfpark startpage
- X1 Search (BETA)
- MSN Toolbar (BETA)
- Desktop Sidebar
- Microsoft Virtual PC



DIGITAL BUSINESS

Linux

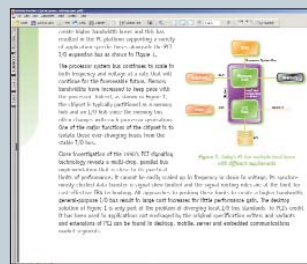
Mandrake 10.1

Major updates in this release have made Mandrake more stable, more powerful, and more advanced than it already was. Check it out!



WHITE PAPERS

PCI Express white paper

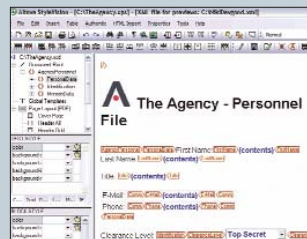


- The Inevitability of Failure: The Flawed Assumption of Security in Modern Computing Environments
- Electric Communities: Commerce and Society in Cyberspace

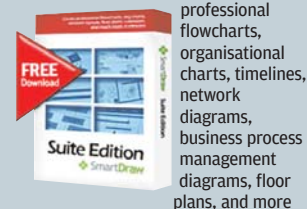
PRODUCTIVITY TOOLS

ECTI 1.5

ECTI is a software to create Presentations, Demonstrations,



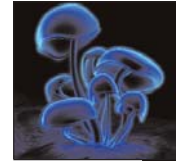
Simulations, Help, Support, Learning
 ■ Altova Enterprise XML Suite 2004r4
 ■ BackupAssist 2.3.2
 ■ Secure Pack 3.0
 Secure Pack is the ideal solution for distributing PowerPoint presentations.
 ■ Search Engine Commando 3.1
 ■ CBN Selector 2.1
 ■ SmartDraw
 SmartDraw is an easy to use drawing software that allows you to create



DIGITAL LEISURE

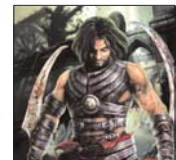
GALLERY

- 25 WindowBlinds Themes
- 19 Style XP Themes
- 150+ Wallpapers

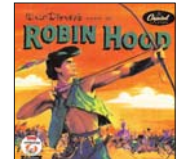


MUSIC

- Prince of Persia: Sands of Time



- Disney's Robin Hood



SMALL GAMES

- Bejeweled 2 Deluxe
- Pixelux Deluxe
- TipTop Deluxe
- Little Fighter
- Seven Seas
- Zuma Deluxe
- Astropop
- Bookworm Deluxe
- Rocket Mania! Deluxe
- Insaniquarium! Deluxe



E-BOOKS

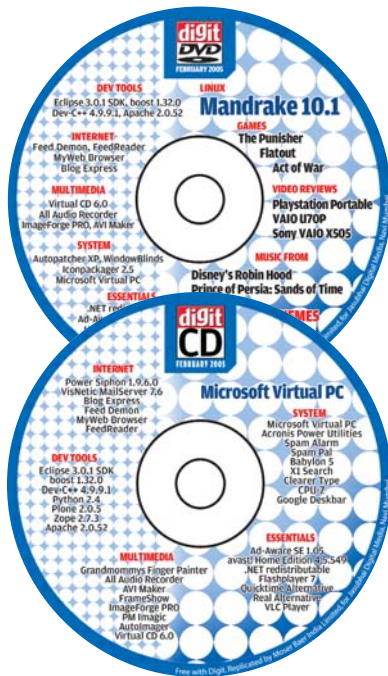
- Down and Out in the Magic Kingdom
 - Eastern Standard Tribe
 - ZopeBook
 - Long Tail
 - 330 Java tips
 - The Cathedral and the Bazaar
 - Parma Endorion: Essays on Middle-earth
 - How To Be Creative
 - Art Of The Start
 - PGP – An Introduction To Cryptography
 - How To Create Bootable CDs
 - UpsetChap's Doom3 Guide – Framzerate and Visual Tweaks
 - Web Design in 7 days
 - Free Culture
- A book detailing why IPR and associated patents are not always a good thing



CD (Bootable)

By Demand

You get to choose what goes on Digit Interactive. This month, you chose:
Mandrake 10.1
Flatout



Digit Patrons

It really does pay to be loyal! Find out more on **www.thinkdigit.com**

Digit Reader Poll

This Month's Question

Has anyone ever attempted to clone your mobile phone?

- ☐ Yes, and it was scary!
- ☐ No, I never give out my mobile phone
- ☐ Mobile cloning? What is mobile cloning?

Log onto **www.thinkdigit.com** and vote

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!



taste technology at **www.thinkdigit.com**

There's something for everyone on the Digit Forum **www.thinkdigit.com/forum**

Software Discussion
 Moderators: digitadmin, rahul, Raasho, Rite, [deXter]
 Users browsing this forum: None

[new topic](#) Digit Forum Index -> Software Discussion

Topics

- 1 Announcement: New Forum for Indian Open Source Development
- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 system file checker win xp
- 1 1ST 64BIT GAME HAS ARRIVED!!
- 1 Help in SUSE 9.1

Software Discussion
 Discuss software—from the best tools to the greatest games

Hardware Discussion
 Moderators: digitadmin, Raasho, Rite, [deXter]
 Users browsing this forum: None

[new topic](#) Digit Forum Index -> Hardware Discussion

Topics

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Sticky: [Poll] GUIDE FOR FLASHING FIRMWARE (DVD ROM/CD/BIOS) [D goto page: 1 ... 2 ... 3]
- 1 Sticky: A newbie's guide to Overclocking a Athlon XP CPU [D goto page: 1 ... 2 ... 3]
- 1 fanATix vs Nvidiotz [D goto page: 1 ... 2 ... 3]
- 1 DVD drive doesn't open DVD's [D goto page: 1 ... 2 ... 3]

Hardware Discussion
 The hangout haven for hardware geeks

Digit
 Click here to go back to thinkdigit.com
 Share your views with the Digit Community, exchange tips and tricks, look for previous

[FAQ](#) [Search](#) [Memberlist](#) [Usergroups](#) [Register](#)
[Profile](#) [Log in to check your private messages](#) [Log in](#)

The time now is Fri Sep 24, 2004 12:36 pm
 Digit Forum Index

Forum	Topics	Posts
Forums		
Digit Discussion Interact with Team Digit members. Tell us what you think about the magazine (articles / sections), DVD contents and Web site. What you liked, what you didn't, and what you expect to see in the future... Moderators: digitadmin, Raasho, Rite, [deXter]	59	846
General Discussion Anything that doesn't fit into the other sections—from upcoming technology to personal anecdotes. Moderators: digitadmin, Raasho, Rite, [deXter]	2480	31980
QnA This is the place to share what you know, and learn what you don't. Moderators: digitadmin, rahul, Raasho, Rite, [deXter]	1091	12499
Software Discussion Talk about the latest software products and technologies—from operating systems to office suites and much more. Moderators: digitadmin, rahul, Raasho, Rite, [deXter]	976	7678
Hardware Discussion Discuss a hardware product, or talk about new or old hardware technologies here. Moderators: digitadmin, Raasho, Rite, [deXter]	999	9651
Bazaar An online marketplace for Digit users to buy or sell their second-hand IT goods. It's all here, from older Digit issues and CDs to computer parts and peripherals. Moderators: digitadmin, Raasho, Rite, [deXter]	577	2933

Digit Discussion

✓ Your feedback on the Magazine, the DVD, the CD and the Web site

Digit Discussion
 Moderators: digitadmin, Raasho, Rite, [deXter]
 Users browsing this forum: None

[new topic](#) Digit Forum Index -> Digit Discussion

Topics

- 1 Announcement: Upgrade-2-DVD offer by Digit [D goto page: 1 ... 11 ... 12 ... 13]
- 1 Announcement: Any interesting snaps with technology? [D goto page: 1 ... 2 ... 3]
- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Announcement: Why Digit Discussion Forum?
- 1 Sticky: [By Demand] November 2004 Digit DVD / CD

QnA

✓ Thousands of answers to every hardware or software query you have

QnA
 Moderators: digitadmin, rahul, Raasho, Rite, [deXter]
 Users browsing this forum: None

[new topic](#) Digit Forum Index -> QnA

Topics

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 what is ip address
- 1 Hyperthreading Issues
- 1 A Brake for GOOGLE HHH
- 1 Require Lottery Software Super Lotto number generator

Bazaar
 Moderators: digitadmin, Raasho, Rite, [deXter]
 Users browsing this forum: None

[new topic](#) Digit Forum Index -> Bazaar

Topics

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Sticky: No Piracy Allowed!
- 1 Linkin Park
- 1 music vidz any1
- 1 X-Files?

Bazaar

Have money, will buy! Buy or exchange hardware or software

General Discussion
 Moderators: digitadmin, Raasho, Rite, [deXter]
 Users browsing this forum: Raasho, Rite, [deXter]

[new topic](#) Digit Forum Index -> General Discussion

Topics

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Sticky: Banning Users [D goto page: 1 ... 2 ... 3]
- 1 Sticky: All Gmail related posts should be posted here... [D goto page: 1 ... 21 ... 22 ... 23]
- 1 Sticky: Cutting down large avatars [D goto page: 1 ... 3 ... 4 ... 5]
- 1 Linkinpark [D goto page: 1 ... 17 ... 18 ... 19]

General Discussion

From Linkin' Park to Doom III, it's all here

Twin Menace

'Evil twins' are the latest menace to the security of WiFi Internet users, warn experts in the UK. An 'evil twin' is a bogus base station. Victims may transmit valuable personal information, not suspecting that these are being intercepted by cybercriminals.



Pentop Computing

LeapFrog Enterprises' new FLY 'pentop computer' is a talking pen that can translate words and help with maths and spelling. A user can draw a calculator, touch the handwritten digits to perform an operation, and hear the answers announced.



Enter

Amar Singh Politician

High-flying Rajya Sabha MP Amar Singh is known for his close association with the who's who of corporate India and Bollywood. Technology, though, is not one of his strengths. He admits he is still adapting to technology, and is candid enough to admit his overall tech ignorance.

What does technology mean to you?

Technology amazes me since I grew up in harder times. Today, when I see a paperless office or a tiny chip storing huge chunks of data, I realise the power of technology.

What gadgets do you use?

My Nokia cell phone is indispensable. My office handles most of my correspondence on e-mail. I also have a home theatre system.

How tech savvy are politicians?

Most politicians cannot take decisions on technology.

Do you surf the Net?

Yes. There are Web sites in my name and I like to check those. We also have a basic party website.

Is e-Governance possible for Uttar Pradesh (UP)?

I believe it is. I met Infosys CEO Nandan Nilekani, who plans to frame an IT policy for UP. We are trying to computerise land records and build Internet kiosks, and Nandan has promised to turn UP into the new Silicon Valley.

GET .IN

'in' Domain Names Up For Grabs

The Government of India recently inaugurated the registration process for '.in' domain names. A special 'Sunrise' period, from January 1, 2005, was allotted to trademark holders to register their .in domain names.

Corporates as well as individuals holding registered trademarks could register their .in domain name till January 21. Post January 21, registration was thrown open to the public.

Applicants who did not register their domain names ran the risk of losing their domains to cybersquatters. At present, there are five lakh trade names registered in India.

INRegistry (www.registry.in/), the official .in registry, appointed by the Government of India, operates under the aegis of the National Internet eXchange of India (NIXI).

NIXI is a not-for-profit organisation that seeks to facilitate improved Internet services in the country. INRegistry functions as an autonomous body within the NIXI fold to maintain the .in ccTLD (country code top-level domain, which is used and reserved for a

country or a dependent territory) and ensure its operational stability, reliability and security. INRegistry will also implement new initiatives undertaken by the Ministry of Communications and



Illustrations Harsho Mohan chottoraj

Information Technology that falls under the aegis of the Department of Information Technology.

Accredited registrars such as Net4India (www.net4india.co.in/), OnlineNIC (www.onlinenic.com/), DirectI (www.directi.com/) and Good Luck Domains (www.goodluckdomain.com/) will facilitate the registration process.

Says Jasjit Sawhney, CEO, Net4India, "The 'Sunrise' period has been designed to avoid problems of trademark infringement and cybersquatting. There is also a Dispute Resolution

Policy using which, companies can attempt to claim their name back if they feel someone is using one that they have a right to."

Most of the top corporate organisations in India have registered their main brand and/or company names already for the trademarks they hold. "Net4India alone would be registering more than 10,000 names/extensions by February 16. This is more than the total ever registered in the seven to eight years that the manual process has been in place," says Sawhney.

SECURE YOUR WINDOWS

More Security Updates For Windows

Microsoft Corp is warning users that they need three security updates, including one that applies even to computers that have downloaded the company's massive fix for Windows XP. Two of the flaws which carry the company's most severe threat rating affect versions of its dominant OS going back to Windows 98.

One even affects users who have downloaded



Security Watch

E-mail Hoax



The problem

Phishers are stooping to new lows, exploiting would-be humanitarians. Web security firm Sophos said on January 17 that there is a mass e-mail floating around that poses as a plea for aid to help the victims of last month's Tsunami disaster. The e-mail is a vehicle for spreading a virus.

The worm appears with the subject line, "Tsunami donation! Please help!" Recipients are asked to open an attachment titled 'tsunami.exe'. If the attachment is opened, the virus gets forwarded to other users in the address book.

Damages

Sophos said that, so far, it had received only a small number of reports of the worm affecting users.

The e-mail appears to be primarily a vehicle for spreading the virus. It could also initiate a denial-of-service (DoS) attack against a German hacking Web site, in which that site's server would be bombarded with messages and thereby put out of action.

Precautions

It's easy to protect yourself against this one. Just do not open the attachment and delete the mail.

Service Pack 2 (SP2), a major security upgrade for Windows XP released last summer, after a series of crippling attacks.

However, SP2 was never expected to solve all of Microsoft's security problems, according to Stephen Toulouse, a security program manager at the Washington-based company. "We knew we were going to be providing updates for SP2. The goal was always around reducing the number of critical updates," he said.

The third flaw, with a lesser threat rating of 'Important', affects machines running Windows XP and Windows Server 2003. All three, in a variety of ways, could allow an attacker to take control of another computer.

The flaw that affects SP2 takes advantage of a problem with Internet Explorer that could allow an attacker to gain control of a computer if the user were persuaded to visit a malicious Web site.

The other severe flaw could be exploited if a user employs a specially formulated cursor or icon that secretly allows the attacker to gain control of another person's computer.

The new security fixes, released as part of Microsoft's regular monthly security updates, come a week after Microsoft said it would begin offering a free program to remove the most dangerous infections from computers. Many users have already

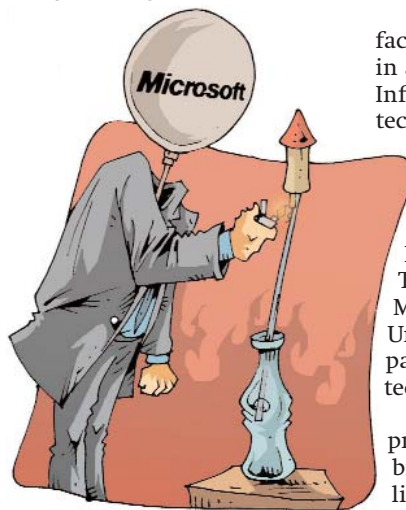
received that removal tool.

Last week, the company also began offering a free program to remove spyware. Spyware can monitor computer users' activities, send annoying pop-up ads and slow computer performance. Microsoft has also confirmed plans to sell its own anti-virus software, which would compete against programs from McAfee, Symantec and others.

MS RESEARCH IN INDIA

Microsoft Research Facility Inaugurated

Microsoft, the global software, services and solutions giant, has launched its research facility in Bangalore.



HOT

Broadband



BSNL's new broadband service offering speeds

between 256 Kbps and 2 Mbps, accessible in 198 cities across India. Plans start as low as Rs 500 and go up to Rs 9,000.

Data Transfer Limits

Under the Home 500 plan, consumers are restricted to 1 GB of data transfer per month. Under other plans, the usage limitation will range from 2 GB to 10 GB.

NOT



Microsoft Research India (MSRI), the third such facility outside the US and only the sixth of its kind in the world, was inaugurated by Minister of State for Science and Technology and Ocean Development, Kapil Sibal.

The state-of-the-art facility will initially focus in areas of Geographic Information Systems (GIS), technologies for emerging markets, multilingual systems and sensor networks. On the occasion, MSRI and the Ministry of Science and Technology signed Memorandum of Understanding (MoU) to partner in science and technology projects.

The first collaborative project will be in GIS to bring in a variety of satellite imagery, remote sensing and other geographic



One Silly Question Which software would you like to do away with?



Is Lotus Notes boring or what? Too many complications...never liked it!
Abhishek Jain, Rajasthan



After installing Norton AntiVirus, there were more viruses than before!
Manish Patwardhan, Mumbai



Does anything work perfectly on the Microsoft Windows XP OS?
Sunny Sharma, Mumbai



Ads and spyware! DAP made my PC run at snail's pace!
Sonam Talwar, Gujarat



Tally—the exact opposite of anything that is easy and user-friendly!
Durgesh Dhargalkar, Goa



The Digital World

A Round-up of Technology News from Across the Globe

CANADA

January 17, police arrested eight men and seized computers and thousands of pictures when they smashed a child pornography ring of unprecedented scale in Ottawa. The Ottawa Police High Tech Crime Unit said officers swooped against an operation to buy child porn over the Internet.

SWITZERLAND

One of the country's two makers of Swiss Army knives is going the tech way. Victorinox is promoting its 'SwissMemory' series, comprising 512 MB 'USB' knives.



RUSSIA

President Putin recently convened a meeting focusing on the creation of technology parks. The Russian IT and communications minister said Russia would invest some \$650 million (Rs 280 crore) in the IT sector in five years.



GERMANY

Metro Group, the world's third-largest retailer, said on January 20 that it had completed the implementation of RFID readers and tags at its largest distribution centre in Germany.

EQUATORIAL GUINEA

A device is being developed that will allow the recording of sophisticated wildlife data on a palmtop. Connected to GPS satellites, it will record the precise location and time of animal sightings. Such data collection could help save endangered species.



SPAIN

Police have arrested a man suspected of writing a virus capable of spying on users through their Webcams. The programmer from Madrid allegedly distributed the virus over a file sharing network.



CHINA

China is fast becoming a nation of prolific Internet users. A recent report says two-thirds of Chinese Internet users will purchase something online this year and young people favour getting their news on the Internet instead of TV.

data in a geographically indexed database.

"MSRI will make much of the government's non-sensitive geographic data available to the public in a format that is easy to browse and comprehend, with intuitive visualisation of data. Eventually, such a system could enable people to exchange information, much like the Internet, but indexed by region and geography," said MSRI managing director P Anandan.

Research for this project will involve work from relevant fields of computer science, including GIS, graphics, user interfaces, spatial databases, image processing and computer vision.

MSRI plans to employ about 24 scientists, interns and support staff in the first year.

MSRI is also initiating several projects in the ICT space by funding university research projects.

"We have selected specific projects through the request for proposal (RFP) process from various institutions across the country and awarded them

\$250,000 (Rs 1.09 crore) in total funding for these projects," added Venkatesan.

Some of the institutions where the projects will be undertaken are Birla Institute of Technology and Science, Pilani; Indian Institute of Information Technology and Indian Institute of Science, Bangalore; and the Indian Institutes of Technology (IITs) in Mumbai, Delhi, Kanpur and Chennai.

Incidentally, China and India are the only two countries outside the US where Microsoft has the entire scale of operations, including software development centres, sales and marketing offices.

ROBO-COLLEGE!

Rocking Robotix

The National Robotics competition of IIT Kharagpur, 'Robotix', held with Kshitij, the annual techno-management festival of



Three Incredibly Useful Sites

Tech Support Sites

www.experts-exchange.com



Experts Exchange

A free lunch does not exist. Take this site: it lets you search for free, but when you are about to get an answer to your question, you realise you need to register (\$9.95 or Rs 433 per month) for the complete answer. A definitive tech support site, you can search for solutions, question tech experts or as registered users, browse whitepapers and request webcasts. Not bad.

www.generation.net



Error Messages

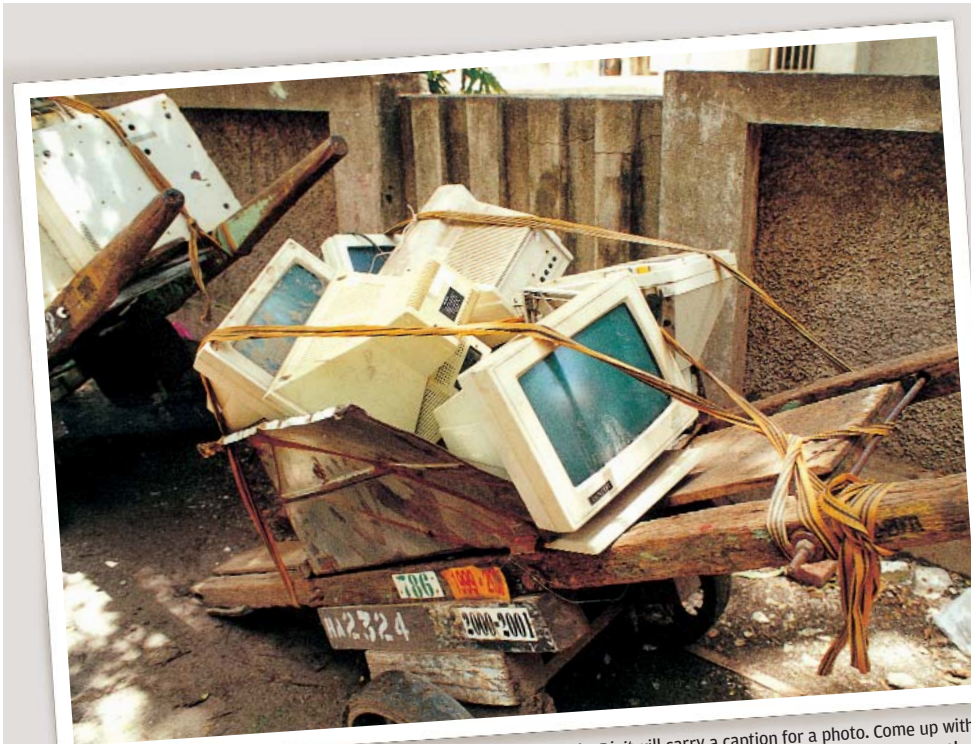
Add this site in the favourites of your browser! Just what you need, when you get an error message on Windows and you are stuck. Did IE say something like 'Mpxrexe Caused an Invalid Page Fault in Module Kernel32?' On this site, you will find a link to MS Knowledge Base article with details about the error and how to resolve it.

www.answersthat-work.com



Answers That Work

It's a pity that all good things online are no longer free. The Ultimate Troubleshooter at 'Answers That Work' is priced at \$25 (Rs 1088) for a single license. You can search 'Libraries of Answers That Work', 'The Task List' that help you figure out what a certain running process does and more. The libraries contain answers to numerous problems. Worth a dekho but once again, be ready to pay.



Photograph Jiten Gandhi

Every month, *Digit* will carry a caption for a photo. Come up with something funnier, and beat the *Digit* team at their own game!

Beat That!

Digit Caption
"Carttops for Sale"

Last Month's Winner!

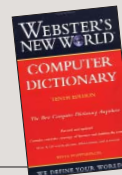
Nishant A. Patil, Mumbai is the winner for his caption: "No honey...this is not how they send junk mail...!"



Send your captions to beatthat@thinkdigit.com and win a book!

Webster's New World Computer Dictionary By

Bryan Pfaffenberger, published by Pearson Education



the IIT, will be held from February 4 to 6, 2005 at the IIT Kharagpur campus.

The event covers various fields in Robotics including mechanical design, image processing based computer-controlled robotics, microcontroller-based self-contained robots and artificial intelligence (AI).

This year, PowerBoats, Cannon Balls, Lodestones, and Mission Mars / Conquerors are what the categories have been named.

Started in 2001 as an Intra-IIT technical event, Robotix today enjoys worldwide participation. This year's event has already received 350 registrations, and more are coming in. The 'Mission Mars' event this year has teams from Georgia Tech, Arizona State University, SUNY Buffalo and University of Texas participating. A team from Pakistan has also confirmed participation.

Another highlight of this year's edition will be an exhibition by KRAIG (Kharagpur Robotics and Artificial Intelligence Guild—a student club).

The robots to be featured include:

EPIA-based multi purpose test-bed robot: This robot will demonstrate the tele-operation and exploration of unknown space; sensorial features are IR sensors, Sonar, Flame Detector, Human Detector and a camera to top it off.

An all-terrain vehicle: This is based on a variant of the rocker boogie mechanism.

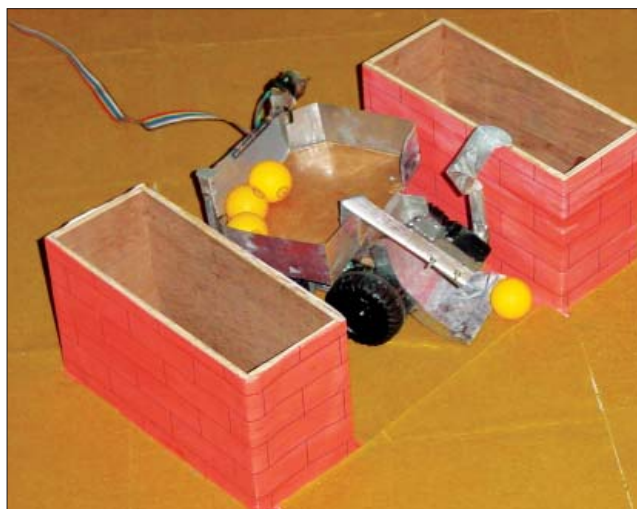
Mister-X: A robot that will be programmed to draw a picture of Gandhiji

on card paper.

An analogue line tracer: This can make decisions at junctions.

A robot that can be controlled wirelessly: The objective is to give intelligence to the computer and make this robot perform a variety of tasks without any changes in hardware.

More details of the event and activities planned are available at the Web site, www.kshitij.iitkgp.ernet.in.



One of the robots from last year's edition of Robotix

PLAY AND FAIL

Kids Playing Computer Games Fail In Studies

A new study being conducted by leading scientist Prof Robert Winston suggests that children who spend hours playing computer games and watching television are failing to develop skills needed to succeed at school.

According to the *Daily Mail*, he added that youngsters are not acquiring long-term powers of study and application they need in class. This is mainly because the games they play and the TV programmes they watch require only short-term bursts of concentration.

The programme surveyed a group of primary school pupils and found one in five had played 'Grand Theft Auto'—a notorious 18-certificate game where players steal

GENDER



BENDERS

Aniket Shingote v/s Amruta Sawant
Boot A PC From A (bootable) CD

Raring to go, Aniket sets out like an expert. Rebooting the PC, he presses the 'Delete' key that leads to the BIOS setup utility. But hey, the screen looks different and the advanced BIOS features option is nowhere to be seen! Fortunately, Aniket notices the 'Boot' tab. He alters the order of the boot devices and sits back relaxed. Not bad at all.



Edgy to start with, Amruta lightens up once she hears the task. Calmly, she reboots the PC and waits. Before we can even bat an eyelid, she suddenly presses F8, which directly takes her to the 'Select Boot Device' table. Presto! She carries out the changes effortlessly, all the time chuckling to herself. Piece of cake!

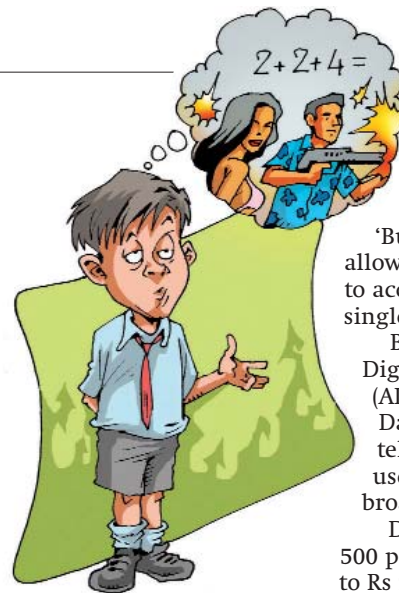
cars, kill people and pick up commercial sex workers!

"Many children who love computer games find it hard to concentrate on the sort of tasks that require slow application and are necessary for school success," said Prof Winston.

To reach his conclusions, Prof Winston studied the impact of computer games on children's ability to tackle various tasks. He found that

those who spend long periods playing quick-fire, adrenaline-pumping games often lack a long-term attention span. Children who have PCs and TVs in their bedroom tend to sit in front of the screen into the early hours instead of getting enough sleep.

"Children are sleeping between two and five hours less than their parents did at the same age. This affects performance at school and



the behaviour at home and some of this is due to games," he added.

"Digital media may well have some dangers as well as some advantages for children. Modern children are spending three to four hours a day in front of a PC or TV screen of some kind, often unsupervised," lamented Winston.

IS THIS THE REAL THING?

A New
'Broadband'
On The Block

BSNL launched the first 'Broadband' service in the country on January 14, 2005. Prior to this, the Department of Telecommunication (DoT) officially recognised 'broadband' as 'Internet with connection speed at a minimum of 256 Kbps'.

With the launch of its 'DataOne' services, BSNL has become the first Internet Service Provider (ISP) to promise bandwidth

up to 2 Mbps in two packages, namely, the 'Home Plan' for single terminals and the 'Business Plan' that allows multiple terminals to access the Net on a single connection.

Based on Asymmetric Digital Subscriber Line (ADSL) technology, DataOne allows copper telephone pairs to be used to provide a broadband connection.

DataOne starts at Rs 500 per month and goes up to Rs 9,000 per month (Business Plan). Other players in the market, such as Airtel Broadband and Reliance Broadband, are still offering speeds of 64 Kbps, and they are calling that 'broadband'!

While Airtel offers the 64 Kbps package at Rs 249 per month, DataOne offers 256 Kbps at Rs 500. Reliance also offers bandwidth speeds between 64 Kbps and 100 Kbps, but nothing compared to the 1 Mbps being offered by BSNL.

As the largest telecom service provider in India, BSNL has an edge over private players.

N Chenjaya, general manager, BSNL, says, "We think broadband will be a success because our network is our strength. We have a good reach across the country and can reach out to the masses faster."

The private players would agree. With plans to use the power of the Internet for e-governance and to put into place a centralised State Wide Area Network (SWAN) across various states in India, BSNL will now be in both voice and data spaces

DART—Deep-ocean Assessment and Reporting of Tsunamis

Buzzword
of the MONTH

Designed to detect Tsunamis as small as one centimetre, DART systems consist of a seafloor Bottom Pressure Recording (BPR) system and a moored surface buoy. The BPR runs an algorithm that generates predicted water height values and compares new samples with the predicted values.

An acoustic modem transmits data—on an hourly basis—from the BPR to the buoy, which is then relayed through a Geostationary Operational Environmental Satellites (GOES) satellite link to ground stations. Ground stations demodulate the signals and broadcast the readings to Tsunami Warning Centres worldwide.



What is Sonoma?

Sonoma is the code name for the second generation of the mobile Centrino notebook platform. The platform includes a Pentium M processor, the chipset and the Wi-Fi card.

How does Sonoma improve over the original Centrino platform?

The Pentium M processor now has a front-side bus increase from 400 MHz to 533 MHz. There is now support for dual-channel DDR2 memory and graphics support for the PCI-Express bus architecture. The chipset is new and has been code-named Alviso. The Centrino's integrated graphics has been upgraded by including the Intel Graphics Media Accelerator 900—the first DirectX 9.0 integrated graphics solution for notebooks. There will also be the newly-released Intel PRO/Wireless 2915ABG network connection.

Who released Sonoma?

As a successor to the Centrino platform, Sonoma was, naturally, released by Intel.

Why do we need Sonoma?

The answer is performance. Support for PCI-Express had to be brought in to Intel's mobile platform at some stage. Intel is touting Sonoma and the accompanying Alviso chipset as key breakthroughs in mobile performance and functionality, especially in areas such as digital media processing.

When Sonoma released?

Sonoma was released on 19 January 2005.

Where can I find a notebook that has support for Sonoma?

Intel expects system builders and OEMs to offer as many as 150 notebook models based on the Sonoma release. For example, Toshiba unveiled its latest tablet PC at the 2005 CES. The new Toshiba R15-S822 that launches in February includes support for Sonoma.

GADGET GLUTTONY

CES 2005: Setting The Stage For New Ideas

With over 140,000 attendees from 115 countries witnessing the introduction of thousands of new products and technologies from more than 2,500 exhibitors, the Consumer Electronics Show (CES) that ended in Las Vegas on January 9, lived up to its billing, and proved to be the biggest stage for new products on earth!

The four-day event saw executives from consumer technology, broadcasting, cable, motion picture and numerous other industries converge in Las Vegas to hear from technology industry visionaries and view a showcase of hot new products and trends in audio, accessories, home networking, mobile electronics, video and wireless equipment.

The 2005 edition also set several major show records including number of attendees (1,42,585, subject to audit), exhibitors (2,550) and exhibit space (1.531 million net square feet). International attendance

also grew to more than 23,028, up from 18,000 at the 2004 edition.

Featuring a broad array of exciting product and technology introductions and announcements, many of which provide consumers with unprecedented control over when, where and how they watch movies, listen to music, view their digital photos and access other information, education and entertainment content.

Showing the strength of the transition to High Definition Television (HDTV), the show featured the latest developments in display technologies and a variety of products and innovations that build upon HDTV.

In addition to being a product showplace, the 2005 edition included a star-studded array of industry luminaries delivering speeches and participating in over 350 conference sessions.

Speakers included Microsoft chairman and chief software architect Bill Gates, Craig Barrett, CEO, Intel Corporation, Ron Garriques, executive VP, Motorola, Carly Fiorina, chairperson, HP and Rich Templeton, president and CEO, Texas Instruments.

Some of the most noteworthy launches at the show were:

TV and Video: Sling Media's Slingbox that lets you actually redirect live or

PVR-recorded television to a wireless computer and Samsung's 80-inch plasma flat TV that earned them the bragging rights at the show!

Media Devices: Belkin TuneStage that enables iPods to wirelessly stream music to home stereos and simultaneously serve as a remote control, Archos Portable Media Assistant PMA 430 that has a 30 GB hard drive and can screen movies from TV, DVD and VCR and Olympus' M:robe 500 and 100 MP3 players with touch-screen, camera and 20 GB (5 GB in the M:robe 100) hard drives.

Gaming: Gizmondo unveiled an eponymous portable gaming device that's a Swiss Army Knife among handheld consoles being an on-the-go gaming platform delivering wireless text messaging and e-mail, GPS capabilities, a digital camera, and a portable video player.

Telephony: Samsung, LG and BenQ launched new smart phones (some with a 2-megapixel camera), Netgear Pre-N launched their Wireless Router while Corinex's Internet Video Phone.

Notebook: Toshiba R15-S822, the first Sonoma-enabled notebook.

Software: Meedio, a company that's been working diligently on a software alternative to Windows Media Centre, released a digital video recorder (DVR) package called Meedio TV.

Photography: Kodak's EasyShare One, their first Wi-Fi enabled camera, Pentax's Optio WP, a waterproof digital camera, Minolta Magiolor, a PictBridge 1.0 compliant photo-friendly laser (yes, laser) printer.

Home Theatres: Philips launched its Pronto-branded touch-screen controllers. ■

Compiled by Meera Vankipuram, Preethi Chamikutty, Ahmed Shaikh, Ram Mohan Rao and Aditya Kuber



Lexar's new digital music player that was launched at CES 2005



32 The Magic Bus



38 The Face Behind The Mirror



48 Most Trusted Brands

Digital Passion

Fuelling the pursuit of technology knowledge

Lead Feature

The Codebreakers

Fear and hatred are the emotions that hackers normally evoke. But there are two kinds of this breed as well. Meet the ethical kind

Meera Vankipuram

The word 'hacker' conjures up an image: an evil person keen on disrupting systems for fun's sake—and so that he (a hacker is usually a 'he') can boast to his friends about the systems he's breached. The term 'ethical hacker', may, therefore sound like an oxymoron.

However, 'ethical hackers' do exist, and these masters of their craft are the mirror image of what people think of hackers. They possess pretty much the same skill set, but use them for the exact opposite reason—to identify vulnerabilities in systems so that corrective action may be taken.

The term 'hacker' originally referred to those involved in creating a new program or making changes to existing, complex software.

Ethical hackers employ the same tools and techniques as malicious hackers, or 'crackers', but they do not damage the target systems, nor steal information. They test networks for vulnerabili-

ties, evaluate systems' security practices and report loopholes as well as remedial measures to the owners.

They can perform security audits for companies—testing a system for vulnerabilities and submitting a report. This kind of work may not even require the services of an ethical hacker per se. Alternatively, they could actually attack a security system, seek out the vulnerabilities that a malicious hacker could easily exploit and, of course, report or fix them.

India's 'underground overlords' of the IT realm are nestled in small—mostly, home—offices in the quiet suburbs of Mumbai, Delhi and several other cities across the country. These codebreakers and security experts are busy scouring networks to seek and destroy vulnerabilities.

Ethical hacker Shomiron Das Gupta, a Certified Information System Security Professional (CISSP) and GIAC Certified Intrusion Analyst (SANS Certified), was formerly employed with ICICI InfoTech as a security consultant, before

In the business of security (L to R): Shomiron Das Gupta (CISSP), Jagdish Mahapatra (BDM, Cisco Systems), KK Mookhey (CISA)



Imaging: Anu Deshmukh Photograph: Jiten Gandhi



Ethical Hacking 101 - Resources You Can Use

Tools, discussion groups & virtual systems

Insecure.org:

<http://www.insecure.org/>

Pull The Plug:

www.pulltheplug.org

Whoppix Penetration Testing

Toolkit:

<http://www.whoppix.net/>

The PacketStorm IP Network

Emulators:

<http://www.packetstorm.com/>

K-OTik Security (French):

<http://www.k-otik.com/>

Phrack (Hacker E-zine):

<http://www.phrack.org/>

Hacker's Lab:

<http://www.hackerslab.org/>

Honeypot Project (Online honeypot deployment):

<http://www.honeynet.org/>

Crackmes.de (Challenges for reversers, newbies, white hats and black hats):

<http://www.crackmes.de/>

Eric S Raymond's homepage:

<http://www.catb.org/~esr>

Carnegie Mellon Software

Engineering Institute:

<http://www.cert.org>

The SANS (SysAdmin, Audit,

Network, Security) Institute:

<http://www.sans.org>

Ethical Hacker's Association (India):

<http://www.netmonastery.com/eha/eah.htm>



Conferences

DEFCON:

<http://www.defcon.org/>

Black Hat conference:

<http://www.blackhat.com>

COMDEX:

<http://www.comdex.com/>

moving out to start his own security firm, Net Monastery. He also founded the EHA (Ethical Hackers' Association) "to increase awareness about security in the tech community and to educate programmers on measures to avoid mistakes that attract bugs or cause vulnerabilities."

Says Das Gupta, "Hacking is more about instinct than hardcore programming skills. You have to understand network architecture and be adept with hacking tools. But to be an ethical hacker, one has to build trust... which takes time to establish but can be lost easily."

KK Mookhey, a Certified Information Systems Auditor (CISA) with over four years of security

experience, agrees.

"The gains are low in malicious hacking, and really, it makes stupid business sense to cross that line," he says.

Both swear by the Code of Vulnerability Disclosure—inform the vendor first on discovering a vulnerability, ask for a time period and assurance that the flaw will be fixed. "Else, you threaten to go public," says KK, whose team has discovered vulnerabilities in software from vendors like Microsoft, Oracle, Nortel and Macromedia.

Das Gupta and KK represent the growing breed of young security professionals in India. In the recent past, India has seen a host of teenage prodigies emerge in the security space. Sixteen-year-old Namit Merchant, for example, is the youngest ever CISSP—a widely-recognised certification, which requires a minimum of three years of full-time professional computer security experience, prior to taking the test.

Ankit Fadia, a teen prodigy, was just 16 when he authored *The Unofficial Guide to Ethical Hacking*. A Computer Security and Digital Intelligence Consultant, he is now one of the best-known ethical hackers in India.

The S-Word

Security threats for companies (SMBs and enterprises) have gained prominence in the last few decades. With more and more governments and companies jumping onto the 'world wide web' bandwagon, seamless connectivity (through Virtual Private Networks, for example) across branches is crucial for efficient functioning of a business network.

Today, viruses and worms proliferate on the Web within a matter of minutes. Not only do networks and security systems need to react instantaneously, security companies also need to develop more complex and stable solutions. SMBs usually employ a team comprising a Systems Administrator and security experts to monitor networks, 24x7.

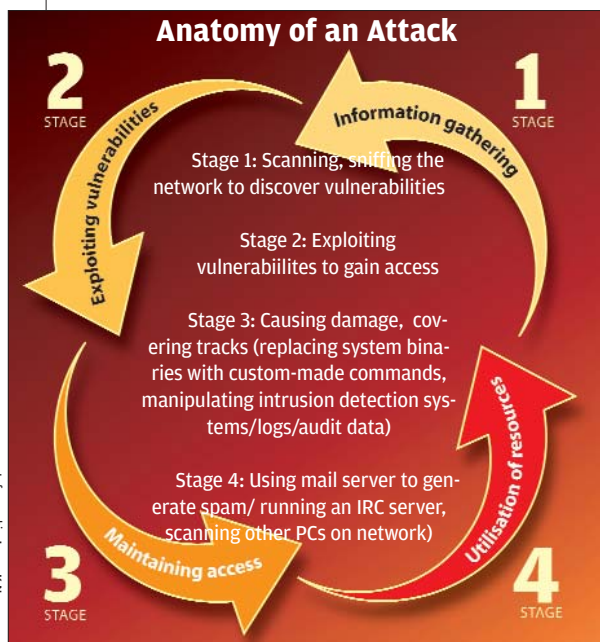
Some of the best-known names in the security industry include MIEL e-Security, Mahindra SSG, SecureSynergy, HCL Comnet, IT Secure, and Cisco Systems. Security firms offer services such as penetration testing, vulnerability assessments, security audits, consulting and education. Many security companies also develop security assessment and intrusion-detection tools, and engage in security-related research.

Careers In Hacking

Says Jagdish Mahapatra, business development manager, Cisco Systems, India and SAARC, "Organisations are beginning to realise that security has to be top priority on their IT investment budget. It's the level of protection that causes the dilemma. Most SMBs have a security policy in place, but these have to be updated on a regular basis based on the company's needs, the current environment and threats."

Security firms employ 'certified ethical hackers' to perform audits as well as develop security tools. But are they wary of hackers? "Anyone who can wreak havoc is a useful tool for a security company. Especially while building a security system for a network, hackers come in handy—they come up with different ways of penetrating the network," says Mahapatra.

Security engineer Kartikeya Puri of MIEL eSecurity, says, "Though security companies develop exploits, some organisations prefer just random audits—by running tools like Nessus, a vulnerability scanner—to generate reports. You don't really need to be a hacker for that! Even my ten-year old brother can run that tool! Secu-



? Hackerspeak: Jargon Explained

Intrusion Detection: The processes involved in detecting inappropriate, incorrect or anomalous activity happening in a network.

Intrusion Detection Systems (IDS) are employed to determine if a computer network or server has fallen prey to an unauthorised intrusion.

Honeypots: Closely monitored network decoys that help distract intruders from attacking more valuable machines on a network and causing damage.

Honeypots ring the early warning bells about an attack and help study exploitation trends. Deployment of honeypots usually does not affect

critical network services or applications.

Challenge: A virtual system designed by programmers with various hacking-related goals/problems to be solved

Exploit: An application designed to penetrate known vulnerabilities in a network or software

Sniffer: A tool that captures passwords and other data while in transit within the computer or over a network

Social engineering: The practice of conning people into revealing sensitive

data on a computer system, often on the Internet. In other words, exploiting the weakest link—more often than not, users

Vulnerability scanner: A tool that scans computers on a network for known weaknesses. Port scanners look for “open ports” to gain entry into the network.

Man in the middle attack (MTM): Here, an attacker reads and modifies messages between two parties without letting either party know that their link has been compromised.

The attacker normally observes and intercepts messages that travel to and from the victims' PCs.

city engineers normally protect the critical resources of a company—server side applications and Web sites.”

Hierarchies In Cyberia

At the bottom of the hacker hierarchy is a ‘script kiddie’—a malicious hacker with little or no skill. These guys can cause a lot of damage with their shoot-in-the-dark methods. A ‘white hat’ or ‘sneaker’, who also breaks into networks or seeks vulnerabilities, does so for ‘altruistic’ reasons. ‘White hats’ usually report bugs or vulnerabilities to the vendors.

‘Black hats’ or ‘Crackers’, on the other hand, are on the lookout for vulnerabilities in networks and software, and enjoy destroying vulnerable networks.

Top-notch hackers—usually referred to as ‘Wizards’ or ‘Gurus’—have been associated with some of the biggest names in the software business. The best-known amongst these are Richard Stallman, founder of the Free Software Movement and GNU projects, which nurtured the development of the GNU/Linux operating system (OS), and Linus Torvalds, who developed the Linux kernel in 1991.

Hackers get to match wits at events such as DEFCON (www.defcon.org) dubbed the “largest underground hacking event in the world”, the Black Hat conference (www.blackhat.com)—a melting pot of hackers, security experts, government officials and network administrators, and COMDEX (Communications and Data Processing Exposition)—a hardware and software tradeshow.

Enemy At The Gate

Vulnerabilities abound in networks. Security professionals are privy to this knowledge, especially during audits. They have no reason not to distribute this knowledge for profit or even exploit the vulnerability.

According to Puri, some of the most potent hacking attacks include distributed denial of service; idle scanning—exploiting the bugs on a server running on the network and then taking control of the rest of the infrastructure; sniffer attacks—where a sniffer is installed on one of

“Ethical hacking is subjective; its interpretation varies—I could enter a network and snoop around without causing any significant harm

Kartikeya Puri,
MIEL eSecurity

the servers and compromises the information flow; attacks on the border routers/ switches; overflows (buffer/heap/stack-based) in server software; and social engineering attacks.

Once a network has been compromised, the intruder gains ‘Administrator’ privileges, and using certain tools (‘root kits’) disables security auditing. At the end of their stay, using the same tools, the intruders simply turn on auditing again.

Says Prakash (name changed), a cracker-turned-security engineer from Bangalore, “Most networks cannot guarantee 100 per cent security. Online banking systems in India, for example, are vulnerable to attacks. But it involves a lot of work—traffic to the site has to be sniffed, data has to be encrypted, the network scanned for vulnerabilities, firewalls disabled, and so on. But a break-in is certainly possible.”

Dancing With The Devil

For every successful ethical hacker or systems administrator, there is a hotshot cracker waiting to get the better of him. Although there is big money involved, the cat-and-mouse game between security experts and malicious hackers is also a battle of extremely creative minds. Hackers are constantly upgrading their knowledge, while virus writers continue to unleash their creativity on the Web.

Genuine hackers “seek to create, nurture and contribute to the evolution of more efficient computer networks”.

“Ethical hacking is subjective; its interpretation varies—I could enter a network and snoop around without causing any significant harm. Does that make me any less ethical?”, asks Puri.

Yet, he confesses it is hard to stay ‘ethical’ when one has knowledge and access to sensitive and potentially lucrative information.

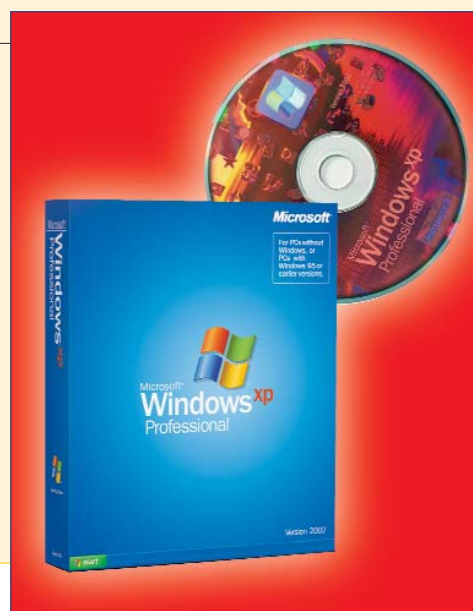
Thomas Anderson or Neo, from The Matrix, a “program writer for a respectable software company... and a hacker guilty of virtually every computer crime we have a law for...”, is merely a stereotype. Not all hackers are malicious and not all ethical hackers are saints. But which hat would you rather wear? ■

meera_vankipuram@thinkdigit.com

So you downloaded Service Pack 2 for Windows XP? How do you go about creating a bootable Windows XP installation CD with SP2 integrated but using your existing CD? Send your solutions to takeacrack@thinkdigit.com

THIS MONTH'S CHALLENGE

Creating a bootable Windows XP installation CD with SP2



How To Safely Overclock Your CPU

Last month, we asked you how you could safely overclock your CPU. Unfortunately, none of the entries we received were good enough to deserve the prize. So here's the solution:

Most processors allow overclocking only to a certain extent. Others, by virtue of their design, allow it a little more. Most processors today have their clock multipliers locked and this prevents them from being tweaked through that component. In such cases, the bus speed needs to be used, but you need to take care when you do this so that the rest of the system is not adversely affected.

Keep in mind that your warranties will not cover any damage caused by overclocking; so be very sure of the extent to which you can push your system safely.

The first by-product of a tweaking experiment will be the generation of heat in your critical components. So before you embark on this task, ensure you have adequate cooling for components like the processor, RAM and motherboard chipset.

Steps To Overclock Your CPU

1. Consult the manual to make sure that your motherboard supports overclocking through

jumper settings or BIOS tweaks. Only when you are sure that you can change the CPU's core voltage, clock multiplier or bus speed, should you go about pushing your system harder. To overclock:

1. Enter the BIOS by rebooting your computer and hitting the [DEL] or the [F2] key. The exact steps will vary according to your BIOS type and version. Refer to the motherboard manual to help locate the FSB frequency and the CPU voltage settings.

2. Increase the CPU FSB frequency in small increments of, say, 2 MHz. Change the CPU Speed/Voltage Settings to 'Manual' to let you change them. *Note:* Throughout this exercise, monitor your system temperatures and voltages very closely. It is critical that they remain within limits for your system to run reliably. Failing to do so will result in shortening the life of your processor or even failure. It is important to start out your

overclocking at the rated settings and work your way up in small increments. 3. Save your settings and reboot the machine. The PC should boot normally. Check for any signs of instability. Run a CPU-intensive program or game like Half-Life 2 to stress the CPU and make sure it is working fine.

4. Reboot and enter the BIOS again. Increase the CPU voltage, again in small increments. Restart and repeat the previous step. Continue till you feel the machine has been pushed to its limits.

5. Reboot and enter the BIOS again. Increase the CPU voltage, again in small increments. Restart and repeat the step 4. Continue the process till you feel the

Config System Frequency/Voltage		Up/Down
CPU FSB Frequency	1.750 V	
CPU Speed/Voltage Setting	1.725 V	
CPU Speed	1.700 V	
CPU Voltage	1.675 V	
DDR Voltage	1.650 V	
AGP Voltage	1.625 V	
V-Link Voltage	1.600 V	
Performance Mode	1.575 V	
	1.550 V	
	1.525 V	

Changing the CPU Voltage

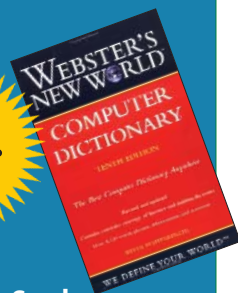
machine has been pushed to its limits. A stable overclocked system is one that has the right balance between CPU FSB, voltage and bus speed settings. Overclocking is achieved by trial and error and we cannot overemphasise the importance of safety.

Config System Frequency/Voltage		Up/Down
CPU FSB Frequency	200 MHz	
CPU Speed/Voltage Setting	201 MHz	
CPU Speed	202 MHz	
CPU Voltage	203 MHz	
DDR Voltage	204 MHz	
AGP Voltage	205 MHz	
V-Link Voltage	206 MHz	
Performance Mode	207 MHz	

Changing the CPU FSB frequency

LAST MONTH'S CHALLENGE

Win!



Take a Crack and Win

Webster's New World Computer Dictionary
By Bryan Pfaffenberger
Published by Pearson Education

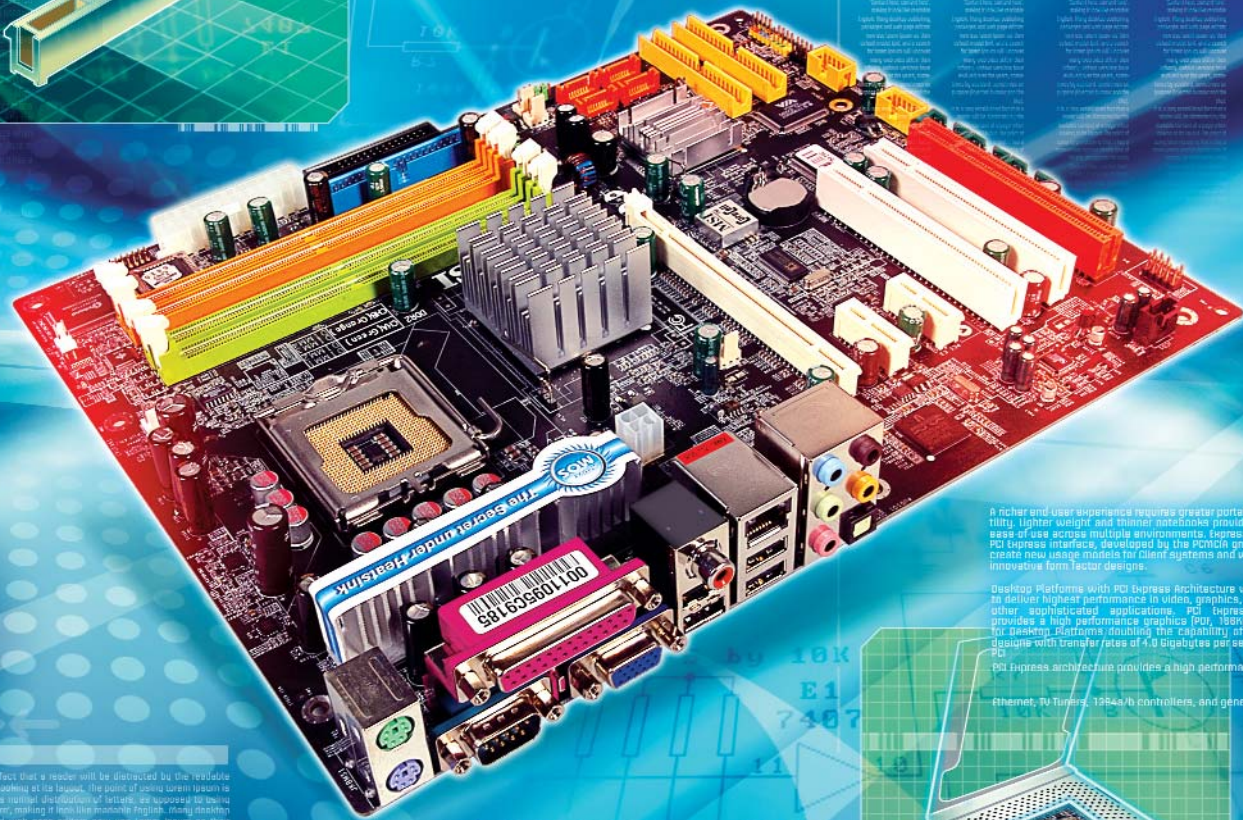
Rules and Regulations

1. Readers are requested to send in their answers by the 15th of the month of publication.

2. Employees of Jasubhai Digital Media and their relatives are not permitted to participate in this contest.

3. Readers are encouraged to send their replies by e-mail. Jasubhai Digital Media will not entertain any unsolicited communication.

4. Jasubhai Digital Media is not responsible for any damage to your system that may be caused while you are solving the problem.



A richer and user experience requires greater portability and versatility. Lighter weight and thinner notebooks provide flexibility and ease-of-use across multiple environments. ExpressCard™ utilizing PCI Express interface, developed by the PCMCIA group, will help to create new usage models for Client systems and will demonstrate innovative form factor designs.

Desktop Platforms with PCI Express Architecture will be designed to deliver highest performance in video, graphics, multimedia and other sophisticated applications. PCI Express architecture provides a high performance graphics (PCI Express) infrastructure for desktop Platforms doubling the capability of existing x86 desktop with transfer rates of 4.0 Gigabytes per second over a x16 PCI Express architecture provides a high performance I/O infrastructure.

Ethernet, TV Tuners, 1394a/b controllers, and general purpose I/O.

Photograph: Mery Xavier Imaging, Anil Deshmukh

The Magic Bus

Is PCI express the bus you have been waiting for? Time to get on it...

Varun Dubey

Man's need for speed is perhaps the strongest driving force behind his innovations; blazingly fast Ferraris and supersonic jet planes bear testament to this. Computing, of course, has not been left untouched. In fact, the advances in technology in terms of processing power have been so rapid over the past 10 years that had they been replicated elsewhere, we would have already visited the most distant galaxies!

One aspect of computing—the PCI bus—has, however, remained untouched for almost a decade! We demystify the latest buzzword in the tech world—PCI express.

Everyone On The PCI Bus!

We need to first understand how PCIe works, and why it is needed, let's first understand the basic working of a 'bus'. A bus is a bunch of conductors, and is primarily a means of transferring data from one system component to another. For example, a bus is used to transfer data from your hard disk to the printer, or from the processor to the memory, apart from other functions. PCI uses the shared bus architecture, where the devices attached to the bus share the bus' bandwidth when working.

It is interesting to note that the PCI bus is the oldest, slowest bus (or piece of technology, if you will) on your motherboard. Considering that it connects everything else—the latest video cards to the processors to the latest memory—it's a bit scary. In the infographic (*on page 33*), note how underserved devices connected to your USB or Firewire port or even your SATA-based hard disks are. This is the crux of the problem—the bandwidth requirement of a device is not satisfied by the PCI bus; the bus itself becomes the bottleneck that needs to be rectified for the solution.

For the second problem, consider a hard disk. Under the aegis of PCI, if this disk needs to communicate with the CPU, it will have to go via the Southbridge, stop at the Northbridge for refreshments and finally arrive at its destination, fighting latencies all along the way. "Latencies", you ask? Well, yes, notice how the USB, the FireWire and the Gigabit LAN ports are all sharing the same 133 MBps bus. Fighting for resources means system slowdown. This is problem number two in PCI-land.

The third problem with the PCI architecture is that it is a one-way lane. That is, when the CPU is talking to the Northbridge, no other device can access the CPU. This leads to a scramble for bandwidth and adds to system slowdown.

A slow bus fighting with fellow devices for resources, and clogging at the Northbridge, are

a few of the problems your system faces every day. Let's find out how PCI Express will save us.

On The PCI Expressway

The most interesting thing to note is the legacy PCI bus hanging at the bottom right of the infographic (below). PCI becomes a subset of PCIe. To understand how PCIe betters this, let's first understand the basic structure of PCIe.

Unlike PCI, PCIe is a two-lane transfer system. This lets data come and go simultaneously. In PCIe, each of the dedicated connections/paths between the switch and the device is called a link. A PCIe x1 link has one lane, which can transfer data to and fro simultaneously, providing transfer speeds of 2.5 GB/s one way, such that an x1 link has a total transfer capacity of 5 GB/s.

Now, if we add another lane to this, we get an x2 link, wherein each lane can transfer 5 GB/s, making the total available bandwidth 10 GB/s. We can theoretically have x32 PCIe connections with transfer speeds of 20 GB/s.

To put things into perspective, if you could manage a x32 PCIe connection between, say, your 80 GB HDD to another 80 GB HDD, you could transfer the entire 80 GB of data in about four seconds! But how does all this bandwidth help us?

Remember how in PCI, if the processor was talking to the Northbridge, it was inaccessible to other elements of a system due to the single-channel nature of PCI? The dual-channel feature of PCIe overcomes this and allows multiple devices to communicate with each other.

PCIe will replace the entire bus architecture on a motherboard and would be *the* interconnect between various devices and bridges as well as *the* interconnect between the bridges.

PCIe is incredibly scalable and allows additional links to be provided as and when bandwidth requirements increase. For example, for a Gigabit LAN card, an x1 lane is sufficient, but for replacing your 8X AGP card, a motherboard burning an x16 link is necessary and possible.

PCIe would be *the* interconnect between various devices and bridges as well as *the* interconnect between the bridges themselves

Another aspect that has changed in PCIe is the legacy concept of PCI bus mastering. PCIe features a switch system that sits in the centre, and all the system devices connect to it via a dedicated link similar to the bus connecting the CPU to the Northbridge. This is called a 'Point-to-Point Interconnect System'.

What this switch does is route all the PCI/PCIe data through itself, allowing two devices to talk to each other—if the communication does not involve any cache-specific data or instructions, this switch will simply offer the two devices a dedicated and direct link to share with each other. This obviously makes information exchange between devices extremely fast.

What Does This Mean?

The question now is, how well does all this translate to real-world usage. Will your games finally run enormously faster and better?

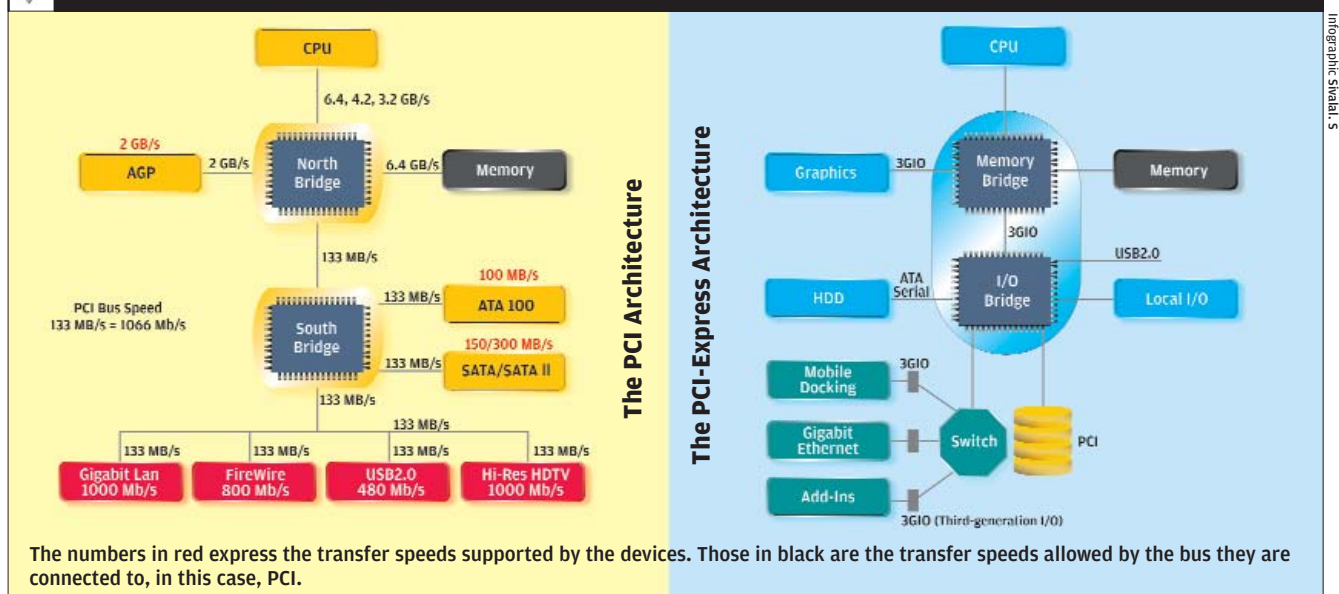
Well, not really. The performance difference between AGP 4x (1 GB/s) and AGP 8x (2 GB/s) is negligible. So, PCIe x16 cards will not make Doom 3 run any faster because there simply isn't that much data to transfer.

Immediate beneficiaries would be people into video-editing; the performance of their machines would see a huge boost due to the dual-channel capability. This is because peripheral devices such as hard disks or external FireWire devices will be able to reap the benefits that additional bandwidth and reduced latencies offer.

Our recommendation is that you should not upgrade to PCIe unless you work heavily on video editing. If, however, you are about to upgrade anyway, go ahead and get a PCIe-based motherboard—PCIe as a standard is an inevitability.

A word of caution, though: a motherboard can only support either AGP or PCIe. So if you buy a PCIe motherboard, you will have to buy a PCIe graphics card as well. On the upside, PCIe is backward-compatible with older PCI components.

The PCI Versus PCIe Architecture



What's On Offer?

Along with the obvious advantage of the PCIe bus, these boards offer a gamut of features previously unheard of: if you go out to buy a PCIe motherboard, expect to be bombarded with feature-rich boards. We take you through the best of what you can expect from these boards.

Video

The latest PCIe chipsets from Intel, the 915, 925 and their variants, come with an on-board Intel Graphics Media Accelerator, which has Direct-X 9 support, and is stipulated to match the performance of the GeForce FX5200. The 915G and 915GV chipsets also have native support for HDTV and widescreen LCDs, with support for multiple monitors. The AMD solutions from nVidia do little to better this, what with the nForce4 chipset shipping without any onboard video at all!

PCI: The Evolution Path	
Version	Technology
PCI	Intel developed the 32-bit PCI bus, which runs at 33 MHz with a transfer speed of 133 MB/s
PCI-X	The 64-bit version of the PCI bus, running at 33 MHz with a transfer speed of 133 MB/s
PCI-X	64-bit version running at 66MHz with speeds up to 512 MB/s
PCI-X	64-bit version running at 133MHz with speeds up to 1 GB/s
PCI-X 2.0	4.3 GB/s
The reason PCI-X is not implemented in desktops is the extremely high cost of manufacture of PCI-X boards	

ATi Radeon Xpress200/200P chipsets do much better, with their on-board video solution having 128 MB of memory, matching the performance of a Radeon X300. It also has built-in dual-display support (Analogue and DVI) along with SURROUNDVIEW, which is essentially support for three or more monitors.

Both Via K8T890 and K8T890PRO as well as SiS 756 and 965 chipsets do not feature any onboard video. So on this front, ATi leads the pack.

Audio

This is where the Intel chipsets emerge as clear winners. With on-board support for eight-channel Hi-Definition audio with a 192 kHz sampling rate, which can play everything from High Definition Dolby DTS to vanilla CDs without problems. It even supports up to 15 simultaneous audio streams.

The various AMD-based PCIe chipsets support eight-channel audio, but this is not High Definition. In fact, the Via K8T890 only has integrated AC-97 six-channel audio, though it does come with an eight-channel audio PCI controller.

The much-touted Soundstorm integration into nForce4 did not materialise, and we get the simple eight-channel integrated audio, which again, is not high-definition. Likewise with ATi and SiS. The Gigabyte K8NXP-9, though, improves on the nForce4 chipset and provides six programmable audio jacks. No High-Definition audio, though.

Storage And Memory

Every PCIe chipset comes with at least four SATA connections, with the Gigabyte K8NXP-9 offering eight. All offer ATA connections and most of them also have the capability to be configured in various RAID flavours: nForce4, supports 0, 1, 0+1

If you go out to buy a PCIe motherboard, expect to be bombarded with feature-rich boards

RAID, and they also allow you to change the RAID configuration on the fly.

Another cool piece of technology that has made its way to today's motherboards is CQ, or Native Command Queuing. This technology enables a hard disk to decide the order of reading data to minimise data throughput time—so you can watch a movie even when some encoding is going on in the background, without stressing out your hard disk.

The nForce4 and Intel chipsets support this technology; however, neither the ATi Xpress200 nor the VIA or SiS chipsets support this feature.

It should be noted here that not all these boards support DDR2. For example, the VIA K8T890 series supports only DDR memory. The Intel 915GV and 915G support both DDR and DDR2. Note that the 915GV Express chipsets support only the latest LGA775 socket Pentium 4s.

Network Support And Other Connections

All these chipsets provide a variety of connectivity options. Each of these PCIe chipsets provides at least eight USB ports and one FireWire, with the nForce4 providing 10 USB and two FireWire ports. Apart from this, it also supports Gigabit LAN.

Interestingly, the Gigabyte K8NXP-9 offers two on-board GigabitLAN ports. One is an nForce 4, and the other, added by Gigabyte, utilises a PCIe x1 link. This apart, the motherboard ships with an additional PCI Wireless LAN card as well! The card is a Gigabyte addition and is not on-board. The ASUS A8V-E Deluxe does feature an on-board wireless LAN conforming to the 802.11g standard.

For gamers who will be upgrading anyway, ATi and nVidia have released their versions of the PCIe x16 graphics cards, which are available without having to pay a premium!

Unlike ATi, though, which launched native PCIe cards, nVIDIA's solutions use a PCIe-to-AGP bridge and have merely offered bridged versions of their current AGP 8X cards. However, the performance difference due to the bridge is negligible and you can enjoy playing your favourite games on high-end cards such as the 6800 GT and the Radeon X850.

In The Future

The sheer convenience of the serial connections offered by PCIe and the bandwidth available could change the motherboard manufacturing process entirely by giving greater flexibility in terms of component placements. We might see modular PCs where the I/O system is removable from the processor and could connect to it via PCIe sockets.

This does not signal the death of USB and FireWire, though, because by the time the above scenario is realised, they would be so integrated with our lives that even the modular PCs would need to provide legacy support for them; just as PCIe boards provide support for the older generation PCI cards.

Despite some glitches like non-compatibility with AGP, PCIe technology is remarkable. It has tremendous industry support, and not without reason. The bus is well on its way. ☑

varun_dubey@thinkdigit.com

Beyond Music

The Apple iPod is much more than just a music player. An audio recorder, portable stereo system, digital library, organizer, portable hard drive ...the list is endless. What's more, your favourite 'digital companion' has an ocean of accessories to choose from. Here are a few samples: (For a complete list of accessories, head to: <http://www.apple.com/ipod/>)

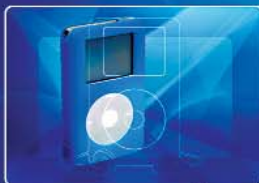
Socks

A set of knit socks to dress up as well as protect your iPod. Chose from six colours.
Price: \$29 (Rs. 1276)



iSkin

Offers all-round surface protection. Beveled top surface enables direct plug-in of accessories. Available in a variety of colors.
Price: \$25 (Rs. 1100)



NaviPod IR Remote

A five-button infrared remote and receiver, the naviPod places the iPod's audio controls at your fingertips
Price: \$50 (Rs. 2200)



Charger

A car power adapter, which connects directly to a stereo input jack, to play the iPod while on the road.
Price: \$40 (Rs. 1760)



Battery Pack

A reliable backup battery option, the Battery Pack provides an alternate power source for your iPod, when it's internal battery runs out of charge. The Pack uses four standard "AA" alkaline batteries, and has a useful charge-level indicator.
Price: \$59 (Rs. 2596)





Leather Organizer

Apart from ensuring a snug fit for the iPod, the leather case can hold your business and credit cards, cash and the iPod's earphones. Offers easy access to the display and wheel.

Price: \$25 (Rs. 1100)



iTrip FM Transmitter

Use the iTrip FM Transmitter to play music through your car's FM radio. Custom-made for the iPod, the iTrip lets you select radio stations directly from the iPod. This plug and play device doesn't require batteries.

Price: \$35 (Rs. 1540)



Car Holder

Supports your iPod in the car. The Air-Grip suction cup keeps the iPod secure and stable, lets you adjust height and reposition the iPod easily. A cable-management clip helps do away with tangled cords.

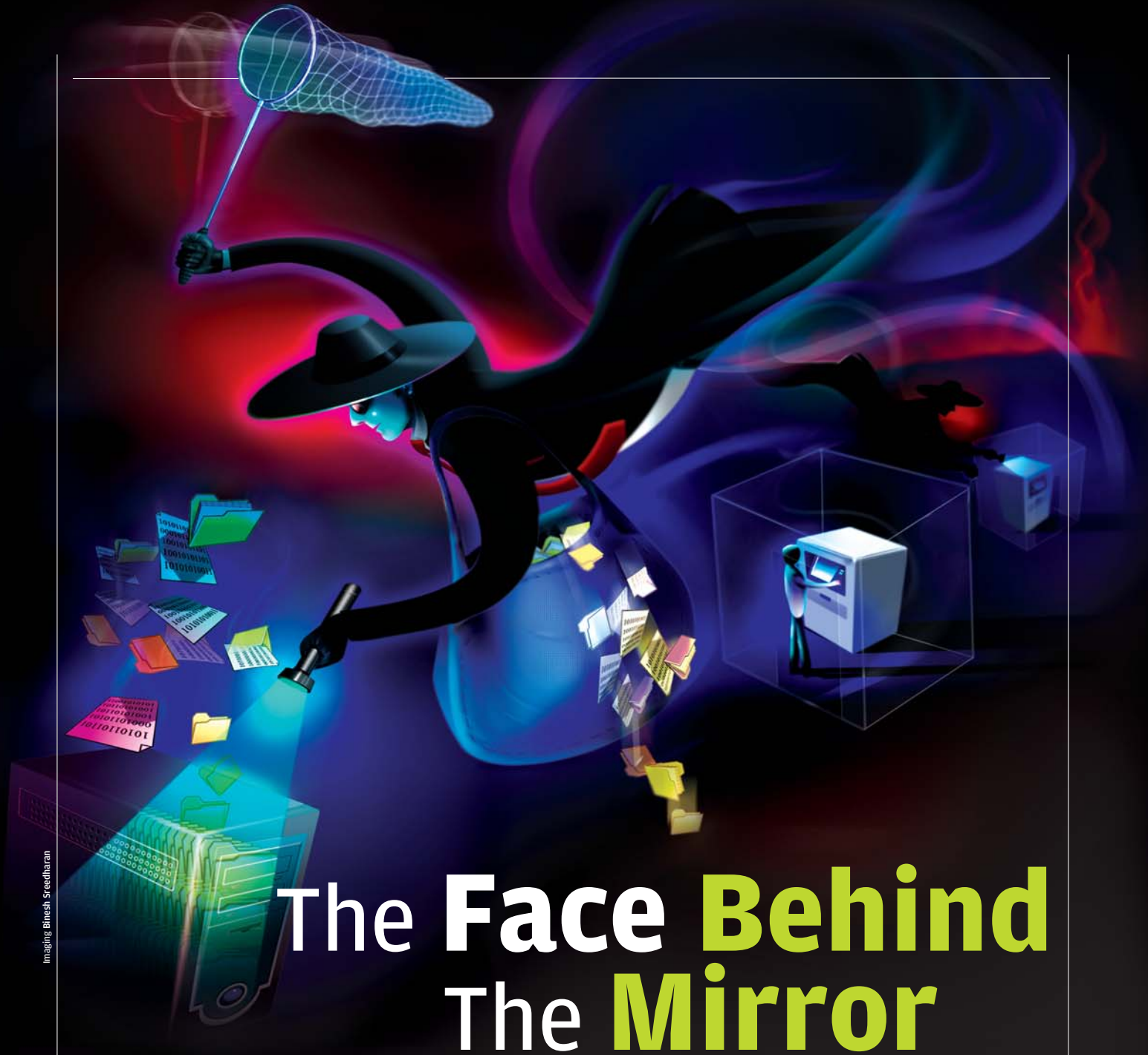
Price: \$30 (Rs. 1320)



Media Reader

Use the iPod as a temporary backup device. Transfer photographs from digicam memory cards to your iPod (when your card is full) while on the move or on vacation. Supports CompactFlash (Type 1 and 2), SmartMedia, Secure Digital (SD), Memory Stick, or MultiMediaCard (MMC)

Price: \$100 (Rs. 4400)



Imaging Bireesh Sreedharan

The Face Behind The Mirror

The fastest-growing crime in the US, ID theft, is a real threat in India too with the growing reach of technology

Ram Mohan Rao

Who are you? In the ages past, you were what people knew you as; what your friends knew you to be; what your customers expected from you. In this digital age, you are merely data.

Your e-mail ID is more relevant to this connected world than your birth name. Today, your Web site's URL brings you more business and recognition than any other avenue. How many friends do you have online—virtual personalities you haven't even met—as against those offline? Social interactions too, are fast taking a digital role. That we are living in a connected world is such a truism that the statement holds no value and will soon be as useful as stating that the world is round.

When data thus defines your wealth, shapes your standing in society, becomes your ego and ID, it gains value. If you happen to have a desirable identity—a bank account number with a sizeable balance, for example—that identity invariably attracts thieves.

What if you were to wake up tomorrow and find out that you have been leading a double life; that someone out there has been your virtual Mr Hyde misappropriating your money, using your credit card number to commit fraud, abusing your online portfolio? How would you feel to learn that your hard-earned cash and reputation has been virtually sold and abused? Unlikely to happen, you say? Identity theft is scary because it is easy. Even you can do it... with a little patience and the right bent of mind. It is a low-risk, high-gain and low-penalty crime.

Identities are most often stolen for financial gains. There happen to be other forms of identity theft, such as offering someone else's name as one's own when arrested—this is called criminal identity theft. But the vast majority of ID theft involves the transfer of an unfortunate person's money into the hands of a happy thief.

What, Me Worry?

It can happen to anyone. In fact, it happens to a staggering number of people; according to an estimate, one in twenty people in the US have had their identity stolen. One of the reasons for the proliferation of this crime is a large number of electronic transactions conducted on trust.

Say, you receive a cheque in the mail from a friend. You note down the bank routing number and the cheque number and make a call to your credit card company saying you want to pay your bill by cheque.

You can do this over the phone. You are simply required to state the routing number on the cheque you received from your friend, the next cheque number, and the amount the credit card company requires from you and of course, you say the chequebook is yours. Your payment will go through.

You have just paid for your bills using your friend's account, unknown to him. That's how simple it is! Of course, the person who sent you the cheque can easily track down where his or her money went, but this example just goes to show how very trust-based most bank transactions are—at least in the US.

For identity theft to occur, personal information must be obtained. In the US, the two prime pieces of personal information are the social security number and the mother's maiden name. This information can be uncovered—and usually is, when ID theft occurs—by going through someone's mail or trash, looking for bank and credit card statements, pre-approved credit offers and tax information. Other more direct ways include stealing information from a wallet or purse such as identification, credit or bank cards, completing change-of-address forms to redirect mail, and obtaining credit reports by posing as a landlord or someone who has a right to the information.

But it is not only data like lost Social Security numbers and credit cards that attract ID thieves. Sources of personal information that are publicly available include property records, court records and marriage and divorce certificates. ID thieves can not only rob your mailbox and hack into your computer, but also do things like monitoring your cordless phone and rummaging through low-key stuff like product-warranty cards.

The Internet opens up whole new avenues for identity theft—phishing included. A recent example involved the setup of a copy of part of the PayPal Web site to acquire members' personal details (See box: "How phishing works" on page 41). Trojans—viruses that remain resident on one's computer and can submit information to someone else—can monitor keystrokes to

For as little as Rs 2,200, some companies sell Social Security numbers, mother's maiden names, home and employment addresses, credit history and more

access passwords and other personal information. In fact, several virus attacks are intended just to track personal information.

A common phishing scheme involves e-mails that appear to be sent by your bank, requesting that you log in to your online account to confirm some details. You are meant to follow the links in the e-mail, to a fake page that appears to be a genuine online banking site. Some estimates say that phishers are able to convince up to five per cent of recipients to respond to their e-mails and take the intended action. In fact, computer-savvy people, too, get fooled by such e-mails.

The Internet, while providing resources for people to avoid ID theft, has also helped in its spread: the most frightening—and thorough—way of stealing an identity is by purchasing it at one of the many identity-search companies that have come up on the Internet. For as little as Rs 2,200, these companies sell people's Social Security numbers, mother's maiden names, home and employment addresses, previous addresses, credit history and more.

The Ways Of The World

Phishing, viruses and paid information apart, consider some of the multifarious ways of stealing identities:

❑ In a recent case in California, a hospital executive died. In the obituary was a lot of personal information like the mother's maiden name. An identity thief got the Social Security number of the deceased and used it to steal thousands of dollars from his widow.

❑ Ford Motor's customer credit reports, containing more than 13,000 records of identifying information such as Social Security, bank account and credit card numbers, had been lodged in a supposedly secure database at Experian, one of the three major credit bureaus in the US. Hackers bypassed security by posing as employees of Ford and got access to all the personal information.

❑ Even fingerprints can be reproduced and used. "If I steal your password, a credit card company can issue you a new password," says Chris Hoofnagle, legislative counsel for the Electronic Privacy Information Centre in Washington, DC. "But if people are able to lift a



Online Versus Offline ID Theft

Trevor Healy, vice-president, Payments at VeriSign, a California-based online certification agency that secures transactions, says: "Online fraud is very different from offline fraud. Online fraud is committed in three categories: online theft, which is virtual shoplifting; identity theft, stealing identities, so you can either sell those identities or actually use those identities for shoplifting; and cash theft.

"In the online world, what we are witnessing is that the level of scale is drastically different. In the offline world, if you steal an identity from a merchant's trash can if the merchant is silly enough to put credit card slips in there. You may get five or six cards and use those to create a fraud.

"But in the online world, if you break into a merchant's system, you could steal literally hundreds of thousands of identities. So the level of scale in the online world, if a fraud occurs, is much bigger. Everybody, though, is focused on product theft—the virtual shoplifting—first and foremost, and not on the other possibilities."

latent fingerprint of yours and reproduce it in a mould—and this can be done—you can't be issued a new fingerprint. So how do you prove you are you?"

Even children are not safe from this identity theft. In April 2003, the story of Lisa Barraza's son was uncovered. Barraza's seven-year-old son is a typical youngster, except for the fact that since the age of one, he has piled up over \$100,000 in credit card debt. How can a child so apply for credit cards and spend that kind of cash? He Obviously can't, says his mother.

Barraza first learned of her son's debt problems when she found a credit card in his name. "My son's social security number was hijacked," says Barraza.

Bruce Schneier, founder and CTO of Counterpane Internet Security of Cupertino, California, and a recognised authority on security, says, "The reason identity theft is so powerful is that much of our security today is based on your identity."

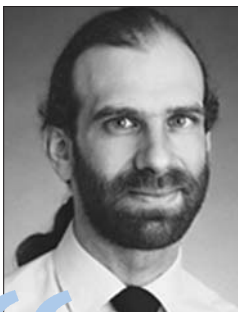
New Avenues

When data becomes increasingly centralised, things become easier for ID thieves—they can increasingly do one-stop data shopping. The cell phone is becoming a repository of the most sensitive personal data, and thus finds itself a lucrative target for attackers. Single-sign on services, such as Microsoft's Passport service, open another easy avenue for ID thieves. If a thief gets hold of one Passport ID, he or she has pretty much everything to take on the victim's identity.

Similarly, if a thief gets hold of your bank account number and online banking PIN, there's no limit to what havoc he can wreak with your finances, routing money to other accounts, sending out e-cheques, and the like.

However, many people argue along the lines that you are "more likely to be struck by lightning than becoming a victim of fraud or identity theft when they use electronic bill payment and account services". The essential thing here is to keep your password or PIN safe.

The same goes for the online use of credit cards. Although many people argue that using your credit card online is safer than using it offline because fewer people see your card number physically, the fact is that several



The reason identity theft is so powerful is that much of our security today is based on your identity

Bruce Schneier,
Founder and CTO,
Counterpane Internet
Security

unscrupulous sites will authenticate your credit card without verifying your billing address and the CVV number (the three-digit authentication number on the back of your credit card). Fortunately, such authentications are on the decline, and more and more financial institutions now require you to provide the CVV number and verify the billing address. If you're still paranoid, you can think of using services like HDFC Bank's NetSafe system wherein you are assigned a credit card number for single use, with a limit that you choose, based on your real credit card details.

You Could Be Your Own Enemy

RFID chips are particularly interesting. These chips are used in a variety of situations. For example, in healthcare, they are implanted under the skin. The intended use is to give medical practitioners access to the medical details of the person when he or she is unable to communicate. But how easy would it then be to steal such a person's identity?

Some argue that all one would need to do is to purchase an RFID scanner, scan the victim as he or she passes by, clone a new chip with the same number and implant it under their own skin. This issue—that of the stealing of information via RFID tags—may become easier as RFID readers find their way into cell phones.

In early 2004, Nokia created a reader for RFID tags for its 5140 phone. This is based on NFC (Near Field Communication) technology—which means that the phone needs to be put within an inch of a tag to be able to read it. A recent report from ABI Research says the first NFC smartphone will be out this year and goes on to predict that by 2009, more than half of all handsets will have it inbuilt.

Wireless LANs, or WLANs, are another potential area of attack. Merwyn Andrade, a contributor to the 802.11i security specification and chief technical officer at Aruba Wireless Networks, warns that ID theft could become a problem for companies using WLANs. For example, users with 802.11i wireless phones might save their passwords and PINs on the phone. "This would be like keeping your keys to your house in your wallet and then losing the wallet," he says. "Once 802.11i is pervasive, people might miss that they have to worry about authentication."



The Future Of Phishing

Dr Jonathan Tuliani, in an article floating on the Internet titled "The Future of Phishing", believes that the next few years "will see the emergence of Internet man-in-the-middle attacks". In such an attack, the user is tricked as in a usual phishing scenario, except that instead of just the user communicating with the attacker, the attacker is also communicating in real-time with the bank. "Two (or even 10) factor authentication is of no help, since the attacker does not interfere with the login process. Both the user and the bank are unaware of the presence of the attacker and believe they have a secure connection directly from one to the other.

Once established, the man-in-the-middle has complete control. He can modify instructions, even transfer funds to a different account or simply cut the user off and submit whatever instructions he desires to the bank.

"To combat this threat, it is necessary to move away from session-based security (based on a secure log-in), to message-based security (based on explicit authentication of individual transactions)."

Solutions

ID theft is the fastest growing crime in the US and is rising fast in India as well. As credit cards and online transactions, amongst other things, become more commonplace in India—banks in India are fast catching on to credit history reporting and the PAN card number may soon become what the Social Security number is in the US—it is only natural that identity thieves here will take up the same techniques.

Thinking of it as a worldwide problem, what is the answer? It probably lies in the further centralisation of data and the padlocking of that data using a mix of several techniques, including, possibly, biometrics and secure tokens.

Biometrics refers to identifying one by something one is, rather than something one has or

? How Phishing Works

On November 17, 2003, many eBay customers received an e-mail notification that their accounts had been compromised and were being restricted. Included in the message was a link to what appeared to be an eBay Web page for re-registration.

The top of the page looked just like eBay's home page and incorporated all the internal links. To re-register, customers were asked to provide credit card data, ATM personal identification numbers, Social Security numbers, dates of birth and mother's maiden names.

Fact is, eBay hadn't sent the original e-mail and the Web page didn't belong to them either. Many who received the e-mail carried out the recommended actions, in the process, giving away vital ID secrets.

knows. Examples of machine readable biometrics are fingerprints, retinal or iris patterns, hand geometries and facial features. A secure token is a physical device: an example is USB secure tokens, which are designed to store a person's digital identity. When someone attempts to log in to applications via a PC, virtual private network, or wireless network, he or she is prompted to enter a unique PIN. If the number matches that on the USB token, access is granted. The number stored on the token is encrypted for additional security.

The most secure method of identification is "two-factor authentication". This would be something like a PIN plus something you have (a key or an access card). Biometrics adds levels of security by combining something you know with something you are (for example, a fingerprint). Additional levels of security can be implemented by added factors such as a username and password plus a biometric and a token.

Be Very Afraid...

Cases of ID theft abound; some more mentionable than others. In one notorious case in the early '90s in the US, the thief was a convicted felon. He not only incurred more than Rs 43.5 lakh in credit card debt, he obtained a home loan, and bought homes, motorcycles, and handguns in the victim's name. The icing on the cake was that he called his victim to taunt him, saying he could continue to pose as him for as long as he wanted. ID theft was not a crime.

While the victim and his wife spent more than four years and over Rs 6.5 lakh to restore their credit and reputation, the criminal served only a brief sentence for making false statements to procure a firearm.

This case prompted the US Congress in 1998 to create a new Federal offence of identity theft. Creating an offence of it is one thing, but ID theft is a low-risk and high-payoff crime.

There are several pieces of information that make up an identity; we need to realise that each of these pieces is potentially valuable information, and we need to overhaul the way we communicate and exchange this information.

In the long run, technology could come to the rescue. Before that, the problem will loom on us until every last one of us keeps every bit of personal information under lock and key, and shreds it before throwing it away—physically and virtually. Paranoia is the need of the times. You have to pretend like someone's looking over your shoulder all the time. ☒

ram_mohan@thinkdigit.com

1/2 P H AD

780 gm, a pencil thin side-profile, a space-age exterior, a 1.1 GHz heart. The X505 is the real pocket monster

Take your pick from a jet fighter, an F1 car or a space ship. Now remove the shell protecting any of these machines. Carbon fibre—stronger, more rigid and able to dissipate heat better than anything else now rests in your hand. Mould this space-age shell and give it a laptop shape: 256 mm x 208 mm, 9.7 mm thick at its front and 21.9 mm thick at the back. Next, create a motherboard about the size of a minidisk (2.5-inch diameter) and place an Intel Pentium M 1.1 GHz processor with 1 MB of L2 cache on it. Place a 20 GB hard disk to the left of the motherboard, a PCMCIA slot to its right. Add two integrated USB 2.0 ports and a Firewire port. Don't forget the 512 MB of RAM, shared by the onboard video card. Adorn the creation with a bright, 10.4-inch LCD display with a native resolution of 1024 x 768.

Now step back and lift it, with a finger. At 780 gm, the Sony Vaio X505/CP is an incredibly small, light, and sexy laptop. With an external

wireless card (802.11b/g), an 87 key QWERTY keyboard along with a pointing stick; and a battery life of up to four hours, the X505 is any geek's dream come true!

Watch the video review of this Notebook on the digit DVD!



Sony Vaio X505/CP



Without The Internet

DATE

Bhaskar Banik

The Internet has become an integral part of our lives so much so that we cannot even stay without it when we are away from work.

bhaskar_banik@thinkdigit.com

Day 0

It's been a while since I took a vacation and I'm really looking forward to my upcoming month-long break. I must admit, though, that I have this uncanny habit of getting myself into strange situations. My last day before I took off, saw me get into one such 'situation'! Deepak, our Test Centre head asked me if I was really going to be away from work for a whole month. I replied with an emphatic "Yes!" Little did I know that this would also keep me away from the Internet and not just work for a month. In true military style volunteering, I had volunteered to spend a month without the Internet. God save me!

Day 1

The start of a long lazy month... I am really looking forward to a hot cup of coffee and my morning dose at www.extremetech.com. With a steaming cup of coffee, I head for the computer and am aghast to discover that the Internet is down. How could this be? Without further a do, I call up the ISP and let the operator have it! After checking up on some details, I am reminded that I had asked for the connection to be discontinued for a month. Me? And then, realisation sets in that I am working on an article and have to spend a month without the Internet. A bit like being in the wilderness without any means of communication, if you ask me... I mutter some apologies and wonder what one can do to spend time without the Internet. I can already feel the withdrawal symptoms setting in.

Day 3

To make my month in the wilderness easier, I had a week-long trip planned with a friend, but that has been postponed by a few days.

Day 5

A panicked friend calls up to find out if I'm okay... of course I am, I tell him. "You haven't been online for the last five days," he reminds me. This actually made me wonder how little we speak to our friends... it's almost taken for granted that your 'friends' will be online and a smiley can replace the laughter and smiles you used to share.

Day 7

I am still at my computer but it just doesn't feel this same. No e-mails, no forums... can't read up on anything or can't even download stuff... I could go to a net café, but that would defeat the purpose of the exercise. Hmmm. It's 11 pm and I have nothing better to do than sleep. Well, good night!

Day 10

I can't take this anymore... so I draw up a list of things I can do on the computer without having to use the Internet. Games in single-player mode, e-books from Digit CDs, clean up the hard drive, listen to music, watch DVDs... not bad, huh?

Day 12

Finally... I leave town today hoping I won't miss the Internet.

Day 20

I'm back from the trip and I am a bit tired. My younger brother has a go at me for disconnecting the Internet, but I stick to my guns... well, almost. I give him some money to go to a net café and save myself from being talked into reinstating the severed connection.

Day 22

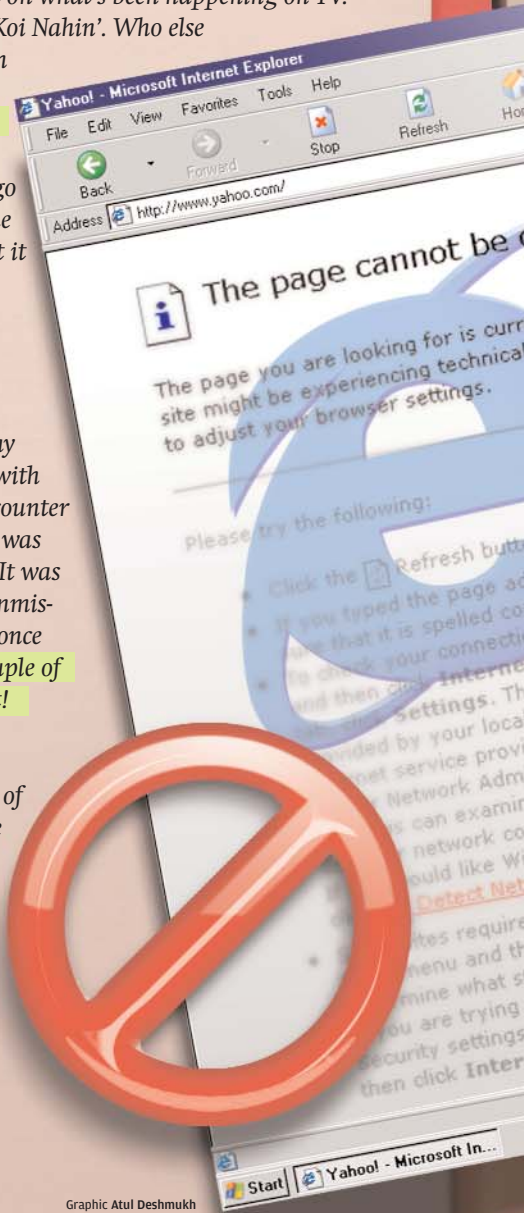
I've caught up a fair bit on what's been happening on TV. And I agree 'Jassi Jaisi Koi Nahin'. Who else can run Windows on an iMac? But newspapers suck as far as TV schedules are concerned. My trusty Internet lets me go to website, download the months schedule, export it to Excel and mark my favourite programmes. Eight long days to go.

Day 25

I met an old friend today and he asked me to go with him. Where? For an encounter with the other kind! He was just going to a library! It was nice to experience the unmistakable scent of books once again. I picked up a couple of books myself... Believe it!

Day 30

It's over... I shall be free of my misery! World Wide Web... here I come! But was the experience any good? In a way, yes. The Internet is a tool and is only good as long as you keep in control. Too much of any good thing can be bad!



Wide Angle



Sumod Hajela

The New Year started with a whimper. For me, twice over. My Christmas bonus at office was a new PC, with a brisk new processor, plenty of RAM and a shiny new hard disk. A couple of days spent migrating my data safely over to the PC was a small price to pay for the snappy responsiveness of Firefox. Yes, it is quite a CPU hungry beast, and if you don't plan to upgrade your computer you might want to look at the Mox optimised builds (c6iv*) for the best you can get on your current hardware.

Anyway, come New Year and the hard disk went all whiny. No boot screen, no detection by BIOS, and of course no way to access my data. A call to tech support and a stand-by hard disk installation later, I found myself looking at Windows XP re-installing the second time in a week. The plan was to get back up to speed on this HDD, and when the original was replaced, the partition would be copied over with a disk image tool like Norton Ghost so I get back to work in no time. Good thing I hadn't turned in my old hard disk yet, so I had all the data back minus the days I spent un-backed up on the new PC that I hadn't expected to fail.

Crash & Learn

One needs to fall over and over before he can learn to walk—a lesson is perhaps never learned the first time around

Lesson One: You should always back up your important data. Disk failure is always a surprise. The best free tool for backup is SyncBack (c6ix). Set up multiple jobs for your

important data and rest easy.

To cut a short story shorter, a few days after I was all settled in nicely with patches up to date and all my programs and UI tweaks just the way I like them, Windows stopped booting. The replacement hard disk too was making that ominous clicking noise. I should have paid attention to the Icon of Trust numbers. My Whimper Two was because I had failed to learn Lesson One. Yet another data loss later, I was ready to try some data recovery software. R-Studio didn't quite manage to read complete files, but Easy Recovery Pro did the job with some careful guidance. It helps to remember your partition sizes as accurately as possible.

I tidied over the next week on a lovely wide-screen Compaq laptop that evoked the right kind of responses everywhere it went. But not from me, though. I was in mourning for my two lost weeks, and didn't appreciate it as much as I should have.

When my "new" hard disk arrived a week later, I was twice burnt, third time shy. It was time for some serious agni-pariksha, and PassMark BurnInTest (c6jr) was my flame thrower. The free version of this burn-in software runs for only 15 minutes at a time, but it puts all the sub-systems—hard disk included—through the wringer whenever you install a new component, or buy a new PC.

If you already have a working old hard disk you installed into your new and upgraded CPU/Motherboard, you may want to spare your hard disk the additional strain that might push it into never-never land. To burn-in just the CPU and cooling, you should either eliminate the other modules from your test configuration in PassMark BurnInTest or use a dedicated CPU testing program such as Hot CPU Tester Pro (c6iy). Do it in the summer with the case closed to stress your system to the max, but don't flame me if the PC suffers a meltdown.

Once your computer is working fine, go and download a S.M.A.R.T. monitoring tool such as ActiveSMART (c6j0) to keep an eye on your HDD's reliability. While S.M.A.R.T. monitoring might give you some warning about impending failure, nothing substitutes for a good backup plan. Lesson One is you should always backup.

All power-users have their computer environment set-up just-so, with all the myriad utilities and shortcuts correctly configured and the UI tweaked. But going through three installs of the OS amidst work deadlines does an amazing job of distilling what you do with a new PC to just the absolute essentials. Here is briefly what I ended up with on my "new" PC version 3.0.

First things first, put up the Windows Firewall and block all network services before plugging in the network cable. Yes, sad to admit, but even our local network is infested with malware and an unprotected PC (like the temporary laptop for example) is certain to catch nasty stuff like Sasser or Nimda. If you are going on the Internet unprotected, this research report (c6j2) should set you straight.

Next come the hours of Windows Update patches—painful but necessary. I use the free Avast! Antivirus and keep Spybot and AdAware handy just in case my Internet Explorer picks up something nasty. If you don't install Service Pack 2, BHODemon (c6j5) will help keep your IE cruft-free. Of course, I mostly use Firefox with a dozen extensions, so IE is not much trouble.

You could choose to install a free third-party firewall like ZoneAlarm or Kerio Personal Firewall for complete protection, but since I am behind a corporate firewall run by an admin who knows what he is doing, I don't. You should also try to not run as an Administrator-level user and RunAsAdmin (c6j6) helps there.

Customising the Windows UI is managed with a combination of MS TweakUI and Kelly's awesome registry tweaks (c6j8). SlickRun (c6jd) handles my command-line needs perfectly, and Folder Pilot (c6jc) turns Explorer into a useful tool. PopFile (c6jf) keeps my mail spam free and well categorised, but you could also try SpamBayes (c6jj).

NewsPipe (c6jk) gets me my RSS feeds right in my Outlook and is quite the run-and-forget program. If you aren't comfortable running a command-line Python script, you could give the free SharpReader (c6jl) a shot.

But if there was only one thing I could talk about this month, it would be Lesson One: backup regularly! ☑

The text in brackets should be used like so: <http://snipurl.com/text> to get the website

Sumod Hajela, Associate Editor (Technology) is Digit's Alpha Geek. His pastimes include creating new software during lunch hours, and mastering just about every computer-related technology that there is. Write to him at sumod_hajela@thinkdigit.com



Imaging Binesh Shreedharan

hindi hain hum!

Thanks to the efforts of a dedicated few, and the rise of open source software, applications such as KDE, GAIM and GNOME are now available in Hindi

Preethi Chamikutty

For long, computers in India have been restricted to those who understand English, cutting off a large potential user base. A movement has been taking shape since 1997 that could finally brought the power of computing to the masses.

The *Bharatbhasha* initiative was launched with the aim of providing free software to the masses. With the advent and growth of open source programs, this has become reality.

A volunteer project, IndLinux, focusing on widening the reach of computing to an estimated 1.3 billion people who understand Hindi, the fourth largest language group in the world, has been at the forefront of this movement. Founded by Prakash Advani and Venkatesh "Venky" Hariharan, IndLinux initially received support from FreeOS.com and is currently aided by Netcore Solutions.

Prakash Advani, who is also the Linux Practice Head, Onward Novell Software (I) Pvt Ltd, says, "For any technology to be adopted, it

has to be localised. For Linux to be accepted among the masses, it is necessary that we localise the common applications and interfaces. Translations are key foundations of the localisation effort, and so we decided to translate common applications such as KDE, GAIM and GNOME," says Advani.

How It All Started

IndLinux started working primarily on Hindi and helped set up localisation teams for other regional languages. The main goal of IndLinux is to create a fully Indian language-enabled distribution system.

The project started around the year 2000 with Advani and Hariharan joining forces. In the first two years of operations, the main bottleneck was fonts.

Says Guntapalli Karunakar, coordinator at IndLinux, "Our major problem was that we did not have good quality fonts, so the display wasn't very good. We have developed our own fonts—our design team and other artists helped design fonts, while the technical aspect was handled by myself and a few others." When the

Bharatbasha initiative was launched, 'Susha' was the only free Devnagri available.

Venky, co-founder, IndLinux, explains, "Back then, software vendors were selling fonts for nearly Rs 10,000—exorbitant by Indian standards. It was essential to make things affordable. Even if half of India's Hindi-speaking population is illiterate, it still leaves us with 200 million who speak, read and write Hindi. We wanted to create a platform where anybody could use applications and software was not restricted to a chosen few."

With this aim in mind, IndLinux started looking for volunteers who would translate for free. Posting messages on forums, word-of-mouth, mailing lists and other such initiatives helped bring in the volunteers. The main applications that the team started working on were KDE 3.2, GNOME 2.8 and GAIM. Today, KDE and GAIM have been completely translated into Hindi, and GNOME is nearing completion.

Gaining Momentum

When the IndLinux team decided to widen their scope of work, they held a workshop at the Homi Bhabha centre in Bangalore. In fact, invites were sent to only 17 people, but more than 40 turned up for the workshop, including a Myanmar national. What started as a small group is now a full-fledged movement.

Besides Hindi, the free software is being translated into other regional Indian languages including Bengali, Gujarati, Kannada, Marathi, Oriya, Punjabi and Telugu. Says Karunakar: "Just like our group works on Hindi, there are other groups for different languages. Translations in Hindi, Bengali, Punjabi, Gujarati and Tamil are at a usable stage while Malayalam, Kannada, Marathi, Telugu and Oriya are progressing steadily. We now have Linux bootable CDs that boot into the language chosen."

Volunteers sign up for translation in their spare time. Hariharan says, "For open source, it is very critical to have volunteers. But, before allocating them any work, we look at their enthusiasm, commitment and available spare time. We also have collegians volunteering with us." Localisation is a global movement and Indians are getting involved in translating software into regional languages.

The Main Man

A team spread across the country is difficult to manage. Nevertheless, the work on the Linux front has been well coordinated and is nearing completion. Ravishankar Shrivastava, one of the main volunteers, has been instrumental in the Hindi translation of KDE 3.2, GNOME 2.8 and GAIM.

Shrivastava was technocrat with the Madhya Pradesh State Electricity Board (MPSEB) who voluntarily retired in order to dedicate more time to the translation effort. Shrivastav has translated more than 80 per cent of GNOME 2.8, 90 per cent of KDE 3.2 and all of GAIM—by himself!

"I was very fascinated by computers and have also been writing for the past ten years.



Even if half of India's Hindi-speaking population is illiterate, it still leaves us with 200 million who speak, read and write Hindi

Venkatesh Hariharan
Co-founder IndLinux

When I heard about this initiative of translating software into Hindi, I wanted to contribute wholeheartedly. Around the same time, the Voluntary Retirement Scheme (VRS) was offered at work and I immediately opted for it. Initially, I could put in only one or two hours of work daily, but now, I am able to dedicate eight to nine hours."

Shrivastava has been involved with this project for four years and finds it more satisfying that his Rs 25,000 per month job.

Setting Standards

Although translation may sound like an easy job, there are a set of rules the volunteers have to follow. For instance, after someone sends in his part of the translation, it is reviewed and checked to see if the necessary standards have been met.

As a matter of fact, the team has developed a glossary of words that have already been translated into Hindi, and volunteers need to ensure that they do not use a new term for a word already in the glossary.

Hariharan says, "Hindi is spoken in so many dialects that we had to check if the translation was Sanskrit or Urdu-based. For instance, we argued over which word should replace 'image' or 'photo'. Some had used 'Chitr' (of Sanskrit origin) in their translations, others had used 'Tasvir' (of Urdu origin). We eventually accepted 'Chitr', as everyone would understand it."

Mozilla Bhi Hindi Mein!

Apart from Linux, Mozilla, too, is being translated into Hindi. The Mozilla team is not as large as the Linux team. It has five members—Pankaj Tamrakar, the team leader, along with Yash Tamrakar, Namita Chandrakar, Asif Iqbal and Anthony Sebastian make up the team.

The team is currently working on Hindi alone, and the translation is almost done except for error messages and working on translating all Unicode-based software such as Skype and Phpbb.

What was the reason for translating Mozilla into Hindi? Pankaj says, "In order to increase the utility of the Internet it is important to make it easy. We wanted a safe and standard Web browser. We had used Mozilla earlier; our search for the ultimate Web browser ended with it. Today, some cybercafés are successfully using the Hindi version of Mozilla."

The Market

Indians normally converse with each other in their local languages. A reduction in the prices of computers has made them more accessible to the masses. Hariharan concurs, "One-tenth of the world's technological development occurs in India and yet most Indians do not take advantage of that. It is ironical that we develop a lot of software for export purposes and our own people are left with nothing."

True as this is, the exercise is far from over. As Robert Frost would say, "...and miles to go before I sleep..." is the status of this endeavour. ☑

preethi_chamikutty@jasubhai.com



Write In

Done something just as geeky?
Tell us about it.
Write to editor@thinkdigit.com

India's Most Trusted



In its second year, the *Digit* 'Icons of Trust' attempts to quantify and rate customer service in India from IT product companies and the results are a revelation, to say the least

Team Digit

There is this real-life story about customer care in Rhonda Abrams' groundbreaking management case study book *Wear Clean Underwear: Business Wisdom From Mom*. The story is about a woman who was using a set of car tyres, and later found them to be faulty. She took the set of tyres, and stormed into Nordstrom, a fashion retail chain in the US, demanding a refund. The clerk at Nordstrom could have refused her the refund, saying she never bought the tyres there. Instead, he spoke to the higher-ups, got an approval, and refunded the customer the entire money spent on the tyres.

This may be a small event in the history of a multi-billion dollar company that has over 400 stores. But, it is not about the money they lost that day. It is about a lifelong customer they acquired thanks to their customer-friendly outlook.

Not surprisingly, Nordstrom has been consistently rated as a world leader in customer satisfaction, an aspect of business most often ignored in companies in India and across the world.

Customer satisfaction is a feeling tough to judge. How do you put a figure to a smile on your face? How do you rate an emotion that makes you share your acquisition with others? How do you retain a customer for life, and if he does come back to you again and again, what makes him do so?

With its groundbreaking survey 'Icons of Trust', which it instituted last year, *Digit* has been trying to understand just that. It is a survey of perceptions; perceptions that are based upon experience once the product is bought.

This year, *Digit* polled more than 3,000 users of technology across the country in 14 product categories. In an exercise that went on for more than 45 days, rigorous online as well as telephone polling by Team *Digit* gathered more than 11,000 records.

While some of the results were expected, there were some surprises in store.

The multimedia team managed the online data and *Digit*'s call centre undertook the task of calling up hundreds of readers from its database. What followed was nothing short of a revelation.

Digit's brand head Prashant Narekuli then crunched the data into understandable formulas, and then easy-to-refer-to results. As the complete picture began to emerge, there was an understanding nod whenever an expected company won. And when a dark horse breasted the tape first though there was another's reaction. This time it was: "Wow, but I never imagined buyers trusted this company." Guess what—we had to humbly bow to the reality of the market. It is only real experience that defines perception.

More than anything else, the *Digit* 'Icons of Trust' results have been enlightening. From the survey, IT product organisations in India will figure what makes them good and what makes them mediocre in the customer's mind. And buyers will know what products they can bet their money on.



CRT Monitors

Warding off the threat posed by LCD monitors, CRT monitors scored the second-best in terms of reliability and service among all desktop PC components. Owned for an average of about 2.7 years, these workhorses are the least likely to spring unpleasant surprises out of the box; are the least likely to require major servicing or repair, and in general, are hardly any trouble to their owners.

Tushar Dhruv from Kolkata is a typical happy owner. He says, "I have been using a Samsung CRT monitor for the last four years. It offers good clarity as well as stability. I will buy from Samsung again depending on price and whether I can get a better deal elsewhere."

That only five per cent owners need the services of repairmen in two years reflects the technological maturity of CRT Monitors.

Samsung does very well on reliability perception but fails to match that with service

Service staffs are rated as being decent, and unresolved problems are a low fraction of the complaints. However, in line with most other categories, the average repair turnaround time remains at a high two weeks.

Samsung does very well on reliability perception, but fails to match that with service, where HP walks away with top honours.

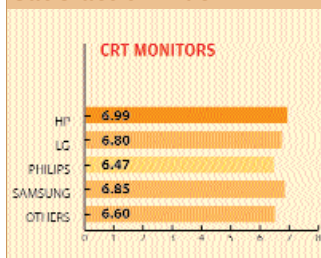


Samsung

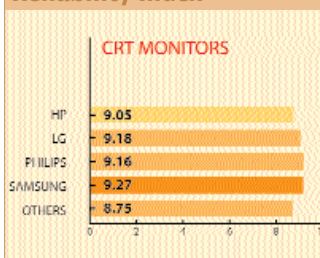
The Top Three	
Samsung	8.18
HP	8.12
LG	8.11

Repurchase Index (%)	
LG	76
Samsung	75
Philips	72

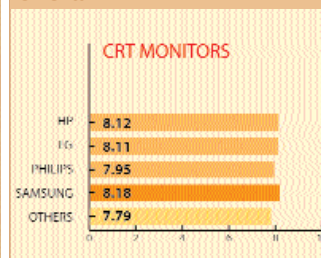
Satisfaction Index



Reliability Index



Overall



Assembled & HP

The Top Three

Assembled	7.72
Others	7.44
HP	7.34

Repurchase Index (%)

Assembled	70
Others	70
HP	70



Desktop PCs

One in 20 new PCs developed problems within the first week of purchase, and if you have owned a computer for two or more years, you are almost certain to have had it repaired at least once. With survey-leading average ownership duration of 2.75 years, it means a lot of people fall in this unfortunate bracket.

Unfortunately, Indian brands lead on the unpleasant first-week experience with one in six HCL PCs and one in 10 Zenith PCs failing within the first week. No surprise then that the most complex device

Every tenth PC owner had unresolved problems while under warranty

in our survey also scores the lowest on perceived reliability.

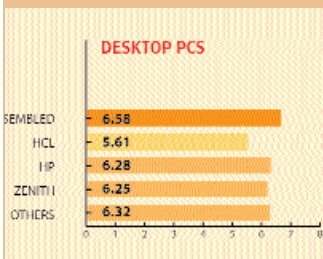
Of course, there are exceptions: Ashish Choksi says, "My HP desktop PC is still with me after seven years. I have not faced any problems as yet. I am totally satisfied."

Even more amazing are testimonials from assembled PC owners like Rajendra Prasad, whose five-year-old PC has served him well: "The performance is pretty good except that it hangs occasionally."

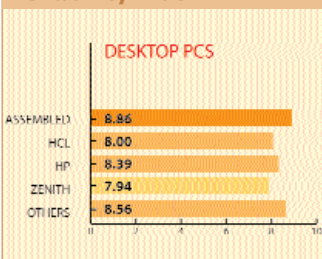
It is unfortunate that for this critical and complex device, the service levels are the poorest in the survey. Every tenth PC owner had unresolved problems while under warranty, and HCL owners seem to be the unluckiest with as many as one in five not being fixed.

PC assemblers do a little better on this than the industry average, but not by much. Combine this with unhelpful support staff and you have all the reasons why desktop PCs tie for the bottom place in service satisfaction too.

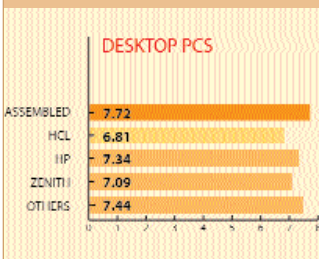
Satisfaction Index



Reliability Index



Overall



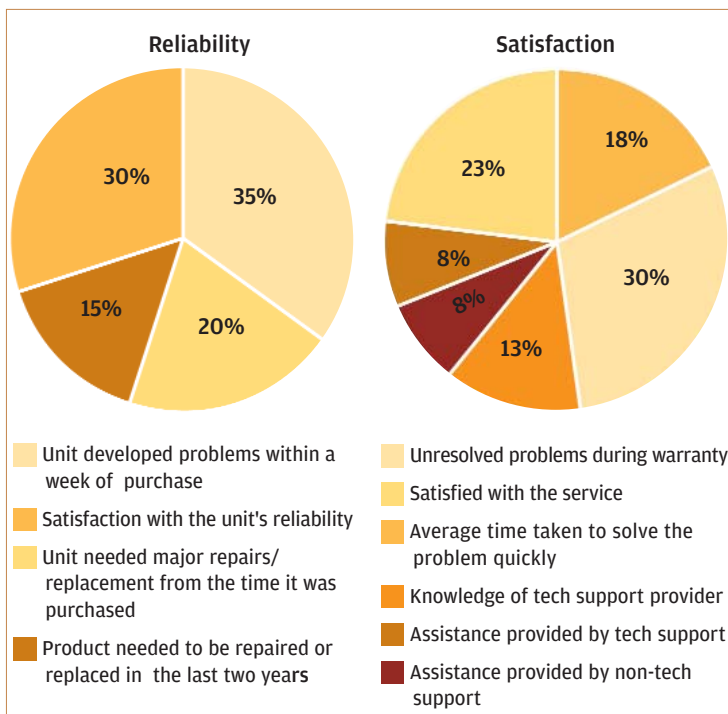
Our Methodology

The 'Icons of Trust' survey interviews were conducted online (through thinkdigit.com) and telephonically. The research sample was taken from the existing reader base of *Digit*, where 2,123 respondents were interviewed. Respondents shared their experiences with about 5.4 products on an average. To maintain a homogenous mix of respondents, people from over 100 cities were chosen to get experiences over the entire geography of India.

Readers were invited to offer their feedback through two

means: by replying to an insert in *Digit* magazine, or by responding to an e-mail request to take the survey. Both methods were tagged with a unique numerical identifier. A respondent would log on to the survey page using this number, and once logged off, the identifier would expire. This ensured that there was no duplication in responses.

All respondents were asked specific questions to gauge their experiences on Reliability and Service satisfaction with a specific product.



Category-wise Weightages		
	Reliability Index	Satisfaction Index
Desktop PC	50	50
Laptop	60	40
Inkjet Printer	50	50
Laser Printer	50	50
Scanner	50	50
CRT Monitor	55	45
HDD	70	30
Optical Disk Drives	50	50
Cell Phone	60	40
Home theatre	50	50
PC Speakers	50	50
UPS	60	40
Digicam	50	50
Portable MP3 Player	50	50

How Was Service Satisfaction Measured?

The total response sample was 2,123, based on which a statistical analysis was conducted to determine, amongst other things, the Reliability and Service indices. To understand the importance given to each question, refer the accompanying pie-charts.

From the Reliability Index and Service Index, an Overall Satisfaction Grade (OSG) was generated for the categories. The grade was meant to indicate how a particular company fared overall, taking reliability and service into consideration, within a sub-category.

To do so, the indices in question were averaged with a weightage in mind: both the Reliability

Cut Out The Middleman

The minimum average time to fix a problem is 6.5 days! Most companies we spoke to claimed service turnaround times of 48 to 72 hours, even in cases where our readers reported an average of three weeks for the same. The common story we heard across companies with good service or bad, is that while they have complete control over the turnaround time within their service network, it's the transit time that turns their speedy service to the time consuming affair it seems to be.

Liteon (average turnaround time: 17 days), for example, claim to offer replacement of their drives for any genuine problem, within two hours. The catch is that you must take the damaged drive to one of their 23 volume partners across India. If you take it to your local retailer, it must be passed up the chain to the distributor who then forwards it to the

regional volume partner, who will then send the replacement back down the same route.

Zenith's (average turnaround time: 22 days) Devita Saraf says that customers across the country send in computers to the retailer for servicing, who must then ship it to the central service station in Navi Mumbai. While the actual servicing takes 48 hours, depending on the choice of delivery method, the transit time could be anything from 48 hours to a week. They claim to do much better on Enterprise services, though, where they handle the service directly rather than through retailers.

The lesson is simple. If you could take a manufacturer's word, you should forget your assembler/retailer and go direct. Call them on their customer support or sales numbers and learn about your service options. Do let us know next year whether that works.

Service That Works

We spoke with manufacturers about their service networks in an attempt to correlate their service scores with what they do on the ground. Companies with well-trained call centre personnel were appreciated by consumers, and Samsung even managed an upset in the service score for hard disk drives solely on the basis of their customer support staff being liked better.

Common sense would say that the closer the service centre is to the customer, the better the service would be. That is generally true.

All vendors have a central clearing house for service that, at the minimum, handles the database and has a major repair centre. For companies such as Zenith, no hardware repair is done anywhere else. Retailers may only attempt to fix software issues. So whether the problem has a 15-minute resolution time or requires chip-level repair, it must be shipped to Navi Mumbai. Most retailers choose to use cheaper, slower methods resulting in long wait times for the owner—on an average, 22 days.

Rashi Peripherals, on the other hand, leverages their 28 service centres in India to better effect, resolving simpler problems in their regional centres closest to the customer. This results in Sony optical disk drives being serviced in 11 days on the average.

The 'Icons of Trust' survey interviews were conducted online (through thinkdigit.com) and telephonically. The research sample was taken from the existing reader base of *Digit*, where

2,123 respondents were interviewed. Respondents shared their experiences with about 5.4 products on an average. To maintain a homogenous mix of respondents, people from over

100 cities were chosen to get experiences over the entire geography of India.

Readers were invited to offer their feedback through two means: by replying to an insert in *Digit* magazine, or by responding to an e-mail request to take the survey. Both methods were tagged with a unique numerical identifier. A respondent would log on to the survey page using this number, and once logged off, the identifier would expire. This ensured that

The Repurchase Index

Throughout this survey, an important factor, the Repurchase Index, has been put forth for all manufacturers in all categories.

This Index tells us how many existing users of a particular brand would buy from the vendor again. This is a percentage of the users we polled for the survey.



I am not a technologist, but I have to cope with Technology

Technology is not your profession. Yet, you have to deal with it everyday. From your workstation at office, your cellphone and your PDA to that Plasma Television at home, you deal with technology in almost everything you do.

What you need is a trusted navigator who helps you understand, choose, buy and most importantly, use technology. Digit is your trusted navigator for the world of technology.

digit
YOUR TRUSTED NAVIGATOR



Digital Cameras



Photography on the whole is a small industry in India, and digital photography is an even smaller one. While most manufacturers never had extensive service networks in the conventional photography era (yes, it's in the past), the need for such a network is a must today.

Kodak, Nikon, Olympus and Canon have been the traditional favourites as far as cameras go. When it came to satisfaction, Canon was way ahead of the competition. Canon has made big efforts in setting up a service network and is also churning out cameras 'Made for India'. No wonder then, with all its efforts, that Canon wins in the category.

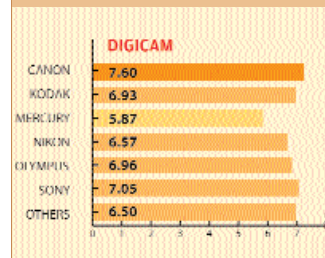
Canon user Dr Tejinder Singh, Ludhiana, says, "I have been using it for a year-and-a-half and find it pretty good. The only hitch is that the battery drains fast. I would buy from Canon again only if they rectify the battery problem."

Kodak, Nikon, Olympus and Canon are found to be traditional favourites

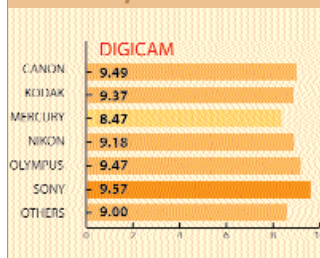
Such minor niggles, though, can put off users for good...The traditionally strong Nikon, though, still has its loyalists and these guys wouldn't give up their Nikon for anything else. Nikon rated the highest on the Repurchase Index with almost 88 per cent of its polled users wishing to buy another Nikon camera. If only Nikon could spruce up their service network now.

Canon	
The Top Three	
Canon	8.55
Sony	8.31
Olympus	8.22
Repurchase Index (%)	
Nikon	88
Canon	80
Olympus	79

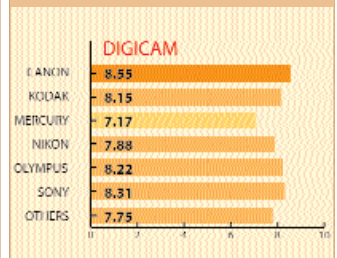
Satisfaction Index



Reliability Index



Overall



Samsung



The Top Three	
Samsung	8.28
Others	8.27
Seagate	8.21
Repurchase Index (%)	
Samsung	77
Seagate	74
Others	57



Hard Disk Drives

"I bought a Maxtor HDD a month ago as they claim good after-sales support. But, I do hope I am never in need of it!" Tejas Walke puts words to the hopes of every computer owner.

The Hard Disk Drive is the most critical and irreplaceable component of your computer. Every other component can be safely replaced, but the data lost to a hard disk crash can be crippling. This makes the high failure rate of HDDs doubly disturbing.

On an average, one in eight HDDs requires major repair or

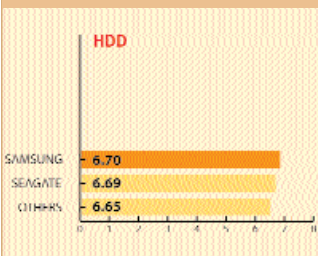
The Hard Disk Drive is the most critical and irreplaceable component of your computer

replacement over a two-year period. This is the highest failure rate of any single component category in the survey, matching that of the much more complex desktop PC. Please back up your data right away!

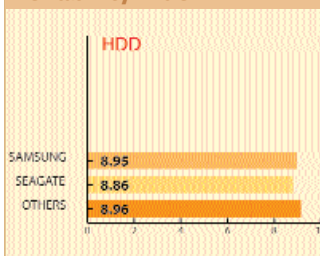
Seagate and Samsung are by far the dominant manufacturers in this segment, sewing up 90 per cent of the responses between them. Both of them also have higher rates of failure than the average of the other brands, making them both a riskier choice than most other brands.

Samsung drives have a slightly higher chance of crashing, but have fewer repeat problems than Seagate drives, giving them better perceived reliability. Seagate takes seven days to repair your drive and Samsung takes twice as long—but gets top honours in service with more helpful support personnel.

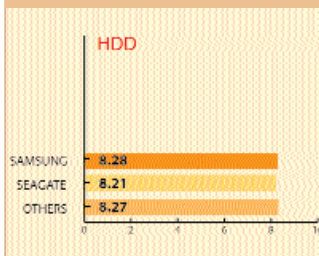
Satisfaction Index



Reliability Index



Overall





Home Theatres



This was perhaps never a doubt. Sony with its Wega line has already established a benchmark for the industry to catch up with. Philips is possibly the only other real competitor thanks to the new products that are customised for the Indian viewer and his pocket.

Sony, though, is in a league by itself, with a strong after-sales network, and way ahead of the rest in terms of reliability and satisfaction. In fact, a very large number of existing users would prefer to buy another Sony home theatre product and not migrate.

Parimal Patel from Gujarat has a Philips home theatre system but is not sure if she will buy from the company again. "I have been using it for almost three months. Though I am satisfied with the product and there have been no problems till date, I am not sure whether I would buy from them again."

Samsung and Akai need to

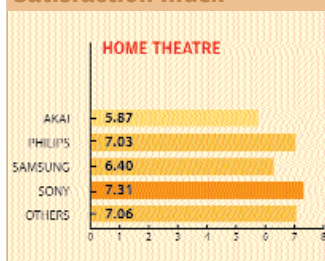
Sony has set a benchmark for the industry with its Wega line of products

resolve product reliability issues quickly if they want to seriously compete with Sony and Philips. India also has a large percentage of users who assemble their own home theatre systems, and this group seems fairly satisfied with their achievements! They also plan on staying loyal to their unbranded or local compilations.

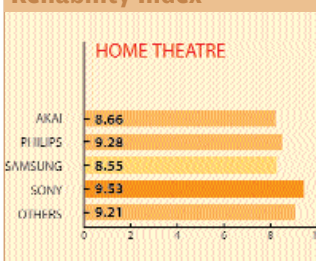
Sony users we polled, seemed to have received exemplary service; no one had any issues that were yet to be resolved during the warranty period.

Sony	
The Top Three	
Sony	8.42
Philips	8.15
Others	8.13
Repurchase Index (%)	
Sony	82
Others	75
Philips	73

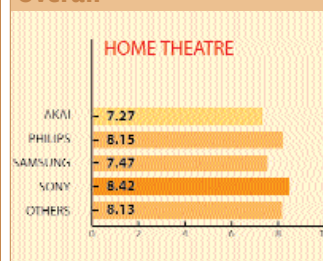
Satisfaction Index



Reliability Index



Overall



Canon



The Top Three

Canon	7.93
HP	7.92
Epson	7.62

Repurchase Value

HP	75
Canon	67
Epson	65



Inkjet Printers

Almost every home computer today connects to an inkjet printer. Over the last few years, inkjet printers have been positioned (by all manufacturers) as the solution to home printing, be it for documents or photographs. The result of this has been a massive rise in sales and a subsequent fall in prices of inkjet printers. The battle for market share and desk space from then on was going to be based on availability, prices of peripherals, and quality of service offered by the manufacturer.

Canon, HP and Epson are the undisputed top three in this

Canon, HP and Epson are the undisputed top three in this segment

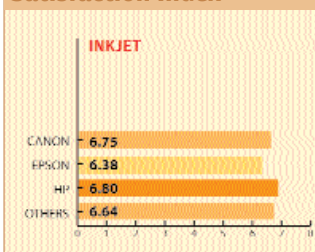
segment. Canon has once again played the 'catch up' game to perfection, chasing down HP and in fact, going ahead in some cases.

While Canon printers were found to be more reliable, HP users were more satisfied with their printers. In the end, HP's track record and longer presence in the Indian market was not enough to keep them ahead.

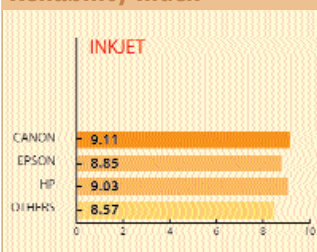
However, HP's Repurchase Index was much better than Canon's, despite the higher cost of peripherals and service.

"I have been using both HP and Canon printers for almost a year. Though the performance of both is satisfactory, HP's service is better. I will not opt for an inkjet printer in the future because my work demands that I have a laser printer, which I do not mind buying from either company," says Jasrir Luthra from New Delhi, aptly summing up the category.

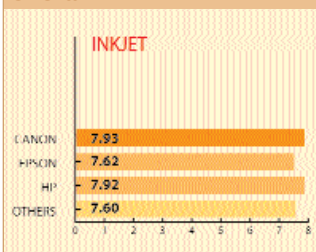
Satisfaction Index



Reliability Index



Overall





Laptops

For long an aspiration product limited to top execs, laptops are now—rightfully, we may add—everyone's choice for a computer. With prices falling steadily, it is just a matter of time before they cost only as much as a desktop.

India, though, poses unique challenges for manufacturers, and as is the case with any other product, a formula for success in another country may not necessarily work here.

HP builds on its reputation earned in other segments and emerges the clear winner. Although more users of Dell laptops said they would stick to their brand, HP had no competition on the reliability and satisfaction fronts. Emerging the winner on almost all counts, HP replaces Toshiba at the top.

Toshiba, in fact, takes a major fall this year, since users seem displeased with the service, and are the most dissatisfied lot amongst laptop users.

Dell and IBM seem to have put their act together and have

HP builds on its reputation and emerges the clear winner

seen favourable response from users. Jeet Sharma, a network administrator from New Delhi and a Dell user, says, "I started using the Dell laptop just six months back and it seems reliable. I am satisfied with its performance so far."

A whopping 92 per cent of Dell users said they would buy another laptop from Dell, whereas this number was 77 and 76 per cent respectively for HP and IBM. That itself speaks volumes about the service and reliability of these products.



HP

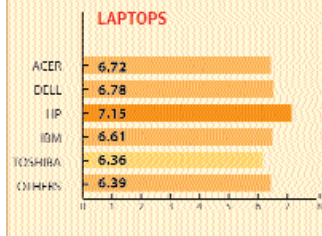
The Top Three

HP	8.28
Dell	8.07
Acer	8.03

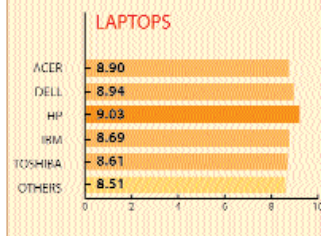
Repurchase Value

Dell	92
Acer	78
HP	77

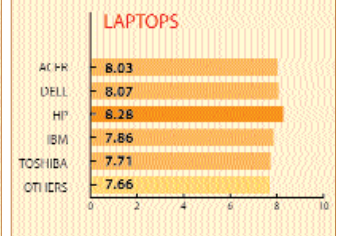
Satisfaction Index



Reliability Index



Overall



HP

The Top Three

HP	7.87
Samsung	7.80
Others	7.02

Repurchase Index (%)

HP	85
SAMSUNG	70
OTHERS	50



Laser Printers

Laser printers have a long way to go for the retail individual and small business market, both in terms of quality as well as usage. This category turned in the highest rate of first-week problems across the survey, matching those of the desktop PC. The number of respondents owning laser printers is less than a fifth of the number that own inkjets.

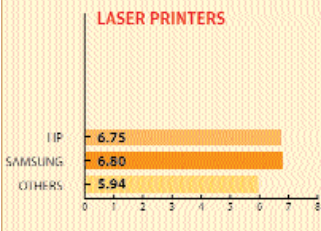
HP and Samsung are the only manufacturers who show up in sufficient numbers to produce

When it comes to fixing problems, Samsung and HP have similar turnaround times

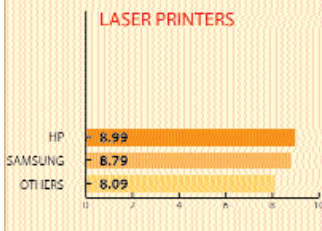
reliable results, and HP clearly dominates with a huge lead. HP printers are also more reliable than those from Samsung, coming up with half of Samsung's reported failure rate on all counts. Strangely, this is combined with a higher perceived reliability score from Samsung owners.

When it comes to fixing problems, Samsung and HP have similar turnaround times. As in the HDD category, Samsung's slightly higher unresolved problem rate is eclipsed by its better trained support personnel, giving them the lead in service. However, this time the difference is not enough to displace HP from the throne.

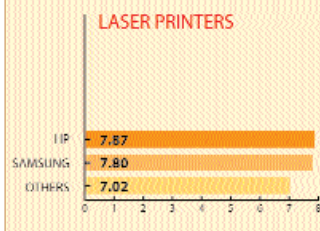
Satisfaction Index



Reliability Index



Overall





Mobile Phones



Since the advent of mobile telephony in India, cell phones have been equated with Nokia. Often referred to as the ideal phone for India, they arguably have the most user-friendly interface and rugged build quality to suit Indian needs.

Sony Ericsson, a close second, is perhaps still lacking in this respect, but has taken a huge step forward in reliability, almost matching Nokia's rating. On the satisfaction front, Nokia was a clear winner, and it is no surprise that it continues to be *Numero Uno* in India.

The fact that Sony Ericsson has come so close to Nokia in such a short time is testament to its commitment to the Indian market and the resources it has pumped into this market.

"I have been using a Sony Ericsson model for six months now. I had a Nokia earlier, but moved to Sony Ericsson as there were more features with a lower price tag, and also because I wanted to experi-

The fact that Sony Ericsson has come so close to Nokia in such a short time is testament to its commitment to the Indian market

ment. I will buy from a company that offers a profitable package for me," says Krishna Rath, a programmer from Trivandrum.

Nokia maintains most of its followers, though. "I have been using a Nokia for two months, and I can confidently say that the products and the company are extremely reliable," says Girish Rupchandani, a student from Mumbai.

With over three quarters of polled respondents for Nokia saying they would buy Nokia again, competition will have to play hard to garner market share!

Nokia

The Top Three

Nokia	8.26
Sony Ericsson	8.24
Samsung	8.13

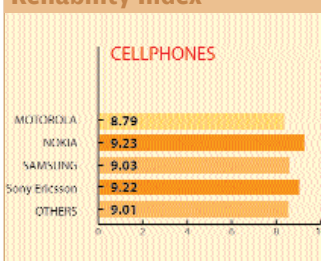
Repurchase Index (%)

Nokia	78
Sony Ericsson	67
Samsung	65

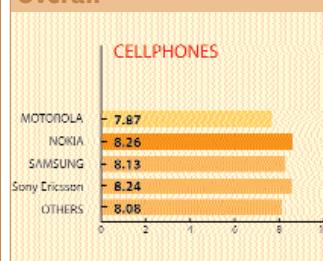
Satisfaction Index



Reliability Index



Overall



Sony



The Top Three

Sony	8.19
Philips	7.96
Panasonic	7.78

Repurchase Index (%)

Philips	92
Creative	90
Sony	77



MP3 Players

Sony, Creative, Philips and Panasonic are among the most popular MP3 players. With the iPod just starting to catch up, this comes as no surprise. As with home theatres, Sony lords over the competition and has the most reliable products. Creative, on the other hand, does not enjoy such a favourable response.

This category also sees Philips as a close second behind Sony, and with the most satisfactory service, improving its loyalty base. This, however, is a poor result for

Sony lords over the competition and has the most reliable products

them as they slip from the top spot they enjoyed last year.

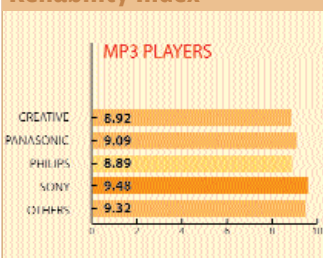
Beating Philips in MP3 players is one thing, but keeping Apple and their iPod at bay will be quite another. While ratings for Sony were very impressive—especially in the Reliability Index—it will need to spruce up service if they are to truly ward off the iPod threat. With Apple on the verge of taking off in the Indian market, next year's results might well paint a different picture altogether. Service and reliability can help Sony and Philips retain their customer base.

Hybrid devices like cell phones with extended capabilities are the new threat to MP3 players. Says Ajay Mahajan from Jammu & Kashmir, "I am using a Compaq MP3 player for two years without problems. It is definitely reliable. But recently, I also got a Sony Ericsson P910, which has an inbuilt MP3 player."

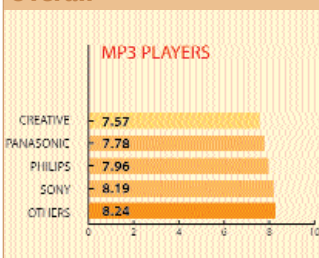
Satisfaction Index



Reliability Index



Overall





Optical Disk Drives



The laser of your PC, the light of your data, Optical Disk Drives are often also the noise of your cabinet, the 'drive not ready' of your Explorer. ODD standards are going through a transition the world over, and in India, last year was clearly when CD-Writers replaced the read-only drives of yesteryear. Unfortunately, variable CD-Writer quality, plus the delicate sensitivity of the media, ensure that reading CDs is often a hit-and-miss affair.

Kartik Vithalani, who uses Samsung products, says, "I have been using the DVD-R for six months and the CD-RW for two years. No problems so far."

Sony tops in reliability, followed closely by Liteon. Samsung drives have the highest number of responses this year, accounting for over 40 per cent of the overall. They were also the worst of the lot.

While four per cent of Sony and five per cent of Liteon drives required replacement or major

Sony tops in reliability as well as service, followed closely by Liteon

repair, Samsung saw a whopping 14 per cent of their drives go back for servicing. They also scored the poorest in every other reliability parameter, coming in at the bottom of the qualifying brands.

Asus and Sony excelled at service, with the lowest rate of unresolved problems, and they also had the quickest turnaround times, indicating a solid support network. Samsung, on the other hand, with the largest rate of unresolved problems and a two-and-a-half-week turnaround time, was the poorest at service.

Sony

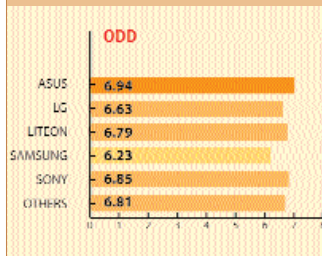
The Top Three

Sony	8.06
Liteon	8.01
Asus	8.01

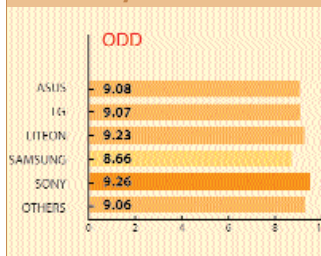
Repurchase Index (%)

LG	74
Liteon	73
Sony	73

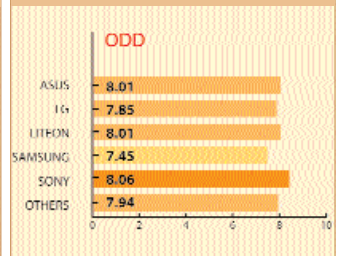
Satisfaction Index



Reliability Index



Overall



Creative

The Top Three

Creative	8.24
Intex	8.11
Philips	8.08

Repurchase Index (%)

Creative	87
Intex	71
Altec Lansing	71



PC Speakers

While they may not be as important as your monitor for 'real' computer tasks, they are quite the indispensable add-on these days. Despite the enormous range of variation in sound quality, affordable speakers are now good enough to serve adequately for occasional MP3 playback.

Brand loyalty is not very high though, with a multitude of affordable speaker vendors vying for your money.

Anurag Nagpal from Haryana says, "I have been using Intex for

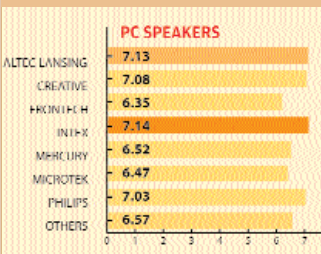
Brand loyalty is not very high, with a multitude of affordable speaker vendors vying for your money

seven years. Though there have been no problems, I feel Samsung has better sound quality than Intex. In the future, I will not buy from either company and go for Creative as I have heard it offers quality sound."

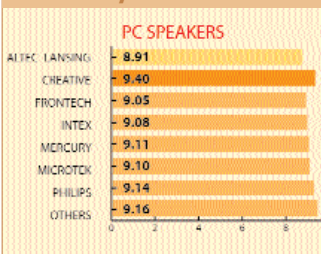
Being the relatively simple devices that they are, it is hardly a surprise to see that PC speakers have the lowest chances of early failure with an industry average of just one per cent, and the lowest rate of failure with fewer than two per cent needing servicing in two years.

Creative and Mercury have the lowest failure rates at two per cent. Intex and Altec Lansing share the highest rates of failure at over 11 per cent, but curiously, complement this by doing very well on service, posting the highest scores in this category.

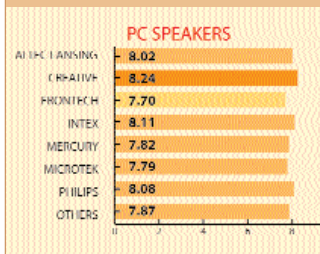
Satisfaction Index



Reliability Index



Overall





Scanners

There was a time when a scanner had to be from Umax. But the widespread networks—sales and service—of manufacturers such as Canon and HP seem to have had a swaying effect on buyers. While users of HP scanners had fewer problems and saw their problems being resolved sooner, users of Canon scanners were more satisfied with the quality of service. A third of HP users said they would buy another HP scanner; this number was about 66 per cent in the case of Canon.

Increasingly, scanners are being built into multifunction devices, and this seems to be the root of any displeasure. Says Swapnil Hoderkar from Pune, “I am not pleased with the HP scanner that I bought six months ago. I expected its performance to be much better—it is slow and the quality of the work at the end is not impressive. However, if HP

A third of HP users said they would buy another HP scanner

improves its products with advanced technology, I might buy from them again.”

On the other hand, Nitin Baria from Jammu & Kashmir says, “Even after a year, my HP scanner has no problems and is dependable.”

The difference here is that Swapnil uses an MFD while Nitin has a standalone scanner. HPs loss, it would seem, is Canon’s gain!



Canon

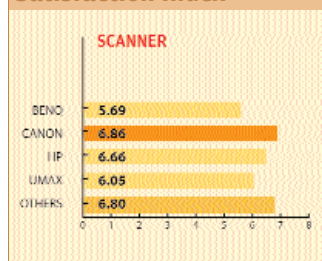
The Top Three

Canon	8.02
HP	7.95
Others	7.93

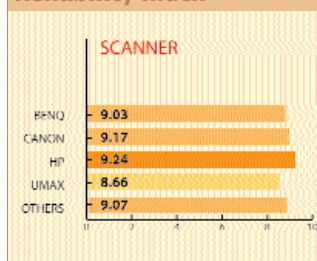
Repurchase Index (%)

HP	74
Others	73
BenQ	71

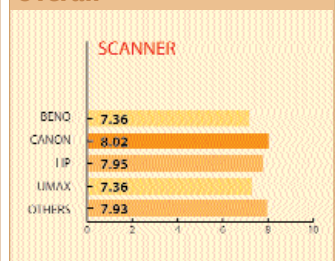
Satisfaction Index



Reliability Index



Overall



APC



The Top Three

APC	8.17
Others	7.398
Microtek	7.93

Repurchase Index (%)

APC	77
Microtek	70
Others	65



UPS

Most of you do not use an Uninterruptible Power Supply (UPS) at all. Either our State Electricity Boards are doing great at inspiring such confidence, or UPS providers are not doing enough to explain why a UPS is essential.

This is the most fragmented market of all the categories here. Only two brands, APC and Microtek, garnered enough votes to generate useful numbers.

Overall, the reliability of UPSes is, surprisingly, only a little better than that of desktop PCs. You might expect a relatively simple device such as this to work in an

Overall, the reliability of UPSes is, surprisingly, only a little better than that of desktop PCs

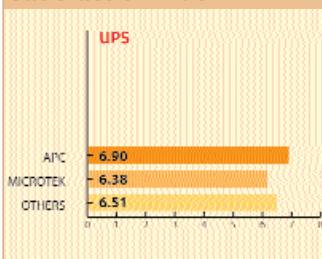
install-and-forget manner, but it demands more attention.

Rajwinder Singh, a disappointed owner of a Shark UPS, says, “I have had it with me for three years but had to replace it twice in that period. Though the company’s service is good, I do not find it reliable.”

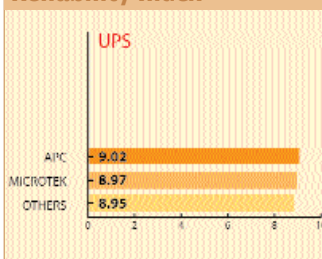
Every eighth APC device, for example, needs to be sent for significant repair in a two-year span, but they fail the least often and have the shortest response time of 10 days, a week less than the industry average.

For a critical power conditioning function to be unavailable for a period of 10 days to a month is quite a risk for your computer. With such low service levels and a wide choice, it is not surprising that over 30 per cent of owners want to sample other brands. But, given the abysmal industry-wide performance, it may be a futile search.

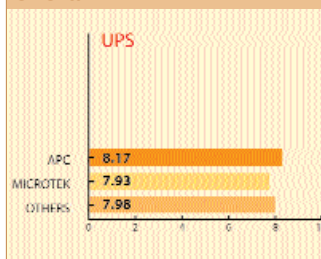
Satisfaction Index

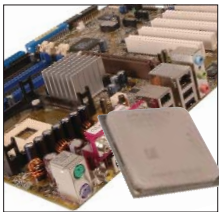


Reliability Index



Overall





66 Of Motherboards and Processors



94 Upgrade your skill set



96 Home is where the money is

Digital Tools

Technology For Personal And SoHo Productivity

Jumpstart

Your Learning Your Medium

Forget blackboards, chalk and textbooks... CD-ROMs are now *de rigueur* at Agamaa Virtual Classes

Preethi Chamikutty

The last time Snehal Gaikwad was interested in the past was when she watched a historical at the local cinema or on satellite television. Her latest screen, however, is something she will never forget—the white board at her coaching class.

This 15-year-old Standard X student of Mumbai's St Columbia High School actually is excited at

learning at her local coaching class. What made this happen?

Mumbai's Agamaa Coaching Classes, better known as Agamaa Virtual Classes, uses interactive CD-ROMs as a teaching tool, a move that has made students as excited as the teachers who teach the various subjects.

Snehal says, "I like history lectures the best because we see movie clips about various events. This helps me understand the event better and is easier to revise during exams."

Welcome to a whole new teaching paradigm!

Agamaa Virtual Classes is an offspring of Chetana Publications, a Mumbai-based publishing house that specialises in textbooks, and teaching guides. At the classes, however, students learn not by rote, but by associating images and sounds to the words they read in their textbooks and teaching guides. Chetana's already-existing database of computer books and related tools allows Agamaa to





Photograph: Moxey Xavier

make use of film clips, animation, sound effects and 3D graphics to explain and narrate course material. There are, of course, textbooks and teachers, but instead of just talk, there are interactive sessions supported by audio-visual representations of textbook content.

First Off The Block

Says Rakesh Rambhia, director, Chetana Publications: "Initially, we only had CDs containing courseware, which were made available to students who wanted to avoid going to coaching classes. However, after interacting with students and getting feedback from parents and students alike, we decided to start this venture."

Agamaa then took its CDs to schools and demonstrated the courseware. Initially, CDs were



(Left) Learning Hindi the cool way—at Agamaa (Top) One of the tools being used to impart training—a projector

made available to be taken home. However, this way, students could not interact with teachers. Agamaa devised virtual classes to bridge this gap.

The Medium

In an education system rife with teachers, students and parents who believe in learning by rote, Agamaa has created a new niche. Fifty of its more than 1,600 students spread across various branches in Maharashtra have now shifted over to the CD-ROM way of learning.

Says Rambhia, "Audio-visual communication is a powerful tool to influence the attitude, behaviour, approach, personality and thinking of an individual. Experts believe that this medium, if used to impart education, could prove quite effective

in helping students perform better in examinations."

It's Got The Look!

Every Agamaa classroom has a uniform look. Projectors, a Pro Dolby sound system, collar microphones and other necessary tools comprise a classroom. Currently, courses are conducted for classes IX and X.

We The Students

Purav Gindra of Mumbai's St Sebastian Goan High School was introduced to Agamaa by his cousin, a former student. Gindra, a Standard X student, is part of the vacation-cum-regular batch of Agamaa, has opted for all the subjects they offer. "The audio-visual interface is a great idea," he says. "We see images and movie clips of our learning material, and this leaves a lasting impression on our minds. It is easier to recall during exams."

Snehal agrees. "The CD-ROMs help me learn better. It is easier to revise during exams," she says.

All this, though, comes at a cost. The fee for the class IX course is Rs 12,000, while the class X course costs Rs 18,000 for all subjects.

Business Prospects

Rambhia feels this new way of learning makes for good business sense. "At present, we only have classes IX and X, but from next year we plan to expand it to Standard VIII and XI as well," he says.

For infrastructure, Agamaa invested close to Rs 10 lakh at each of its centres and the software development cost approximately Rs two crore.

The Competition Hots Up

Even if Agamaa made it first, Navneet, another giant in the private education sector, has introduced Top Scorer Digest Plus—a self-learning preparatory tool in CD-ROM format.

Retaining children's attention span has always been a challenge. No matter how good the teacher is, he or she can never enact a historic event, or show the movement of a spirogyra on a blackboard!

The teacher's role may never go out of fashion, but teaching tools could soon witness a sea-change. ☐

preethi_chamikutty@thinkdigit.com

K-Yan—The Community Learning Tool

K-Yan was developed by financial corporation Infrastructure Leasing and Financial Services' (IL&FS) Education and Technology Services (ETS) at its 'Compact Media Centre'. Built in collaboration with IIT Mumbai, K-Yan is a low-cost new-media product for community learning.

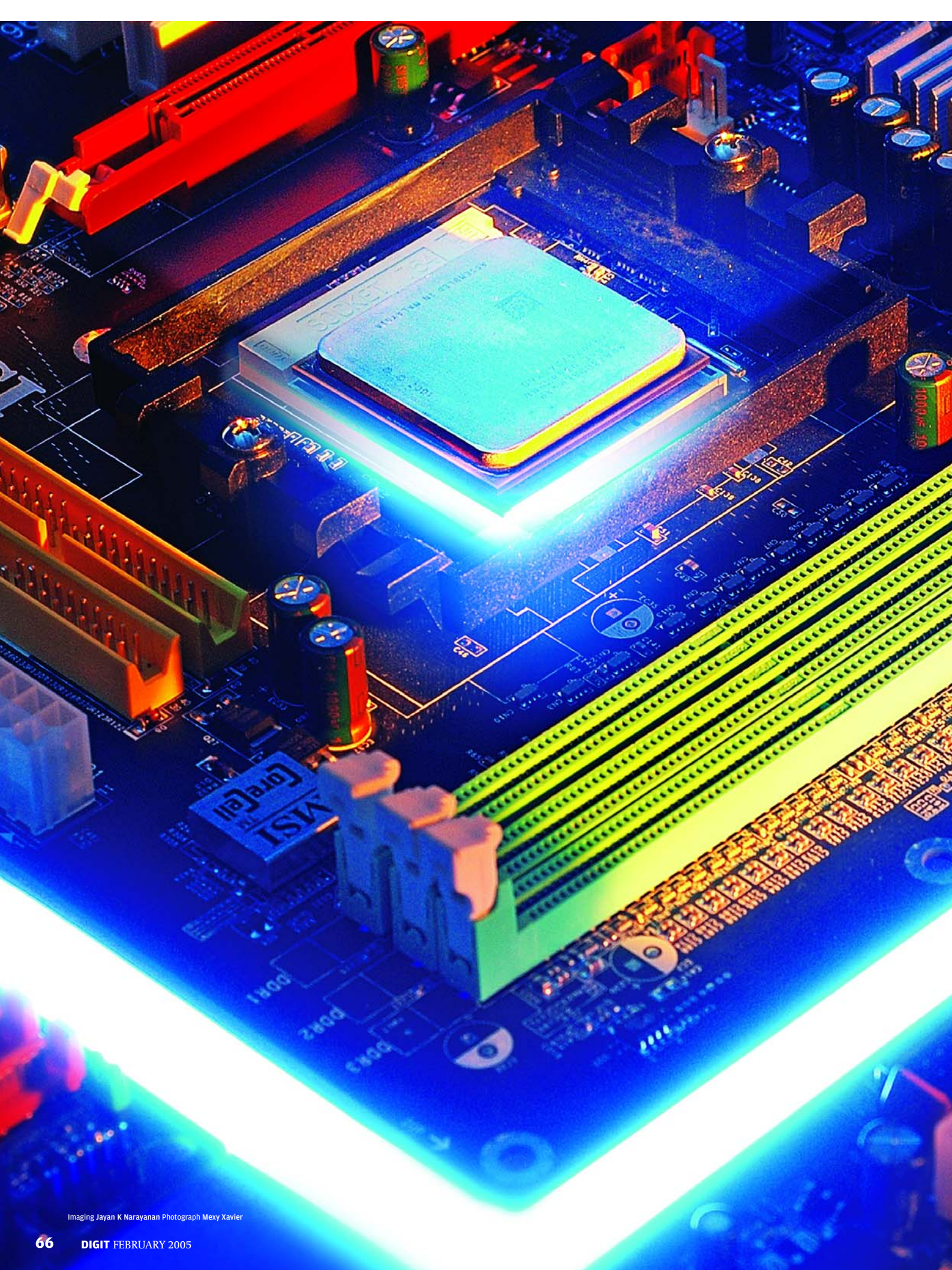
K-Yan combines a multimedia PC, a large format TV, a DVD player, a CD writer, an LCD projector, Internet surfing, video conferencing, and an AV studio system, in a single, compact unit that can be operated from a single remote control-cum-mouse unit for changing from TV to DVD, or operating the PC. It can also be loaded with teaching aids that help enhance classroom teaching, facilitate the learning process and help students understand better.



Some schools that currently deploy K-Yan include Garden City College, Bangalore; Tagore International EOK, New Delhi; Oakridge International School, Hyderabad; St Xavier's College, Kolkata; Cathedral Junior School, Mumbai; and J N Petit School, Mumbai.

K-Yan provides

- ☑ A Pentium 4 processor
- ☑ DVD/VCD/ACD/MP3 facility
- ☑ A CD-Writer
- ☑ An audio amplifier and inbuilt speakers
- ☑ Large data storage facility (120 GB) and 512 MB of RAM
- ☑ Internet connectivity
- ☑ TV cable connectivity
- ☑ An 1,800-lumen LCD projection system which can project images up to 25" x 12"
- ☑ Plug-and-play capability



Imaging Jayan K Narayanan Photograph Mexy Xavier



FUTURE PERFECT

The complete guide to choosing the best platform that is easy on the wallet, and will last you for years

Sanket Naik and Jayesh Limaye

Evolution on Earth is a lethargic process. Events in the PC market follow a similar timeline, with innovations moving the industry at a leisurely pace. It is thus quite a sight to witness the barren lands of the PC—wrecked by bandwidth limitations and littered with GHz myths—sprouting next-generation technologies that promise to turn the desert into thriving wetlands. Sleek and efficient dual-core processors replacing fire-breathing, single-core GHz monsters is a good thing. Bottlenecks are, similarly, being eradicated by the replacing of parallel connectors with serial ones—witness the PCI-Express bus and SATA hard disks. Graphics cards now sport CPU-like processors which will soon be better utilised by operating systems across the board, bringing performance and usability to an ageing GUI.

The PC industry is shifting gears, and not a moment too soon. This change in pace brings along new jargon to sift through. New chipsets, new processor roadmaps, new memory technologies and the like take on greater significance. Change brings along confusion; our first task here will be to shed light on the scene.

Our goal here is not to choose the best processor and the best motherboard. Rather, it is to pick the best combination. We will help you arrive at a system-wide solution—a solution that will last you through a few years and that will not strain your pocket: the conclusion to this test will thus choose a combination processor/motherboard that strikes the perfect balance between performance, features and price.

With that in mind, let us first take a look at where things stand in the rival camps of industry movers Intel and AMD.

Last year, Intel introduced its 915 and 925 chipsets alongside the new LGA 775 socket processors, which were meant to be paired with these chipsets. The highlight of these chipsets was PCI-Express, offering significantly higher bandwidth than the current PCI bus (*For a complete low-down on PCI-Express, read our In Sight story on page 32*).

nVidia and ATi were the first to launch products for the new bus, and the rest of the industry will follow soon.

AMD, after the introduction of their Athlon 64 processors, are riding the waves of success. Not only are their CPUs currently at the top of the speed chart, but they have managed to rein in the heating issues that plagued them.

While Intel's product portfolio is focused and simple to understand, AMD's is a complete mess. The Athlon 64 processors are currently available in two different socket versions: Socket 939 and Socket 754. The Athlon XP range of processors recently got a replacement in the form of Sempron.

While that was on the processor side, the number of chipsets available for an AMD processor is numerous, and deciding upon one is not an easy task. This will be handled later on in this article when we look at motherboards from different manufacturers sporting various chipsets.

We often receive letters asking what kind of machine will be decent enough to play most of today's games, will offer a fair amount of upgradeability, and most importantly, will be easy enough on the wallet. Since processors and motherboards are the two most crucial components that decide the overall performance of a system, while dictating the headroom for future expansion, we decided to do a CPU and motherboard comparison test. This article will help you decide the right platform to upgrade to, or settle for, when buying a new PC.

Due to the aforementioned changes in technology, choices are many, and at this juncture choosing the right solution matters: one wrong turn and your upgrade options could hit a dead-end. So, as we compare the different processors and motherboards, we will also discuss the pros and cons of the respective chipsets and processor families.

This article is broadly classified into two parts: processors and motherboards. First, we take a look at the available processors, and then benchmark them to arrive at a winner. Similar treatment will then be applied to motherboards. We will then pick the best combination of processor

and motherboard, offering you a complete solution.

A LOOK AT PROCESSORS

Before we get to the action, let us refresh our knowledge on the types of processors available.

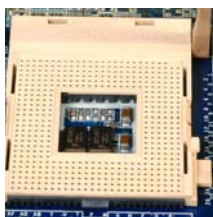
Intel Processors

As of today, Intel has two lines of processors, namely the Pentium 4 series for performance seekers, and Celeron D for the value-end of the market. The original Pentium 4 processors were based on the 130nm manufacturing process, featured 512 KB of L2 cache and ran on a 533 MHz FSB. But today's Pentium 4 is a different beast; it features 1 MB of L2 cache, runs on an 800 MHz FSB and is manufactured using the 90nm process. A still newer version expected soon will run on a 1066 MHz bus.

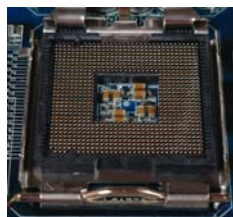
There are also special-edition Pentium 4 processors called 'Extreme Edition', and denoted by 'EE'. The EE processors have 2 MB

of L3 cache and are manufactured using the older 130nm process. The new line of Pentium 4 processors based on the LGA 775 package is denoted by a new nomenclature. Instead of using the core speed as the name, Intel calls this series the 5XX series, where the 'XX' ranges from 20 to 60. Processors that have the 'Execute disable bit' capability have the letter 'J' following the 5XX number, an example being 560J.

The older Pentium 4 processors required a Socket 478 motherboard, e.g. 845, 865, 875, chipset-based boards, whereas the newer ones will be produced for the LGA 775 package. The LGA



The older FC-PGA 478 interface



The new LGA 775 interface

(Land Grid Array) type of socket is found on motherboards supporting Intel's new chipsets, i.e., the 915 and 925.

On the Celeron front, too, there are two versions; the older ones that run on a 400 MHz bus have 128 KB of L2 cache, and are manufactured using the 130nm process. The newer 90nm-manufactured Celeron processors are called Celeron D, and are denoted by 3XX series where the 'XX' ranges from 15 to 40. The new Celeron D runs on a 533 MHz bus and features 256 KB of L2 cache. Some models of the Celeron D are available for the LGA 775 sockets; the rest use the older Socket 478.

AMD Processors

AMD has the Athlon 64 and Sempron ranges of processors. Depending on the processor interface, or the socket, the Athlon 64 can be divided into two distinct categories—one that uses Socket 754 and the other that plugs into a Socket 939. 754-pin processors

How We Tested Processors

This year, we revived our 'Processor Test' process with newer and better benchmarks and testing procedures. All the new benchmarks are highly processor-dependent, and the peripheral sub-system has a low level of involvement, which results in scores that reflect the true potential of the processor's computational power.

For Intel's LGA 775 processors, we used Intel's D952XCV motherboard with 1 GB of DDR-II 533 MHz memory, whereas for the Socket 478 processors, we used Gigabyte's 8TR5350MT motherboard with 1 GB of DDR 400 MHz Corsair memory.

AMD's Socket 939 processors were plugged onto an Asus A8V-Deluxe, while Socket 754 processors went with MSI's K8N Neo 2. Socket 'A' processors were tied with the ASUS A7N8X-Deluxe.

Windows XP with SP1 was freshly loaded on a Maxtor Diamond Max 120 GB SATA drive. On the graphics front, we used Gigabyte's AGP card based on the nVidia GeForce 5700 chipset and MSI's PCIe card based on nVidia's GeForce 5750 chipset.

ScienceMark 2.0

ScienceMark 2.0, as the name suggests, is a benchmark based on scientific calculations. This benchmark constitutes multiple benchmarks that test various aspects of a processor. We used the following benchmarking modules:

MolDyn (Molecular Dynamics): Molecular Dynamics simulates the thermodynamic behaviour of materials using their forces, velocities, and positions, where force is the most important parameter.

Primordia (atoms): This code calculates the Quantum Mechanical Hartree-Fock orbitals for each electron in any element of the periodic table. The number crunching involved in the calculation is complex and stresses the FPU (Floating-Point Unit) of a processor. The final score is given as the time taken to complete the calculations.

Cipher Test: The 'Cipher Test' tests four different forms of encryption algorithms, AES 128/256 bit and RSA 512/1024 bit. The calculations involved are mathematically inclined, resulting in the stressing of the ALU (Arithmetic and Logic Unit) of the processor.

WinRAR 3.3

WinRAR 3.3 offers an inbuilt benchmark, operating on random data, which is processed in the memory. Since the data is operated on in the memory, the results are free from any influence that a disk system may impart.

CINEBENCH 2003

CINEBENCH 2003 is the free benchmarking tool for Windows and Mac OS based on the 3D software CINEMA 4D R8. CINEBENCH 2003 delivers accurate results by testing a processor's raw processing speed which affects system performance such as OpenGL, multithreading and multiprocessing. Also, this benchmark gives a clear view of Intel's HT technology in operations, as it supports HT.

SiSoft Sandra 2005

This is the same good old benchmarking tool with newer features and tests added to it. Nothing seems to have changed except for the new user interface and the extra benchmarking tool for USB drives, cache memory and other parts. We logged scores particularly related to the CPU, memory and disk drive.

Doom 3

Doom 3 is a graphically intensive game capable of making any machine crawl. This OpenGL game paints a good picture of what a decent machine should consist of to run games of the future.

Half-Life 2

This DirectX 9.0 game scales very well with processor speed. Moreover, any hardware which runs this game well will be comfortable with upcoming game titles.

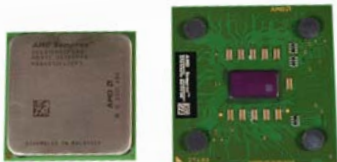
Ziff-Davis Multimedia Content Creation

This benchmark suite runs applications related to processor-intensive multimedia applications such as Adobe Photoshop, Adobe Premier and WaveLab.

have a single-channel, 64-bit memory controller, whereas the Socket 939 has a 128-bit, dual-channel controller. The HyperTransport link—a serial bus linking components on an AMD motherboard—on a 754-pin processor is capped at 1600 MHz, which is otherwise 2000 MHz for the 939-pin processor. The total processor-to-system bandwidth on a 754-pin is limited to 9.6 GB/s, whereas it is 14.4 GB/s for 939s. In short, the 939-pin processors are geared for better performance than the 754s.

The L2 cache size on the Athlon 64 processor varies between 512 KB and 1 MB. Similar to Intel's 'EE' processors, AMD has the Athlon 64 FX range, available only on a 939-pin package.

Sempron processors are meant to replace the older Athlon XP range of processors. They are available in two versions—one for the 754 Socket and the other for the soon-to-retire Socket 'A'. Why two versions?



A 754-pin Sempron 3100+ and a Socket 'A' Sempron 2800+

Initially, AMD wanted to retire the Athlon XP range, but since the Socket 'A' platform provides the most value, they thought it wise to postpone its death. Hence the release of Sempron for Socket 'A' motherboards. Moreover, to bring some stability to their platforms, AMD identifies the Socket 754 as the ideal platform for the near future, and hence the release of the 754 package Sempron.

AMD processors of yesteryear were infamous for their heating problems, but this is no longer the case.

The Athlon 64 hardly gets past 50 degrees Celsius; in et, suggesting a CPU-memory link inferior to the e Gigabyte board.

Half-Life 2 scales well with processor performance. Since MSI's

915P Neo 2 did well on the PCMark CPU score, it came as no surprise when the board offered the board offered system hangs and crashes are experienced.

Who's The King?

Let's get into the real comparison of the processors and see who comes out tops. This comparison included six processors from Intel, ranging from clock speeds of 2.53 GHz to 3.6 GHz.

AMD provided us with 10 processors, including the top-of-the-line FX-55, along with the entire Sempron range. We also included the Athlon XP 3200+. It should be noted that high-end processors such as the P4 3.4 GHz EE, Athlon FX-55, Athlon FX-53, and the Athlon XP 3200+ are either too costly or are phased out, and hence are not part of this comparison. We included them to bring better clarity to the results of the mid-range processors.

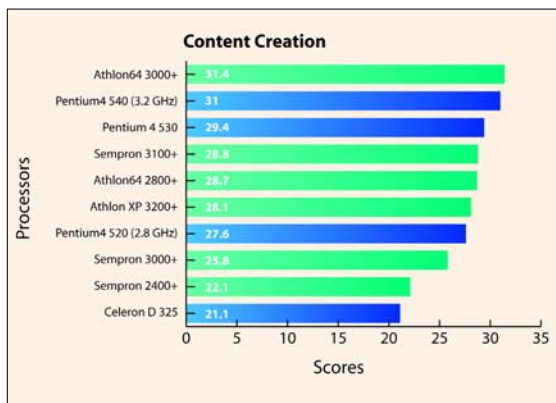
Let us take each benchmark and dissect it to see which processor fares well and why.

Content Creation 2004

This is a system benchmark, and so, apart from raw processing power, it also relies on other critical parameters such as I/O bandwidth and memory bandwidth. The Athlon64 3000+ was right on top, scoring 31.4, despite the 1.2 GHz advantage the Pentium 4 3.2 GHz Intel processor has.

The Athlon64 3000+ processor has an on-die, dual-memory controller, and hence, memory bandwidth is not an issue and stands at 8 GB/s. Intel's 3.6 GHz also supports dual-channel, but its memory controller is part of the Northbridge and provides a bandwidth of 6.4 GB/s.

When you look at the results, the difference in performance, though not significant at first



High quality digital content, music with more depth and clarity, high quality video playback, realism in games... plus world-class quality, reliability and performance...

With the Intel® D915GAV Desktop Board

- Based on the Intel® 915G Express Chipset
- Socket LGA775
- Supports Intel® Pentium® Processors with HT Technology
- Dual Channel DDR Memory architecture
- Intel® GMA 900 - DirectX 9 Compatible Graphics Onboard
- PCI Express x16 Connector for add on graphics card — (4x faster than AGP)
- Intel® High Definition Audio — 24 bit 6 channel Audio
- 4 x SATA-150 ports, 1 x PATA port, 8 x USB 2.0 ports
- 2 x PCI Express x1 connectors, 4 x PCI connectors for expansion
- Intel® Precision Cooling Technology
- Great Software bundle



For more information go to: <http://developer.intel.com/design/motherbd/index.htm>
© 2004 Intel Corporation. All rights reserved. VJC/PT/0104/2500 300108-001

Intel® Desktop Boards
INTEGRITY TO BUILD ON

For enquiries contact our National Distributors:
Redington India Ltd. • SES Technologies India Pvt. Ltd.
Ingram Micro India (P) Ltd. • eSys Distribution Ltd.

www.promodome.net

glance, becomes important when you factor in the 1.2 GHz advantage the P4 enjoys. The reason for the Athlon 64 3000+ winning is the excellent bandwidth and low latency offered by the HyperTransport bus used by AMD processors.

This analysis is further confirmed when you compare the older Athlon XP 3200+ and Sempron 3100+. The Sempron 3100+ is a 754-pin processor running at 1.8 GHz and uses HyperTransport, whereas the XP 3200+ is a Socket 'A' processor running at 2.2 GHz, but the memory controller is part of the Northbridge, a setup similar to the one used by Intel. Thanks to this, the Sempron 3100+ leads the Athlon XP 3200+. Note how the 2.53 GHz Celeron D was thrashed by the Sempron 2400+ running at 1.63 GHz, underlining the ageing nature of the Celeron line-up.

ScienceMark 2.0

This benchmark suite consists of numerous tests that involve data calculations such as the mathematically-intense molecular dynamics of the MolDyn test. Through this benchmark, a processor's number-crunching ability comes to the fore. We will now take you through the tests we used within this suite.

Primordia

This test relies mainly on the CPU and, to some extent, on the CPU-memory link. The disk system does not figure in the equation at all. AMD's Athlon 64 3000+ comes out as the best number cruncher in this lot of processors.

Here too, the Athlon 64 3000+ beaters the faster-clocked Pentium 4 3.2 GHz Prescott. The longer



pipelines on the Prescott core are the reason for the performance hit: if your job involves number-crunching varied datasets, such as in the scientific calculations made in this benchmark, processors with shorter pipelines score over processors with high core speeds with long pipelines. (We have not factored the Athlon XP 3200+ here because this processor will no longer be available.)

One interesting thing to note was the difference between the Athlon XP 3200+ and the Sempron 3100+. While in the Content Creation test above, we noted that the Sempron was way ahead of the XP 3200+, the tide reverses drastically when it comes to number crunching. This clarifies two things: if your work involves a lot of high-bandwidth work—using image manipulation applications, 3D rendering, or sound editing—a processor with better CPU-to-memory bandwidth will do well. But if your work pertains to pure number crunching, processors with shorter pipelines and higher clock speeds are better suited to your needs.

The Sempron 3100+ and 2800+,

despite their lower clock speeds, were able to beat the Pentium 4 3 GHz and 2.8 GHz quite easily. Both Intel processors are based on the Prescott core and feature longer pipelines.

MolDyn

Here the results were pretty similar to the Primordia test, confirming AMD's superb data-crunching strength relative to Intel's new Prescott core. The higher-clocked Sempron processors beat the Sempron 3100+ and Athlon 2800+. The Celeron D trailed the Sempron 3000+ by a hefty 55-second margin.

Cipher Test

This test is based on the AES block cipher, formerly known as Rijndael. In this test, the results kept the status quo: the Athlon64 3000+ occupied the first position, while the 3.2 GHz Prescott came in at a respectable second. The rest of the story was very similar, with the Semprons giving their Intel counterparts a hard time.

At the low end of the range, the Sempron 2400+ was still beating the Celeron 2.53 GHz convincingly. In this test, core clock speed and work done per clock matters—hence we observe a scaling of performance.

WinRAR 3.3

The Athlon 64 family made their mark here with the Athlon 64 3000+ taking a convincing lead over Intel's P4 3.2 GHz Prescott. It was interesting to see the Sempron 3100+ beating most of the Pentium 4 series by a considerable margin. This was the first time the Celeron D processor actually beat a Sempron—the Sempron 2500+.

How We Tested Motherboards

The motherboards were segregated first on platform and then on chipsets.

For boards based on Socket 478, we used Intel's Pentium 4 3.2 GHz processor and 1 GB of DDR 400 MHz memory. For the LGA 775 socket, we used a 3.4 GHz EE Processor and 1 GB of DDR 400 or DDR II 533 memory, depending on the motherboard support.

For Socket 939-based AMD motherboards, we used an FX-55 processor; for Socket 754-based boards, we used an Athlon 64 3000+ processor; and for socket 'A', we used an Athlon XP 3200+.

For both these rigs, we used a Gigabyte GeForce 5700 card for AGP-based boards and an MSI 5750-based card for PCIe boards.

We used a SATA 120 GB Maxtor Diamond Max drive on both test rigs. Windows XP with SP1 was our choice of operating system for the test. All other required drivers and patches were loaded before continuing with the tests. The operating system was freshly-

installed for all motherboards and the hard drive was defragmented before testing.

PC Mark 2004: The test mainly comprises applications that are used in day-to-day functioning, and generates a score depending on the performance of the system in each individual test.

3D Mark 03: We used the 2003 version since most of the tests in the new version would be skipped due to lack of hardware support in the GeForce 5700-based cards. However, 3D Mark 2003 scales fairly well and was therefore used for gauging the graphics subsystem of the motherboards.

CineBench 2003: This tool is set to deliver accurate benchmarks by testing the computer's raw processing speed, and other areas that affect system performance such as OpenGL, multithreading, multiprocessing, and Intel's new HT Technology.

CINEBENCH 2003

The results from this benchmark are quite interesting: CINEBENCH 2003 makes perfect use of Intel's HyperThreading technology, and hence we see Intel's 3.2 GHz processors taking the steam out of AMD's processors and coming out on top. Except for the Celeron D, nearly all Intel processors performed extremely well here.

To clarify, HyperThreading does not involve two physical processors. It is accomplished by having a virtual processor along with the physical one. The results of this test are important for the future: both Intel and AMD are due to release dual-core CPUs-processors with two physical cores on a

an application makes use of these streaming instructions. The DivX codec has been optimised for Intel processors, and so you see the boost when you use Pentium 4 processors.

The lower-clocked Sempron 2400+ and 2500+ paid the penalty, taking the last slots, falling behind the slightly higher-clocked Celeron D processor.

DOOM 3

In the gaming test too, AMD's processors took the crown; interestingly, it was the Athlon 64 2800+. The Athlon64 3000+ was behind the 2800+ by 3 fps. Close on its heels were its cost-effective siblings, the Sempron 3000+ and 3100+.

The Intel processors were completely overshadowed by the startling performance of the Athlon 64 range. In fact, the new Sempron 3100+, 3000+ and 2800+, which cost no more than Rs 6,000, performed better than Intel's expensive Pentium 4 series. The scores returned by the Celeron D 2.53 GHz processor were

pathetic—just about half of what the Athlon 64 2800+ returned.

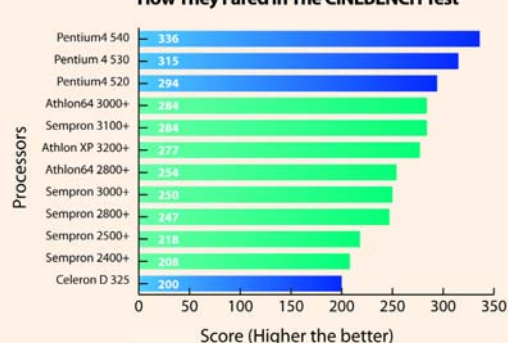
Another point to remember is that DOOM 3 is more graphically intensive than Half-Life2—future games using this engine will rely more on your graphics card than on the CPU.

Half-Life 2

The results obtained from this test are interesting because the scores scale with rated processor performance. Intel's 3.2 GHz Pentium 4 managed to steal the limelight thanks to its higher clock speed and larger cache. However, the Athlon 64 3000+ was a hair's breadth away from the leader, which is commendable, taking into account the 1.2 GHz speed advantage the P4 enjoys over the 3000+.

The competition really heated up for third place between the Athlon 64 2800+ and the Pentium 4 3 GHz. Eventually, the AMD topped the Intel processor by a small margin. With the help of faster clock speeds, the Pentium 4s—the 3 and 2.8 GHz—beat the lower-clocked Semprons. From the

How They Fared In The CINEBENCH Test



single die—in the latter half of this year. If the current breed of HT-enabled processors derive a good performance benefit, it would be interesting to see the performance of dual-cores on this benchmark and similar multi-threaded applications.

dBpowerAMP

The Athlon 64 3000+ was the fastest at ripping songs from a CD, getting the job done in just 77 seconds. Surprisingly, the Sempron 2800+ took second position, displacing the Athlon64 2800+ to third position. Intel's P4 3.2 GHz was outgunned even by the Sempron 3100+. The Celeron processor was nearly 31 per cent slower than the Athlon64 3000+.

DVD to DivX

In DivX encoding, the tides favour Intel. Both the Pentium 4s—the 3.2 and 3 GHz—beat the Athlon 64 3000+ by a considerable margin. The results clearly indicate that DivX encoding relies heavily on core clock speeds, streaming instructions (SSE, SSE2, SSE3), and how well

intel®

Reliability,
performance and power...

...to propel your
business forward.



Enjoy high quality digital content, music with more depth and clarity, high quality video playback, realism in games... plus world-class quality, reliability and performance...

With the Intel® D915GAV Desktop Board

- Based on the Intel® 915G Express Chipset
- Socket LGA775
- Supports Intel® Pentium® Processors with HT Technology
- Dual Channel DDR Memory architecture
- Intel® GMA 900 - DirectX 9 Compatible Graphics Onboard
- PCI Express x16 Connector for add on graphics card — (4x faster than AGP)
- Intel® High Definition Audio — 24 bit 6 channel Audio
- 4 x SATA-150 ports, 1 x PATA port, 8 x USB 2.0 ports
- 2 x PCI Express x1 connectors, 4 x PCI connectors for expansion
- Intel® Precision Cooling Technology
- Great Software bundle

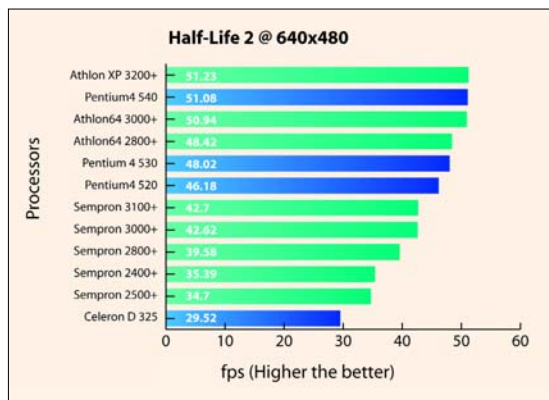


For more information go to: <http://developer.intel.com/design/motherbd/index.htm>
© 2004 Intel Corporation. All rights reserved. VJCIPT/0104/2500 300108-001

Intel® Desktop Boards
INTEGRITY TO BUILD ON

For enquiries contact our National Distributors:
SES Technologies India Pvt. Ltd. • Ingram Micro India (P) Ltd.
eSys Distribution Ltd. • Redington India Ltd.

www.promodome.net



scores, we can infer that Half-life 2 scales well with your processor—the faster the CPU, the better the performance the game delivers.

And The Winner Is...

The Athlon64 3000+ makes it to the top thanks to its excellent performance and attractive pricing. Competing Intel processors lack that extra juice to take on the AMD Athlon64 3000+.

The Sempron range of processors provides the best value for money; at least in certain tests such as the DOOM 3 test, it gives even the high-end Intel processors a run for their money.

However, before you jump out to buy one of these, there are certain things to consider: the Socket 'A' versions of this processor, available as 2400+, 2500+, 2800+ and 3000+, are

Scoreboard					
Processors		Basic Specifications		Score (100)	Price *
	Speed	L2 Cache	FSB		
AMD Athlon64 3000+	2.01 GHz	512 KB	NA	65.23	6716
AMD Athlon64 2800+	2 GHz	513 KB	NA	61.99	6624
AMD Sempron 3100+	1.8 GHz	256KB	NA	60.95	5704
AMD Sempron 3000+	2 GHz	256KB	333 MHz	58.19	5566
AMD Sempron 2800+	2 GHz	256KB	333 MHz	58.90	4922
AMD Sempron 2500+	1.75 GHz	256KB	333 MHz	60.21	3404
AMD Sempron 2400+	1.67 GHz	256KB	333 MHz	63.30	2806
Intel Pentium4 540	3.2 GHz	1 MB	800 MHz	57.73	13900
Intel Pentium 4 530	3 GHz	1 MB	800 MHz	56.72	10900
Intel Pentium4 520	2.8 GHz	1 MB	800 MHz	55.29	9900
Intel Celeron D 325	2.53 GHz	256KB	533 MHz	50.91	4900

For the entire scoreboard, please visit www.thinkdigit.com

manufactured only to prolong the life of that platform. Therefore, consider buying them only if you are upgrading your older Athlon XP-based machine. If you are buying a new Sempron machine, we would recommend the new 3100+, based on the 754 socket, so you have the option of upgrading to Athlon 64 later.

While that was Sempron, the value processor from AMD, the Celeron D processors from Intel are a hopeless piece of silicon that you should not bet your hard-earned money on.

Choosing The Right Processor

As with any other element of your computer, define the typical usage that your processor will see before you choose one. If you are in academia, where your work involves scientific calculations, an AMD Athlon 64 processor would be ideal simply because of its raw number-crunching performance.

Similarly, people whose work involves 3D applications, image or video manipulation, that is, multimedia, should also go for an AMD processor. The high bandwidth between the CPU and memory gives them a good boost in these applications.

For media encoding or decoding tasks such as ripping movies to DivX, MP3 conversions, and the like, the Pentium 4 line, with its long pipelines, SSE 3 instructions and higher clock speeds are ideal.

If you are a gamer, we recommend the fastest AMD Athlon 64 processor available. Though the Pentium 4 3.2 GHz beats the Athlon 64 3000+ in the Half-Life 2 test, it does so simply because of the 1.2 GHz speed advantage the Pentium has over the Athlon 64 3000+. Moving to a slightly higher-

clocked Athlon 64 will paint a completely different picture.

MOTHERBOARDS

Two-and-half years ago, Intel, VIA and SiS were the only companies involved in the manufacturing of chipsets—the group of logic circuits that controls the functioning of a motherboard. Intel developed chipsets for their own processors, and their portfolio was perfectly tailored to suit the needs of their processors. On the other hand, solutions from VIA and SiS included chipsets for Intel as well as AMD processors, like the KM400, KT400A, SIS760 and others. nVidia and ATi have since joined this elite club of chipset manufacturers and now, with five companies offering chipsets, choosing the right motherboard is a challenge.

Amidst the transition the PC industry is going through, buying a motherboard based on older technology should be avoided at all costs. This section will shed light on how to tackle this transition. Here we help you choose the right motherboard that not only gives you the best performance but also provides enough headroom for upgrades.

The motherboards have first been divided on the basis of platform, namely Intel and AMD, and further classified according to chipset. Let us first uncover some facts about Intel chipsets.

Intel Motherboards

Motherboards based on Intel's platform have always been known for their stability, performance and reliability. This is to be attributed to the fact that Intel's chipsets are perfectly tailored to their processors. While some years ago, it was only Intel who manufactured chipsets for their own processors, VIA, SiS, and now nVidia have joined in to give con-

Price versus Performance



In this graph, we have plotted a processor's performance against the price at which it is offered. Price is along the X-axis, and processor performance on the Y-axis. The green dots represent AMD processors, and the blue dots indicate Intel processors.

As you can see from the graph, as the price increases, so does performance; however, the increase in performance is not linear. AMD's Athlon64 3000+ has the highest performance and it is offered at roughly Rs 7,000. Intel's 3.2 GHz comes in at second place, but is steeply priced at Rs 14,000. The difference in these prices is significant; however, there is a mere five per cent difference in performance. In other words, at 50 per cent of the price, the Athlon 64 3000+ offers better performance by a margin of five per cent over Intel's 3.2 GHz. Similar inferences can be drawn by comparing other pairs of processors.

sumers a variety to choose from.

In fact, VIA was the first to realise the performance gain of DDR RAM and brought it to the Intel platform before Intel could do so with their chipsets.

Intel, with their 810 and 815 chipsets for the Pentium 3 processor, made on-board graphics popular, especially in India where the majority of the PCs sold have on-board graphics. The 845 chipset further improved graphics performance. VIA and SiS did bring good competing products, but lost ground to Chipzilla's marketing muscle.

Greater demand for on-board graphics spurred Intel to introduce the i865 and i875 chipsets, the former targeted towards price-sensitive users, the latter meant as the performance chipset.

By this time, graphics card leaders nVidia and ATI realised the potential market Intel had tapped into by including a graphics chip on board their chipsets. This heralded the birth of the ATI RS350 PRO chipset with better onboard graphics than Intel's chipset.

Last year, Intel introduced the i915 and i925X chipsets, which were completely new platforms designed from the ground up, offering new features and revising some specifications to handle today's media-savvy world.

What's On Offer

If you want to buy an Intel-based system, the market offers motherboards based on the i845, i865, i875, i915, i925 and RS350 chipsets. Asus, MSI, Gigabyte, Mercury, HIS, Krypton are the brands you will come across. Let's understand the pros and cons of each chipset.

i845

The 845 chipset is the oldest available chipset in the market. It is generally used in motherboards that do not cost more than Rs 4,000, and hence, we will treat it as out of the scope of this article, since we are primarily looking at mid-range motherboards.

Systems based on this chipset are good for Internet browsing and Word processing—nothing too computationally intensive.

i865 and i875

Both these chipsets are relatively new and have enough juice to hold their own against newer Intel chipsets. However, since they lack PCI-Express, they may become

obsolete too soon. The difference between the two chipsets is that the i865 is aimed at the value-conscious buyer looking for an onboard graphics solution, whereas the i875P chipset offers better performance.

One point to remember is that motherboards based on these chipsets use the older Socket 478 processors. In fact, ATI's RS350 is also built around the Socket 478 processor, and hence the new LGA processors won't fit on these motherboards.

i915 and i925


This brand-new chipset family from Intel is loaded with features—some new, some logical and some revised to meet current standards. But the highlight is the introduction of the PCI-Express bus for discrete graphics cards and other peripherals. Nearly all motherboards based on these two chipsets will have an x16 PCIe slot for a graphics card and two or more x1 PCIe lanes in addition.

These chipsets also support the new DDR II standard, the memory runs at 533MHz—133 MHz faster than the fastest DDR memory. On the integrated graphics front, the 915 chipset boasts of DirectX 9.0 compliance, and is capable of hooking up to an HDTV or to widescreen LCD monitors.

Most importantly, improved onboard graphics have been introduced so that a platform based on this chipset complies with Microsoft's upcoming Longhorn OS' minimum requirements.


On the storage side, the new chipsets have legacy support for four SATA drives and one ATA drive. If the motherboard uses the ICH6R Southbridge, it supports Intel's Matrix RAID technology too. Eight USB2.0 ports and a dedicated Gigabit network bus is an integral part of all motherboards, unless the motherboard manufacturer decides to cut down on cost.

The introduction of High-Definition Audio (Azalia) will be music to your ears! The new standard improves upon the older AC'97 and takes it further: you can connect 7.1 speakers directly to your motherboard; there's no need for an additional 7.1-channel soundcard. Most motherboards also have 'jack sensing' enabled, which ensures that



power

High quality digital content, music with more depth and clarity, high quality video playback, realism in games...




The power

that drives your business!

power

Intel® D915GAV Desktop Board

- Based on the Intel® 915G Express Chipset
- Socket LGA775
- Supports Intel® Pentium® Processors with HT Technology
- Dual Channel DDR Memory architecture
- Intel® GMA 900 - DirectX 9 Compatible Graphics Onboard
- PCI Express x16 Connector for add on graphics card — (4x faster than AGP)
- Intel® High Definition Audio — 24 bit 6 channel Audio
- 4 x SATA-150 ports, 1 x PATA port, 8 x USB 2.0 ports
- 2 x PCI Express x1 connectors, 4 x PCI connectors for expansion
- Intel® Precision Cooling Technology
- Great Software bundle



3 YEARS WARRANTY

For more information go to: <http://developer.intel.com/design/motherbd/index.htm>
© 2004 Intel Corporation. All rights reserved. VJCP/T/0104/2500 300108-001

Intel® Desktop Boards

INTEGRITY TO BUILD ON

For enquiries contact our National Distributors:
Ingram Micro India (P) Ltd. • eSys Distribution Ltd.
Redington India Ltd. • SES Technologies India Pvt. Ltd.

www.promodome.net

incorrect wiring of speakers is a thing of the past.

Let The Tests Begin!

For the Intel platform, the motherboards fell within the Rs 5,000 to Rs 10,000 range. Asus, MSI, Gigabyte and AOpen managed to send us boards, most of them based on the 915G chipset. We did receive boards based on the RS350 and 865 chipsets, but we deferred to test them since they are based on the older socket 478 processors and would be obsolete soon. Of the seven boards based on 915G, MSI sent us three, Gigabyte two, while Asus managed to send one. Unfortunately, the AOpen was ruled out due to a malfunction.

Features

All these motherboards support the latest Pentium 4 800 MHz LGA 775 processors, clocked up to 3.8 GHz. Care must be taken while installing the processor, as the pins are on the motherboard socket. The heatsink/fan unit does not have a plastic retention mechanism like the one on older Socket 478 boards. So check the heatsink for proper contact with the processor after installation.

Gigabyte's GA-8I915G-MF and MSI 915G Neo 2 score high for their clean and unhindered layout—no capacitors near the processor area. MSI provides a unique CPU installation clip so as to avoid damage to the motherboard socket.

MSI's 915G combo and Gigabyte's GA-8I915G Duo support the DDR and DDR II standards. Both these boards have four slots—two each for DDR and DDR II—to ensure dual-channel memory support. The Platinum series boards from MSI only support the DDR II standard, whereas the Asus P5GD1-VM and Gigabyte GA-8I915G-MF support DDR 400 MHz as well.

Since most 915 boards use the ICH6 Southbridge, almost all boards support SATA drives. However, MSI's Platinum boards use the ICH6R Southbridge, thus adding RAID 0, 1, 0+1 and Intel's Matrix RAID capability to the storage sub-system. If you plan to use the system for I/O intensive work, requiring faster data transfers and reliability, you might want to look at these boards; otherwise the above are just extra features that you won't use.

While SATA is increasing in presence, support for older IDE connectors is still in place. The

Southbridge still supports one IDE drive, and hence, connecting your old CD-ROM is not a problem—yet. The ASUS P5GD1-VM and Gigabyte GA-8I915G-MF have just one IDE connector, whereas MSI's Platinum boards and Gigabyte's GA-8I915G Duo have three—one via the Southbridge, and the other two, RAID-capable, via a third-party controller, namely the VIA VT-6410.

Since MSI's 915P Neo 2 Platinum is based on the 'P' version of the 915 chipset, it lacks an onboard video controller, while the other boards have an integrated GMA 900 video chip. Every board in this mini round-up features the x16 PCI-Express lane for plugging a discrete video card, if you need to play high-end games. Except for the Asus P5GD1-VM with just one x1 PCI-Express slot, all the other boards featured a minimum of two x1 lanes.

On the peripherals side, all motherboards now come with eight USB2.0 ports and Gigabit network adapters for faster data transfer. FireWire ports still evade the motherboards in general, with only the Platinum series motherboards from MSI featuring them.

As for the sound system, all boards had onboard support for Intel's High Definition 7.1-channel audio. Almost all boards feature PCI slots for those older sound cards and network cards.

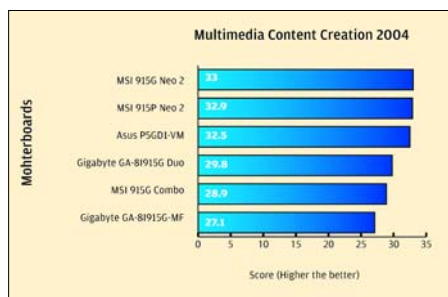
What we can conclude from this is that no motherboard comes close to the MSI 915G and 915P Neo 2 Platinum in terms of features offered. Gigabyte's GA-8I915G Duo and MSI's 915G Combo combine assorted features so as to keep the cost down. Asus' P5GD1-VM and the Gigabyte's GA-8I915G-MF have all the essential features.

Performance

Let's take one benchmark at a time to see how each motherboard fared.

Content Creation 2004

MSI's 915G Neo 2 does a great job, returning a score of 33. Close on



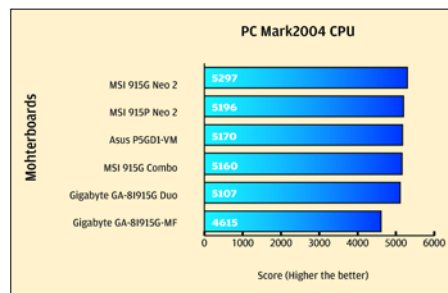
its heels is its sibling, the 915P Neo 2. Third place is taken by Asus' P5GD1-VM. Gigabyte's GA-8I915G0MF scored 17 per cent less than MSI's top board. All this shows that MSI's 915G Neo 2 has a well-oiled sub-system.

PCMark 2004

This test suite is also a system-level benchmark, testing both the processor and I/O performance.

The CPU Sub-system

MSI's 915G Neo 2 was way ahead of the other boards when it came to the CPU sub-system, and the CPU sub-system was the reason for this board's good performance in the Content Creation test.



Overall, the results are pretty similar with second place once again going to the MSI 915P Neo 2, third place being secured by Asus' P5GD1-VM. Both the Gigabyte boards are in the last spot. A point to observe is that the performance of the GA-8I915G-MF board is nearly 12 per cent poorer than MSI's 915G Neo 2 in the CPU sub-system test, resulting in the low Content Creation score.

The I/O Sub-system

In the I/O sub-system, Gigabyte's GA-8I915G Duo gains over MSI's Platinum boards by a small margin. MSI's 915G Combo, without a doubt, has a poor I/O subsystem, a fact reflected in its Content Creation score. Asus' P5GD1-VM also scores less on the I/O. These are not the boards to look at if your work involves image or video manipulation.

Memory Test

Gigabyte's GA-8I915G Duo again scored over the MSI Platinum motherboards—by a small margin of 0.22 per cent. Asus' P5GD1-VM and MSI 915G Combos were right at the bottom of the score sheet, suggesting a CPU-memory link inferior to the Gigabyte board.

Half-Life 2

Half-Life 2 scales well with processor performance. Since MSI's 915P Neo 2 did well on the PCMark CPU score, it came as no surprise when the board offered the best performance for this game. This is further confirmed when you consider the Gigabyte GA-8I915G-MF right at the bottom of the graph—it fared rather poorly in its CPU tests. Second place was taken by MSI's other Platinum offering, while third place went to Gigabyte's GA-8I915G Duo.

DOOM 3

Except for the MSI 915G Neo 2 that scored 27 fps, all other boards were stuck at 26.9. The results do not imply that the MSI 915G Neo is significantly better than the rest. It does show that the game was GPU-bound, and hence the scaling did not occur as expected.

In Conclusion

MSI's 915G Neo 2 and 915P Neo 2 Platinum boards were the best of the lot. Both boards performed equally well on all counts, and have good sub-systems that don't bog down when stressed. Moreover, their feature lists are endless, and a very generous package makes them excellent buys.

When you bring price to the equation, the GA-8I915G Duo comes out on top. At Rs 6,000, the Duo is priced at Rs 6,000, which is Rs 4,000 less than the MSI Platinum boards. Despite its relatively poor performance, the GA-8I915G-MF scores higher than the other boards simply because of its price. At Rs 5,300, the GA-8I915G-MF is priced nearly 50 per cent less than MSI's Platinum boards.

This, however, cannot take away the accolades that the MSI platinum series boards deserve. If you want the best motherboard for the Intel platform and don't mind the extra price, go for one of the MSI boards.

THE AMD PLATFORM

VIA, SiS and nVidia are the only vendors that manufacture chipsets for the AMD platform. While PCI-Express has made it to mainstream boards on Intel platforms, it hasn't quite made inroads into the AMD platform yet. A majority of the chipsets supporting AMDs still use AGP and PCI.

The AMD Athlon line is seg-

mented on the basis of its interface socket: AMD has different chipsets supporting the 754-pin Athlon 64 and the 939-pin Athlon XP. A point to remember is that a system based on the 939-pin Athlon processor is relatively expensive compared to a 754-pin system. Since we are here focusing on a mid-range system, we will concentrate only on the 754 chipsets, and not the ones supporting 939-pin processors.

The majority of motherboards available for the Socket 754 Athlon 64 processors are either based on VIA's K8T800 or nVidia's nForce3 250 GB chipset. Both these chipsets are almost at par with respect to the features they offer. Remember that the socket 754 processors have a single-channel memory controller; dual-channel is found only in 939-processors. These two chipsets are generally used in the higher spectrum of the mid-range boards.

Motherboards based on these usually cost upwards of Rs 6,000. The SiS 760GX chipset also supports 754-pin Athlons, and it provides integrated video, which the former two chipsets lack.

Looking To The Future

As mentioned earlier, PCI-Express has yet to make a prominent appearance on the AMD circuit. That day, though, is not far away. nVidia and ATi have already launched chipsets supporting PCI-Express, and ATi has already made it to the Indian market, ATi launched their Radeon Xpress 200 chipset featuring PCI-Express technology for the AMD platform. Currently, only MSI has products based on this chipset—the others are expected to follow soon. Note that this chipset only supports 939-pin Athlon processors, which are expensive.

Since they don't come under the purview of this article, we shall discuss them in a forthcoming article.

nVidia has launched their nForce4 chipset with SLI technology, but it will take a while for that technology to show up.

The Comparison

So which is the best motherboard to go with an AMD 754-pin processor? To decide this, we tested the five AMD, three Asus, one MSI and one Gigabyte boards that arrived in our lab. Of these five boards, three were based on

intel®

your business...



...laps ahead

with the power and speed
of Intel Desktop Board

Enjoy high quality digital content, music with more depth and clarity, high quality video playback, realism in games... plus world-class quality, reliability and performance...

Intel® D915GAV Desktop Board

- Based on the Intel® 915G Express Chipset
- Socket LGA775
- Supports Intel® Pentium® Processors with HT Technology
- Dual Channel DDR Memory architecture
- Intel® GMA 900 - DirectX 9 Compatible Graphics Onboard
- PCI Express x16 Connector for add on graphics card — (4x faster than AGP)
- Intel® High Definition Audio — 24 bit 6 channel Audio
- 4 x SATA-150 ports, 1 x PATA port, 8 x USB 2.0 ports
- 2 x PCI Express x1 connectors, 4 x PCI connectors for expansion
- Intel® Precision Cooling Technology
- Great Software bundle



3 YEARS WARRANTY

Intel® Desktop Boards

INTEGRITY TO BUILD ON

For more information go to: <http://developer.intel.com/design/motherboards/index.htm>
© 2004 Intel Corporation. All rights reserved. VJCP/PT/0104/2500 300106-001

For enquiries contact our National Distributors:
eSys Distribution Ltd. • Redington India Ltd.
SES Technologies India Pvt. Ltd. • Ingram Micro India (P) Ltd.

www.promodome.net

nVidia's nForce 3 250 GB chipset, and one each on VIA's K8T800 and the SiS 760GX. Let's begin with features first, and then turn our attention to performance.

Features

All these boards support AMD 754-pin processors up to the maximum speed available. On the memory front, since the memory controller is integrated into the processor core, it determines the speed of the memory; in this case, it is DDR 400 MHz.

In other words, all these boards support DDR 400 MHz memory in single-channel mode only. Here, the HyperTransport bus is capped at 800 MHz, which otherwise runs at 1000 MHz for 939-pin processors. Except for the SiS chipset, all boards support 3 GB of memory; the Asus K8S-MX can support a maximum of 2 GB.

All the boards have two IDE connectors that can connect four IDE devices. Asus' K8V-SE Deluxe has gone one step further, offering one extra IDE connector for RAID. MSI's K8N Neo Platinum and Asus' K8V-SE have four SATA ports, whereas the K8N-E Deluxe can support up to six SATA drives in RAID 0, 1, 0+1 and JBOD functionalities. Gigabyte's GA-K8NS and the Asus K8S-MX support two SATA drives, and are limited to RAID 0 and 1 capabilities.

Except for the ASUS K8S-MX, which has an integrated video chip based on the SiS 760GX chipset, no other board has an onboard video controller.

The Asus K8N-E and K8V-SE, and MSI's K8N Neo Platinum motherboards have FireWire ports. Eight USB 2.0 ports are supported by almost all the motherboards; however, only four to six are on the back panel, and the rest are available via headers on the board.

On the Intel side, we have seen that the Gigabit network adapter is present on all 915-chipset-based motherboards; however, on the AMD platform, only the Deluxe or Platinum series boards have them, while the rest use the older 10/100 standard. If you transfer huge files over the network, or if you are a movie-editing house or an E-learning developer, ensure that Gigabit Ethernet is supported by your motherboard.

Six-channel audio is present on almost all motherboards, and these were no exception. We did not compare the fidelity offered by either these boards or by the Intel boards that support High-Definition Audio, and hence cannot comment on the sound quality.

Five PCI slots are common on these boards, but the Asus K8S-MX had only two since it is based on a micro-ATX form factor.

MSI's K8N Neo Platinum sported the best component layout. In fact, the layout was completely different from the norm. The processor area was free of all intruding capacitors, and the storage ports were placed perfectly for hindrance-free operation. The component layout on the Asus K8V-SE Deluxe is also nice—a similar approach is visible on Gigabyte's GA-K8NS. Due to its small form factor, the layout on the Asus K8S-MX was a little cramped.

The Deluxe and Platinum tags ought to tell you that the package is packed with features. And this was true, as Asus' K8N-E Deluxe, MSI's K8N Neo Platinum and Asus' K8V-SE Deluxe were generous on their packaging and features.

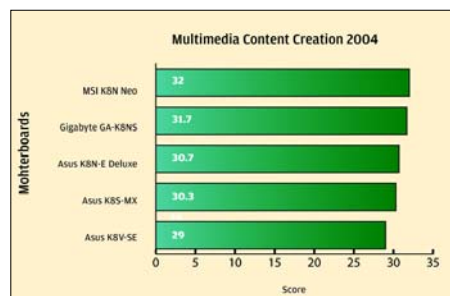
Performance

Having taken a look at the feature set these motherboards offer, let's

move on to the benchmarks and see how the chipsets performed.

Multimedia Content Creation 2004

MSI's K8N Neo Platinum topped in this system-level benchmark, indicating that this board has what it takes to be the best and does not bog down when all sub-systems are stressed. Gigabyte's GA-K8NS is off-target by a very small margin from the leader, MSI. The remaining Asus boards put up a relatively decent showing, with the dif-



ference between the Asus K8V-SE and the MSI K8N Neo not being more than 10 per cent.

PCMark 2004 CPU Sub-system

In the CPU test, the ASUS K8N-E Deluxe emerged on top, displacing the MSI K8N Neo Platinum to the second position—albeit only by a small margin of 0.5 per cent. The race for third place was close: Gigabyte's GA-K8NS managed to edge ahead of the Asus K8S-MX by an extremely small margin.

In the last slot was the Asus K8V-SE deluxe. The point to note here is that the top three were based on the nForce 3 250 GB, and it seems that this nVidia chipset has a good CPU sub-system. Between the VIA and SiS chipsets, it's hard to give a clear verdict since we had only one board per chipset.

PCMark 2004 Memory Sub-system

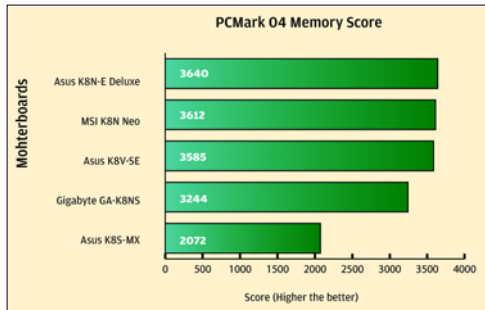
The results were pretty much the same again: Asus' K8N-E Deluxe took the top slot, to be closely followed by MSI's K8N Neo Platinum. The VIA chipset-powered Asus K8V-SE beat Gigabyte's GA-K8NS by a convincing margin, whereas the SiS-based Asus K8S-MX came in last.

For the memory sub-system, a lot depends up on the actual layout of the memory bus on the

Scoreboard

Motherboard	Basic Specifications	Score (100)	Price *
AMD Platform (Socket 754 Motherboards)			
Asus K8N-E Deluxe	nForce3, 6 SATA W/T RAID, Gigabit, 7.1 Audio	77.97	8736
Asus K8V-SE Deluxe	VIA K8T800, 4 SATA W/T RAID, Gigabit, 5.1 Audio	76.42	8320
Asus K8S-MX	SiS 760GX, 2 SATA W/T RAID, 10/100, 5.1 Audio, Onboard Video	77.56	4992
Gigabyte GA-K8NS	nForce3, 2 SATA W/T RAID, 10/100, 5.1 Audio	77.65	5800
MSI K8N Neo Platinum	nForce3, 4 SATA W/T RAID, Gigabit, 7.1 Audio	78.67	8000
Intel Platform (i915 Motherboards)			
Asus P5GD1-VM	DDR 400, Onboard Video, 4 SATA, X16 PCI-E Lane, 7.1 Audio	68.98	7904
Gigabyte GA-8I915G Duo	DDR and DDR-II 533/400, onboard video, 4 SATA, X16 PCI-E, 7.1 Audio	78.77	6000
Gigabyte GA-8I915G-MF	DDR 400, Onboard Video, 4 SATA, X16 PCI-E Lane, 7.1 Audio	76.61	5300
MSI 915G Neo 2 Platinum	DDR-II 533/400, onboard video, 4 SATA W/T RAID, X16 PCI-E, 7.1 Audio	74.71	9700
MSI 915G Combo	DDR and DDR-II 533/400, onboard video, 4 SATA, X16 PCI-E, 7.1 Audio	76.19	6500
MSI 915P Neo 2 Platinum	DDR-II 533/400, 4 SATA W/T RAID, X16 PCI-E, 7.1 Audio	73.31	9600

For the entire scoreboard, please visit www.thinkdigit.com



motherboard. Since the memory controllers for some of the Athlons are on the processors, the difference that is seen is due to the physical routing of the memory bus rather than anything else.

Performance Of The I/O Sub-systems

Asus' K8N-E Deluxe maintains its lead by a significant margin. Gigabyte's GA-K8NS takes the second position, while the ASUS K8S-MX is right on its tail. The Asus K8V-SE Deluxe loses out to these boards. Interestingly, the better-performing K8N Neo Platinum from MSI slips to last spot, thus that it is not the motherboard to be considered if your work involves lots of data processing.

Overall, we can conclude that the nForce 3 250 GB chipset is superior to the VIA and SiS solutions by a long shot.

3DMark 2003

In this benchmark, MSI's K8N Neo takes first place, displacing the ASUS K8N-E Deluxe. However, the difference is no more than 0.5 per cent, which can effectively be ignored. Gigabyte's GA-K8NS takes third position, and is closely followed by Asus' K8V-SE, while its cost-effective sibling, the K8S-MX, is put down where it belongs. This test once again proves the superiority of the nForce 3 chipset over its close competitor from VIA.

DOOM 3

With DOOM 3, Asus' K8N-E deluxe comes first. Asus' K8V-SE outshines Gigabyte's GA-K8NS to take the second slot. MSI's K8N Neo is

on par with Gigabyte's board, whereas Asus' SiS connection once again fails to fire. Overall, all motherboards put up a good show here.

Conclusion

Going by pure performance, the competition between the ASUS K8N-E

Deluxe and MSI's K8N Neo is close. However, the Asus surges ahead, by a small margin. On the features front, both boards are on par, and that leaves us with price to decide who takes the crown. The MSI K8N Neo is about Rs 800 cheaper than the Asus K8N-E Deluxe. However, we think they both deserve accolades and are equally good solutions for AMD's socket 754 pin processor.

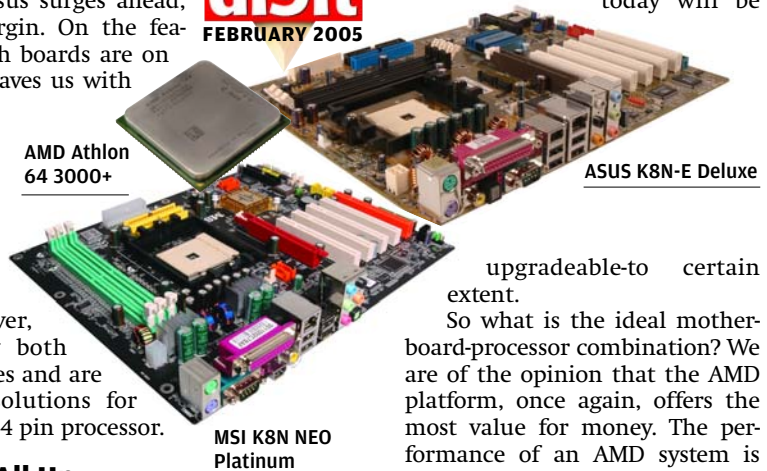
Summing It All Up

In our processor test, we witnessed AMD's Athlon64 processor take the steam out of the Pentium 4 series of processors. If you want the best performance, nothing beats the Athlon 64 line.

In the motherboard test, we saw the successful inception of PCI-Express on the Intel platform, which was not the case with AMD-the platform still relies on the AGP and PCI standards.

BEST BUY
digit
FEBRUARY 2005

AMD Athlon
64 3000+



ASUS K8N-E Deluxe

upgradeable-to certain extent.

So what is the ideal motherboard-processor combination? We are of the opinion that the AMD platform, once again, offers the most value for money. The performance of an AMD system is way ahead of Intel's competing products, is on equal footing as per features, and costs less.

We award the Athlon64 3000+ and ASUS K8N-E Deluxe or MSI K8N Neo Platinum as the best buy Gold solution. This combo in conjunction with appropriate components will work great for gamers, for professional artists using resource-intensive applications such as Photoshop, 3D Max, Maya, etc, and will cost no more than Rs 15,000.

If you are on a shoestring budget and Rs 15,000 is too much to spend, go for the AMD Sempron 3100+ and ASUS K8S-MX. This combo will cost around Rs 11,000. Since the board has integrated video and an AGP slot, you can opt to save on cost, and at the same time, have the option of upgrading later. This combination wins our best buy Silver award.

For the 'Intel Inside' devotees, the Pentium 4 530 (3 GHz) combined with Gigabyte's 8I915G Duo makes the ideal motherboard-processor combo at Rs 17,000. Overall, on a performance-and-features scale, this combination lies somewhat between our Gold and Silver awardees, but costs more. ☐

sanket_naik@thinkdigit.com
jayesh_limaye@thinkdigit.com

BEST BUY
digit
FEBRUARY 2005

AMD Sempron
3100+




ASUS K8S-MX

Contact Sheet

Brand	Company	Telephone	E-mail	Web site
Motherboard	ASUSTeK Computer Inc.	022-56290785 / 87	info_india@asus.com.tw	www.asus.com
ASUS	Digi Giga System Ltd.	022-26526696	sales@digigiga.co.in	www.gigabyte.com.tw
GIGABYTE	Cyberstar	0-9323809599	navin@cyberstarindia.com	www.msi.com.tw
MSI	Tirupati Enterprises	0-98310022600	abhishek@tirupati.net	www.msi.com.tw
Processors				
Intel	SES Tech Limited	022-26824141	kp@sesindia.com	www.intel.com
AMD	AMD FAR EAST LTD	080-52372400	vamsi.krishna@amd.com	www.amd.com


Macromedia Flash

Compacting .fla Files?

 Suppose you have to post an 11.8 MB Flash document (the .FLA) to a Web server. Although you have a high-speed connection, there still has to be a better way. And there is:

Open any Flash file in Flash MX 2004, and choose File > Save and Compact. This feature can compact the 11.8 MB monster FLA file to about 2.3 MB. Especially useful for those with slower connections.

Find And Replace

 If you've ever been in the situation where you have to find every instance of something in Flash and replace it with another, you know what a nightmare it can be. If you have not experienced this yet, trust us, you don't want to. There is a simple way to find and replace. Go to Edit > Find and Replace, to open the Find and Replace dialog box. From here, you can locate and replace text, fonts, symbols, sounds, video clips, bitmaps, and even colour. Yes, even colour can be replaced.

Here's an example: Draw a circle and a box on the 'Stage', and convert them to symbols called 'circle' and 'box'. Leave them both there. Go to Edit>Find and Replace.

In the dialog box, choose 'Current Scene' from the 'Search In' menu.


Choose 'Symbol' from the 'For' menu.

Choose 'Box' from the 'Name' menu. This command will locate all instances of the box symbol.

Choose 'circle' from the 'Replace With' menu.

Click Replace All.

Erase Your Mistakes

 You have filled up your stage with what you thought was creative. Unfortunately, the layout is all wrong, the custom scrollbar is the worst ever, and the text seems to have been written by a three-year-old. It's clean up time!

Tips & Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

GENERAL TIPS

Macromedia Flash	79
Dreamweaver MX	80
Microsoft Word	83
Microsoft Excel	85

30 MINUTES EXPERT

GMail Storage	81
The Windows swap file	84

To erase everything on the Stage, double-click the 'Eraser' tool in the toolbar. Problem solved! Note, however, that this works only one frame at a time.

When the playhead is at frame 10, you can erase everything on the Stage at frame 10, but nothing else.

To erase other frames, you have to move the playhead to those frames manually before you can go ahead with erasing.

Lower File Sizes

 When you are using a lot of bitmap images in a Flash movie, file size can add up fast. You can use the 'Publish' settings to set the JPEG quality for the entire movie, but that can lead to inconsistency. One image may look great, while another, grainy and smudgy.


To customise the 'Publish' settings for individual bitmap images, right-click on the image's name in the Library and

choose 'Properties'. In the 'Bitmap Properties' dialog box, deselect 'Use document default quality' and change the number in the 'Quality' field. A higher number yields higher-quality images with a larger file size, and vice-versa.


Once you have set the number, click 'Test'. The dialog box reports the starting file size and the new file size for the image. Typically, setting the quality to 50 can make a 700 KB image publish at less than 20 KB.

You can also use the mouse to drag the image around in the preview pane of the dialog box to see how it would look. If it's grainy, increase the number in the 'Quality' field.

Flash Text And Search Engines

 When you create text in Flash MX 2004, you need to remember that unlike HTML, Flash MX 2004 text will not be picked up by search engine bots. So, you need to add Meta Tags to the HTML document that the SWF file will reside in.

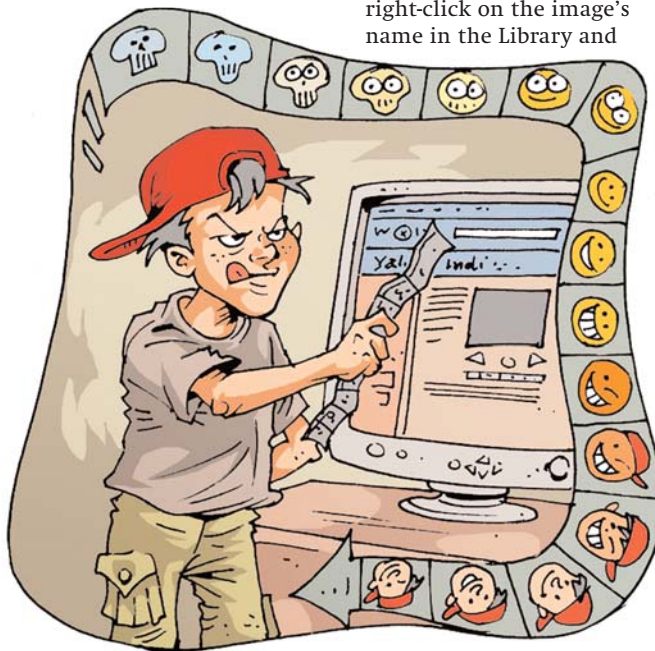
Static Text And Device Fonts

 Static text is display text that doesn't change onscreen, such as the information displayed in an interface, or for button labels, forms, and navigation.

When you add static text to your movie, by default, Flash MX 2004 will embed the font outlines in the SWF file for the font you are using. Depending on the font you choose, and how much text you use, this can add considerably to the overall file size.


If you want smaller file sizes, use a device font. A device font is a font that won't be embedded in the SWF file. Instead, you choose a device font for the end users' machines to display—_serif, _sans, or _typewriter—and the end users' machines will display that device font for the Static text.

This will help keep your file size small.



Illustrations Harsho Mohan Chottoraj


Small Type And Alias Text

 When working with small type (10 points or smaller), the text might become difficult to read because of the anti-aliasing that is automatically applied to vector shapes in Flash MX 2004. Anti-aliasing is a blurring, or 'smoothening', of the edges of vector shapes and text. Often, anti-aliasing adds to the quality of the shape, but small text may become unreadable.

In Flash MX 2004, Macromedia has added a new 'Alias Text' button that allows you to alias blocks of type, thereby increasing readability.

The alias text feature can be applied to Static, Dynamic, and Input text fields. However, if a visitor to your Web site does not have version 7 (or higher) of the Flash plug-in, they will only see aliased Static text. If you are using any Dynamic or Input text fields with the Alias text feature, viewers with older versions of the Flash plug-in will still see that text as anti-aliased.

Improve Bitmap Quality

 To improve the image quality of bitmaps before and after importing them to Flash:

Don't scale imported bitmaps within Flash. This greatly reduces image quality. Instead, use an external image editor such as Macromedia Fireworks to scale the image to the desired pixel dimensions before import.


After importing an image into Flash, break it apart and convert it to a graphic symbol. To do this, first, select the image and go to Modify>Break Apart. Now, with the image still selected, go to Insert>Convert to Symbol, and select the 'Graphic' option for the behaviour.

In the HTML tab of the Publish Settings (File>Publish Settings>HTML) set the 'Quality' to 'Best'. Disable the 'Allow Smoothing' option for the bitmap. In the 'Library' window, right-click on the bitmap and select 'Properties'. Uncheck 'Allow Smoothing' in the 'Properties' dialog and click 'OK'.




Use lossless compression for the bitmap. In the 'Library' window, right-click on the bitmap and select 'Properties'. Choose 'Lossless' from the 'Compression' pop-up menu and click 'OK'. This will cause Flash to render the image at the original imported quality, but will probably cause the .SWF file size to increase considerably.

_root.goto!

 Here's the code for a button placed inside a movie clip, which will give the instruction 'Go to and play' a certain frame in the root movie, and not the clip the button resides in.

```
_root.gotoAndPlay(frame);
eg:
on (release) {
  _root.gotoAndStop(10);
}
```


Disable The Hand Cursor

 Create your button as you normally would. Give your button an instance name like "digit" in the 'Properties' panel.

In the timeline, click on the first frame your button is placed on and open the Actions panel (F9)

```
Enter this ActionScript:
digit.useHandCursor =
false;
```

Disable A Button


 Create a button normally. Name the

button in the 'Properties' panel, say, "digit". Left-click on the button to select it, and open the Actions panel (F9)

```
Enter this ActionScript:
on (release) {
  digit.enabled = false;
}
```


If you want to enable the button later, change "false" to "true".

Here Comes The Easter Bunny!


 Here's how you can see an Easter Egg in Flash MX 2004:

Go to "Help/About Flash Professional...", and click on the tiny "TM" symbol near the number 2004. Enjoy!

Matching The Size Of The Object

 To fit the background/stage to the selected object, place the object on the top left hand corner of the stage. Now, go to Modify>Document Properties>Match>Contents. Remember, this will work only if the object is placed on the top left hand corner of the stage.


Customising commands

 Flash 2004 Professional has a History panel (Window>Other panels>History), which documents the history of your previous actions. To save particular actions as a new

command, select the desired action, right-click on the action and choose 'Save As Command'. You can also name the new command and view it in the Commands menu. These new commands can be repeated, as and when required. Commands can directly be accessed from the Command menu as well.

Dreamweaver MX

Indent Text Without Using Blockquotes


 Thus far, there have been two methods used to indent text-using the <BLOCKQUOTE> tag or by placing text in the second cell of a two-column table. Using cascading-style sheets, you now have a better alternative:

Cascading style sheets allow you to specify the exact indentation for your text. For example, to indent all text using the <P> tag, choose Text>Custom Style>Edit Style Sheet. In the dialog box that pops up, choose 'New'. Now, select 'Redefine HTML Tag', choose 'P' from the list and click 'OK'.

In the 'Style Definition' dialog box, choose 'Box' and enter the desired indent span (in pixels) in the left text field of the 'Margin' section. Finally, click 'OK' and then 'Done' to return to your HTML document. As you will see, any text wrapped in the paragraph tag (<p>) is set to an indent. The definition of the new Paragraph style will look like:

```
<STYLE TYPE="TEXT/CSS">
<!--
p { margin-left: 25px }
-->
</STYLE>
```

Clean Up Word HTML Documents

 Microsoft Word can save documents in HTML format. However, the HTML, XML, and CSS (Cascading Style Sheets) code that Word generates is geared more to format and display documents in Word than in a Web browser. Because of its complexity, it's a good idea to clean up Word-generated HTML code.

Fortunately, Dreamweaver can instantly remove the unnecessary Word-generated



It's A Mailbox, It's A Back-Up Drive, It's Gmail!

GMail gives you 1000 MB of storage space. Here's how to make the most of it

Jayesh Limaye

Until about a few months ago, backing up your data and carrying it around was a breeze thanks to the availability of sites like X-drive and SwapDrive. Unfortunately, they went the commercial way leaving many a user in the lurch. Enter Gmail, with its 1000 MB storage in every mailbox. Apart from being a mailbox, this also re-opened doors for those interested in storing and backing up their data online.

As changes abound in the service, several new tools are also being launched to work with the service. Gmail Drive is one such tool that allows you to easily backup and store data in your Gmail account.

1 STEP Downloading And Installing Gmail Drive

Gmail Drive is a Shell Namespace Extension that creates a virtual file system around your Gmail account so that you can use it as a storage medium. To download it, go to www.viskoe.dk. In the description on the homepage, find the 'projects' link. This will open a list of the projects including 'Gmail Drive'. Download the utility (approx. 120 KB), extract the contents from the .zip file, and run setup.exe to install the program.

2 STEP Setting Up Gmail Drive

After installing the program, a new drive, 'Gmail Drive', will appear in



Enter your Gmail ID and password to access Gmail Drive

Windows Explorer. You can access this with your Gmail login and password. You can also tick the 'Auto Login' box so that you are not prompted for your password each time. Once this is done, you can access the drive like any other on your computer.

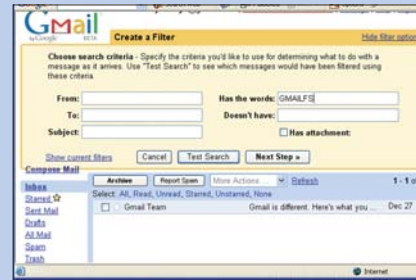
Ticking the 'Auto Login' box is useful if you plan to perform automated backups on your Gmail Drive. The drive can be operated like any other, and you can also perform all the functions you perform with other drives, including copying, pasting and deleting files, as well as searching. You can also use 'Send To' in the context menu to send these files to this drive.

How It Works

What actually takes place when you copy and paste files to the Gmail Drive is, they are e-mailed to your Gmail account as attachments. Gmail Drive periodically checks your account for new files and rebuilds the directory structure. If you log on to your Gmail account after pasting files in to your Gmail Drive, you will see some mails sent from your Gmail ID with the subject starting with 'GMAILFS'. These are the files you copied to your Gmail Drive being sent as attachments.

3 STEP Creating Filters In Gmail

As you back up more and more files, it can get tough to find the right file in a long list of e-mails. To make it easier, you could



Create a filter in Gmail to avoid your Inbox getting cluttered due to Gmail Drive

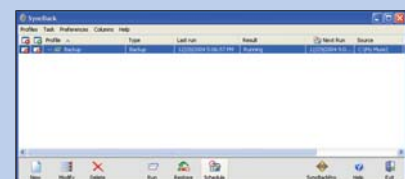
apply filters to your account and ensure that all backed-up files are automatically moved to a particular folder. To start with, you could move them all to the 'Archived Mail' folder. To set up filters in your e-mail account, you need to log in and click on the 'Create a filter' option. On the ensuing page, there will be various options and choices of filtering your mails. Choose the 'Have the words' option and type 'GMAILFS' in the box next to it.

On the next page, tick the 'Skip the Inbox (Archive it)' checkbox and finally on 'Create a Filter'.

Automating Backups

Gmail Drive can also be scheduled to perform auto-backups using software such as 'SyncBack'. This is a free backup utility. When using SyncBack, you are prompted to create a profile, click on 'Yes', select 'Backup' and enter a name for the profile.

To schedule the backup of a particular folder, provide the path in the 'Source' dialog box and your Gmail Drive address in the 'Destination' dialog box. Now just click on the 'Expert' button and click on the 'Misc' tab. On



Use a backup utility such as SyncBack to take automated backups to your Gmail drive

this page, you can schedule the backup to run at a specified time or at regular intervals based on your requirements.

HTML code. To do so, launch Dreamweaver and choose File>Import>Import Word HTML. In the dialog box that pops up, select the Word-generated file and click 'OK'.

Now, you can customise the clean-up process by selecting options from a series of checkboxes that Dreamweaver displays in the 'Clean Up Word HTML' dialog box. After you have selected the parameters to cleanse, click 'OK'.

Dreamweaver will clean the document of excess code. It also generates an 'HTML Corrections' log of its clean-up actions. The preferences you entered are automatically saved as the default 'Clean Up Word HTML' settings.

Using The Tag Inspector

As you work in Dreamweaver MX, you will notice that a list of tags appear at the bottom of the window. These tags represent the tree location of where your cursor is in the document. For instance, the 'Tag' inspector might display: <body><p>. This shows you where you are, and what code is being generated behind the scenes.

You can select each tag by clicking on it. By right-clicking on the tag you can edit it in the 'Quick Tag Editor', apply styles to that specific tag instance, or remove it altogether. You can also modify tag

attributes in the Tag Inspector panel (Window>Tag Inspector) as shown in the screenshot.

In the screenshot, you can see from the tag that the cursor is in a <tr> tag set within a <table> tag set within a <td> tag set nested within another <tr> tag set within another <table> tag set in the document <body> tag set. From there you can select any of the parents of the tag set.

By right-clicking the <tr> tag, you can add a CSS style to the

parent tag of the <td> tag where the cursor is. If you have a complex table and are having trouble figuring out what the structure of the table is, this tool is indispensable.

Set Multiple Panels In Dreamweaver MX2004

Many developers find it easier to set up a workspace with all the panels in one specific location. Some of us just can't get used to this. Sometimes the 'Floating Panels' can be in the way of what you are trying to view.

By setting your preferences according to your needs and learning a handy keyboard shortcut, you can improve your workflow tremendously.

You can toggle Panels on and off by pressing [F4] or Edit>View Panels to view hidden panels, and Edit>Hide Panels to hide currently displayed panels.

You can also set 'Panel Viewing Preferences'. This is where you determine how the Panel and Property Inspector will be displayed.

Panels which are checked off will always appear in front of the 'Document and Site' windows. If a panel is not checked off, it may be obscured. In the lower half of the dialog box, you can choose which panels appear in the 'Launcher' option.

Reload Additional Extensions Without Rebooting Dreamweaver

Myth: When you install a new 'Object Extension', you need to restart Dreamweaver.

Fact: You can reload object extensions while Dreamweaver is open. This simple trick can save a lot of time, especially if you develop your own extensions. With the 'Objects Panel' open, click on the arrow in the upper right of the panel. The contextual menu will appear with a new option called 'Reload Extensions'. Clicking on 'Reload Extensions' will usually bring up a timer icon. Once the timer disappears, your new object is ready for use.

Rounding Corners Using Simple CSS

You can shave off those sharp table edges with a little bit of CSS. However, the code is proprietary for Mozilla and Netscape 6.x and higher-IE will still display normal, sharp tables. You can use Dreamweaver's 'CSS Editor' for everything but the snippet of code that does the rounding.

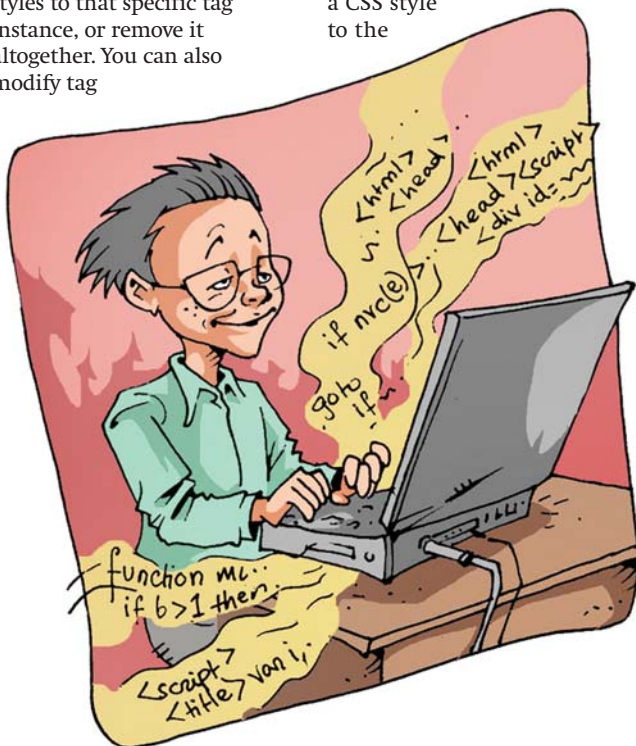
Create a new style using the 'Redefine HTML Tag' option, and select 'Table' from the list of tags. Proceed as usual to the 'CSS Style Definition' dialog.

Here, you can choose a background colour, a border size, and a colour for the table. When satisfied, click 'OK'. Here's the line of code you need to enter manually at the end of the table style rule you just defined: -moz-border-radius: 12px;

Don't forget to add that starting dash, or the code won't work! In design view, you won't see anything unusual. It's not until you look at the page in a supporting browser that you'll see the rounded corners.

Convert Layers Into Tables

The positioning of elements on a page is easier using layers than tables. But it is better to use tables to allow older browsers to view these pages correctly. You don't need to start working



with tables from scratch. You can create your page normally, by using layers and then convert them to tables later.

Create your page and click on **Modify>Layout Mode>Convert Layers to Table**. Select the appropriate layout options and click 'OK'.

You could also click on **File>Convert>3.0 Browser Compatible** to achieve the same result.

Switch To External Image Editor?

If your images are nested deep within your site, finding and editing them can be quite frustrating.

Instead, open the image in Dreamweaver. Click on **Edit>Preferences>External Editors**. Select the file extension you need to edit and add the editor for it by clicking on the '+' button. The next time you edit an image of that file extension, it is automatically opened within the specified editor and is updated within Dreamweaver once all the changes are made.

Microsoft Word

Assigning Heading Styles To Subheads

The 'Document Map' is a useful tool for navigating within large documents. To create the Map, Word needs to recognise which the headings in your document are; the Document Map is, therefore, more helpful if you use subject headings to organise your long document.

If you assign a heading style to your subheads, Word can recognise that text as headings and create a logical Document Map. For instance, you might assign the 'Heading 1' style to your document's headline or chapter titles, the 'Heading 2' to first-level subheads, 'Heading 3' to second-level subheads and so on.

To assign a style, click anywhere inside your heading and choose **Format>Styles and Formatting**. Word will display the 'Styles and Formatting' task pane. Now, just click one of the heading styles in the 'Pick Formatting To Apply' window. Once you've applied styles to the subheads in your



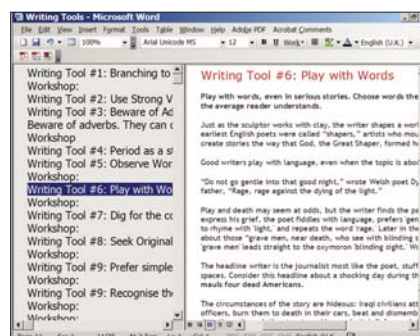
document, Word can generate a useful Document Map.

Using The Document Map

The document map makes documents act like Web sites formatted with frames. The left side of your screen turns into a navigation tool you can use to quickly jump to something in the right side of the screen.

To display the Document Map, choose **View>Document Map**. Word will open a new window on the left side of the screen.

This window displays your document's headings (or other text that Word interprets to be headings, if you haven't assigned styles). Click any of those headings, and Word takes you to that location in your document. To expand or contract subheads, click the plus or minus boxes in the document map.



Use the 'Document Map' to navigate within large documents

Making Pictures In Word Behave Properly

When you insert a picture into Word, you get a picture that flows in line with the text. Word treats in-line pictures the same way it treats big characters.

If you type in front of an in-line picture, it will get pushed out on the same line, as if it were text. If you centre the line that includes an in-line picture, the image will appear centred on that line.

If you don't want your picture to act like a character, and want text to flow around the image, the simplest way to tell Word to flow text around a picture is to make it float.

When a picture floats, Word removes it from the text on the page and places it in an imaginary plane, commonly called the 'drawing layer', above or below the text.

To make a picture float, right-click it and choose 'Format Picture'. On the 'Layout' tab, select either 'Square' or 'Tight' under 'Wrapping Style' and click 'OK'. Word will stick the picture in the drawing layer and wrap text around it.

Now when you move the picture in the drawing layer, Word will reflow the text, making way for the picture. You may also want to experiment with the 'horizontal alignment' and see what works best for you.

Turning Off Automatic Hyperlinking

When there's a URL or e-mail address in your document, Word turns it into a hyperlink. To turn off the automatic hyperlinking, choose 'AutoCorrect Options' (or 'AutoCorrect') from the 'Tools' menu, then click on the 'AutoFormat As You Type' tab. Under 'Replace As You Type', clear the 'Internet and network paths with hyperlink' checkbox.

If you didn't turn off AutoCorrect before you started typing, and now you have a document full of hyperlinks that you don't want, you can turn them all off. Choose **Select All** from the **Edit** menu or press [Ctrl]+[A], and press

Customising Bullets

If you are tired of the same, boring bullets in your bulleted lists, it's simple to customise the bullets you use in Word. After creating your list of items, select **Format>Bullets and Numbering**. Click the 'Bullet' tab in the dialog. The dialog box contains several bullets to choose from. Click the bullet you want to use, then click **OK** to lock in your change. If none of these selections appeal to you, you can change the character that makes up any bullet set.

Select any of the bullet choices, then click 'Customise'. In the 'Customise Bulleted List' dialog, you can pick a character from any font on your system. Click the 'Bullet' button, select a new character to use as a bullet using the 'Character' button, then click 'OK' to make the change.

The default font from where the characters is either Symbol or Wingdings.

To pick characters from another font set, click the 'Font' button. After selecting the source, click 'Character' again, make your selection, and just click 'OK'.



Managing The Swap File In Windows XP

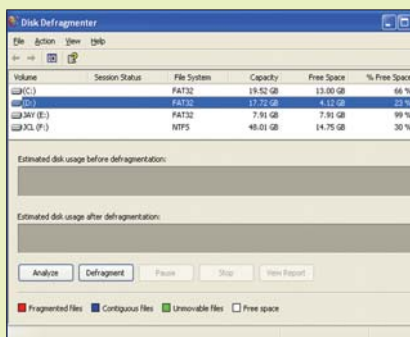
Boost system performance by choosing the optimal settings for the swap file

Jayesh Limaye

When an application finds that the amount of physical RAM on a computer is not enough for it to run, it uses hard disk space to compensate for the deficit in the amount of RAM needed by it. Windows XP allocates some amount of space for this by creating a page file named `pagefile.sys`, which is a hidden and system file on the system drive (the drive where Windows is installed). The page file is set by default to a minimum of 1.5 times and a maximum of twice the amount of physical RAM. This way, even on a machine with 128 MB of physical RAM, an application may utilise 4 GB of memory using the page file. Since the page file is present on the hard disk, it is, of course, much slower than physical RAM.

STEP 1 Optimising System Performance

Virtual memory has to cater to programs as well as the system cache. Hence, system performance can be improved by setting the virtual memory to allocate more memory for programs and less to



Use the Disk Defragmenter to compact scattered data to the beginning of the hard disk

Virtual Memory

As against a page file, virtual memory is the sum of physical RAM and the size of the page file. Hence, while you can disable the swap file, you can never completely disable virtual memory.

system cache if you are using your machine as a workstation, and vice-versa if you are using your machine as a server.

Usually, the page file size is set to give you the best performance, but you may improve performance by altering some of its settings. Set the page file to reside on a drive other than the one where Windows is installed, and to a drive where files are least accessed.

Before doing this, though, it is advisable to defragment that drive. Also, if possible, this drive should be on another hard drive, preferably on a different controller. Keep in mind that this drive should not be on fault-tolerant systems like a RAID-7 configuration or on a mirrored drive, as this will reduce performance (also, the page file does not require fault tolerance).

You may set both the minimum and the maximum size of the page file to twice the amount of RAM that you have installed. Keeping the page file size fixed will greatly improve system performance because the page file size will not have to be dynamically adjusted and hence it will not get fragmented. We shall see how this is implemented in detail in the following steps:

STEP 2 Placing The Page File Efficiently

Defragmenting The Drive

As data is written to and read from a drive, it gets scattered over the drive over a period of time. A drive in this state is said to be fragmented and becomes slower to access. The 'Disk Defragmenter' is a utility which defragments or compacts all the scattered data to the beginning of the drive so that it becomes faster to access. After you choose the drive on which you wish to place your page file, you need to defragment it.

Click Start>All

Programs>Accessories>System Tools>Disk Defragmenter to launch the utility. In the list shown, click on the selected drive. Click on 'Action' and then 'Defragment'.

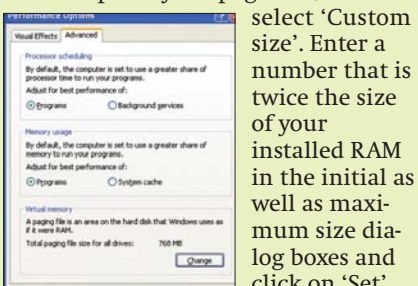
This will start the defragmentation process.

STEP 3 Accessing Virtual Memory Settings

Open the Control Panel by clicking Start>Control Panel. Double click on the 'System' icon if your control panel has the classic view. If it has the category view, click on 'Performance and Maintenance' and then on the 'System' icon. Now click on the 'Advanced' tab. Click on 'Settings' in the 'Performance' section.

Next, choose the 'Advanced' tab. Select the drive where the page file is currently present, select 'No Paging File' and click on 'Set'.

Now select the drive where you wish to place your page file, and select 'Custom size'. Enter a number that is twice the size of your installed RAM in the initial as well as maximum size dialog boxes and click on 'Set'.



'Advanced' settings in the 'Performance' menu

computer for the settings to take effect.

STEP 4 Final Words

Since no two computers behave the same, you need to experiment with the virtual memory settings to try and find what works best for you. Your PC will be the fastest in the neighbourhood in no time.

In 'Virtual Memory', set the page file size

jayesh_limaye@thinkdigit.com

[Ctrl]+[6] to remove all the existing hyperlinks

Creating Your Own Toolbars

To create your own toolbar, choose 'Toolbars' from the 'View' menu, and select 'Customise'. Click on the 'Toolbars' tab, then on the 'New' button. Give the toolbar a name.

Here, you also need to select whether this toolbar will be available to all documents (the 'Normal' template), or only to the current document. Now, a small toolbar palette will appear on the screen. Click on the 'Commands' tab, select a category, then drag the commands you want onto your new toolbar.

Comparing Documents

Word 2003 makes comparing two documents easier with its 'Compare Side by Side' feature. Open the two document versions you want to compare and select Window> Compare Side by Side. Word makes each document fit in one half of the screen. When you scroll through one document, the other scrolls with it, making it possible to browse through the two documents simultaneously.

Tracking With Versions

To keep track of a document as you work on it, next time you save a document, don't just use File>Save. Instead, select File>Versions. In the 'Versions' dialog box, click the 'Save Now' button. In the dialog box that appears next, enter any comments that help identify the document in progress. Click 'OK', type in the document name, and click 'Save'.

Now, the next time you reach an important milestone, say, just before sending the document out for review, click File>Versions, enter your comments and click 'OK'.

A new version will be stored inside the document file and listed in the 'Versions' dialog box.



To review an earlier saved version, open the document file, click File> Versions, select the version you want in the 'Versions' window, and click 'Open'.

'Permanentise' A Frequently-used File

Office displays the most recently accessed files under the 'File' menu for quick access. But did you know that you can assign files to be permanently accessed directly from the menu? Select Tools>Customise, and click the 'Commands' tab in the Customise dialog box. Scroll through the 'Categories' list, select the 'Built-in Menus' item, then scroll down to the bottom of the 'Commands' window and select the 'Work' item. Drag the 'Work' item into the toolbar area. A new 'Work' menu item will appear. Click 'OK' in the dialog box. Now add a file to your new 'Work' menu.

First go to File>Open to open the file you want. Once it is open, choose Work>Add To Work Menu. The open file's name now appears in the drop-down list when you click 'Work'.

The next time you need to work on or access this particular file, just open the Work menu and click on the file name.

Password Protection Using Templates

Protect documents by password-protecting the Word and Excel templates you use to create them. That way, every new document or spreadsheet you open that's based on these templates will also be protected by the password.

To create a password-protected template in Word or Excel, open a new document, click File>Save As, and choose 'Document Template' (just Template in Excel) in the 'Save As Type' dialog box near the bottom ('Files of Type' in Word 97 or 2000).

Type a name for your new template, and click 'OK'. To set a password in the 97 and 2000 editions of Word and Excel, click Tools>Options>Save; in XP and 2003 versions, click Tools>Options>Security (see figure 4). Enter a password to open the file (and if you like, enter another password to modify it); then click 'OK'.

The next time you want to make a new password-protected document or spreadsheet, click File>Open and choose your protected template. The new document will inherit the template's password. If you want to change the password of the document in Word 97 or 2000, click Tools>Options>

Save and change the entry in the password boxes. In Word XP or 2003, click Tools>Options>Security to access your password settings.

Microsoft Excel

Hiding And Unhiding Rows And Columns

To hide a row(s), select a cell(s) and press [Ctrl] + [9]. To unhide a row(s), select the cells containing the range of the hidden row(s) and press [Ctrl] + [Shift] + [I].

To hide a column(s), select a cell(s) and press [Ctrl] + [0]. To unhide a column(s), select the cells containing the range of the hidden column(s) and press [Ctrl] + [Shift] + [J].

To unhide rows and columns in a sheet, click 'Select All' at the top-left intersection of the rows and columns. Then press [Ctrl] + [Shift] + [I] and then [Ctrl] + [Shift] + [J].

Adding A Menu Item To The Excel Menu Bar

Right-click one of the toolbars, and then select 'Customise' from the shortcut menu. In the 'Commands' tab, select 'File' from the 'Category'. From the 'Commands', drag the 'Page Setup' icon (or any other icon you want) onto the menu bar.

To remove the icon at any time, repeat the above steps and drag the icon back.

Increasing The Recently Accessed Files List

For this simple addition, go to Tools>Options, and select the 'General' tab. In the 'Recently Used File List' box, change the number to the maximum, 9, and click 'OK'.

Grouping Sheets

Grouping sheets has the following advantages:

- ☒ It allows setting the print options for a number of sheets at once.
- ☒ Allows changing an item from the View tab in the Options dialog box.
- ☒ Allows applying formats to many sheets.
- ☒ Allows unhiding of rows and/or columns simultaneously.
- ☒ Allows typing/inserting

text or formulas for the same address in grouped sheets.


To group all sheets in the workbook, select the first sheet in the workbook, hold [Shift], and click the last sheet tab in the workbook. Alternatively, from a sheet tab shortcut menu, select 'Select All Sheets'.

To group continuous sheets, hold [Shift] and click a different sheet tab.

To group non-continuous sheets, hold [Ctrl], click a different sheet tab and add it to the group.


To ungroup sheets, hold [Shift] and click the active sheet tab.

Reducing The Size Of A Workbook


 For sending a Workbook by e-mail, you might want to reduce its size first. Press [Ctrl] + [End] to find the last cell in the used area within the sheet. Find the last cell containing data in the sheet. Delete all rows between the cells containing data to the row of the last cell in the used area. Delete all columns to the right of the column of the last cell containing data, up to the column of the last cell in the area used.

To quickly delete the rows, select the first row to delete, press [Ctrl] + [Shift] + [Down Arrow]. To quickly delete the columns, select the first column to delete, and press [Ctrl] + [Shift] + [Right Arrow], press [Shift] + [F10], and from the menu, press 'Delete'. Repeat these steps for each sheet in the workbook. Now save your file.

Replacing Zeroes With Dashes

 Press [Ctrl] + [1] to open the 'Format Cells' dialog box. Select the 'Number' tab, and from 'Category', select 'Custom'. In the 'Type' box, enter the following Custom Formatting syntax exactly as printed here: #,##0 ;[Red](#,##0);- ;


Selecting Cells That Contain Only Text

 By selecting cells that only contain text, you can distinguish between cells




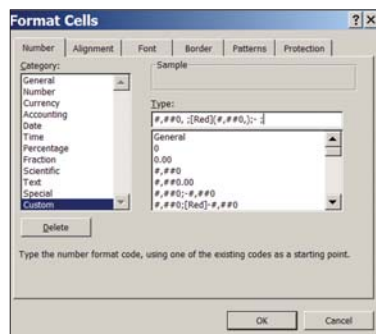
containing different types of data, which allows you to delete, fill or lock cells by type. Press F5, or go to Edit>Go To. In the 'Go To' dialog box, click 'Special', and in the 'Go To Special' dialog box, select 'Constants' and click 'OK'.

Counting The Number Of Words In A Cell

 Enter the following text in cell A1: "Digit is a great magazine". Now, in cell A2, enter the following function: =IF(LEN(A1)=0,0,LEN(TRIM(A1))-LEN(SUBSTITUTE(TRIM(A1)," "))) + 1. The result will be 5.

Rounding Numbers To Thousands

 Press [Ctrl] + [1] to open the 'Format Cells' dialog box. Select the 'Number' tab, and from 'Category', select




Use a custom formula to round off numbers to thousands


'Custom'. In the 'Type' box, enter the following 'Custom Formatting' syntax exactly as printed here: #,##0 ;[Red](#,##0);- ;

Now, If your cell contains the number 2345678 it will be displayed as '2,346'.

Copying Styles From One Workbook To Another

 To use your saved styles in a different workbook, you can use the 'Merge' option. First, open the new workbook. From the 'Format' menu, select 'Style'. Click 'Merge'. Now in the 'Merge Styles' dialog box, select the workbook where the styles to be merge are saved and click 'OK'. Finally, in the 'Style' dialog box, click 'OK'.

Conditional Formatting


 It's easy to overlook important data in a very large spreadsheet. You can use the 'Conditional Formatting' feature to make critical data jump off the screen.

Let's say you're tracking household expenses, and want to keep an eye out for anything that cost more than Rs 10,000. Select the column in your spreadsheet with the currency amount, and select Format>Conditional Formatting.

In the resulting dialog box, make sure the 'Condition 1' drop-down list control is set to 'Cell Value Is'. Then, set the second drop-down list box to 'greater than or equal to'. Finally, enter the number 10000 in the box on the right.

Click the 'Format' button to open a dialog box where you can set the Font, Border and Patterns. Click 'OK' twice.


Repeating Column Headings In Printouts

 Excel users frequently need to set up multi-page printouts that repeat the same column headings on each page. If the headings you want to print are also the column headings in the first few rows of your spreadsheet, it's easy to get them to show up on each printed page.


First, make sure that at least one row in your spreadsheet contains the headings you want to see on the printout. Then go to File>Page Setup>Sheet, and click the 'Collapse Dialog' icon on the right side of the box marked 'Rows to repeat at top'. Back in your spreadsheet, you'll see that your pointer has become a right-pointing arrow.

Click and drag that arrow over the rows containing the text that you want to appear as headings on the printout. After you make your selection, click the 'Expand Dialog' icon located on the right of the collapsed dialog box. Click 'Print Preview' to make sure that your headings look right. If everything appears to be in order, print!

Prevent A Chart From Being Printed

 There are often times when you do not want a chart to be printed. Select the chart, and right-click on it. From the menu, select 'Format Chart Area'. Select the 'Properties' tab, and clear the checkbox beside 'Print Object'. Click OK to finish.

The Current Date In A Cell

 To automatically insert the current date into a cell, select the cell and press [Ctrl] + [;]. ☑

DPReview.com

For buying digital cameras, understanding digital photography or just keeping up with the trends... DPReview.com is the place to go to

Aditya Kuber

Digital photography has evolved enough to be present at our beck and call. With digital cameras (whether as standalone devices or as part of another device) are practically with everyone. While this has given birth to some enthusiasts, most of those who are migrating to digicams are amateur or hobby photographers who are dumping the film camera.

So naturally, this brings with it plenty of questions such as "What is a megapixel?," "What is White Balance?," "What type of card works with my camera?" or even "Which camera should I buy?" Answers to these and many more questions on digital cameras are answered in painstaking detail at www.dpreview.com.

Started in 1998 in the early days of digital photography and still run by London-based photo-enthusiast and Web designer Phil Askey, the site has come a long way and has consistently been recognised for the quality of its reviews.

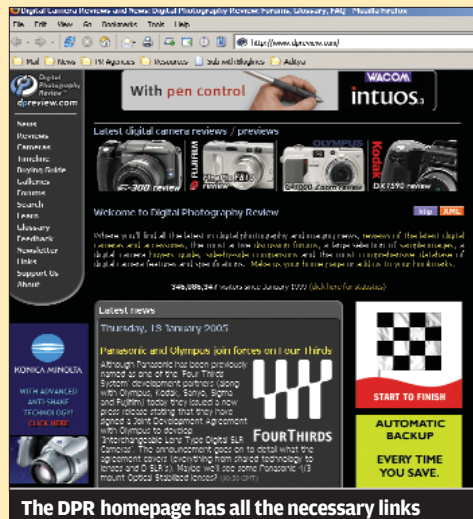
Welcome Home

One look at the site and you know where everything is. It's like coming home! The site is a veritable encyclopaedia on digital cameras. Simply find your way to the right links and you can read up on almost all the cameras to have ever hit the shelves. The site also offers a timeline from 1995.

Although a hard claim to digest, they have about 90 per cent of the cameras to have ever left the manufacturing line listed on the site, complete with specs and even prices!



The never-ending drop down menu!



The DPR homepage has all the necessary links

The timeline, in fact, is one of the most interesting sections on the site and lets you compare the changes in specs and prices over the last 10 years—and you realise that while prices have stagnated, features and capabilities have improved dramatically.

The site is not the only one around to offer side-by-side comparisons of cameras, but is perhaps the best of the lot. Unfortunately, you can only compare two cameras at a time. So if you were considering a third camera as a potential buy, elimination of candidates is the way to go!

Newsworthy

With new digital cameras becoming available almost daily, it can be quite a task to search for the best available. DPR opens with the news page and offers up-to-the-minute news that is continuously updated. Reviews of cameras "in-production" are also a regular feature, and can be handy to keep you abreast of developments when considering a buy.

A typical review on the site includes an introduction to a camera, its design aspects, specifications, features, tests and comparisons. Photo galleries created using older cameras are also available, and can be used as a benchmark when making a buying decision. Images accompanying the reviews are not just good—they're great! The sample photos and test images are accurate and act as a good guide to the camera in question.

The site is also home to many active forums where users can seek information and tips from other users. Forums can also be specific to camera models and not just pertaining to a manufacturer or technology.

Learning The Ropes

An important facet of digital photography is that the technology changes fast. While 3 megapixel was "in" last year, 5 megapixel seems to be the norm this year. What does that mean to you? How does it affect you? Will you need to reconfigure your printer? Will you need different media for printing to ensure optimum quality? Will the consumption of ink be more? Will file sizes increase?



The opening page of a camera review

Keeping up with this can be tough if you don't know where to look for the information. DPReview.com also offers the "Learn" and "Glossary" sections, but are unfortunately the weakest "links" on the site. Basic technology information apart, there isn't much to help the novice understand digital cameras or photography in general. So, only if you know your basics and want a second opinion on what camera to buy, this is the right place.

Under Exposure

It's been almost 10 years that the site has been in existence. For as long as we can remember, it has been looking and feeling the same. Yes, it maintains its familiarity, but this is slightly contradictory to what it caters to—constant change. The one thing that does remain consistently good, though, is that the site remains free. aditya_kuber@thinkdigit.com

Compaq V2036AP

Compaq's V2036AP is a neat-looking 14-inch widescreen laptop. This notebook sports a black-and-brushed metal finish and weighs just 2.36 kg. Powered by a Pentium M 1.7 GHz Dothan processor with 256 MB of DDR memory, it can handle most office and multimedia applications with ease. The build quality is great, and the layout of the ports on either side makes them easily accessible. Goodies include a combo drive, 802.11b wireless LAN, a 6-in-1 card reader, a FireWire port and JBL Pro speakers. The battery life at 150 minutes was average, and less than similar models we have tested. Thankfully, though, it's a quiet operator and the battery doesn't heat up too much!



Company **Hewlett Packard India Ltd**
Price **Rs 69,990**
Phone **1600 11 4141**
E-mail **saranya.rustagi@hp.com**
Web site **www.hp.com**

Rating:

Microsoft Fingerprint Reader

Forget Your Passwords

Someone had to cash in on the growing paranoia about security, and Microsoft is leading the pack—stepping in with the Fingerprint Reader. This USB device eliminates the need to type in passwords, and ships with a software disk and manual with minimal information.

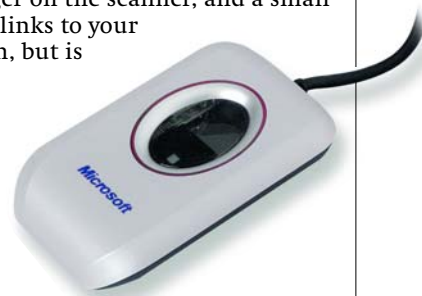
Setup is simple, with a graphical representation of both hands shown on screen. Simply click on the finger to register that finger's print. You can register all your fingers if you like!

Akin to an auto form completer, this thing allows you to register any password field. Just put your registered finger on the scanner while the password entry window is selected, and input your username and password. Useful for logging into Messengers, e-mail accounts and more!

Another neat feature is having shortcuts to Web sites on its one-touch menu. Just put your registered finger on the scanner, and a small menu pops up from the system tray with links to your registered Web sites. It works like a charm, but is expensively priced at Rs 4,514.

Company **Microsoft Corporation India Pvt Ltd**
Price **Rs 4,514**
Phone **011-26294600**
E-mail **connect@microsoft.com**
Web site **www.microsoft.com**

Rating:



New & Notable

Logitech MX-1000 Cordless Mouse

The MX series of mice from Logitech are revered by the gaming community as the best piece of hardware a gamer can get his hands on. Until recently, the MX series boasted of an 800 dpi optical sensor that was precise to the last millimetre and resulted in accurate tracking of the mouse pointer on the screen. Now, with the introduction of the MX-1000,

Logitech is on the verge of triggering a revolution. Instead of an LED light source though, the MX-1000 uses a laser for accuracy—as opposed to ordinary light, a laser beam is more coherent and results in minimum scattering when it hits a surface.

The MX-1000 has eight buttons that can be programmed to one's liking using the simple-to-use 'Set Point' application. It uses RF for communication and can be controlled from as far as ten feet away. Most interestingly, Logitech

has included a rechargeable Li-ion battery, akin to those in cell-phones. But eventually, at Rs 5,500, the MX-1000 is a piece of luxury.



Company **Logitech Electronics India Pvt. Ltd**
Price **Rs 5,500**
Phone **022-26571160**
E-mail **sales@esourceglobal.com**
Web site **www.logitech.com**

Rating:

Nokia 6670

Business As Usual

It is not often that Nokia releases a phone that resembles an existing model, at least in terms of design if not on the whole. At first glance, the Nokia 6670 can easily be mistaken for a 7610. Nokia has sculpted the 6670 along the lines of the stylish 7610, though it restrained itself on the keypad design to advocate this model's business goals.

Based on the Series-60 platform, the 6670 has all the traits of the business series, including tri-band operation, Bluetooth, a 65K colour screen, a 1-megapixel camera, 8 MB of internal memory—enough to store your business contacts—and a 64 MB MMC card. This time round, Nokia has provided the NetFront Web browser as the built-in option. NetFront supports all major Web standards and is more accurate in the layout of pages, thanks to which pages look similar to what they look like on a desktop. However, considering the small screen size, its usefulness is questionable.

As far as its core competence—the phone—goes, the device is like any other Nokia phone—good signal reception and voice quality. However, on the usability front, the tacky keys do not help much. Being a business phone, this should be of paramount importance since it is the only mode of data input. We think the 6670 is a stopgap measure from Nokia to kill time before it releases the much-awaited 6630.



Company **Nokia India Ltd**
Price **Rs 25,639**
Phone **011-26779000**
Web site **www.nokia.co.in**

Rating:

Mini Marvel

One of the sleekest PDA phones in the market, the new Xda II Mini from O2 runs Microsoft Windows Mobile 2003 PocketPC Phone Second Edition and is a tri-band GSM/GPRS device. It is sleek and is encased in a silver body with ribbed black sides and curved corners.

The layout makes it easy to handle, with the camera button, volume slider and voice recorder keys on the left, the MMC/SDIO slot on top, the power button next to the stylus silo, the IR port on the right and the headphone jack next to the USB port at the bottom.

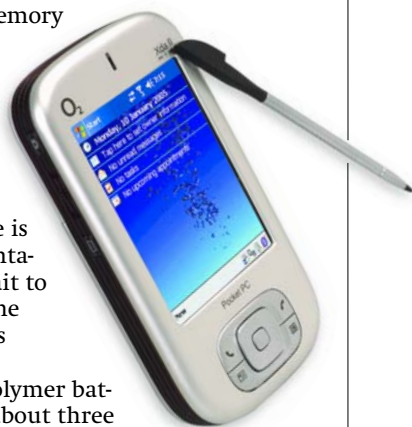
The front facia is neatly laid out as well, with minimal controls. A square-shaped bank of keys under the screen is comprised of an enter/action key in the centre surrounded by a four-way navigation key. This is flanked by symmetrically designed 'Send' and 'End' keys on top and two application buttons assigned to 'Contacts' and 'Calendar' at the bottom. The camera, voice recorder, contacts and calendar buttons can be re-assigned to other applications, depending on your preferences. The lens and a self-portrait mirror are at the back.

With an Intel PXA 272 processor providing 416 MHz of horsepower, and 64MB of flash ROM and 64MB of RAM under the hood, the Mini boasts a 2.8-inch TFT LCD touch screen that can display 64K colours at a resolution of 240 x 320. Connectivity options include Bluetooth and infrared,

with support for additional memory through the MMC/SDIO slot. A 256 MB SD card is bundled.

Voice clarity on the O2 Xda II Mini is excellent, even with the speakerphone. The screen is clear and vibrant, but you may face issues in direct sunlight. A neat feature is the ability to change the orientation of the screen from portrait to landscape with just a tap of the stylus—handy for spreadsheets and documents.

The 1,200 mAh Lithium Polymer battery should see you through about three days with standard phone and PDA use. Overall, good features and the sleek form factor are the highlights of the package. Poor image quality from the camera and the high price tag are the potential deterrents.



Company **Creative e-biz.com**
Price **Rs 34,888**
Phone **011-51619800**
E-mail **creative@goldkist.net**
Web site **www.myxda.com**
Rating

Orite MV-3115

Love's Labour Lost

This is probably love at first sight. You will fall for this beauty, which incorporates a still camera, a video camera, a voice recorder, a Web camera, a movie viewer and MP3 support, the moment you lay your eyes on the packaging—with the glitzy model holding up the device in all its shining glory! Your love will grow stronger when you hold it for the first time. But alas, love is blind. No sooner than you've held the device and had a first close-up look, will you want to look away! Starting with the design, which is pretty compact for a device that packs in so much, the Orite will flatter to deceive. It has a small screen that has to be flipped open, and is roughly as big (or small) as that of a Nokia 3310!

The device should come with 16 MB of on-board memory, but the unit we received had only 4MB on-board and no flash cards, tying it down to the PC for good.

To load MP3s onto it, you need to manually go to the device in 'My Computer' and create a directory called 'MP3'. Hereafter, it's drag-and-drop. Photos taken with the "3.2 mp" camera were grainy despite us using the flash, and even worse with the 8x digital zoom! Video at 640 x 480, though, was all right.

The package includes a carry case, a USB charger, cable, driver disk and Ulead PhotoStudio, and is priced at around Rs 9,000. Expensive considering the feature set...



Company **Mediatech India**
Price **Rs 8,750**
Phone **022-26361111**
E-mail **sales@mediatechindia.com**
Web site **orite.com.tw**
Rating

Looking for more information on any of the products featured in New & Notable?

Please write to products@thinkdigit.com. The Digit Test Centre will be delighted to respond to your queries.

Krome Intelлект iQ700

It's a phone! It's smart! It's a smartphone! The Intelлект iQ700 is one of the smallest devices running Windows Mobile 2003 Second Edition. Encased in a metallic silver-grey metal-and-plastic body, the device is a tad larger and heavier than a standard candy-bar phone.

Looking inside, it is powered by a TI OMAP 730 200 MHz processor and has 64MB of ROM and 32MB of RAM, topped off with a 2.2-inch 176 x 220 pixel TFT screen.

So what can you do with it? E-mail, MMS, Speed Dial and Voice Tags are supported, and you get all the productivity software built into Windows Mobile 2003. You can play back WAV, WMA, AMR, AAC and MP3. Voice clarity is decent, but the phone does have a problem in areas with low signal strength. The speakerphone is good enough for a small conference room.

As for the operational controls, the five-way rocket switch on the front panel looks quite innovative in terms of design, but also proves to be the phone's nemesis.



Company **Krome Mobile**
Price **Rs 27,000**
Phone **011-51539890**
E-mail **nidhiv@e-charge.com.au**
Web site **www.krome.com.au**
Rating

1 Poor: Has serious drawbacks and needs improvement before it can be used for its target application. **2 Mediocre:** Does not live up to expectations, needs improvement in many areas. **3 Average:** Reasonably competent, but there is nothing spectacular about the product. **4 Good:** A good buy, better than most products in its category. **5 Excellent:** A brilliant combination of price, performance and features—far beyond expectations.

Intel Motherboards

Gigabyte GA-8I915G Duo

- ⊕ Excellent Performance at an affordable price
- ⊖ None

Contact Digi Giga System Ltd.
Phone 022-26526696
E-mail sales@digigiga.co.in
Price Rs 6,000



Gigabyte GA-8I915G-MF

- ⊕ Very affordable
- ⊖ Average performer

Contact Digi Giga System Ltd
Phone 022-26526696
E-mail sales@digigiga.co.in
Price Rs 5,300



Portable Hard Drives

WD-Media Centre 250GB

- ⊕ Very low cost per MB
- ⊖ Memory card reader slots

Contact Western Digital
Phone 022-25851085
E-mail ajay.kapure@wdc.com
Price Rs 17,000

Maxtor OneTouch 250GB

- ⊕ Hotkey for launching backup application
- ⊖ Heavy

Contact eSys Distribution
Phone 022-56910348
E-mail yogi@maxtor.com
Price Rs 15,500



Projectors

Acer PD11

- ⊕ High 1600 lumens brightness support
 - ⊕ Big 330-Inch diagonal image size capability
 - ⊕ Picture in Picture mode
- Contact Acer India Pvt Ltd
Phone 080 25219520
E-mail rajesh.aiyar@acer.co.in
Price www.acer.co.in



Sony VPL-ES2

- ⊕ Very easy to set up
- ⊕ Very low running cost of lamp
- ⊕ Good performance

Contact Sony India Ltd
Phone 022-28313333
E-mail chiragk@sid.in.sony.com.sg
Price Rs 79,990

Colour Laser Printers

Lexmark C510

- ⊕ Blazingly fast at 24 pages per minute
 - ⊖ Colours come out dark
- Contact Lexmark International (India) Pvt. Ltd
Phone 022-26057755/45/44
E-mail sandeepk@lexmark.com
Price Rs 34,499
Web site www.lexmark.com

Samsung CLP500

- ⊕ Good overall speeds
- ⊖ Printing quality not to the mark

Contact Samsung Electronics
Phone 011-515-11234
E-mail farrukh_quazi@samsungindia.com
Price Rs 38,999



The A-List

The best products tested so far in different hardware and software categories

AMD Motherboards

ASUS K8N-E Deluxe

- ⊕ Excellent performance and great features
- ⊖ Lacks PCI-Express

Contact ASUSTeK Computer Inc
Phone 022-56290785
E-mail info_india@asus.com.tw
Price Rs 8,736



MSI K8N Neo Platinum (Gold)

- ⊕ Excellent performance and good features
- ⊖ Lacks PCI-Express

Contact Cyberstar
Phone 0-9323809599
E-mail navin@cyberstarindia.com
Price Rs 8,000



Portable Hard Drives

Freecom FDH-2 Pro 80 GB

- ⊕ Extremely compact and bundled carry case
- ⊖ Low cost

Contact J S Equipments
Phone 022-23810713
E-mail jse@vsnl.com
Price Rs 19,500



Transcend StoreJet TSOJ25 60GB

- ⊕ Sturdy build quality
- ⊖ Slow access time

Contact Mediaman Infotech
Phone 022-23828100
E-mail sales@mediaman group.com
Price Rs 10,000



Printers

Canon Pixma iP4000

- ⊕ Good features, excellent performance
- ⊖ None

Contact Canon India
Phone 011-26806572
E-mail rajeev.singh@canon.co.in
Price Rs 11,000



HP Deskjet 1100D

- ⊕ Rugged, can take heavy loads
- ⊖ Relatively slow

Contact Hewlett Packard India
Phone 1600-444-999
E-mail seema.dawar@hp.com
Price Rs 13,499

Monitors (17-inch)

BenQ V773

- ⊕ Good screen geometry
- ⊖ Not a flat-screen monitor

Contact BenQ India
Phone 022-25705230
E-mail SalesEnquiryIn@BenQ.com
Price Rs 5,900

Philips 107E5

- ⊕ Acceptable performance for its cost
 - ⊖ Not a flat-screen monitor
- Contact Philips India
Phone 022-56912325
E-mail PCP.India.info@philips.com
Price Rs 8,500



CRT Monitors (19-inch) Philips 109P4

- ⊕ Aperture grille for more accurate geometry
- ⊖ Bad implementation of the on-screen display for changing a setting

Contact Philips India
Phone 022-56912325
E-mail PCP.India.Info@philips.com
Price Rs 16,000



Philips 109E5

- ⊕ Maximum resolution of 1920 x 1440
- ⊕ Inexpensive
- ⊖ None

Contact Philips India
Phone 022-56912325
E-mail PCP.India.Info@philips.com
Price Rs 17,500



CMV-CT-722A

- ⊕ Inexpensive
- ⊖ Good pixel response time of 16 ms

Contact Cee Vision Technologies
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 25,600



Heavy-duty Multifunction Devices

Samsung SCX-5315F

- ⊕ Offers good features and good performance
- ⊖ Expensive

Contact Samsung India Electronics
Phone 011-51511234
E-mail vikram.negi@samsungindia.com
Price Rs 64,995



Xerox SCX-M15i

- ⊕ Good performance at a reasonable price
- ⊖ Bundled software not appealing

Contact Xerox Modicorp
Phone 012-42561930
E-mail kuldeep.malhotra@ind.xerox.com
Price Rs 56,599

Laptops

MSI MegaBook M510C

- ⊕ Terrific performance, typical feature set
- ⊖ Slightly tacky keyboard

Contact Maxtone Electronics
Phone 022-23016468/23075393
E-mail NA
Price Rs 65,000



Wipro CPQ 15

- ⊕ Perfect balance of performance, features and price
- ⊖ Mediocre inbuilt speakers

Contact Wipro Limited
Phone 1600-333312
E-mail littlegenius@wipro.com
Price Rs 56,990

LCD Monitors (15-inch) CMV CT-522A

- ⊕ High contrast ratio—500:1
- ⊖ Mediocre inbuilt speakers

Contact Cee Vision Technologies
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 17,500



Laser Multifunction Devices

Samsung SCX-4216F

- ⊕ Fast, feature-rich and priced sensibly
- ⊖ Slightly expensive

Contact Samsung India
Phone 011-51511234
E-mail vikram.negi@samsungindia.com
Price Rs 34,999

HP LJ-3380

- ⊕ Prints 20 pages per minute, fastest in its class
- ⊖ None

Contact Hewlett Packard India
Phone 1600-444-9999
E-mail seema.dawar@hp.com
Price Rs 46,999



Cell Phones

Sony-Ericsson K700i

- ⊕ Extensive feature set, includes camera, MP3, FM radio etc.
- ⊕ Fast processor

Contact Sony Ericsson
Phone 0124-2560808
E-mail dhiraj.soni@sonyericsson.com
Price Rs 18,000

Nokia 6600

- ⊕ Brilliant display screen, Bluetooth
- ⊖ No FM radio, slow processor

Contact Nokia India
Phone 011-26779000
E-mail Nokia.ebag@nokia.com
Price Rs 15,500



LG LM50

- ⊕ Stylish looks and good performance
- ⊖ Lower battery life

Contact LG Electronics India
Phone 0120-2560921
E-mail rajeevsaxena@lgezbuy.com
Price Rs 1,29,999



LCD Monitors (17-inch) Samsung SyncMaster 173P

- ⊕ Great design, superb contrast
- ⊖ Expensive

Contact Samsung India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 32,000

Compaq X1237AP

- ⊕ Future-proof features, executive looks
- ⊖ Battery life marginally lower than average

Contact Hewlett Packard India
Phone 1600-444-9999
E-mail seema.dawar@hp.com
Price Rs 1,44,990

Microsoft Outlook

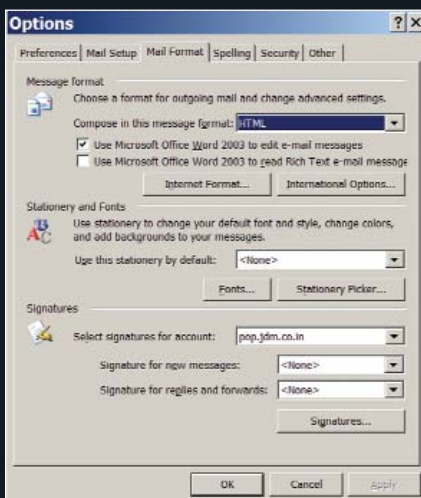
Outlook has its share of annoyances. Here's how you tackle the most common ones

Ram Mohan Rao

1. Rich Text messages don't show up properly

Reason: When you compose a message in the Rich Text Format—and the default setting on some versions of Outlook is 'Rich Text', what the recipient sees is not the mail you composed but a blank mail with an attachment called 'winmail.dat.' This happens with most receiving e-mail clients.

Solution: To fix this, go to Tools>Options and click the 'Mail Format' tab. Change the 'Compose in this message format' setting to 'HTML' or to 'Plain Text,' whichever you prefer.



Change the default messaging format to HTML; your default is probably Rich Text Format

2. Inbox opens too slowly

Reason: When you have a lot of mails in your Inbox, Outlook opens rather slowly.

Solution: Use Outlook's AutoArchive option to archive old mails. There are probably several mails in your inbox right now that don't need your attention, but are there just for reference. You can tell Outlook to archive old messages automatically. What Outlook does is to put these mails in another folder, which it calls archive.pst by default. Go to Tools>Options and open the 'Other' tab. Here, click 'AutoArchive' and you will see all the options available to you. You can



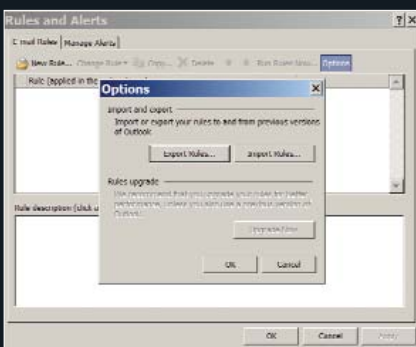
Set the 'AutoArchive' option to 'Archive Unused Messages Every Few Days'

choose how often you want AutoArchive to run, whether or not to delete old items permanently and so on.

3. Mail rules don't get retained when you re-install Outlook

Reason: When you migrate to or re-install Outlook, you can save all your mails by keeping the .pst files in a safe location. After re-installation, you can instruct Outlook to use that .pst file and all your mails and settings will be safe and secure. However, mail rules don't get saved in the .pst file. So when you think you have got it right, you suddenly find that all your mail rules have vanished!

Solution: Export your rules before you re-install. To do this, go to Tools>Rules and



Export your rules before you migrate your Outlook and re-import them after you are done

Alerts, and here, find and click the 'Options' button. Here you will find the 'Export Rules' button. Click it and then export your rules to any safe location on your hard disk. Repeat the process after re-installation and this time, select 'Import Rules' and point it to where you saved the rules before.

4. Outlook XP doesn't open .exe attachments

Reason: At times, you may need to download the kinds of attachments that Outlook XP blocks by default. There is no feature in Outlook XP itself that allows you to enable downloading these attachments.

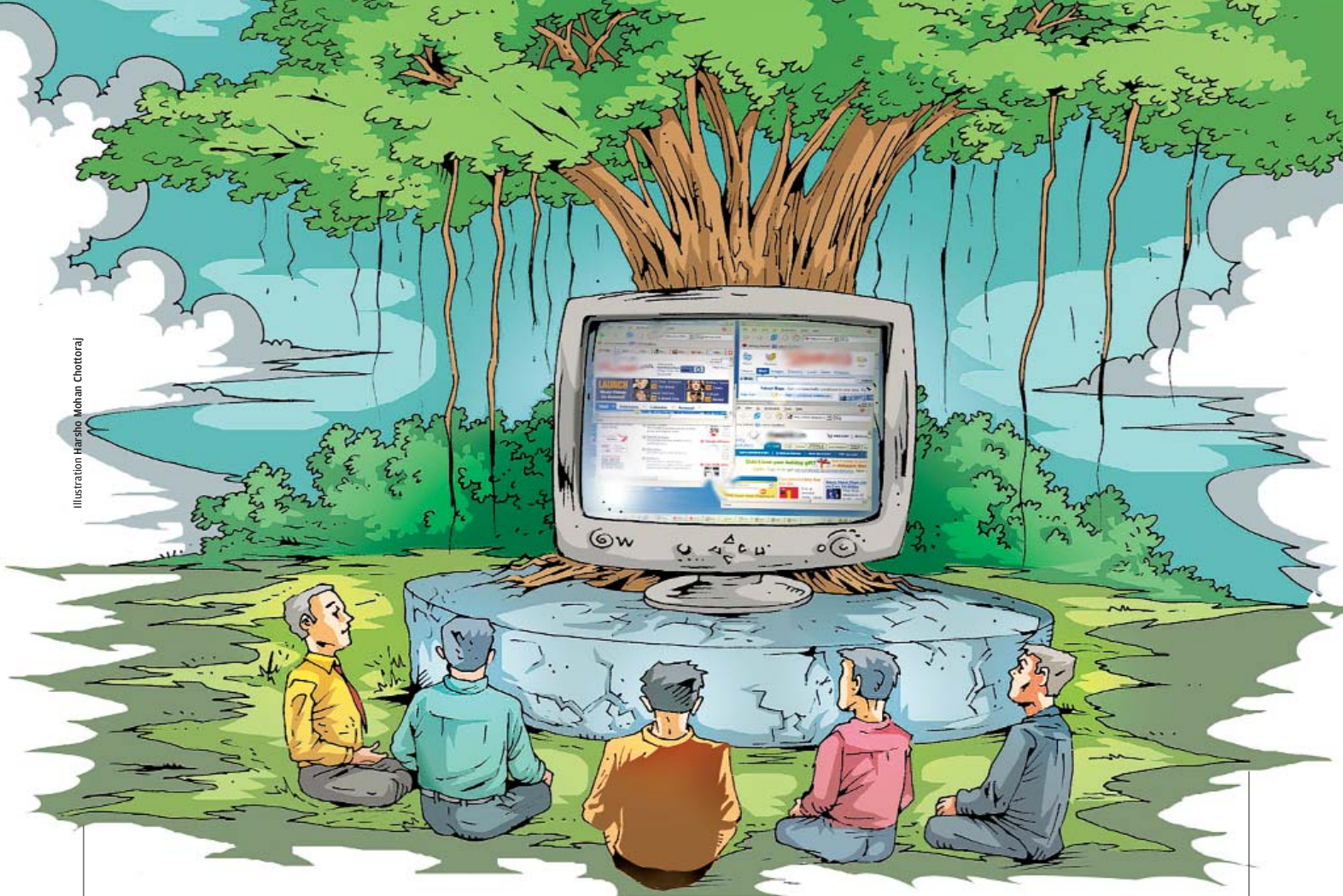
Solution: To enable Outlook XP to download certain attachment types, you need to do the following: First, open the registry editor. Expand the branches to HKEY_CURRENT_USER\Software\Microsoft\Office\10.0\Outlook\Security. Now, create a new string value by selecting 'New' and then 'String Value' from the Edit menu. Name the new value 'Level1Remove'. Double-click the new 'Level1Remove' to edit it and enter the filename extensions you would like to stop Outlook from blocking. Extensions should be typed in lower case, without the dots and separated by semicolons. For example, type in exe;mdb;vbs to allow .exe, .mdb and .vbs attachments respectively. Click OK and close the registry editor. You may have to restart Outlook for this change to take effect.

5. Contacts don't seem to work even though they are there

Reason: When you re-install or migrate to Outlook, all your contacts are saved—but when you try composing a mail to any one contact or in any other way try to use a contact from the list, Outlook seems to ignore the contacts. It appears as though the contact list isn't working, even though you can see that the list is there.

Solution: It's simple. Right-click on the contacts folder, then choose 'Properties'. Click the 'Outlook Address Book' tab. Here, tickmark the 'Show this folder as an e-mail address book' checkbox. You're ready to go! ☑

ram_mohan@thinkdigit.com



Upgrade Your Skill Set

So you are high-flier at your workplace? Never mind your achievements; get set to acquire a whole new range of soft skills with these Web sites

Ram Mohan Rao

If you are an employer, you need soft skills. If you are an employee, you need soft skills too. In fact, whoever you are, at whatever level in your organisation, it's your soft skills that consistently matter—an area of development you are most likely to ignore.

At http://snipurl.com/digit_skills1 is a 'Soft Skills Quiz' that tests your soft skills quotient. The page lists the 25 "Most frequently cited soft skills". Some of these include oral / spoken communication skills, honesty, team work or collaboration skills, self-motivation/initiative, leadership skills, 'Working under pressure', creativity, and time management skills.

According to job portal monster.com, employers consistently look for soft skills. You may not have several of these traits and skills, but you can easily and actively pursue developing these skills online. Of course, it's probably not possible to take a course on, say, 'honesty' but there are several areas where you and members of your organisation can actively improve.

From certmag.com, here's an 'Unofficial list of soft skills for techies'—

- ☐ Team work
- ☐ Communication skills
- ☐ Presentation skills
- ☐ Selling
- ☐ Running meetings
- ☐ Leadership
- ☐ Problem solving
- ☐ Customer service

Let's look at some Web sites that can help you and your employees develop these essential soft skills.

Brownbag Training www.brownbagtraining.com

Brown Bag Training is an e-learning site that delivers classes online. Classes are presented live by an instructor. There are a variety of soft skill classes to choose from and a variety of "Class Packs" are available. A 20-pack costs \$1,049 (Rs 49,000). But you could choose a single class for \$59 (Rs 2,700). They offer a satisfaction promise—if you are not satisfied with the class or classes you receive, you get all your money back.

Using the Brown Bag development process, they will custom-develop a class or series of classes

The Switchover

Site	Delivery Method	Pros	Cons
Brown Bag Training	Online	Clean Interface, Live Instructor	None
YouAchieve.com	Online	Huge number of courses available; articles and 'nuggets' in addition to courses; affordable	None
Silicon Beach Training	HTML Pages	Free; large number of links	No formal training option for non-UK customers; you only get to use the free links
Get Ahead Direct	CD-ROMs; eBooks	Very affordable eBook option	Limited number of titles
NAM Virtual University	Online	Reasonably Affordable	Somewhat limited selection of soft skills courses
CRM Learning	VHS or DVD	High-quality products	Expensive

for your team or tailor their existing classes to address a specific market, skill or customer base.

A typical class is completed in about 45 minutes and all students receive an electronic certificate of completion. Visit http://snipurl.com/digit_skills2 for more details about the classes offered. Some examples are "Customer Service 101", "Eight tips for writing quality e-mail", "Dealing with difficult customers" and so on.

You Achieve

www.youachieve.com

At YouAchieve.com, you will find a variety of learning resources—workshops, clinics, articles, 'knowledge nuggets', intensive programs and 'PowerBytes' (small tidbits of key information you can access for free). All content is delivered via the Internet.

Three types of full-access subscriptions ranging from a month, three months to one year are available. Each gives you access to the entire course catalogue for the chosen duration. A one-month subscription is only \$46 (Rs 2,070).

The 'Intensive Programmes' include material on leadership skills, personal career development and personal management skills amongst others. The workshops offered include interaction skills, oral communication, corporate leadership, personal development and other essential skills. The clinics are short (20-minute) 'courses'.

Silicon Beach Training

http://snipurl.com/digit_skills3

This site has a compilation of many free e-learning resources that are available. Here, you will find links to books that you can purchase, links to forums, articles, tips and tricks and much more. The topics are arranged alphabetically from 'assertiveness skills' to 'communication skills' to 'time management'.

Get Ahead Direct

www.getahead-direct.com

GetAhead offers CD-ROMs and eBooks as training material. While an eBook is for \$8.95 (Rs 403), a multimedia CD-ROM costs \$39.95 (Rs 1,798). There are ten titles available in all for \$199 (Rs 8,955) for all the CD-ROMs.

Each GetAhead training course (eBook or CD-Rom) is a comprehensive and self-contained course that will give you a 'lifelong career skill'. Each course is designed by experts to include interactive exercises, case studies and questions.

The 10 titles available are Busi-

mation Technology. The soft skills part of the catalogue includes courses relating to customer service, personal development and professional development.

For instance under 'Personal Development', there are courses in 'Managing Stress', 'Recognising and Managing Anger', 'Recognising and Avoiding Burnout', 'Time Management' and more. Each course is priced at \$9.95 (Rs 448).

Courses typically take an hour to complete. All courses are delivered over the Internet. To use this, you need to register and enrol for a course and it will be delivered to you when you want it.

The flipside to such an arrangement is that the lessons are pre-recorded and there is no live instructor.

CRM Learning

www.crmlearning.com

CRM Learning allows you to take an online preview of some of its courses before deciding if they will be right for you. The method of delivery is either VHS or DVD.

As with the other sites mentioned so far, the soft skills offered there are communication skills, customer service, ethics, leadership, and so on.

CRM Learning offers a 'Purchase' option and it's a good thing it let's you preview! Typically, the purchase of the titles costs \$795 (Rs 37,500) whereas 'rental' costs \$275 (Rs 13,000).

This means that you can order the tapes or disks and present them to your entire team at your convenience. However, the 'rental' option may not be available to Indian customers due to shipping issues.

Titles in the soft-skills department include 'The power of listening', 'Communicating non-defensively', 'Attitude is Everything', 'Really Angry Customers' and others. ☒

ram_mohan@thinkdigit.com



CRM Learning is expensive, but offers high-quality training

ness Negotiations, Time Management, Business Presentations, Winning at Interviews, Business Meetings, Organising Projects, Planning Projects, Controlling Projects, Business Analysis and Data Analysis. Some of these may be classified as soft skills, some not quite.

GetAhead also has an impressive customer list, which includes the likes of Sun Microsystems, Sony, IBM, AT&T, Kodak and Compaq among others.

NAM Virtual University

www.namvu.com

The catalogue at NAM Virtual University includes soft skills training as well as training in other departments such as Infor-



Home Is Where The Money Is

Telecommuting is not just a trend that will fade away... It is fast becoming a way of life more and more professionals are choosing

Meera Vankipuram

"Earn Rs 4,000-10,000 every month by online surfing. Full/Part-Time from Home/Cyber café. Franchisees required all over India. Contact: ..." "Work 1-2 hours per day on home/office Internet. Earn extra income without leaving your present occupation. Training provided. Contact: ..."

Looks familiar? It's splashed all over the classifieds in newspapers, in notices stuck on local trains and buses and in dozens of handouts distributed at busy street corners. While the reliability of a significant portion of these notices is suspect, working from home is an option being explored not just by homemakers but also by full-fledged professionals tired of the corporate rat race.

The proliferation of the Internet and cell phones has given several users the choice of exploring alternate careers within the

comfort of their homes. And web-based ventures that survived the dot-com crash are providing such opportunities to people in India and abroad.

Programmer For Hire

A 29-year-old programmer with five years of experience in IT is resigning from a top firm to do freelance assignments, working from home. "I have been offered a freelance assignment from a US-based firm to develop Web-based applications using Flash and Flash Communication Server," says Sanjeev Menon. The project, spread over a few months, will earn him as much as \$1,300 (Rs 56,500) per month.

Sites such as www.rentacoder.com help programmers like Sanjeev touch base with companies and individuals seeking freelancers. These sites charge 15 per cent of the programmer's pay for every project sourced through their service. "The clients rate you based on your performance, which is then displayed on the site," says

Sanjeev. With a rating of about 600, out of 93,000 programmers listed on the site, Sanjeev is aiming to head the top of the pile soon. A better ranking obviously means more lucrative offers. Who needs placement services in such a convenient setup?

If you are a programmer, tired of a structured corporate career, head to getafreelancer.com, rentacoder.com, scriptlance.com and elance.com—to code and earn, without leaving home!

The Write Stuff

Freelance journalism has been around for a while but thanks to the Web, sourcing projects has never been easier. As an offshoot of the outsourcing boom, journalists in India can now freelance for foreign publications on a wide variety of subjects.

Chennai-based Power Quill (www.powerquill.com) is one such company that employs a network of freelancers and is the brainchild of former business journalists K Nitya Kalyani and Arun Natarajan.

Power Quill has worked on assignments for publications in the USA, India, south-east Asia and the Middle East. Co-founder Arun states, "We mostly employ people who work from home. We tap our pool of editorial staff depending on our clients' requirements. At times, we even fill in for temporary shortage of editorial staff. I think a lot of women who have school-going kids and the time to spare benefit from this kind of a setup. All you need is a good broadband connection at home—most of our communication happens over instant messengers."

A bulk of Power Quill projects includes writing articles and news reports for domestic and foreign publications, creating corporate communications material for small and medium businesses (SMBs) and Public Relations firms

"We mostly employ people who work from home...most of our communication happens over Instant Messengers."

Arun Natarajan

Co-founder,
Power Quill,
Chennai



Journalists Supriya and Jigna, founders of a company that employs freelancers

and Web-based content.

"Once our work is appreciated, we receive more responses through word-of-mouth referrals. But Google is our best sales guy! We browse the Web for potential projects and rely on it for advertising our services," adds Arun. Apart from the Internet, Power Quill also makes use of VoIP, e-mail and Skype. "We believe that technology can drastically bring down the cost of publishing," Arun affirms.

Another company that has capitalised on the outsourcing boom is Bangalore-based Stylus System. Stylus develops Web applications and manages BPO projects for clients in India and abroad.

It recently inaugurated a division called Chillibreeze (www.chillibreeze.com), which employs

freelancers. Chillibreeze provides people such as Nishi Roopa, a doctor who wanted to switch to a career in writing, opportunities to work from home. Suma is an instructional designer who freelances in order to spend more time with her five-year old. Arka and Aniban are freelance scriptwriters, working with Chillibreeze.

The requirements of international clients like Business Intelligence or even market research reports are met by freelancers in relevant fields. Those interested in writing business-related white papers can contribute (on a royalty basis) to www.outsource2india.com, another Stylus venture.

Anusha Subramanian, a freelance journalist in Mumbai works from home. She freelances for print publications and also edits.

Anusha has been a freelance writer for over three months now. She coordinates with 'The Word', a company based in Mumbai. "All you need is a good cable Internet connection at home and you are your own boss!" she claims.

Anusha is also a member of several online business networks including the popular Ryze.com, where she meets prospective clients. As for the payments, "Cheques are delivered home just like other publications," she states.

Set up by journalists Supriya Madangarli and Jigna Kothari, The Word offers editing, marketing and content creation services to companies and publications in India and overseas.

Says Supriya: "We make use of the huge network of freelancers in India and contact them when a specific service is required."

The duo bags projects through the Web and has enrolled in business networks and also rely on referrals. "Typically, magazines pay around Rs 2 per word, newspapers Re 1 or Rs 1.50 per word. For other services, we charge according to the project."

Click To Translate

Linguaphiles with a flair for translation can turn to the Web to polish their linguistic and trans-

lation skills and make moolah while they are at it. Prerna, a freelance translator who has worked on French-to-English projects, initially scoured the web for services that advertised freelance assignments. "Google is your best bet. Simply type 'freelance translation' and follow the links. Most sites are reliable and pay well," says Prerna.

Sites like ProZ.com—a directory of freelance translators and translation agencies, Yahoo! Groups and Elance Online have discussion groups on best practices followed, payment and project details. "People normally bid for projects. The bids are placed by both agencies and individuals," says Prerna. These sites also offer ratings. The higher your rating, the better your chances of obtaining a good project. Online forums also help network with other translators, across the globe.

The ultimate repository for freelance projects in any field, be it programming, editing, writing, graphic design, marketing, content development or e-learning is probably Elance Online (http://snipurl.com/digit_elance).

Elance lets companies 'find the right professional' for the right job. This 'global marketplace' has a ranking system and also lets you bid for projects that are up for sale and consult sourcing experts. Other aspects such as payments are also handled through the website itself.

Uncharted Territory

The Internet is flooded with gateways that you can tap to earn money without leaving home. A reliable Internet connection, comfortable workspace, requisite software and inputs are all you need to get started.

Exercise caution, though. You must have the strength of mind and the resources to deal with delayed or erratic payments, long periods without sufficient work and even lack of opportunities to match your skill sets.

It pays to upgrade your skill sets from time-to-time, enrol in forums or business networks, and interact with people online and offline, to stay marketable.

If you are willing to risk the pitfalls and are confident of your talent and endurance, take the plunge—the Web is your oyster. ✉

meera_vankipuram@thinkdigit.com

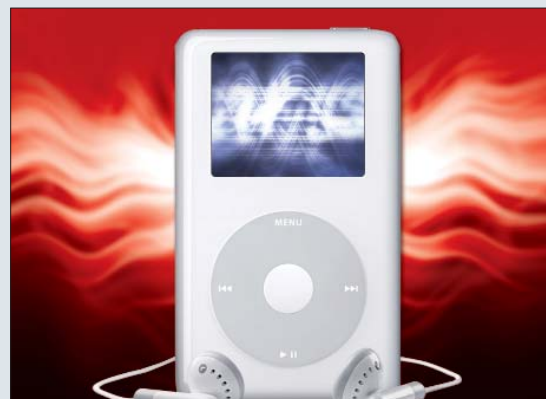
Creating A Portable Song Compilation

Digit's brand head **Prashant Narekuli** got fed up with Exec Ed **Sachin Kalbag** showing off his iPod at every possible opportunity. Prashant was determined to show off what he could do with his age-old Aiwa personal stereo versus the iPod Sachin was flaunting

Prashant Narekuli (prashant_narekuli@thinkdigit.com) and **Sachin Kalbag** (sachin_kalbag@thinkdigit.com)



Listening to music the Old Way



Listening to music the Tech Way

1

Items in hand: Aiwa Walkman, Philips 1200 W stereo system. Needed 3.5-inch pin cable.

Items in hand: 15 GB iPod, FireWire cable. Needed a USB cable.

2

I bought the 3.5-inch pin cable from a local hardware store for Rs 30.

Time taken **30 minutes**

Bought USB cable for Rs 2,200. Had to call up the Apple distributor and then go to pick up the cable.

Time taken **95 minutes**

3

Connected the Audio Out of my PC to the Aux In of my Philips stereo system using the 3.5-inch pin cable. Popped in a blank 90-minute cassette that cost Rs 25.

Time taken **2 minutes**

Connected the iPod to my PC. Loaded the iTunes software from the accompanying CD. After a few hitches, it worked.

Time taken **28 minutes**

4

Played my favourite 20-song playlist as the stereo did the recording. Had to turn the cassette once.

Time taken **91 minutes**

Transferred over 3,000 songs from my PC to the iPod in just over a half-hour. Of course, this was from a legit playlist gifted by a friend in the US.

Time taken **31 minutes**

5

Played the recorded cassette on my old Aiwa Walkman that I had bought for just Rs 1,000. Enjoyed the age-old ways of analogue music!

Created a playlist from the 3,000 songs on the iPod and played them. Revelled in the digital, new-age way of listening to music!

Total Time Taken: **133 minutes**
Total Cost: **Rs 1,055 for 20 songs**



Total Time Taken: **154 minutes**
Total Cost: **Rs 15,000 plus for 3,000 songs**



**AND
THE
WINNER
IS...**

I could not decide what was most important—cost, quality, or quantity. Sachin spent more than Rs 15,000 on his equipment. While you can show off the iPod to friends and colleagues, the personal

stereo—or Walkman—gives you a simple, cheap and time-tested solution. Ultimately, I favoured simplicity over the flashier iPod—it costs much less, and is almost hassle-free.

Q&A

Your Questions, Our Answers

DVD Regions Conundrum

Q I have a Samsung DVD ROM attached to my P III that worked just fine. One day, I saw that it could not read the DVD disk, however, it read CDs till now. From the 'DVD Region' in the 'Properties' of the DVD-ROM drive, I found that the current region shows Region 1, but India belongs to Region 5. When I try to change the region from 1 to 5, I receive an error message: "Unable to update region setting. Please make sure the drive contains Region 5 media and you have administration privileges." How do I make my DVD drive read a DVD?

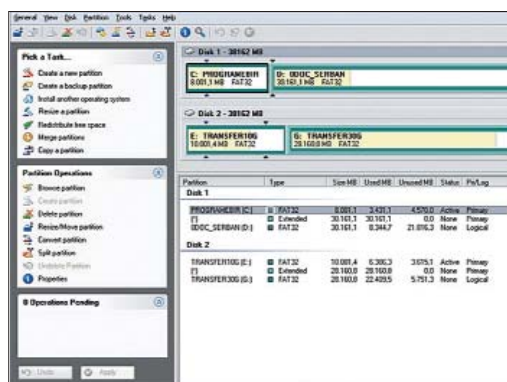
Sadananda Singha

A DVDs have nine region codes: Region 0 is region-free and such DVDs will play on all drives. Regions 7 is reserved and not set. Region 8 is for use on international planes, ships etc. These settings can be changed four times at most, after which they get locked to the last region used. It looks like you have changed the region more than four times, in which case you are out of luck. Remember, you do not have to change the region simply because you are in India. To play a DVD made in the US, for example, your player needs to be in Region 1.

You can bypass the region lock that each DVD player comes with using various software. However, this is illegal and will render your warranty void.

Get FAT!

Q My OS is Win98. I installed Win2000 Pro and it asked to upgrade with NTFS which I did. Now, I cannot format my C: drive on which my OS resides. When I try to format it, the D: drive gets formatted. My C: drive file system is NTFS and other drives, including the D: drive are FAT32. How can I change my C: drive from NTFS to FAT32?



Managing drives in Partition Magic 8.0

A Download a tool called PartitionMagic (<http://www.powerquest.com/partition-magic/>) that lets you convert from NTFS to FAT32 without losing your data. If possible, backup your data as a precaution.

Hey RAM!

Q The specs of my PC are as follows: Athlon XP 2400+, 256MB PC133 DDR RAM (Hynix) and a Krypton C18G-400 motherboard with onboard nVidia Geforce 4. Recently, my friend accidentally dropped my RAM module. But there were no cracks or scratches. From then on, while launching some applications or games, it shows an error—" (appname).exe has encountered a problem and needs to close." When I viewed the technical contents of this report, it displayed, "The following files will be included: D:\DOCUME~1\SIVASU~1\LOCALS~1\Temp\WER6.tmp.dir00\gta-vc.exe.mdmf. D:\DOCUME~1\SIVASU~1\LOCALS~1\Temp\WER6.tmp.dir00\appcompat.txt"

For each application, only the number after "WER" and the application name itself changes. It happens mostly when launching GTA:Vice City, Colin McRae Rally 2, Adobe Live Motion and PDF-to-HTML converter. Is it due to my Hynix RAM? Do I need to get it replaced (it is within the warranty period)? Are there any tools to detect damaged RAM modules?

M Siva Subramanian

A To test whether your RAM is damaged, remove all RAM modules from their slots and insert only one of them into a slot. Now run any the following utility: <http://www.memtest86.com/> Or get the Microsoft utility at: <http://oca.microsoft.com/en/windiag.asp>

If you get an error, run the test again with your RAM chip in a different slot. If you do not get an error this time, then your RAM slot is not faulty. Repeat the test for all the RAM chips you have.

It may turn out that both your RAM slots are faulty. To make sure that it is your RAM chip at fault, test it on another machine where the slots are working fine.

If you do not get any memory errors, then your RAM chip is fine and you should try reinstalling your games and software and updating them with the latest patches.

Internal HDD, External Connection

Q I have a P III 1.0 GHz, a Vesta 810e Intel chipset board with 256 MB of SDRAM and an 80 GB Seagate HDD running Win98 and WinXP as the OSes, a CD-ROM and an LG CD-RW. I also have a 40 GB Seagate HDD not connected to the system. The 40 GB HDD is divided into three partitions running Win98. The 80 GB HDD is divided into six partitions—four as FAT and two as NTFS. How can I connect my HDD to my system without opening the cabinet? Do I need any special drivers?

Ravi Shah

A It is possible to convert an internal HDD to an external HDD. You need to buy a case which retails for Rs 1,500-2,000. Just put your drive in the case and connect it to your PC with a USB cable. These cases do not support SATA drives—only regular IDE ATA disk drives.

PROcessor CON!

Q I recently bought a PC with an AMD processor 2800+, ASUS motherboard, an 80 GB HDD, 256 MB of DDR RAM, a combo drive etc. I have installed Windows XP. The PC configuration in the device manager displayed “AMD Processor 1500+”. When I asked the vendor about this, he replied about some switches on the motherboard. On changing those, it would show the correct configuration. I am not so familiar with AMD processors. I want to know what the number 1500+ actually means, and is my vendor right?

Earlier I worked on a P IV PC with a VIA chipset motherboard. I had a bad experience with that PC. I came to know that the VIA chipset doesn’t support high-end games. So I didn’t opt for any motherboard having VIA chipsets. But my vendor says that there are no chipsets available other than VIA for AMD processors. When I opened my CPU, I saw that he had given us an ASUS motherboard with a VIA chipset. Now my PC hangs every time I install a game, even a small one like Delta Force. Is it the motherboard, or something else responsible? Aren’t there other motherboards available for AMD computers? Is a graphics card required to install games?

Sambit Mohapatra

A To check whether your vendor has given you the correct processor, go to your BIOS. Your processor’s core speed will be listed there. Alternatively, download any of the following utilities: Sisoft Sandra from <http://www.sisoftware.net/> or Everest from <http://www.lavalys.com/>. Click on the Computer>Summary tab and your system specs will get listed. This will tell you whether you have been taken for a ride.

The term “1500+” is AMD’s way of indicating the processor’s performance—this proces-

sor will give the same performance as an Intel processor running at a core speed of 1500 MHz. This is *not* the actual core speed at which the processor runs. If your processor is an Athlon XP 1500+, then your actual CPU core speed is 1,333 MHz.

There are four chipset manufacturers for AMD boards—ATi, nVidia nForce, SiS and VIA.

There are manufacturers who make motherboards based on these chipsets—ASUS, Gigabyte, MSI and others.

You need a graphics card to play almost all high-end games these days. For specifics, refer to *Digit* (January) for the graphics card shootout. Since you haven’t mentioned your motherboard or the chipset specification, we cannot give you a detailed answer. But you can check your motherboard and graphics card (if you have it) using the SiSoft utility. Also, try installing DirectX9c and update your graphics driver. Try running games now. It might work.

The Infamous BSOD

Q I have a P IV 2.4 GHz PC with 512 MB of DDR RAM, an Intel 865GBF Motherboard, nVidia GeForce FX 5200 AGP, an 80 GB Seagate Barracuda 7,200 RPM, a Samsung combo drive and a Realtek Rtl 8139 ethernet card. When I logon to or logout from Windows XP, the blue screen of death appears often—in fact 80 per cent of the time with either one of these messages:

1. IRQL_NOT_LESS_OR_EQUAL Technical Information: Stop (0x00000000,0x00000002,0x00000000,0x804 D9716)

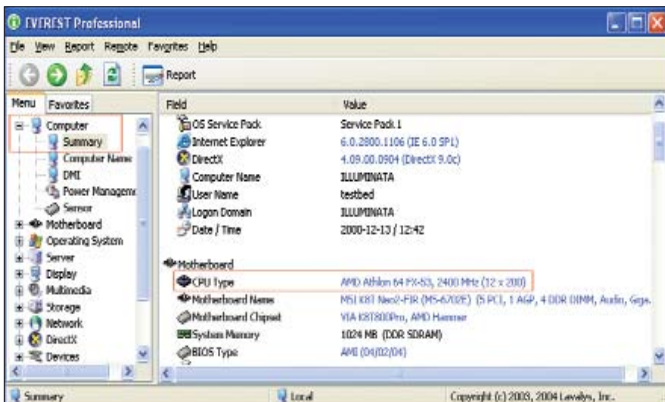
2. PAGEFAULT_IN_NONPAGED_AREA Technical Information: Stop 0x00000050 (0xFFFFF60,0x00000000,0x804F4C32,0x00000000)

The technical information varies each time. The errors occur mainly when I switch from one user account to another (I have disabled faster user switching). I have no problems when I logon immediately after system boot. I have installed the latest BIOS drivers. There are no anti-virus or background software installed. I have Windows XP Professional, Windows 98 SE and SuSe Linux with XOSL in a separate partition. Is there a fault in my RAM?

Amar Gupta

A This error happens mainly due to the hardware or software incompatibility. To avoid this, update the drivers of all your devices and upgrade to SP2 in Windows XP.

If that still does not solve the problem, immediately after you get the error, reboot your PC and see the CPU temperature in the BIOS. In case, it is too high, then your system is overheating and you must get a better heat sink and fan. If the temperature is normal, then go to Start>All Programs>Accessories>System Tools> System Information. Click on IRQ on the left side. View the status of your IRQs in the right hand pane. If there is any IRQ whose status is not OK, uninstall that



Viewing System Summary in Everest



Upgrade Without Losing Data And Settings

Faster processor, bigger memory and better computer... something we all want. We hunt for the best deal and finally decide to go ahead with that upgrade when we are struck by a thought that could well be upgrade-altering!

"How will I back-up and restore all the settings from my present OS version to the new installation or from this PC to another?" So many settings, so much data—e-mails, Internet favourites, downloads...how? The mere thought can give you goosebumps!

Fear not, for there are ways and means to archive critical data and retrieve it as easily. We tell you here how to migrate files and settings between Windows XP PCs. Let's consider a scenario in which you wish to re-install Windows XP.

Method 1: Using The 'Files And Settings Transfer' Wizard

Windows XP comes loaded with the 'Files and Settings Transfer Wizard' utility, which helps transfer important files and settings from an old PC to a new one. The transferred files and settings include 'Appearance', which contains wallpapers, colours, sounds, fonts and location of the taskbar; 'Accessibility Settings,' 'Internet Settings' which includes your favourites, proxy and security settings, cookies, dial-up settings, homepage, Outlook Express mail and settings and My Documents.

Backing Up Files And Settings

Click **Start>All Programs>Accessories>System Tools>Files and Settings Transfer Wizard**. Click 'Next' in the first dialog box that opens. Since you wish to first back up your files and settings, select 'Old Computer' and click Next. Now, select the method of transfer—which includes 'Direct Cable,' 'Home or Small Office Network,' 'Floppy Drive or Removable Media' and 'Other.' We shall select the 'Other' method. Enter a location on a drive where you don't have your data and click Next. You can opt to export 'Settings Only,' 'Files Only' or both or customise your selection. Clicking 'Next' one last time will transfer your settings and files to the selected location.

Restoring Files And Settings

After re-installing Windows XP, start the Files and Settings Transfer Wizard as before, but this time select 'New Computer.' Select the last option—"I don't need a Wizard Disk," as you have created a backup of the old Windows settings. On the next page, select the option 'Other' and point to the location where the backup is placed. Wait for some time for the files and settings to be restored. Finish this operation and log off for all settings to take effect.

Method 2: Manually Transferring Files And Settings

This is for adventurous techies! Make a checklist of the files you want to back-up—My Documents, Outlook, E-Mail Settings etc. We look at each one step by step. To start with, make a new folder on a drive where Windows does not reside. All your settings and files must be stored in this folder, henceforth to be called the 'Backup Folder.'

My Documents

Click **Start>Run**. Enter '%USERPROFILE%' and click OK. Copy 'My Documents' in the Explorer window to the Backup Folder.

To restore 'My Documents', click on Start, run '%USERPROFILE%' and copy 'My Documents' from the Backup Folder to the location opened in Windows Explorer. This time, you will have to overwrite the folder.

Outlook

Outlook data comprises files with the .pst extension for personal folders, .ost for offline storage, .pab for the address book, .rwz for rules and .nick, .nk2 for nicknames for AutoComplete. Additional files include .dat for Toolbar and Menu settings, .fav for Favorites, and so on.

To backup data from Outlook, create a folder in the Backup Folder and close Outlook. Click on **Start>Run**. Enter '%APPDATA%\Microsoft\Outlook\'. Copy all files with the above extensions to the folder created earlier. Repeat the above steps for the path '%USERPROFILE%\Local Settings\Application Data\Microsoft\Outlook\'. It's better to store the files from each of these folders separately in the folder created in the Backup Folder.

Outlook Express

To back-up the Address book, click 'File', then 'Export' and then 'Address Book'. Choose 'Text File' and select 'Export.' Choose a filename to save the file in the e-mail Backup Folder. Select the fields you would like to export. To restore the address book, import the text file you saved into Outlook Express.

To back-up your E-mail settings, click 'Tools' followed by 'Accounts'. Now choose the account from the list and click on 'Export' to save it to the e-mail Backup Folder. The e-mail settings can be restored to the new computer in a similar manner.

To backup your e-mails, you must find the e-mail store folder. Click on **Tools>Options** and then the 'Maintenance' tab. Click on the 'Store Folder' button, and note the location where your e-mail is stored.

Close Outlook Express, navigate to this folder in Windows Explorer and copy all the files in it to the E-mail Backup Folder. To restore your e-mails, click **File>Import>Messages**. Select Microsoft Outlook Express 6 (OE6) and click Next. Select 'Import mail from an OE6 store directory' and enter the e-mail backup folder path in the dialog box. Now select the folder you wish to import to and click OK.

Favorites And Cookies

You need to create a folder for storing Favorites and Cookies in the Backup Folder. Open IE, click **File>Import and Export** and click 'Next'. Now select 'Export Favorites' and select the backup folder you created. The Favorites will be saved as a .htm file. Favorites can be imported in a similar way, and so can Cookies.

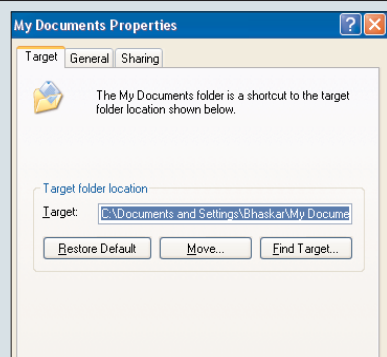


Good Practices

Following some good practices makes life easier. Organising folders in a convenient way will help reduce the hassles of backing up your data. Here are some methods. Relocate the 'My Documents' folder to a drive on which Windows is not installed. Open Windows Explorer, right-click on 'My Documents' and click on 'Properties'. In the dialog box next to 'Target,' enter a path to a folder on the drive of your choice.

From now on, this new folder is your 'My Documents' folder. Use sub-folders within this store all your data, be it e-mails or documents.

Similarly, the Outlook Express mail store folder can be relocated. In Outlook Express, click on **Tools>Options>Maintenance**. Click on the 'Store Folder' button and select 'Change'. Now point to a folder of your choice and click OK. All future mails will be saved to this folder.



Changing the My Documents location

WiFi Without Access Point

Q I want to set up WiFi at work with a single desktop and my WiFi-enabled laptop. Can I use a wireless PCI card and communicate directly with my laptop with the RF waves from both terminals? Does technology support such configuration? Or is an AP a must? Can I use only an AP connected to the desktop that will communicate with the laptop? Which brand is preferred for the hardware (AP, wireless PCI card)?

mrdedhia@yahoo.com

A You do not need an access point to setup a wireless network between your laptop and your desktop. You need to set up an Ad Hoc access point.

First, install the wireless card on your desktop. If you are using Windows XP, your card will be automatically detected and the drivers will install. If other networks are available, Windows will automatically open the window for wireless network connection. If not, click on the 'Wireless Connections' icon to open the window. If applicable,

clear all connections in preferred access points to make sure that you connect only to your laptop.

On the top right of your window, click the 'Advanced' tab and select 'Computer to Computer (Ad Hoc) networks only.' Un-tick the 'Automatically connect to non-preferred networks' box. Go back to the wireless networking tab under the preferred Networks window, click 'Add' and specify a name (SSID)—any name. The connection type would already be specified as 'Ad Hoc'. Now you will see the name of your network in the preferred networks

window marked with a red 'X', signifying that that computer is not within range.

Since your laptop is WiFi-enabled, go to the wireless networks tab and you will

see the name you gave in the above step in the "Available Networks" window. That's all you need to do to share data between the two.



Illustration Shyam Shriram

device from the device manager. Your computer should work fine now.

If all the IRQs have status 'OK', then download the Windows memory-testing program from <http://snipurl.com/c3mh>. Run it, and if it gives any errors, then assuming you have a single chip, remove your RAM chip and put it into another slot. If it works fine then your RAM slot is faulty and you will have to repair or replace your motherboard. If, however, your errors persist, then your RAM chip is definitely faulty.

If you have multiple RAM chips then insert only one of them and test it in your RAM slots, then put in the other and test as before. Identify the faulty slots and fix the problem accordingly.

Over Drive!

Q I have a Celeron 600 MHz, a Procomp motherboard and 128 MB of RAM. I have two Seagate hard disks—20 GB and 40 GB. I also have a Sony CD-ROM and an LG CD-RW. The two IDE cables are all occupied. How do I attach a DVD-ROM to my PC?

Tanmoy Das

A Install an IDE controller card to be able to add additional drives. An alternative is to remove your CD-ROM and attach the DVD-ROM in its place, as a DVD ROM drive will allow you to read CDs as well.

Getting started with
your Hard Disc Drive?



Call 1600 33 11 04

Seagate



sos@jasubhai.com

E-mail us your computing problems, and we may answer them here! Since we get more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

Dirty PC!

Q I have a P IV 1.6 GHz CPU with an Intel 845WN motherboard, 128 + 256 MB SD RAM, 40 + 120 GB HDDs, a 24X CD-RW, a 16X DVD-ROM and a 15-inch LG monitor. I have three OSes—Win98, Win2000 and WinXP, loaded in the 40 GB HDD in three different partitions. The problem is that my WinXP restarts abruptly without warning and this generally happens when I switch on my PC after several hours. After this, when the PC restarts, the CHKDSK operation is performed that results in some errors and when finally XP restarts, a warning indicates that the system has recovered from a serious error.

My DVD-ROM works perfectly but when I use it for some time, the BIOS stops detecting it. When I restart my PC three to four times, the BIOS detects it perfectly. This problem occurs at regular intervals and persists or does not occur at all.

Sanjeev Chharia

A Ensure that the motherboard is clean and dust free. You may want to contact a local technician to service it. Make sure all wires and cables are plugged in properly and that your RAM, video cards and all other peripherals are plugged in tightly into their sockets. As for your DVD problem, check your connection cables. They must probably be loose! ☐

Power To The PC

Faulty power supply can spell doom for PCs. Agent 001 tracks down the better ones

A month ago our editor SK, decommissioned his five-year-old glorified typewriter—his older Pentium pro system—with the idea of getting a new 64-bit super fast desktop PC. While he is not a geek you often come across in the Test Centre (TC) or *Skoar!*, his six-month stay amongst them has made him tech savvy enough to long for a 64-bit system. So the TC drew up the best configuration and I gave my inputs for the best market deals, all set and done the final piece of paper was given to a local assembler near SK's house. He assembled the beauty, and boy, oh boy the smile on SK's face was infectious when the monster of a machine zoomed through most applications like a Ferrari on an open road.

Everything was wow, cool and fast until that fateful Sunday morning when a high pitch started emanating from the box and soon, everything went cold. The TC was summoned, and they traced the fault to a fishy power supply (PS). But why wasn't it a 400W supply with dual fans? Just the question to put a sleuth like me on the right track.

This time around, though, the job was difficult since no one in the TC could come up with quantitative proof as to which power supply brand is more reliable or efficient. However, from their testing experiences, they have reservations about certain brands known to be better than others. According to them, a 350W PS is a must if you own one of those deluxe, platinum boards overflowing with additional features and demanding more power.

But is putting a higher capacity PS the only solution? Debating on the issue, we arrived at the conclusion that a better (read efficient) 350W PS is as good as say, a poor 450W PS.

When confronted with the efficiency question, most shopkeepers will be at a loss to answer you, well, efficiently!

Efficiency in this case refers to the ability of the PS to fulfil the demand from the machine without significant internal loss. For example, if a PS is rated at 350W, under typical load conditions, the total power consumed was 250W whereas the power supplied to the system was 175W. This amounts to 70 per cent efficiency implying that the remaining 30 per cent was internal loss and dissipated in the form of heat. And all this under typical load conditions. The consumption would vary depending on the work done by the processor.

Why processors? Processors are the real power hungry monsters in the machine. At low loads, when the system demands less power, the amount of energy lost will be high presenting a precarious situation for a poorly designed high-wattage PS since most of the power consumed will be flushed out as heat rather than used by the machine. Therefore, although a good PS is expensive, in the longer run, it will prove to be cost effective.

So which one should you buy? Visit almost any computer shop and a 300W PS costing Rs 500 will be the first one handed out to you. Brands are dime-a-dozen in this category and you would be forgiven for thinking that just about everybody in the world has a manufacturing plant! Not all 300W PS, though, are bad. In fact, Mercury, Microtek, Frontech, Perx and HIS, to name a few, are the fastest moving ones and from my investigation, they don't fare too badly either. However, when confronted with the efficiency question, most shopkeepers will be at a loss to answer you, well, efficiently!

Regular 400W PS are a different ballgame altogether. Everybody knows the ratings are bogus and stickers are just that—stickers. Ask for a 400W PS and be ready to spend up to Rs 1.5K for a bogus PS. Push a little harder and reluctantly, you might hear the name VIP. The 400W PS from VIP is priced at Rs 1.9K and comes with a three-year warranty and according to shopkeepers is the best you can buy. Our TC swears by Antec, a name not familiar to most in the market. They are priced at a premium but are worth the price.

In the marketplace, VIP attracts attention as being the best amongst the brands. Antec is definitely better and has a wide product portfolio to choose from but is priced higher. With no proper test in place, recommending a buy is difficult but I will bet my money on an Antec or a VIP.

Want more of Agent 001? Turn over to read his **Answers** to your buying questions




Illustration: Shyam Shiram

Pentium Or Athlon?

Q I am learning Maya and plan to buy a new PC to pursue a career in designing. What processor should I settle for? Should it be a Pentium or an Athlon 64 FX? Also, please mention the appropriate motherboard and the cost of the respective motherboard-processor combo.

Jeet


 Applications used for 3D modelling such as Maya require colossal amount of processing power and tons of memory. As of today, AMD's Athlon 64-bit processor is the numero uno and there should be no doubt about which processor to go for. The Athlon 64 family comprises the Athlon 64 and Athlon 64 FX processors, the latter being significantly costlier. In case money is not a problem, consider the FX series, the required RAM and motherboard, else you can settle for the Athlon 64 processor.

The Athlon 64 3200+ is ideally priced at Rs 12K and should prove to be a great performer when coupled with the K8N Neo FSR motherboard from MSI. This motherboard is priced at Rs 7.5K, and a higher option, the fully loaded Platinum priced at Rs 9.5K, is also available. Keep in mind that for getting the maximum out of this PC, you need to equip it with at least 1 GB of DDR 400 MHz RAM from Transcend or Kingston.

Sound Decisions

Q My current PC configuration is P4 2.66GHz, Gigabyte 8S650GXM motherboard, 256 MB Ram, 80 GB HDD, S3 Savage 2000 64 MB card. I want to upgrade and have already bought an Asus P4C800 DLX motherboard, 1 GB DDR 400MHz RAM and Antec PlusView 1000 AMG cabinet. Which is the best CPU, graphic card, hard drive and sound card? Money is not an issue.

Raj Anand

 The Asus P4C800-DLX supports socket 478 P 4 Processors with 800 MHz FSB. For maximum performance, you can opt for a P 4, 3.2 GHz processor with 1 MB cache. For the graphics, a GeForce 6800 GT card from Gainward is a good investment. Western digital drives also perform admirably; however, are harder to obtain and service might become an issue. You can safely bet on the Maxtor or Samsung SATA drives, though; they perform and help for them is not too far!

As for the sound card, I recommend you try the on-board sound first. If you are not satisfied with the quality, then you could go in for any Creative Audigy card.

CRTs Rule Still!

Q I want to buy a good 17" TFT monitor with fast response time (8-12 ms), analogue and digital inputs. My four-year-old CRT monitor has recently conked off and I would also like to know if this is the right time to upgrade to an LCD monitor considering the prices. Is a fall in prices expected any time soon?

M K Mech

The Athlon 64 3200+ is ideally priced at Rs 12K and should prove to be a great performer when coupled with the K8N Neo FSR motherboard from MSI



TFT LCD monitors are expensive and will set you back by at least 23K for a decent 17-inch model. LCD monitors with low response time of 8 to 12 ms are rare in India and even if they are available, would be priced high. For the moment, it is not advisable to go in for an LCD monitor given the fact that they are expensive for the marginal advantages they offer. My reasoning is also based on experience...I play lot of games and have come to the conclusion that even the worst CRT is a better bet than a reasonable LCD since they let you play without distortions. LCDs are also finicky about the resolution you run them at.

On the positive side, LCDs consume less power, but that should not be an issue since home computers hardly run long enough to show up in the electricity bill.

First Hand Or Second Hand?

Q I am interested in buying 256 MB SD RAM—new or used. I have a P3 64 MB SDRAM, 1 GHz processor. What is the market price for both options?

Dipen



You should never compromise on a component like memory modules. Going in for used RAM has many pitfalls although the deal might look good. Used RAM does not carry warranty and if you are going to buy used RAM, buy it from a trusted source only. New 256 SD RAM would cost you somewhere around Rs 1,950. Before you buy, though, make sure you point out to the dealer that you are using a Pentium 3 and not a P4 processor.

Building A Gaming Rig

Q I like playing games and would like to assemble a reasonably good gaming rig. Can you chart a configuration that will play new games including Doom3, Half-Life2 and Commandos 3.

Anshul Thakur



I generally avoid such questions since many variable parameters govern the answer; least of all, the price restriction. However, since I have received a lot of similar queries, I am listing down a configuration that will cost around Rs 35K. ☐



Configuration For Gaming

Product	Price Range (Rs)
Processor	AMD Athlon 64 3000+
Motherboard	MSI K8N Neo FSR
RAM	Transcend 512 or 256 MB at least
Graphic Card	ATI 9600XT or GeForce 5700 Ultra-based cards
HDD	Maxtor or Samsung 120 GB
Monitor	Samsung 793S
Case	Your choice
Power supply	VIP 400 watts
Keyboard	Logitech New Touch
Mouse	Logitech Optical
Optical drive	Lite-on Combo drive

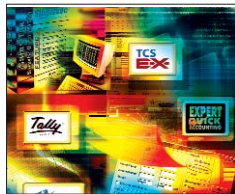


Ask Away

Want some tech product, but don't know how to go about buying it? Send a mail to agent001@thinkdigit.com, and get your queries answered



112 Inventory Management



114 Accounting Software



118 Tech-furnishing Your Office

Digital Business

How Technology Can Help Your Organisation

Case Study

The Other Side

Can you imagine life without MS Office? Is there an alternative? StarOffice could just be the answer you are looking for

Ram Mohan Rao

Microsoft is the undisputed leader in office suites, and MS Office is the *de facto* standard when it comes to choosing an office software package. For those who came in late, alternatives exist. And they are cheaper too! One such alternative is StarOffice—Sun Microsystems' offering for the office environment, priced much lower than MS Office.

As the chief technology or information officer of your company, you might wonder about using something like StarOffice instead of MS Office, given the 'unknown' aura surrounding it. So we decided to learn more about it, and investigated if any corporate setup was implementing it.

We came across Apnaloan.com. Apnaloan.com is a leading mediator for financial products in

the form of loans, insurance and credit cards, to name a few. Amongst the four first-generation entrepreneurs who founded apnaloan.com is Parag Patankar, chief information officer and director, Insurance. An IIM Ahmedabad alumnus and an engineer from IIT Kanpur, he spent two years at the Project Finance Division of ICICI Ltd before moving to Corporate Banking in ICICI Bank where he spent three-and-a-half years in various capacities. We decided to find out from him what it's like to use StarOffice and MS Office in tandem.

It's All About The Money...

Apnaloan.com started in 2000 with the traditional MS-based Office Productivity environment. It was not until 2003 that they started looking at alternatives, mainly from a cost perspective. The licensing cost for MS Office is around Rs 8,000 per license for the Small Business Edition, while the Professional Edition retails at around Rs 12,000. In contrast, StarOffice 7 retails

Illustration: Shyam Shrivastava



for \$60 (approximately Rs 2,700) per license when purchased in a 25-user pack for SMEs.

Before implementing it on a large scale, Apnaloan.com evaluated both StarOffice and Open Office—and decided to introduce StarOffice in the organisation in late 2003. It's been a year already, and Apnaloan.com now uses a combination of both.

But the question is, why use MS Office at all if you are migrating to StarOffice? Patankar answers that even if Apnaloan.com uses StarOffice, many of its customers, business partners and associates continue to use MS Office. There are still some compatibility issues with opening and importing MS Office documents in StarOffice and vice-versa. Hence, there is a need to maintain MS Office for external communication. Also, when the transition from MS Office to StarOffice was done, Apnaloan.com already had licenses for MS Office, and it made sense to continue to use the existing licenses and only add StarOffice incrementally.

Resistance To Change

If one were to consider pure functionality, StarOffice is similar to MS Office, give or take a few features. However, when looking at deployment, Apnaloan.com had to consider several issues.

First, a significant re-training effort was required—even though the overall functionality is similar, the user interfaces and the way menus and functions are used is different in StarOffice. More than the re-training, overcoming user resistance to change was a stumbling block. People were used to working with MS Office and it was difficult to make them abandon the comfort level they enjoyed.

“Almost all training was done on-site. We subsequently set up a small StarOffice migration-cum-support team in-house, whose members developed more expertise through self-study and by resolving user issues through research. This was documented and used in subsequent training. The focus was on identifying the issues faced by users during the transition and providing solutions to these problems,” informs Patankar.



There has been a saving in licensing costs that outweighs the incremental cost in training or re-training

Parag Patankar
CIO and director,
Insurance,
Apnaloan.com

Apnaloan.com now stores its information in both formats. Moreover, since many of its customers, vendors and business partners continue to work with MS Office, the challenge was to internally work on a new environment, but make it seamless with respect to external communications. Naturally, this took some time to stabilise.

Compatibility Issues

“When migrating from one environment to another, compatibility issues are to be expected,” says Patankar. While StarOffice allows one to save files in MS formats, retrieval of those files within the MS Office environment, at times, results in changes in templates, text and graphics. Also, when a file stored in MS Office is opened in the StarOffice environment through the ‘Import’ option, there were issues, particularly with Excel Sheets containing Pivot Tables, Macros and Graphs and with PowerPoint files containing embedded worksheets or graphics. Some of these issues are as yet unresolved, although there is a clearer understanding of the problems.

So how comfortable are users with StarOffice now? “Users who have started using StarOffice from day one have no issues. However, people who have shifted from MS Office to StarOffice sometimes feel that MS Office is easier for certain functions, though, they have now adapted to StarOffice,” says Patankar.

He adds, “Apart from productivity software, e-mail is a way of life in organisations and people are comfortable with the MS Outlook e-mail client since some features in it are not yet available with third-party mail clients. One can use Netscape or Mozilla with StarOffice but there are limitations with these clients. For instance, options such as ‘Calendar’ or ‘Scheduling’ are not available with Netscape and those who are used to these have taken it for granted and find it difficult to adjust without them.

“Such issues need to be resolved before alternatives to MS Office can become really popular. I also expect organisations to start evaluating Linux-based Office productivity applications as they become more mature,” Patankar states.

So Should You, Or Shouldn't You?

So would Patankar recommend StarOffice to other, similar organisations? “They should certainly use it for people who primarily need to work on documents. However, for heavy users of presentations and/or spreadsheets, there is a fair amount of re-training that will be required and organisations should factor that cost into the Total Cost of Ownership (TCO) computation,” says Patankar.

At the end of the day, though, Patankar feels that there has certainly been some cost saving. “There has been a saving in licensing costs that outweighs the incremental cost in training or re-training. Also, the benefits will further increase as the knowledge base has grown sufficiently, and the incremental training effort and cost would be lower as compared to the initial cost.” ■

ram_mohan@thinkdigit.com

The Switchover



Understanding the differences between StarOffice software and Microsoft Office will help you anticipate the key challenges involved and determine the best migration option for existing documents, templates and business applications. Depending on the complexity and value of existing files or custom solutions, the options range from archiving to converting to re-engineering source code.

The main steps of the process are:

- ❑ MS Office documents and templates must be converted to the StarOffice software file format.
- ❑ Existing scripting and custom solutions must be migrated.
- ❑ Current business rules and processes may have to be adjusted to take full advantage of StarOffice 7 Office Suite features.
- ❑ In addition, key architectural differences between these two application suites can affect the way they process and store information and data. However, because the suites also share many similarities, it is possible to make the switchover nearly transparent to most users.

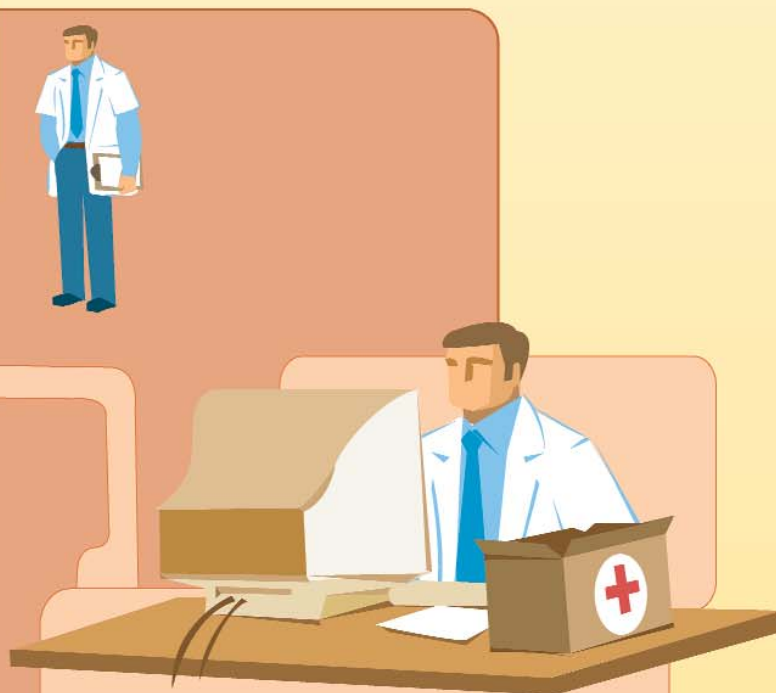
Extracted from the whitepaper entitled ‘Migrating to StarOffice Software from Microsoft Office’, available at www.sun.com/software/whitepapers/staroffice/SO7Migration_wp.pdf

How To Manage Your Inventory

Every business needs to have a customised Inventory Management software in place. A bold statement, but one backed by hard fact. As an example, we look at how a chemist can benefit from it, in terms of both time saved and the hassle avoided

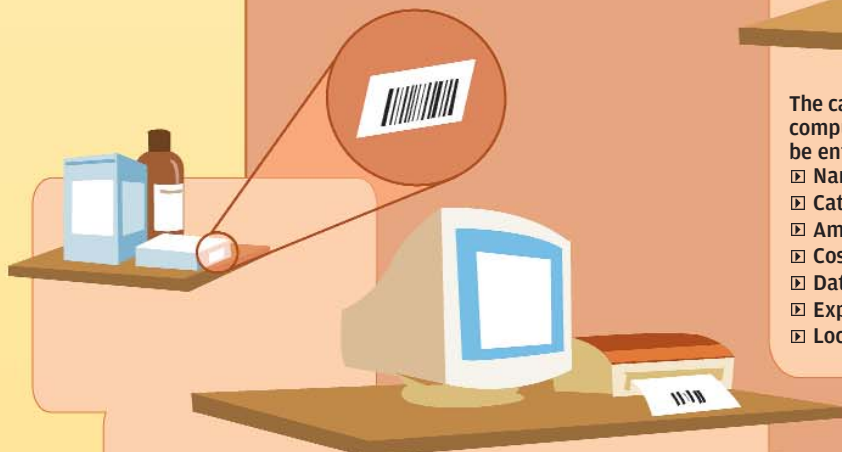


In order to switch over from manual inventory management to software-based management, the first step is to list and catalogue all supplies. From there onwards, you only need to catalogue and sort when new supplies arrive.




The cataloguing process is just a matter of entering data into a computer. In this example—the chemist's store—the fields to be entered may be:


- ☑ Name of medicine
- ☑ Category of medicine (e.g. Cough Syrup)
- ☑ Amount currently in stock
- ☑ Cost per strip / bottle
- ☑ Date of manufacture
- ☑ Expiry date
- ☑ Location of storage




All the details you entered for each item are encoded into a unique bar code, which the computer will print out using a bar code printer. All you have to do is stick these bar codes on each medicine box / bottle.




A customer hands you a doctor's prescription. All you need to do is punch in the medicine name into your computer.




The computer informs you of the following:
Whether you have the medicine in stock
How much you currently have in stock
When the medicine expires
Where in storage is it located




All you need to do is finalise a sale and the computer prints out an itemised bill with the name of the medicine, amount purchased, cost per strip / bottle, and the total cost




Once you have gathered all the medicines that the customer was prescribed, you just use a bar code scanner to read the bar code and finalise the sale. Totalling is done automatically, and the software automatically reduces the inventory by the amount of goods sold



The inventory management software helps you keep a track of what you have sold and what you have bought. It will give you an overview of your sales figures in a snap.



The software also helps you develop a balance between supply and demand. It keeps a track of what sells more and what doesn't sell at all, in order to ensure that you never have an excess of one product or too little of another. It can also warn you when a batch of goods is nearing expiry, so you can order fresh supplies in time.



You can also keep tabs on your suppliers, comparing cost versus efficiency per supplier



The Money Managers

As VAT looms large, small and medium business need to gear up for the new tax regime. Is your financial accounting software up to speed?

Renuka Rane

Courtesy the ubiquitous business accounting software, the thick, dusty ledger is no longer a part of the modern office. One need not be a geek to be able to handle Financial Accounting (FA) software. Numerous user-friendly versions sell like hotcakes while upgrades and enhancements act as the proverbial icing.

As per the universal rule of the double entry system of bookkeeping, each debit should have an equal and corresponding credit. FA software

ensures this while eliminating calculation mistakes and reduces the probability of human error as opposed to the manual accounting system. Moreover, FA software reduces paperwork even further, as reminder letters, invoices, statements of accounts and other documents can be e-mailed, thus saving time and postage. Popular FA software has forsaken the outdated MS DOS environment for a complete Windows-based accounting system.

FA Software For SMBs

FA software is more comprehensive and differs from software that can be used only for specific purposes such as taxation or payroll. Accounting software needs vary, from those of individuals to those of large, corporate enterprises. We talk here about FA software intended for small and medium businesses (SMBs).

Make Way For VAT

It's an eventful time for SMBs, with the financial year-end looming, coupled with the implementation of the long overdue Value Added Tax (VAT) from April 1, 2005. A form of sales tax paid on products and services at each stage of distribution, based on the value added at that stage, VAT will figure in the ultimate cost to the consumer. An indirect tax, the VAT regime aims to increase tax compliance and will spare no one. What implications will the introduction of VAT have on accounting procedures?

Prakash Surte, a lawyer and a tax consultant, offers, "As with the enactment of any taxation act, VAT may lead to a disgruntled general public. Nevertheless, it is a good move as all the earlier sales tax acts will be repealed and VAT will take their place. Originally meant to be a uniform rate, the VAT will vary as per commodity and state. Remember, VAT falls under the purview of the State and not that of the Central Government. Once VAT is implemented, the maintenance of accounts will change to an extent, since the sales tax-related provisions and incidence of taxation will have to be calculated differently."

The majority of the FA software in the Indian market is home-grown. Tally, EQA, Accounts 21, Wings Accounting and S'Tax are popular packages. *Digit* spoke to vendors of FA software and to end users to get a snapshot of what's in and what's not for SMBs.



EQA

Expert Quick Accounting, or EQA (www.compubrain.net), is equipped to handle manufacturing, trading, excise, point of sales, sales tax and warehouse management, and VAT, too. EQA was made VAT-compliant last year, taking into account the reports, returns and forms that would have to be filed state-wise. Vikas Chitlangia, MD, Compubrain India Limited, developers and marketers of EQA, says, "EQA is customisable. The user can tweak it and set the 'master' as per his requirements. The proprietary database is in .eqa form and is compatible with other software. The 'report designer' feature enables preparation of invoice and

Ask For These in FA software

- ❑ Client information
- ❑ Receivables and payables
- ❑ TDSVAT (April 2005 onwards)
- ❑ Salary payouts
- ❑ Sales and purchases
- ❑ Order management
- ❑ Inventory management (for trading firms)
- ❑ Customisability report and invoice generation
- ❑ Budgeting production
- ❑ Incorporation of items subject to different tax rates in one bill
- ❑ Technical support and after sales service

delivery *challans*, reminder services, monthly, quarterly and annual reports. If changes occur in the format of the returns, we provide free upgrades to existing users for one year.”

According to Akshay Kurwa, Partner, Kurwa Rubber and Valves, Mumbai, “The rigidity that is otherwise observed in other FA packages is absent in EQA, which is very easy to operate. However, some features that I needed are yet to be incorporated. Since, we receive good after-sales support and regular upgrades, I am sure this issue will also be resolved.” However, Manish Purohit, operations manger, Creadent Solutions, Rajasthan, has not been so fortunate. “Although EQA is a useful product and is packed with features, after-sales service needs to be improved. I am still waiting for the features the vendor promised.”



Tally

Tally (www.tallysolutions.com) is hugely popular due to its speed, simplicity, power and flexibility. Incidentally, Tally was the first FA software to introduce the no-codes concept i.e., it accepts alphanumeric characters for accounts and inventory masters. Satish T, advisor, Tally Solutions, says, “The Tally Audit feature allows the finance manager to check the time, date and accuracy of entries. This way, malpractices can be detected and errors rectified. Tally is VAT-compliant. It is running successfully in Europe, the middle east and south-east Asia, where VAT is the norm. Implementing the same in India is not an issue.”

Tally is popular for its speed, simplicity and flexibility



In case changes occur in the format of the returns, we provide free upgrades to existing users for one year.

Vikas Chitlangia,
MD, Compubrain India
Limited (for EQA)

Various add-on features and upgrades can be downloaded from the Tally Web site. For the financial year 2005-06, Tally plans to upload VAT, e-TDS, TCS, service tax, payroll, mobile device support, multi-lingual software, portfolio management and e-banking.

Tally ees 6.3 enables exchange of information with non-Tally systems using XML, the industry standard for data interchange. It enables the user to share data across locations—with extended enterprises (“ees” stands for Extended Enterprise System) including customers, bankers, business partners and other associates. The protocol support for Tally is customised to business-specific needs and integration with SAP, Oracle and other external software is possible.

Vinod Nair, Navi Mumbai based chartered accountant has been using Tally for the last six years. “I experimented with other FA software before I settled for Tally. Tally supports good browsing speeds. The hundreds of reports that are generated daily can be easily exported to MS Excel. Unlike other custom-made accounting software that could be easily tampered with, Tally has rigid security control. Of course, for human errors such as mistakes made by accountants, only the audit trail can reveal discrepancies.”



EX Personal Accountant

A product from the Tata stable, EX PA (www.myexonline.com) was created specifically for growing businesses. EX PA is enhanced by the latest technology and an extremely easy-to-use user interface. It is equipped with readymade templates to suit specific business lines. The ‘Smart Folder’ concept allows tracking of items/customers/suppliers and related information with a drill-down facility. EX PA has over 70 reports specifically designed to meet statutory and MIS needs. It helps perform ad hoc queries on data that make it ideal for auditing. Mr Natraj, marketing manager, TCS (Bangalore), says, “EX Personal Accountant is a user-friendly FA package and is compatible with SQL and Excel. Once the VAT formats are ready, we will upgrade the current version.”



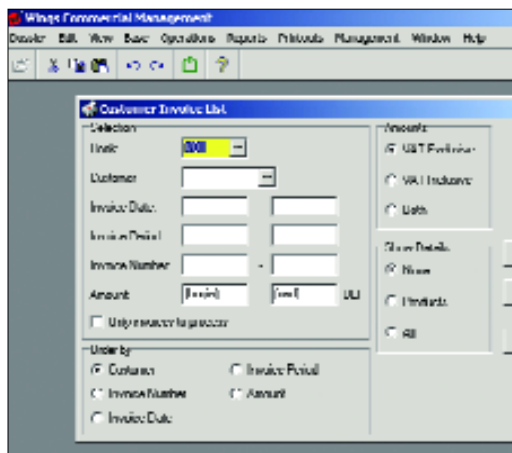
Wings Accounting

Wings Accounting (www.wings.be) was the winner in *Digit's* review of FA software in the country in July 2004. Wings Accounting offers several tools to help businesses automate their finance and accounting functions comprehensively; it can work in any world language and is also VAT-ready. It helps account for VAT payable,



Price List

Accounting Software	Price (Rs)
EQA	3,000
Wings	5,000 onward
S'Tax	10,000
Account 21	4,950 onward
Tally ees 6.3	4,500



Wings Accounting provides total VAT compatibility

input credit and accounting. It generates all information to help prepare and file returns for VAT. Existing users can easily upgrade to Wings Accounting that is VAT inclusive. Wings Accounting will generate VAT returns directly once the formats are finalised. Wings has special features for NGOs and the apparel and footwear industries. Multi-layered security, report writer, forms and invoice designer, multi-locational accounting, confidential accounting etc. come with Wings Accounting.

Sutinder Singh, director, PCH Marketing, Hyderabad, says, "We have been using Wings Accounting for the last 20 years, starting with the DOS version. Reports can be printed in any format. Wings is web-enabled and can handle large quantities of data. When the Windows version of Wings was introduced, we were apprehensive and switched to Tally for six months. We had to revert to Wings, which is an excellent FA package for SMBs."



Account21

Anyone familiar with the basic accounting system can work comfortably with Account21

Unlike other custom-made accounting software that could be easily tampered with, Tally has rigid security control

Vinod Nair,
Chartered Accountant,
Navi Mumbai

(www.topsyssolutions.com), a Windows-based application. Balagopal Karat of Topsis Solutions, developers and marketers for Account21, says, "It handles billing and inventory control and users can define the format. Certain reports can be e-mailed directly. Account21 has an open interface and data can be imported or exported to and from Excel and CSV." Users can purchase Account21 versions as per the functions of each product—invoicing coupled with multi-currency and/or inventory (for trading/manufacturing).

Vidhya Dhandapani, Accountant, Kropex India Ltd, Bangalore, says, "Account21 is user-friendly with diversification for inventory control. For instance, we deal in 6,000-odd items subject to different rates of taxation. This results in numerous calculations that are now easy to handle thanks to Account 21. It is also VAT-ready, we will just enable that feature once VAT is implemented."



S'Tax

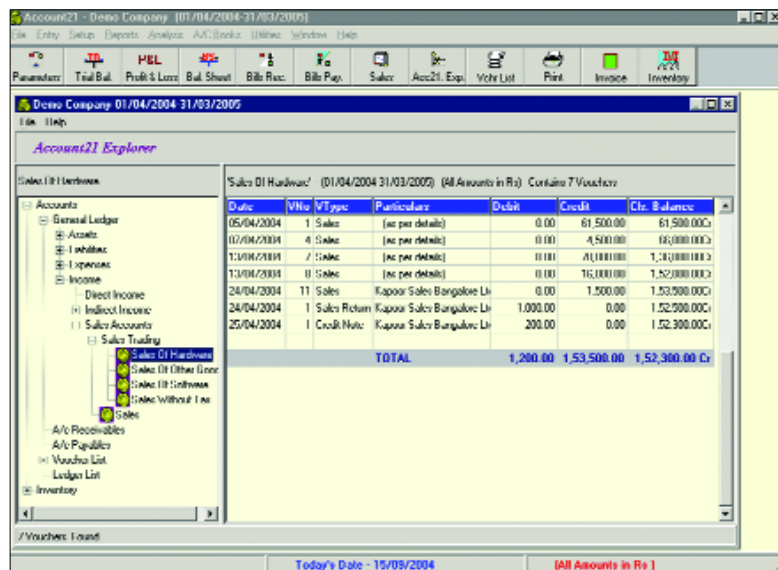
S'Tax (www.sinewave.co.in) is an accounting software used for filing Central Sales Tax (CST) and Maharashtra Sales Tax (MST) monthly, quarterly or annually, depending on the assessee. Priced at Rs 10,000, it includes the various forms required for sales tax payment and offers a standard facility to import data from other software. S'Tax is a product of Sinewave Computer Services Pvt Ltd. Anil Moolani, Director, Sinewave, says, "In a month's time, S'Tax will be equipped with the facility to calculate VAT. Present users of S'Tax can get upgrades that contain VAT modifications, either online or through the CDs we dispatch."

K K Gada, a CA in Mumbai, has been using S'Tax for the last five years. Gada states, "S'Tax efficiently calculates sales tax liability, files returns in the prescribed format, prints challans for tax payment, and so on. S'Tax has made client management easier. Once the modalities of VAT become clear, we will just have to incorporate VAT in some aspects of the accounting procedures (where the amount is to be set off). Other basic accounting principles would remain unaffected. We keep receiving upgrades from Sinewave for S'Tax, Tax Base and even Service Tax. We will simply have to get the upgrade for VAT."

The Last Word

Download a fully-functional demo version of the FA software from the vendor's Web site, or get it totally free on request. This allows you to test the functionality before buying. Steer clear of pirated versions that may contain viruses or have inadequate documentation. Also, users of pirated software are ineligible for technical support and upgrades. While upgrades are not an issue, after-sales service could be a sore point in some cases. However, registered users can obtain online technical help from the call centre of the vendor. The verdict: SMB users of FA software seem to be a contented lot, albeit after some experimentation. ☐

renuka_rane@thinkdigit.com



Account 21 is easy to use and has a diversification for inventory control

Tech-furnishing your office

You want to tech-enable your office, and don't want to waste money on unnecessary expenditure. Here's a primer to get you going on the right track

Aditya Kuber

The agricultural age was based on ploughs and the animals that pulled them; the industrial age, on engines and the fuels that fed them. The information age we are now creating will be based on computers and the networks that interconnect them.

Folks at Sun Microsystems can now say, "We told you so", and everyone would have to agree. Their famous punch line "The network is the computer" is slowly coming true with the workplace undergoing a major upheaval since the early days of the computer. But merely having a computer and a printer connected on a network are not enough to say that your office is IT-enabled.

With today's technologies, the use of various devices in tandem can help you get the most for your business.

According to researchers at IBM, nearly 70 per cent of all work is collaborative in nature and only 30 per cent is done individually. Why, then, are most offices still made up of individual desks?

Most offices would do well to optimise the way employees work by refurbishing the work-

place to suit today's technological needs. This could, in fact, even help save some money in the bargain. Let's look at the various parts of an office that could be truly 'IT-enabled'.

The Cubicle

Cubicles today are typical—they have a computer, a telephone, sometimes a printer, almost never a scanner and a soft board. Space for the person working in the cubicle is at a premium, and he or she has to manage space and devices efficiently. While a printer is a necessity, a scanner might not be required as frequently.

However, arming every cubicle with a printer could cost the company much more, apart from cramping up the cubicle.

The solution here is simple.

Space could be freed up in a cubicle by strategically placing a multifunctional device (MFD) so that four or more workers in a particular bay could use it. This would also reduce hardware costs in terms of peripherals and maintenance.

Space in the cubicle could be further enhanced by replacing the existing CRT monitor with an LCD one. These certainly take up less space, and although they cost more that would be recovered from the power savings they offer.

Today's executives are tech-savvy and would surely appreciate the extra space made available to them. They have enough devices they would want to either sync with the computer or simply have at hand at work.

Some devices that are now commonplace with today's on-the-go executives include a PDA, a cell phone, digital camera, pen drives and more. The computer in his or her cubicle should have at least two USB slots to accommodate two of the above devices at a time.

There are enough executives who would like to sync their PDA with their computer and cell phone, and add digital images in a presentation saved on the pen drive!

But is this a practical way of working? Sandeep Mehrotra, sales manager, Adobe Systems India, says, "I think offices that incorporate technology in a big way will not only reap benefits in terms of saving costs but also see a great deal of increase in productivity. Technology will be an enabler in making the office an enjoyable and comfortable environment."

V Krishnan, general manager, consumer sales, imaging and printing, HP India, agrees: "A tech-intensive office will definitely involve a

fair amount of initial investment and hence, the start-up operation will be more expensive than the conventional non-tech office. But, a well-designed and well-linked office will be able to pay for its investment within a short period," he says.

The Conference Room

What can easily be called the great coliseum in an organisation, the conference room is one of the most important areas. Given today's pressures and tech-readiness most employees have, the room should not need to be "prepared" before each meeting.

Some of the most important aspects of a conference room are the projector, projector screen, a computer for playing presentations, a phone with conferencing facility and a video-conferencing facility.

The layout of the conference room must be conference-friendly and the computer should ideally possess the following: a DVD combo drive, USB ports, memory card slots and a lot of RAM so that the presentations don't drag around. Remember, this is also the room where you would possibly be making an impression on the client. So let 'er rip!

A good projector is a long-term investment. But having the right one to suit your needs and your conference room is a major task. While the range of projectors available is vast, you need to make sure you get just the right one for your office. (Refer the January 2005 issue of *Digit* for more on projectors)

Videoconferencing is gaining in popularity, and if you could "meet" with the client without having to leave your office, what a way to save time and money!

Says Yugal Sharma, country manager, Polycom India, a video conferencing major: "Video conferencing boosts productivity—there are no two ways about it. Executives globally, and even in India, have reported benefits thanks to faster decision-making, improved employee morale, improved access to the best talent, reduced time to market, better customer responsiveness, more efficient work practices, fewer concerns about travel problems, and a greater focus on results overall. And, of course, measurable costs like travel and accommodation are reduced."

The Boss' Room

Contrary to what you might think, bosses do have a lot of work, and therefore, require all the space and gadgets they normally have in their rooms! An ideal room for a boss would be a hi-tech, efficient place where things happen at the touch of a button.

As boss, you probably carry a range of gadgets, and with good reason. Your laptop, cell phone, PDA, pen drive, and a whole lot of data spread across these devices is your lifeline.

You also need to attend a lot of meetings and keep track of a variety of other intra-office activities and events including birthdays, anniversaries, appraisals and more. How does one person accomplish all this on time? Synchronising data on various devices is one way



A tech intensive office will definitely involve a fair amount of initial investment... But a well-linked and well-designed office will pay back the investment in a short span of time

V Krishnan

General Manager -
Consumer Sales, Imaging
and Printing, HP India

of ensuring you never forget. At any given point, at least one of the devices would be with you. So even if your PDA is in your bag, the cell phone would remind you of a meeting or a birthday. This job could also be carried out by the secretary and you need not worry about missing another appointment.

In fact, if your PDA is e-mail compliant and can support MS Word, Excel and PowerPoint files, you need not worry about not having a file during a meeting.

You could ask your secretary to e-mail it to you. You could then download it using either Bluetooth or Infrared, and you're good to go!

Tomorrow's Office

While these setups are possibly enough in today's scenario, imagine having an office where anyone could sit in any cubicle without having to worry about any kind of setup.

Given that all cubicles are identical in size and have the same hardware, employees could simply choose the cubicle closest to their team with every change and their data, e-mail and extension would follow automatically. How?

Your identity card would be the most important tool at work. With every cubicle being identical, there would be a swipe facility outside the cubicle. Simply swiping your ID card would mean that the computer in that cubicle would open your e-mail account and personal settings and the Internet phone in the cubicle would simply assume your extension.

This process repeats every time you change your cubicle. With all your data on the network and safely encrypted, the only thing you need to carry around is your coffee mug!

All this sounds good but isn't it a little fancy? "A number of functions in today's situations can only be performed using intelligent devices and hence, technology and gadgets can only help augment the mental capability of an individual and help perform his/her tasks far more efficiently," says Krishnan. ☐

aditya_kuber@thinkdigit.com





Virendra Vishnu
Manager, Corporate IT
Operations, AVL India
Software Pvt Ltd

“We work mainly on Windows NT and 2000 operating systems. We plan to shift to Windows 2000 completely, but not as of now. We have around 100 people in the organisation and only about 25 per cent of them use computers. We use MS Outlook and MS Office, and most of our work is done on word processors. We use McAfee Antivirus that is updated daily. If we are to upgrade the OS, it would be based on our requirements. We will look at the best software for upgrading. If the business demands it, it will be done, otherwise we simply cannot splurge, as upgradation involves additional expenditure for training, hardware and others—all incidental.”



WHEN WILL

Businesses, more often than not, take a long time to switch over to newer versions of software. Five industry experts tell us why they don't upgrade fast



Amay Choudhary
Corporate IT Manager

“We work on the Microsoft platform. The OS comprise Windows 95, 98 and XP. We use McAfee Antivirus that is periodically updated. While it is not possible for all systems in the office to be updated regularly, all are at par within a month's time. Our office work is spread across 70 locations with nearly 300 machines on the network. Maintenance is mostly done in-house and only maintenance for hardware is outsourced. Our MS Office usage is largely restricted to MS Word and MS Excel. Only if there is an absolute need for our business, will we upgrade the software. At present, the work doesn't demand it. Besides, when we upgrade our software, we will invariably have to upgrade 40 per cent of our existing hardware as it will not support the new software.

“We have introduced Citrix for remote computing and management to save costs. We may not upgrade every system in the office, as some software that works best on 98 may not do so on XP. The decision to upgrade will depend on various factors. More importantly, will there be an increase in productivity after upgradation? If the reports promise an upswing in productivity then it makes sense to upgrade. There must be logic to support the change.”



Jiten Gandhi

Hemang Desai
Proprietor, IND Advertising

“Most of our work is done in the Microsoft environment. We are currently using Windows 98 and Windows XP. Norton AntiVirus helps keep the systems safe and it is updated weekly. Our network comprises 13 users, so it's not very complex. We have outsourced maintenance to a team of service engineers who also help us make upgrade decisions. They know our systems thoroughly and can recommend what is required. Majority of our in-house designers use tools such as Corel and Photoshop. Currently, we have deployed Outlook Express on all systems. We may opt for an upgrade, provided it helps improve the speed and efficiency of our employees, more so, when we are handling multiple projects and have to cater to our customers' demands. In our line of work, the customer is very important and it is imperative to meet deadlines. We will upgrade only if there is a requirement for the new software and it is cost effective. If the new software helps us deliver better, will it make sense.”

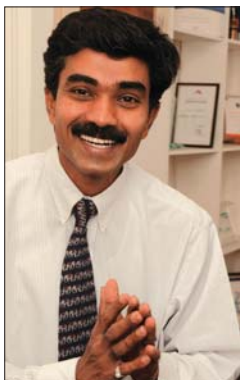
YOU UPGRADE?



Jiten Gandhi

Hari Vishwanathan
IT Head, Bhatia Hospital

“We use the Windows NT and 2003 Server in the hospital. There are 100-plus machines on the network and their maintenance is done in-house. I am aware that the support for NT has been withdrawn by Microsoft. Nevertheless, I am confident that my in-house team is well-equipped to handle any problems. As far as I know, the systems on NT are not exposed to any security risks. They are mainly on the Intranet and hence, not as vulnerable. We use Norton AntiVirus and upgrade it as and when new definitions are available. We use only licensed copies of software and there are no pirated versions. We don't mind getting newer versions of software provided there is a demand for it. Training the staff on new versions is not an issue. We will focus on improvement in efficiency and productivity following the introduction of anything new.”



Meey Xavier

Gopal Patkar
Sales Manager, Business
Link Automation India Ltd

“We have offices across six metros, mainly used by our technical experts who provide technical support for HP, IBM, and so on. At our office, we have a network of nearly 125 computers. While we work on Microsoft and Linux platforms, we use the former more than the latter. We use Windows 2000 and 2003 Server on our systems. We use Norton Symantec that is updated on a weekly basis. MS Outlook is used for e-mails. Whenever any upgradation has to be done, the first thing we will take into account is user convenience. As far as possible, we would like to avoid down time. Other factors that are equally important include costs of training, support and hardware. All this has to be carefully planned. At the same time, we allocate a budget every year for training and upgradation. We will upgrade only if it is followed by an increase in productivity. An increase in productivity can be achieved only if there is improvement in user efficiency and the end result of all this should be increase in revenue.”

E-mail: preethi_chamikutty@thinkdigit.com

Online Advertising v/s Offline Advertising

With online advertising emerging fast, we find out if it is better than offline

In online advertising, we can clearly set our target audience

Shaadi.com is a matrimonial services provider, which started operations in 1997. The company created has successfully created a new industry—online matchmaking. Today, we have over two million members and record over 200 million page views per month. We are present online and invest considerably in online advertising.

“Online advertising is important to us since we are an online entity and the products and services that we offer are all available online. At present, we advertise offline in local trains, TV channels and other mediums. It is difficult to say how much we spend on each medium but it does amount to a few crores.

“In online advertising, we can clearly set our target audience as we know their interests, age and gender. This is not



Vibhas Mehta,
Group Partners Relation
Manager, Shaadi.com

All the four P's of marketing— product, price, placement and promotion—can be implemented online, which is not possible offline

possible in offline advertising as we do not know who exactly we would be catering to. A mixture of online and offline advertising is necessary, which is enabled by technology.

“In online advertising, we can be sure that the user has a need and there is the option of offering him exactly what he wants. Online, we can customise what we offer to the shopper. Just a few basic questions to understand his needs and we can offer him a deal accordingly. Moreover, the online method is measurable. We can know where the customer learnt about us. For online customers, more information is just a click away. They can go to a specific option, click on it and get additional data. Even when we offer something to the customer online, we can ask him some details such as his interests and spending limit and then offer a product.

“We cannot afford to ignore offline advertising totally though, because the older age group of the population who try and fix alliances still prefer to scan matrimonial ads in newspapers—and this is quite a large number. Besides, there are a few drawbacks with online advertising, the major one being inadequate penetration of the Internet. Internet usage in villages is much lesser than in metros, which makes it difficult to reach that segment. Bandwidth problems in India make matters worse. We use Flash and interactive media in our online ads that are data-heavy and may not load properly if the bandwidth is not supportive.”

The advantages of offline advertising lie in the placement of ads

Creative has been in the Indian market for the past 16 years. Initially, we produced only sound cards but today, we have a wide range of products from sound cards to multimedia kits, CD-ROMs, speakers and even MP3 players. Creative be credited for converting the PC from a calculating device to an entertainment unit.

“Strategically, we do not allocate any budget for online or offline advertising. However, we advertise offline in a major way as we have been getting good results from it. We advertise in IT magazines and to a certain extent, in lifestyle magazines. It wouldn't be useful for us to advertise in glamour magazines as their readers are not our target audience.

“I think combining offline and online advertising

I feel innovation is required in offline advertising. It is very essential to educate the reader about the product and the more ways you do that, the better



Rajshekhar Bhatt
Sales and Marketing Manager
(India), Creative Technologies

would provide the desired results as we would be able to reach out to a wider group. In India, people still use dial-up connections to access the Internet and more so for checking e-mails. If online advertisements are data-heavy, it may be a problem to view them.

“The advantages of offline advertising lie in the placement of the ads. If an ad is placed in an IT magazine, you can be sure that it will reach your desired audience. If you advertise in a particular magazine regularly and there is a set pattern or way of presenting your ads, you can be sure that the customer would definitely notice the ad whenever he flips through the magazine.

“The drawback in offline advertising is that if the customer have missed your ad in the newspaper today, he has probably missed it forever. Besides, if he were to see an ad with some offer for a particular time period, he would not be eligible for it at a later date. Hence, the impact of the ad is lost.

“Also, once printed, the ad cannot be changed. If you want a different ad to appear, it means an additional expenditure. On the other hand, if you have a 30-day contract with a portal, you have an option of changing ads every 10 days at no extra cost.”

As told to Preethi Chamikutty (preethi_chamikutty@thinkdigit.com)



143 Impress Your Valentine



146 Prince Of Persia



164 Minister Sharon Stone

Digital Leisure

Technology Beyond Work

Touched By Tech

The Ocean Rises

How technology lent a helping hand to relief operations in mainland India, Sri Lanka, Thailand, Indonesia and the Andamans

"The sea—this truth must be confessed—has no generosity. No display of manly qualities—courage, hardihood, endurance, faithfulness—has ever been known to touch its irresponsible consciousness of power."

—Joseph Conrad

Meera Vankipuram

It was almost as if the ocean had decided to make itself heard against the incessant abuse it had been facing for centuries. In one of the worst natural disasters ever, the tsunami that originated near Indonesia and went on to ravage almost 10 countries in south-east Asia, the ocean let us know its might. Any or relief effort thereafter seemed inadequate when

compared with the might of the catastrophe. Amidst all the chaos, even the marvel that is technology could not come to the rescue.

In hindsight, though, a significant number of the casualties could have been avoided had India availed membership of the Tsunami Warning System (TWS) in the Pacific. The TWS monitors seismological and tidal activity in the Pacific Basin and disseminates earthquake and tsunami warning information to its 26 member states within a matter of hours in case of an impending disaster.

Reports now indicate that even without the warning system, India had at least 40 minutes after the

first waves hit the Andaman Islands to send out warning signals to coastal areas.

When disaster struck Indian shores, conventional communication systems were the first casualties. In the face of adversity of mammoth proportions, technology came to the rescue not only in mainland India, but also in Sri Lanka, the Andaman and Nicobar islands, Thailand and Indonesia.

The Web Of Hope

As the water rose, mobile and land-line networks capitulated. Phone calls were not possible. Strangely, though, SMS worked. Those who were not washed away by the waves were able to reach relatives only via SMSes. Bloggers

Photograph DigitalGlobe
Imaging Atul Deshmukh



“The Blog Response Overwhelmed Us”

A tête-à-tête with Peter Griffin, a media consultant based in Mumbai who helped set up the Tsunami relief blog



Photograph Rajeev Tyagi

Blog buddies Peter Griffin, Rohit Gupta, Dina Mehta (from India), Bala Pitchandi, Megha Murthy (USA) and Paola Di Saio (Thailand) set up the South-East Asia Earthquake And Tsunami (SEA-EAT) Blog—www.tsunamihelp.blogspot.com. *Digit* spoke with Peter Griffin on how the blog aided relief and rescue efforts.

How did the world get to know about SEA-EAT?

A day after the tsunami struck south-east

Asia, Rohit and I decided to set up a collaborative blog that would try to link people who wanted to help with those that needed help. Fortunately, we had great media support right from the start. Popular sites like Boing Boing, Smart Mobs, InstaPundit and Rediff wrote about SEA-EAT. So far we have received nearly 400 e-mails from people offering or seeking help.

How did you deal with the information overload?

As the team grew, suddenly there was way too much information on the blog. Since Blogger didn't support 'sub-blogs', we installed a Wiki to sort the info and make the site easily navigable.

Our News Wiki team received a lot of 'this is not journalism' flak, though. Someone then purchased the URL (tsunamihelp.info), someone else donated server space. We were using a

free search tool (Pico), which could search up to 250 posts; but later someone 'donated' us a paid search tool.

SEA EAT also seems to have inspired 'cyber-volunteerism'.

The blog had to be updated round-the-clock. When someone in India went to sleep, someone in New Jersey would take over; when that person hit the sack, someone in California or Thailand would take over. People were blogging from home and office; some offered to redesign the blog in between hectic work schedules.

Blogger would have nearly shut us down if a chance contact in Google hadn't provided us unlimited bandwidth!

People also offered us mirror sites. An IT company, ironically named Tsunami Software (<http://www.tsusoft.com/>), even posted a link to SEA-EAT on their site, at the risk of losing valuable traffic.

worked overtime to broadcast the situation in their countries.

Thai local Paola di Maio, along with netizens in India and the US, set up the South-East Asia Earthquake And Tsunami Blog—www.tsunamihelp.blogspot.com (see box above), which was a reliable source of first-hand information on the devastation wrecked by the tsunami. This and other community blogs have helped people search for their loved ones.

Relief efforts that needed massive coordination of resources and manpower received an impetus from online information hubs set up by Google (www.google.com/Tsunami_relief.html), the popular Web directory BoingBoing (www.boingboing.net) and photo-blogs and news feeds (www.2bangkok.com/quakes.shtml).

Voluntary sector and media organisations in India and abroad also put up several online notices for donations. The task of searching for missing relatives and fund raising is being coordinated by BBC News online (http://news.bbc.co.uk/1/hi/talking_point), UNICEF (www.unicefusa.org/Tsunami), CNN.com (www.cnn.com/2004/WORLD/asiapcf/12/28/Tsunami).



Photograph Meey Xavier

A post about a group of orphaned children in Thailand received responses from nearly 40 people who wanted to help

Dina Mehta
Media Consultant

aidsites), Amazon.com, *The Hindu* online (<http://pay.hindu.com/thrfpay/thrfpay.jsp>) and NDTV.com.

Radio To The Rescue

The unassuming transistor radio proved to be a life-saver for locals in the Andaman and Nicobar islands and Nagapattinam district in Tamil Nadu, two of the worst hit places in India, to receive warnings—and later, information from the Government and NGOs.

A group of amateur radio operators ('ham' radio) had embarked on an expedition to the Andamans. Gopal Madhavan of the governing council of the Amateur Radio Society of India, says, "When the earthquake and tidal waves hit the island, the phone and electricity went off and only the ham network stayed alive." Powered by a 12-volt car battery, the group set up their equipment in Port Blair in about three hours. They had access to nearly 35,000 hams globally.

Ham operators started an emergency network and coordinated relief efforts with the Indian Army and voluntary agencies. Makeshift radio stations were set up in tsunami-hit areas of Tamil Nadu with control stations in Chennai, Bangalore, Kolkata and Delhi. They are now

assisting rescue efforts and trying to find missing persons in the islands and also coordinating with counterparts worldwide.

Rising To The Occasion

Mobile service providers in Sweden and Denmark waived incoming and outgoing call charges from south-east Asia for 48 hours post-tsunami to help survivors reach their families. In Sri Lanka and other nations, phone companies used call patterns to track users and send SMSes—the responses helped trace stranded tourists.

Rudimentary Databases

IT experts from Bangalore, Shriram Raghavan and Sudhakar Chandra, came to the tsunami-hit Cuddalore district, TN, to help relief work but soon realised the lack of a nodal point for co-ordination.

They used MS Excel and created a database of supplies and donors and generated reports. Raghavan states, "We had barely three hours to create the database. We then trained two volunteers and handed the database to the local District Rural Development Agency (DRDA) officials."

Evidently, technology is helping make amends. ☒

meera_vankipuram@thinkdigit.com

Floor Your Valentine With Digital Photography

Five simple, yet great ideas to impress your beloved

Mridu Khullar

It's that time of the year again and as cupid aims for you and your beloved, don't get stuck in the rut of the same old card-and-flowers routine. This year,

surprise your sweetheart with digital pictures you captured on the sly. Whether on a T-shirt with a picture featuring you both or a Shrek-and-princess portrait with your faces, these ideas are sure to floor him/her this Valentine's Day!



My Gurl, An A-list Celebrity!

Has your vivid imagination ever captured how your girlfriend would look in that famous Marilyn Monroe gown-in-the-air shot? Well, give it a rest and bring out the imaging software. Using software tools like Morpheus or Fantamorph, you can easily morph your pictures on to a celebrity's image. With Morpheus, you can even create Shockwave files or movie clips using a series of pictures. If you're already comfortable using Adobe Photoshop, download a variety of plug-ins that let you do the same or even add captions, titles and quotes.

Give A Digital Gift

Make your Valentine a romantic T-shirt with a picture of the two of you inside a heart. She can wear it to a girl's night out and show it off! Even better, do the same on her bag or coffee mug which she can keep at work and think of you every time she sips on her coffee.

How? It's simple! Get a photo printer and a plain T-shirt, preferably white or light-coloured; also buy iron-on t-shirt transfers from your local computer stationery store or the printer manufacturer's website. After you've printed the image onto the T-shirt transfer, cut it out into a heart shape and then you can easily iron it on the tee. Decorate with beads, glitter and other accessories to make it truly special.

You can also print your photographs onto mouse pads and bags, calendars, mugs and any other smooth surface! All that limits you is your creativity.



Illustrations Shyam Shriram



Flick Thru Flip Book

Remember those flip books that you made and loved as a kid? Why not go down memory lane and make the same thing with your digital photographs? All you'll need are a dozen or so pictures that are pretty much the same, with only slight changes. If you aren't able to take such pictures when your boyfriend/girlfriend isn't looking, make the necessary changes using Adobe Photoshop or any another image-editing software. Make sure you include many funny faces or crazy photos that have a gradual progression. Print these images, cut them out and clip or paste them together in order along one edge. Flip through the book and your subject seems to move and even do crazy things. For V-Day, you could use pictures of you both and join them so they come close for a hug or kiss!

Star In A Digital Movie

How about converting those early romances and dating pictures into a movie? Yes, you read that right. A newly-launched service allows you to send in your photographs and have them converted into life-like movies. A movie portraying how the two of you met, fell in love and got together would be the just the thing!

For this, find pictures that depict the various stages in your relationship. Then, log on to DigiSlides.com (www.digi-slides.com) where you can download an order form. Just fill it up and mail it with your pictures on a CD and your own movie (directed by and starring you and your valentine) will be sent on a DVD right to your doorstep.



Change The Settings

That picture of the two of you sitting on that roadside bench is anything but romantic. But it can be made into a cosy twosome! Changing the background of a picture can completely transform its feel and effect. You could also take that picture of her college re-union in which she thinks she looked dreadful and replace it with a better picture. Or just swap the heads of all the people in the photograph! You need to know how to work with 'Layers' for this one, though. Here's how:

Open your picture in Photoshop, starting with Layer 1. Enlarge the picture and cut out the face from it. Next, open the picture from where you'll be taking the replacement face. If you are using the same picture, make sure to save an original copy and use that. With the help of the 'Lasso' tool, select the face and 'feather' it. Paste this on the original picture and resize it. Adjust the colour to give it an even look. To change the background of your picture, you need to follow a similar process, but this time, select the background instead of the face.



Prince Of Persia

Warrior Within

Blade of Darkness meets Sands of Time

Avinash Rai

I personally thought 'Sands of Time' (SOT) was a very good game, blending just the right amount of 'platforming' with action. The chemistry between the two leads (the proud Prince and the lovely Farah) felt just right. Surprisingly, people weren't satisfied with the game (us gamers like to whine!). Since Ubisoft is one of the few companies that actually listen to their fans, they gladly obliged. 'Warrior Within' (WW) is basically a darker and an extremely violent (and frustrating) version of Sands of Time. One that practically bubbles with sexual references (don't even get me started on the outfits).

The story picks up from where SOT left off. After defeating the evil Vazir, the Prince rewinds time to make things right. He saves his father, his kingdom and Farah. Everyone's happy... except Fate: it was the Prince's destiny to die and by avoiding death, he really messed Fate's grand plans. Fate, a stickler for tidiness, sends a manifestation of itself, called the Dahaka, to clean things up. No man wants to die, so you play a Prince on-the-run, devoid of sleep or rest, which explains why he looks like someone killed his pet kitten.

Now With 100 Per Cent More Gore!

The game is tough, and no, it's not only because of the crappy controls (if you want

to really enjoy this game, play it with a joy pad). Right from the tutorial, enemies charge at you by the dozen. Thankfully, disposing them isn't a problem, due to the new 'Free Form Fighting' system. Dual wielding is now in the house, hacking is, thus, twice as fun.

Pick up any weapon dropped by your foe and use it to your advantage (you can even throw weapons at enemies and cut their heads off. How cool is that?) Every action during combat leads to various opportunities. Grapple an enemy and you can (a) cut his head off, (b) cut him in half vertically, (c) cut him in half horizontally, (d) strangle him, (e) throw him at other enemies, (f) thrust your sword in his back, remove it, take his

MASTER OF SWORDS

Awesome combat system
Stunning level design
Good soundtrack (if you like metal)
Fast loading times

MASTER OF PAIN

Repetitive at times
Too many monotonous boss fights
Bad camera angles

sword while he writhes in pain and cut his head off using both the swords, à la Gladiator.

The combat in this game is sweet, and will definitely bring out the sadist in you (it did for me). Mastering it may take you time as there are loads of combos, but trust me, it's worth the wait.

The only grouse is that there are too many monotonous boss fights in the game—there's even one in the tutorial level! That apart, the combat system in WW is one of the best I've seen in any third-person action game.

The platforming isn't that bad either. It's more or less the same as SOT with a few new moves thrown in, such as the ability to slide down curtains using swords—slick stuff.

Puzzles aren't that tough; they just take a little bit of thinking (which is true for most POP games). There is a fair amount of backtracking present in the first half of the game, which gets on your nerves because running from tower to tower, dodging the same traps over and over again just doesn't cut it.

I Make This Look Good

Visually, the game is excellent. Just like its predecessor, WW is bathed in a light glow at all times; giving the game the same dreamy look that was present in SOT. Level design is mind-blowing, and levels load quickly. The Prince moves as fluid as ever, and watching him kick a** is certainly a treat.

Unfortunately, the same annoying camera angles that plagued SOT are back for the sequel as well; these being especially painful

during sequences where the Prince runs from the Dahaka.

Bosses and their minions are well-detailed and move menacingly enough. So, few issues with the visual department; it's the sound department that's off. Firstly, the Prince sounds a bit cocky and some of his dialogues are seemingly ripped from a B-grade Van Damme flick (I guess the Prince got a bit too Americanised!).

Watching the Prince slice through his enemies is cool, but hearing them shriek like cats is not. Female assassins, for example, sound like they're experiencing sexual ecstasy when they're being slaughtered. It's this kind of cheap commercialism that bugs you, but thankfully there isn't enough present to hamper a perfectly good gaming experience.

Godsmack provides the tunes for the entire game. I like listening to metal while I'm decapitating people as much as the next person, but somehow the experience does not feel very Persia-ish (Not that I would prefer Cheb Mami screeching, but still...)

WW certainly has some annoying factors but then, which game doesn't? I really liked the darker tone, the metal tunes and the, er, costumes this game had to offer. If you're a die hard SOT fan who enjoyed the game for its charm you may feel let down initially, but trust me—give it a shot and you'll be hacking and slashing and begging for more in no time. ☒

avinash_rai@thinkdigit.com

Prince Of Persia: Warrior Within
Distributed by Milestone Interactive Software Limited
Phone: 28381614
Web site: www.milestoneinteractive.com
Price: Rs 1,499



He awaits me on pins and on needles



Hero pose. Fear me!



The swords are just a distraction



A little pressure and you fall apart? Amateurs!



Oh yeah? YOUR mother wears army boots!

Wired, January 2005

Groping In The Shadows

JUST LIKE THE underground news networks worked behind the scenes to throw out governments and colonial powers, an underground network of pirates is threatening to bankrupt the entertainment business the world over. Jeff Howe of *Wired* magazine goes into the hidden corridors of the Shadow Internet.

Just over a year ago, a hacker penetrated the corporate servers at Valve, the game company behind the popular

first-person shooter Half-Life. He came away with a beta version of Half-Life 2. "We heard about it," says 23-year-old Frank, a well-connected media pirate. "Everyone thought it would get bootlegged in Europe." Instead, the hacker gave the source code to Frank—it turned out that he was a friend

of a friend—so that Frank could give Half-Life 2 to the world. "I was like, 'Let's do this thing, yo!'" he says. "I put it on Anathema. After that, it was all over."

Anathema is a so-called topsite, one of 30 or so underground, highly secretive servers where nearly all of the unlicensed music, movies, and videogames available on the Internet originate. Outside of a pirate elite and the Feds who track them, few know that topsites exist. Even fewer can log in.

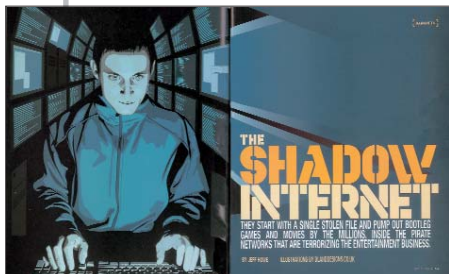
Within minutes of appearing on Anathema, Half-Life 2 spread. One file became 30 files, became 3,000 files, became 300,000 files as Valve stood helplessly by watching its big Christmas blockbuster turn into a lump of coal. The damage was irreversible—the horse was out of the barn, the county, and the state! The original Half-Life has sold more than 10 million games and expansion packs since its late 1998 release. Half-Life 2's official release finally happened in November, after almost a year of reprogramming.

When Frank (who, like all the pirates interviewed for this article, is identified by a pseudonym) posted the Half-Life 2 code to Anathema, he tapped an international network of people dedicated to propagating stolen files as widely and quickly as possible.

It's all a big game and, to hear Frank and others talk about "the scene", fantastic fun. Whoever transfers the most files to the most sites in the least amount of time wins. There are elaborate rules, with prizes in the offing and reputations at stake. Topsites like Anathema are at the apex. Once a file is posted to a topsite, it starts a rapid descent through wider and wider levels of an invisible network, multiplying exponentially along the way. At each step, more and more pirates pitch in to keep the avalanche tumbling downward. Finally, thousands, perhaps millions, of copies—all the progeny of that original file—spill into the public peer-to-peer (P2P) networks: Kazaa, LimeWire, Morpheus.

Without this duplication and distribution structure providing content, the P2P networks would run dry. (BitTorrent, a faster and more efficient type of P2P file-sharing, is an exception. But at present, there are far fewer BitTorrent users.)

To read the entire piece, go to www.snipurl.com/digit_shadow



PC World, February 2005

Those Stupid Error messages!

NO MATTER HOW computing technology improves, those stupid PC error messages keep coming, and coming, and coming. Stephen Manes of *PC World* magazine is as frustrated as you are.

Wonderful way to begin my day: A startup DOS-style message appears; the PC's screen explains that a crucial system file is missing and that I should insert the restore CD-ROM. But in the chamber of horrible housekeeping that is my office, I have no idea where the disc is.

Next step: Denial. I reboot, or try to, and get the same message. That CD has to be around somewhere. It has to. I spend a couple of hours overturning every shred of clutter in the place. Nothing.

Few days later, I try again. You know the thinking: Maybe it fixed itself somehow. And then I see something I missed before. Down in the lower-right corner of the computer manufacturer's startup screen, I see the phrase '<F10=System Recovery>'.

That's when it hits me: There is no restore disc. This is one of

those machines that comes with rollback data on the hard drive alone.

Admittedly, having the restorative option on the hard drive is handy when you can't find the CD. But there's no excuse for not supplying a disc that costs, what, 10 cents? And even worse is the generic message that's not only inappropriate but simply wrong.

This kind of thing happens constantly. Error messages and what I've come to call "monologue boxes" are supposed to help you solve problems. In reality, they're riddled

with errors themselves—when you can figure out what they mean. Take my copy of Norton AntiVirus, which is supposed to update itself automatically. I've repeatedly run into situations when the updater tells me that it has aborted—and, afterward, that my virus definitions are up-to-date. Which is correct? Who knows?

TurboTax still offers a classic in the annals of dialog-box stupidity. When you exit, it asks, 'Do you want to save this file?' But what it really means is, 'Do you want to save the changes you made to this file?' If you had simply been fooling around with some what-if scenarios, the right answer might be 'No'. But if you were afraid you'd lose the file itself, you'd probably pick 'Yes'—and wipe out some of the original data. How hard is it to get a basic question like this right?

Crummy error messages have migrated from our PCs to the Web. The archetypal example: A site wants data in a certain format—say, phone numbers without parentheses or hyphens—but doesn't say so. You enter information your way, then get a message that says something like 'Incorrect Data' with no clue as to what's wrong. Bad enough that the site doesn't do out what you meant; often it will force you to reenter not just the phone number but everything else, too.

Read Stephen Manes' entire rant at www.snipurl.com/digit_error



The Top Trends At CES 2005

1. Digital TV Gets Cheaper And Cheaper: We've chronicled this on ExtremeTech, but the trend is only going to accelerate. With

approaching \$1,500, ultrathin tube-TVs rivaling rear-projection models, and amazingly cheap three-LCD RPTVs that may just rival DLP and plasma, it will be easier and cheaper to replace that aging tube TV with a digital-capable set. And with all the new factories coming on line, expect prices to continue their inexorable slide.

2. Post-HDTV World Is Coming:

or 1080i. But the industry is already envisioning a world of progressive scan 1080-double the resolution of the biggest current sets. The plasmas and DLP projectors on display supporting 1080p looked great. Alas, we may not have much content to take advantage of these great-looking displays.

3. Not Now For High-Definition DVD: Both Blu-ray and HD-DVD are ready to go, and vendors were showing off drives and players for each. Alas, with two competing standards-and high-profile announcements of support for each-neither will take off over the next 18 months. Even though current DVDs look a bit pale on today's modern HDTVs, don't expect anything substantial until late 2006. And if the warring factions can't get their act together, it could stretch out into 2008 or later. To quote Bugs Bunny, "What a bunch of maroons!"

4. Home Media Networking Will Be Big: Yes, we all will be moving our media around the house and to portable devices. But the question is, “When will someone get it right?” I looked at networking schemes from TiVo, DivX, DirecTV, and many others. Someone will figure this one out, but none of the current solutions are easy enough, or transparent enough, for most consumers. Only startup Sonos seemed to understand the need for simplicity, but its products are audio-only and expensive.

5. DVR Is A Feature, Not A Product: Back when TiVo and ReplayTV launched, the digital video recorder seemed to be the next big electronics product, after DVD. But over the last five years, hard-drive and flash-based media recording have become pervasive. DVR is rapidly becoming part of many consumer devices, from satellite radio to set top boxes. DirecTV rolled out its own homegrown versions, joining Motorola, Scientific Atlanta, and more. Even TiVo realizes that DVR alone is not enough, as it rolled out additional services and connectivity designed to turn its box into the hub of the digital home. Anyone planning on building a standalone DVR ought to have their head examined.

Read the full piece at www.snipurl.com/digit ces

 **When you gotta...**

This ad nicely gets across the message that you can, indeed, build a truly portable desktop. The pun complements the visual very nicely, too.

[illegible]

An extension of yourself

Based on a simple theme, this ad gets across the overt idea of the smartphone being able to do many things at the same time, and the subtle message that it can act as ‘an extension of you’.

Computer Games For Schools

Recent research by the London Institute of Education concluded that games have a valid place in the classroom. Games, it was found, taught life skills such as decision making and problem solving said Futurelab, an organisation trying to use technology for learning



Internet Resulting In Widespread Plagiarism

The widespread use of the Internet as a research tool has given rise to cheating among high-school students, say educators. It is being realised that students, accustomed to downloading copyrighted music and such, may not realise that copying even a few sentences constitutes plagiarism



Escape

YOUNG AND RESTLESS

Apple Sues Teen Over Web Site

At the age of 13, in 1998, Nicholas Ciarelli, then a schoolgoer at New Woodstock, New York, started a Web site, publishing insider news and rumours about Apple, using the *nom de plume* 'Nick dePlume'.

Three years later, his site ThinkSecret.com was the first to report that Apple would debut a G4 version of the PowerBook laptop series. The product launched soon after, and so did ThinkSecret.com's reputation amongst Apple's fans—generating millions of hits per month.

Apple sent a series of warnings to ThinkSecret to stop publishing proprietary information. When Ciarelli predicted the arrival of two new products in December 2004, Apple filed a lawsuit of illegally misappropriating trade secrets against him.



Nicholas Ciarelli—getting under Apple's skin

Now a 19-year-old freshman at Harvard, Ciarelli's—and that of other news gatherers like him—growing influence has raised questions about accountability and journalistic standards. Web sites run by product buffs have generated valuable buzz. They have also irked companies by leaking product information.

The suit alleges that ThinkSecret.com induced tipsters to break non-

disclosure agreements.

Ciarelli established the dePlume Organization LLC, which is registered in New York. It lacks the money to defend a case against a major corporation.

Some speculate that Apple is after the source—the real target is whoever has been breaking non-disclosure agreements.

ONLINE REVENGE

Woman Deletes Ex's Data

Police in Fukushima, Japan, said that a woman in her 30s illegally used her boyfriend's username and password to access an Internet game and delete his game data. She now

UNUSABLE!



www.premkahani.com

Premkahani.com says it 'builds beautiful relationships'. Sadly, though, there are no relationships being built here, beautiful or otherwise. A 'lucky spin' feature on the main page shows up a random profile—and if the pic on that profile happens to be large, it takes up the entire screen, pushing all the text away. And oh, searches by community or religion yield no results whatsoever. Want to browse profiles? You get one result per community, and the 'next' and 'previous' buttons don't work!

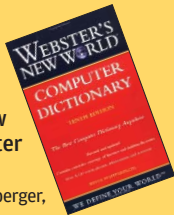
Win!

My Desktop

Think you have the most beautiful, most innovative desktop around? Send it to mydesktop@thinkdigit.com, and Digit will publish the most eye-catching of them each month.

The winner will receive a copy of Webster's New World Computer Dictionary.

By Bryan Pfaffenberger, published by Pearson Education
This month's winner is Rohit Daya



WE SURRENDER: Rohit Daya's desktop makes us wonder at planet Mars
Sent in by Rohit Daya

faces charges in accordance with a law banning illegal access. The woman has owned up that she did delete her boyfriend's online game data: "I did it as revenge for breaking up with me." The couple met through the game in the autumn of 2003, and started a relationship after actually meeting each other, but they soon broke up.

The man, in his 20s, did not suffer financially because of her actions, but she deleted items such as weapons and clothes that he had spent time in the game collecting.

Investigators said the woman had accessed the

DigiPick of the month



WIN!

A Mini Keypad by Travel Pac just by sharing an amusing picture with a tech angle to it. The picture should be shot by you, and should not have been published earlier. Send your picture to digipick@thinkdigit.com. The prize-winning picture will be published each month.

There's [Ctrl] and [Alt]. Now, if only I could reach [Del]...

This month's winner is Manju Jaiswall from Bangalore. She wins a

Mini Keypad worth Rs.995/-

by Travel Pac

The TravelPac mini Keypad is a 19-Key pad that is ergonomically designed with an incline for convenient data entry. This USB device is a plug-and-play and hot-swappable device. It is a lightweight device designed for a notebook.



online role-playing game *Lineage* using the man's username and password in about April last year.

Lineage is an adventure game in which players fight enemies with characters such as knights and magicians.

PROLIFIC TEXTERS

UK Text Message Record

UK mobile owners continue to break records with their text messaging. The latest figures show that 26 billion texts were sent in the UK in 2004. The figures were collected by the Mobile Data Association (MDA). They also showed that 2.4 billion were sent in December alone, the highest monthly total ever. Every day, 78 million messages are sent—which is more than one message per person in the UK—and there are no signs of a slowdown.

One of the reasons for the growing number is that people are using it to do much more. Booking

cinema tickets, text voting, and news or sports text alerts are growing popular.

THE BLUE SCREEN OF DEATH!

Gates' Windows Crash

There was a buzz in the air at the Consumer Electronics Show (CES) 2005. Only this time, the reason for excitement was not another product

launch but the keynote address by Microsoft's chairman and chief software architect, Bill Gates himself.

Returning to the International CES for the seventh consecutive year, Gates captivated the capacity audience with yet another riveting pre-show keynote address.

Before that, however, he lived through the horror of witnessing his beloved Windows display the BSOD (Blue Screen Of Death) and pop up a kernel error.

Here's to you, Bill!

When he finally got going, Gates returned to one of his favourite topics over the past few years—Realising A Digital Lifestyle.

The keynote covered virtually all aspects of digital living such as music, photos, TV, portability, gaming and so on, which can be enjoyed on various devices and platforms.



Illustration Harsho Mohan Chottoraj

People Who Changed Computing

Making Small Big

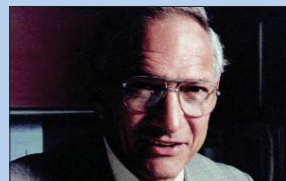
Two people invented the integrated circuit (IC) at almost the same time. Manufacturers wanted more out of the commonplace transistors. But there was a



Jack Kilby

limit on how small you could make each transistor, since it is connected to wires and devices. So, scientists wanted a miniature circuit with transistors, wires, etc.

In 1958, engineer Jack Kilby was working for Texas Instruments (TI). A year earlier, research engineer Robert Noyce, aka Mayor of



Robert Noyce

Silicon Valley, co-founded Fairchild Semiconductor Corporation where he invented the integrated chip. Noyce also founded Intel.

It occurred to Kilby, when sitting at TI, that all parts of a circuit could be of silicon.

In 1959, both applied for patents. Kilby and TI received a US patent for miniaturised electronic circuits while Noyce and Fairchild received a US patent for silicon-based integrated circuits. The two companies decided to cross-license technologies after years of legal battles, creating a global market now worth \$1 trillion a year.

Today, an IC can be smaller than a coin, and can hold 125 million transistors!

Bluff

YOUR WAY THROUGH

NLP

Natural Language Processing (NLP) is an Artificial Intelligence (AI) undertaking. It aims to process sentences written in a language such as English so as to extract meaning from them and represent this meaning in a manner that a computer can understand. If you want to portray yourself as an AI practitioner, simply say that amongst all AI disciplines, you like NLP best and then go on to describe how you do it.

How do you make a computer understand English?

To this, you reply, "That's what NLP is for. You break up the sentences into parts of speech, and then parse it just as you would any other string, of course, ellipsis is one major hurdle." ('Ellipsis' means an instance where the context is not available.)

What is ellipsis? Intimidate your audience here. "You don't know what ellipsis is? Say you reply to a question about your name with 'John Smith'. Here, you haven't specified what John Smith is and that's ellipsis."

Your audience will probably ask you at this point, "So that's all there is to NLP? Parts of speech and parsing?"

Since you don't know too much yourself, you launch off into unfamiliar words— "No, no, there's actually much more. You have got to consider things like failure of substitutivity, you have to learn to use the FOPC and HMMs, construct working grammars and much more."

What is FOPC and HMM?

Remember to learn the full form—First Order Predicate Calculus. It sounds nice and AI-ish. Of course, you deliberately use the abbreviations in the first instance, so you can expand them later. HMM stands for 'Hidden Markov Model'.

Finish off with: "Like I said, it's basically the manipulation of the parse tree. You construct the tree and do all sorts of things with it. I can direct you to a tutorial if you like."

Nuptials Time!

Two distinguished gentlemen of the *Digit* team are no longer single; they have been sacrificed at the altar of marriage. It is a sacrifice they have invited upon themselves, having fallen head over heels in love with two lovely young women.

Copy Editor Robert Sovereign-Smith aka Raaabo married Karen at a ceremony in which no one could recognise Robert. He had worn formal clothes for the first time in his life since he'd peddled goods as a salesman for a leading company. Heck, he'd even shaved for the wedding reception.

DIGIT DIARY

Jayan, *Digit's* lead designer, who had kept his beau Shiny hidden from everyone's knowledge by cleverly wooing her when he was in Kerala, did no such thing. His facial hair, the pride of his Malayalee clan, had been groomed with as much discipline as he puts Photoshop streaks in his opening visuals. His beard represents his personality, as it did for Osho, G B Shaw and other hirsute champions of history.

Both Robert and Jayan are back at work now, with all the vim and vigour of newlyweds. We are now waiting for the seven-year itch!

XML SMELL

A Language For Smell

A researcher at Huelva University in Spain claims to have created a version of XML—often called the successor to HTML—that can transmit fragrances. The ability to transmit smells could have applications in several fields including tourism, gaming, marketing, medicine, and so on.

The university has worked with researchers in both computing and chemistry to come up with the concept of the XML Smell language. It said the initial idea was to print smells on paper using laser and inkjet printers, but in this approach, the fragrances degraded over a short period of time. The scientists now claim to have developed a dual-pass printing system, using two polymers which degrade by light and by touch, so that the smell only emerges when a document is read.

Not content with this, researchers quickly realised that smells could be propagated over networks and, of course, the Web. They therefore created XML Smell, which they claim can define in a universal and standardised way the

transmission of smell. This will allow for the transmission of fragrances by e-mail, by SMS to a mobile phone, or via a TV show.

Currently, the scientists are designing a device which will sit close to a TV, a radio, a phone or a PC, and which contains a 'smell palette'. The components in the palette get manifested according to instructions in the XML Smell language.

ROBO-CUP

Robots Will Win World Cup By 2050!

A Japanese consortium of robotics experts has

Ishiguro and his team are talking about the successors to a robot called *VisiON*, which is just 38 cm tall and weighs only 2.4 kg. *VisiON* operates independently of human input, makes its own decisions based on information it perceives and recognises the football, approaches it and delivers a hefty kick.

It can identify an opponent and shield the ball. Atop its head is a 360-degree vision sensor, so it does not have to turn its head at all.

Robot World Cup tournaments have been with us for quite some time now—the most recent being held in Lisbon. RoboCup 2005 is scheduled for July in Osaka, Japan.

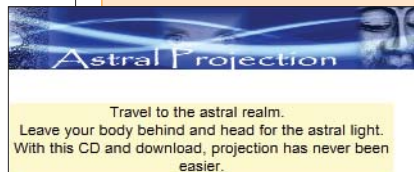
Ishiguro is confident that players of steel and wire will one day lift the



claimed that their engineered humans will outplay real ones—in football—within 45 years.

World Cup. "The important thing to remember is what you see here is just the beginning," he says.

whatweretheythinking.com



Travel to the astral realm. Leave your body behind and head for the astral light. With this CD and download, projection has never been easier.

Astral Projection - is it possible?

Scientific evidence is now suggesting that we can leave our physical body and that we may even survive the death of that physical body.

Using bioenergetic technology it was found that a certain combination of alpha and theta harmonics caused the immediate transference of consciousness away from the physical body.

Almost everyone trying these frequencies has agreed that the effect is very unusual. Several users have reported a distinct 'moving' of their perception from the physical body.

Click on each button for more information

<http://snipurl.com/c70a>

Tired of the big bad material world and its fleeting pleasures? Looking for something spiritual? We are not talking of austere lifestyles. In today's instant world, even spirituality is available on a CD!

For \$19.95 (Rs 870), you can "Travel to the astral realm. Leave your body behind and head for astral light. With this CD and download, projection has never been easier." You are tempted to ask why people leading such exciting astral lives want \$19.95 from you! For

only \$49.95 (Rs 2,150), you get three titles on one CD including 'Instant Meditation', 'Astral Projection', and 'Remote Viewing'!

If you really want to know more, www.worldofalternatives.com has the answer—"Accurately calibrated sine wave frequency generators were used to generate different frequencies in each ear. Experimenting through the whole range of alpha and theta waves, it was found that a combination of frequencies consistently caused a complete shift in consciousness..." Yeah, right!

If you thought this was a con job, read 'Don's' testimonial: "Can't believe how easy this is. Projected first time. Cool!" Huh? There are folks like 'Don' with money to spare on a download that promises nothing less than an out-of-body experience. Experience is guaranteed and customer service is top-notch! If nothing happens when you listen to the download, you get your money back. Seriously, what were they and 'Don' thinking?

ROAD RAGE

Report Roadhogs Online

There is now an alternative to venting anger while on the road—go online and report the offensive driver. Law enforcement officers in Arizona and Washington are asking the public to report reckless drivers online.

"It's just another tool to solicit the public's help in fighting aggressive driving," said Trooper Johnny Alexander, a spokesman for the Washington State Patrol. Motorists in Washington can go to the state patrol's Web site and report areas where aggressive driving is consistently a problem.

They can note what they've witnessed, when and how the incidents occur, as well as license plate numbers.

DEVIOUS WORM

Breaking News Spreads Worm

There's a new, smart worm out there. It uses breaking news from the CNN.com Web site and a devious technique to keep itself up-to-date in order to dupe recipients into opening attachments.

On January 21, UK-based security vendor Sophos said that the Crowt.a worm grabs its subject lines, message content, and attachment names from headlines—in real-time—from CNN's Web site.

The worm's subject and attachment filename change to mirror the top headline on the site. ☐

Compiled by Ram Mohan Rao,
Meera Vankipuram and
Aditya Kuber

Blog WATCH

Here's taking a look at some eye-catching blogs. Will the new Windows Anti-Spyware product violate the Gator EULA? There's a review on Flickrgeist and one about a free photo sharing Web site. Check out how referral marketing works—and finally, there's a blog about blogging

Micro Persuasion

<http://snipurl.com/bx85>

"Tap Into the Flickrgeist"

Consumers are replacing Consumer Reports. We are increasingly turning to blogs and other forms of consumer generated media to gather the information we need to make informed purchasing decisions. Armed with these insights, we can easily separate exceptionally great products from the average.

Consumers can do this today with more than blogs by tapping into what I call the Flickrgeist. Thanks to RSS, as a marketer you can easily monitor your company/product's Flickrgeist index against your competitors.

In case you're not familiar with the site, Flickr is a free photo sharing site that anyone can use to post photographs and then "tag" them with certain labels. Flickr makes it a snap to find all photos across its vast community that have posted photos under a common tag. Each tag has its own RSS feed.

Using Flickr tags, you can assess just how much consumers are evangelising brands by stacking them against their competitors. All you need to do is simply replace the bracketed text below with the name of your product and enter the URL into your browser...

The Gripe Line Weblog

<http://snipurl.com/bx8a>

"Is Microsoft Violating The Gator EULA?"

A thought suddenly struck me yesterday when I was

reading the press release for Microsoft's new Windows Anti-Spyware product. If Microsoft's product is really going to clean up spyware effectively, how will it do so without violating the licensing agreement of Claria's Gator and other spyware/adware?

Duct Tape Marketing

<http://snipurl.com/bx86>

"Referral Marketing Is Target Marketing At Its Best"

Most small business owners miss the boat when it comes to getting a constant flow of referrals because they start looking in all the wrong places. If they seek referrals, most small business owners think only of their clients. While existing clients can be a good source of referrals, they don't have much motivation. They might send a client or two, but won't think of you day in and day out. And, that's what your referral marketing effort really needs.

Small Business Information

<http://snipurl.com/bx87>

"What A Blog Can Do For Your Small Business"

The blogging movement is picking up speed with the launch of blogs on About.com network and the purchase of blog software company Pyra Labs to Google. More companies are experimenting with the blog environment. Will blogging become the next mainstream application like email? Will business blogs improve your business?

Santa, Spammers And Flaw Fighters

1 China's largest PC manufacturer has purchased IBM's personal computer business for \$1.75 billion. Name the group.
a. Lenovo b. Armonk
c. Beijing d. Zhang



2 Which company has offered a \$5,00,000 (Rs 2.25 crore) reward for information leading to writers of the computer viruses Blaster worm and SoBig.F?
a. Novell b. Apple
c. Microsoft d. Symantec

3 Which search engine aims to make Internet surfing easier for the visually impaired by reading out the results?
a. Scholar b. Yahoo
c. Speeple d. Google

4 Microsoft announced the launch of a stripped-down version of its Windows operating system in January. What part of the OS is being removed?
a. Internet Explorer c. Games
b. Outlook Express d. Winamp

5 Researchers at security software company Sophos found that 42 per cent of all spam sent this year came from this single country.
a. Tanzania b. Germany
c. United States d. United Kingdom

6 A Chinese security group has released sample code to exploit two new unpatched flaws in Microsoft Windows. Where are these two flaws found?
a. Windows Search program and Box Width function
b. Load Image function and Windows Help program
c. User Rights function and Command program
d. Internet Explorer

7 Name the recently unleashed Internet worm that identified potential victims by searching Google, AOL and Yahoo and spread by targeting pages that used vulnerable versions of the PHP Bulletin Board (phpBB) software.
a. Santy b. Santa
c. Elf d. Reindeer

8 Toshiba is the second major electrical appliance maker after Sony to announce its withdrawal from which product market?
a. Plasma Display TVs b. LCDs
c. Handhelds d. Laptops

9 According to a recent study by AMR Research, what percentage of IT jobs required by American companies by 2010 will be performed by Indian firms, saving the US nearly \$30 billion (approx Rs 130 billion) annually?
a. 5 per cent b. 2 per cent
c. 10 per cent d. 15 per cent

10 Which country has advanced its communications infrastructure by launching Cernet2, a high-speed Internet backbone that connects 25 universities in 20 cities? Cernet2 achieved speeds of up to 40 gigabits per second during a trial run conducted in December 2004, a record for real-world applications, where the average speeds are about 2 to 10 Gbps for universities.
a. India b. Japan
c. China d. USA

Last Month's Answers

1. Niklas Zennstrom co-founded Skype
2. Red Hat sent out the fake security bulletin to Linux users
3. JVC released Everio GZ-MC100 and GZ-MC200, the tape-free camcorders
4. gdSuite is Google's add-on for its desktop search tool.
5. Blueprint has teamed up with BT to develop a service to host media files
6. "Mobile digital secretaries" will be deployed on the Nokia 6600
7. Nordstrom.com interprets customer enquiries by analysing search strings
8. The UK's free Windows XP version is Windows XP Counterfeit Project
9. Chaska city, in the US, plans Wi-Fi access for most of its 15 square miles
10. Gaetano Borriello's team at the University of Washington team has constructed a smartwatch that uses **RFID** (Radio Frequency ID)

Got an interesting question? Send it in with the answer to editor@thinkdigit.com

Crossword

Across

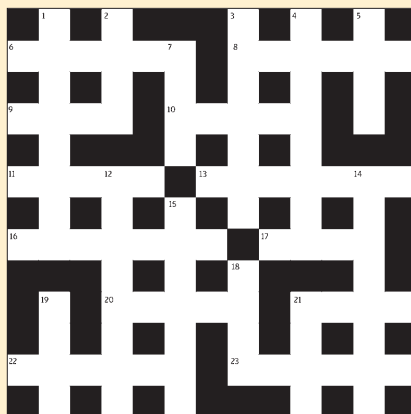
6. ___ Presario PCs from HP (6)
8. ___ Visual representations stored in electronic form (6)
9. Cut out to modify data (4)
10. Base-8 notation (5)
11. Boot up upsets tarts (5)
13. Make available (7)
16. An object-oriented Programming in Logic (7)
17. Direct Read After Write (abbr) (4)
20. Data entered into a computer (5)
21. Element of data storage scatters life (4)
22. Waiter to host computer on a network (6)
23. Programming language named after French mathematician (6)

Down

1. DTP package of the '80s confused art words (8)
2. Microsoft's new technology

reverses heights

- (abbr) (4)
3. This icon resembles a sun dial in a Web browser toolbar (7)
4. Hot standby or Warm standby? (8)
5. Ctrl+Shift+Z in Corel (4)
7. Quick and Dirty Operating System (abbr) (4)
12. Locate and read data from storage (8)
14. Discharge cargo to transfer computer data (8)
15. Pre-packaged art work (4,3)
18. Bit end to an asynchronous transmission! (4)
19. Initial Graphics Exchange

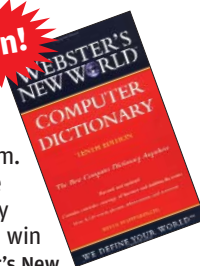


- Specification (abbr) (4)
21. High-speed computer (4)

Solve the crossword and send your answers to TQ@thinkdigit.com.

If all answers are correct, one lucky participant could win a copy of Webster's New World Computer Dictionary By Bryan Pfaffenberger, published by Pearson Education

Win!



Last Month's Winner
Parveen Bansal, New Delhi

1. a
2. c
3. c
4. d
5. c
6. b
7. a
8. a
9. d
10. c

This Month's Answers

Broadband in India = End of PC/Tech Mags in India?

**klinux
Digitized!**

Might not be in the immediate future as broadband speeds are... lousy. But, in the near future, when the tariff war is on and consumers get cheaper, faster and more efficient broadband services, would consumers/techies still want to buy PC/Tech mags, or rather download whatever he wants and get more articles from online mags?

What should Indian mags change, if they have to compete with broadband? Just curious!

**saROMan
In-House Geek**

Location: b4 my PIII

Depends... what r u buying the magz for... for the software in it... or for the contents... like Game/Hardware reviews... new emerging trends, etc.

ujjwal**Digitized Spammer**

Location: University .Area .Delhi

Yes, to a certain extent sales would be affected, as there are many people who buy the magazine for the CD and software. However, if the magazine kept Indian specific articles like current hardware prices, reviews of Indian ISPs, etc. people would still buy them.

Nemesis**Digitized Spammer**

Location: New York

I agree with ujjwal... sales will b affected but not much... countries like the US have good broadband penetration... but still ppl read mags... but like ujjwal said, the mags here will have 2 carry a lot of Indian stuff like reviews, prices, availability, etc., of tech products in India and from an Indian perspective...

cheetah**Resident Techie**

Location: Jalandhar

I don't agree with that guy.

Nobody buys the mags for software only, we all buy because of new software they suggest, hardware reviews and cool site links.

For Example: I learnt about Skype from *Digit*. I learnt of the Slogger Firefox plug in from *Digit* Jan 2004, and it has changed my opinion about Firefox; now I use Firefox only and quit using Opera.

This is the use of these mags, they totally change the way u think.

**Indyan
Digitized!**

Location: Asansol, W.B.

As long as there r people like me who hate reading on their pc screens, mags wud remain alive. Also, I like da dvd.

A Taxing Regime

I was in south-east Asia recently, and was shocked to know the price difference between products available in India and there. I purchased a Sony digital camera (CyberShot P73), which costs Rs 18,990 in India, but Rs 12,500 in Singapore and Rs 10,000 in Malaysia. Sony even offered me a one-year international warranty for it.

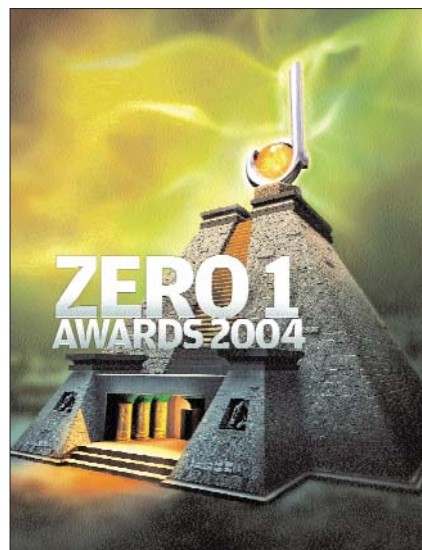
Indians effectively pay Rs 9,000 in taxes for a product that costs Rs 10,000. I don't understand the reason for this. I also bought a Creative MuVO Slim 256 MB for Rs 6,000 which is available for Rs 8,000 in India. The good news is both the products I chose won the *Digit* 'Zero1 2004 Award' in the respective categories.

Saurabh Sahu,
Titilagarh (Orissa)

Hi Saurabh,

That's just like the icing on the cake. First you get these products at low prices, and then your choices win the *Digit* 'Zero1 Awards'. About the taxes: We wouldn't know whether the government is planning to bring down tariffs further on IT products this year, but prices of IT products have fallen drastically in the last three years, and will continue to fall this year. It is only a sign of a mature market that prices fall as demand rises. You don't have to look further than the cell phone market—both handsets and call charges in India were the most expensive in the world when the services began. Today, with almost five crore cellular subscribers, we have one of the lowest tariffs in the world.

—Executive Editor

**English Only, Please!**

I was simply blown away by *Digit*'s latest offer where you offered four DVD movies—*The Lord of the Rings*, *Terminator 2*, *Shakti*, and *Munna Bhai MBBS*—free with every subscription.

But guess what, I am disappointed! *Digit* is read all over India, and not every region appreciates Hindi movies. For them, the two Hindi DVDs are a plain waste. May I request *Digit* to respect the cultural and lingual diversity our country by giving only English movies so that every one benefits from the offer?

M S Karthikeyan
Chennai

Dear Karthikeyan,

At *Digit*, we believe creativity knows no language barriers. The movies we chose are some of the greatest Hollywood and Bollywood hits; each one of them is a masterpiece in its genre—whether fantasy or science fiction or drama or comedy. It will not be possible for us to change the movies as they were chosen after careful consideration. For now, you use the sub-titles feature on DVDs to enjoy the Hindi movies.

—Executive Editor

Who's Illiterate? Cops or Executive Editor?

So, it is this balmy Thursday morning, and I am walking around in the market when I see the January issue of *Digit*. I buy it first up, come home and read the editorial.

It was awesome! Mr Executive Editor Sir, you have said it all in just a few lines. It had just the right stuff I needed to explain to everyone in defence of Baazee.com CEO Avnish Bajaj. My friends and relatives just did not seem to understand when I told them earlier.

Delhi has seen it all—from teachers and parents giving us embarrassing speeches to innocent people being taken into custody to raiding cyber café's. The capital is going crazy and the reason? Technology illiteracy!

Who can even think of arresting Avnish Bajaj, the head of one of the few dotcom success stories in India? Only pot-bellied Delhi policemen!

About the so-called "tech-savvy" media, the less said the better. They don't even realise that the video that caused all this cannot even be sent through MMS, only via Bluetooth and Infrared cell phones. I have now come to



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

For subscription queries, call the Help Desk at 022-27629191/9200 Fax 022-27629224, or send an e-mail to help@jasubhai.com

Inbox

Editorial

Out With Technology Illiteracy!

HERE IS A TRUE story. In 1999, the cops in New Delhi asked one of India's best computer-related firms—they caught a man setting period software on those awful 3.5-inch floppy disks. The entire incident was wrapped at the cops with a "high tech" criminal, and press came out.

Then, the floppy were sent to the relevant authorities as evidence. The wretched stored them, and stored them well—they punched holes in the floppy disks and sent a truck over there around them and played the floppy in an office file.

What a fiasco! One a newspaper reporter who covered this case, related this story. I first noted on the floor tonight, and then suddenly, everything fell into place—the Delhi cops, their knowledge of technology, and how they tackle "cyber cases".

Basu's country manager knows that, it could therefore be concluded, is not a prisoner of technology illiteracy. He is a prisoner of technology illiteracy.

Illiteracy of law matters, of law enforcement authorities, and of the media. An example of our media's technology illiteracy, a New Delhi newspaper recently said that the MDR's cyber case was solved by "cyberbaiters" who are "technology savvy" because "they check their e-mail everyday." Should we laugh? Or should we cry?

Take this hypothetical case (based on the facts on which this newspaper should you or your employees be arrested because someone sent you a photo of a naked person over e-mail, and that photo was received on your company's server, or on your hard drive)?

It is a curious situation, and if Delhi's cops had their way, a considerable portion of the capital's population would be in jail.

Chennai cops seem almost equal marks in technology illiteracy. When asked how they will catch the person who created the virus of a woman (allegedly a leading actress from Tamil Nadu) building, the investigating officer said, "It is easy to trace the criminal since we track the IP address."

Simple question: What if the person sent a cyber file that does not keep records and we know about cyber file that if this continues to spread the



"Bazee's Avnish Bajaj is not a prisoner of technology illiteracy"

What if he didn't send a threat? If it is such case the threat to do the use the actual culprit? While collar and son related latest cases are now planned at us with unprecedented ferocity. Sadly, however, our law enforcement agencies continue to depend on technology rather than knowledge to solve cases.

We should strive.

Sushil Chauhan

sushil_chauhan@indiat.com

PS: On a happy note, here's wishing all our readers a happy and a prosperous New Year from everybody at Digit. Have a great year ahead!

the conclusion that my six-year-old nephew is more tech savvy than the Delhi cops and the Indian media.

Anish Arora

New Delhi

Digit's executive editor Sachin Kalbag may be a highly technology-literate person. All the same, I beg to differ with him on the profound opinions expressed by him in Digit's January 2005 editorial ("Out With Technology Illiteracy"). Scientists, from prehistoric times to the early 1960s, were simultaneously philosophers with a deep-rooted sense of social responsibility.

Around the '60s, a cataclysmic change overtook human civilisation including, sadly, scientists and technologists, with an all-pervasive social irresponsibility setting in across all strata. The new philosophy was expounded by the digital *brahmins*, who considered the rest as untouchables.

Granted, our inventions can benefit mankind in hundreds of ways, but if misused, can harm in a million ways. Individuals define the use and misuse of inventions, don't they?

We are irresponsible scoundrels with no social commitment. Our sole commitment is to Mammon and multinational monsters that fund and enrich us. Avnish Bajaj belongs to this socially irresponsible breed, and from the strong defence put up by Sachin Kalbag, it is evident that this breed has an ardent fan following.

Alas, Digit's executive editor does

not know the implications of his misguided writing.

SVS Rama Rao

Mumbai

Better Way To Excel!

In response to Ram Mohan Rao's article on 'Microsoft Excel Nightmares' (January 2005), I would like to point out a solution simpler than what the writer suggests. Rao's solution to the first nightmare "Excel Freezes Columns While Freezing Rows" is: Let's assume you need to freeze the top row, which contains, say, names. First, freeze the panes while at cell A1 by going to Window>Freeze Panes. Now, go to Window>Split. This will split the sheet into four blocks. Go to the centre of the split, so that the four-pronged cursor shows. Drag it up to the bottom of the row you want to freeze, and drag it also to the left, all the way, beyond the first column. Now, freeze panes again by going to Window>Freeze Panes. You are done!

Here is an easier way: Let's assume you want to freeze the top row, which contains, say, names. Select second row by clicking on the row number (when the cursor changes to horizontal arrow). Now go to Window>Freeze Pane. You are through.

Sushil Chauhan

Mumbai

Ram Mohan Rao's feature on MS Excel nightmares was interesting and useful. Tip 3, to get rid of the "Getting Started" Pane, was especially useful. As regards Tip 1, we can use a simple formula for freezing panes: If you want to freeze the top 'n' rows, then position the cursor in cell A (n+1), before freezing the panes. And if you want to freeze the leftmost n columns, then position the cursor in cell (n+1)1 [i.e. the top cell in the (n+1)th column], before freezing the panes. As regards Tip 2, it would be good to make all cells of the same height if you want to see the file on the screen only. If you want to print it, wouldn't increasing the height throughout the file to suit the largest make the printout unwieldy?

Fullar Velker

Via e-mail

Dear Sushil and Fullar, Your inputs are most appreciated. I am sure Digit's readers would love your solutions. Thank you very much indeed.

—Executive Editor

Environment-friendly Digit

I am one of those lakhs of readers Digit has. I must also admit, I am quite infrequent, even if I would like to buy it every month.

I still preserve the first copy of Digit, which was published in June 2000. Since then, I have been buying every now and then, whenever there was a special issue (and there were several). The result? I have a whole rack at home reserved specially for Digit copies.

For me, the biggest attraction for buying the magazine was the fully-loaded CDs. They were, and now the DVDs that are absolutely brilliant. I still preserve all my CDs along with their covers, lest I forget its contents. Even today, I refer to these CDs to get the software I require.

A recent incident reaffirmed my faith in the contents of your CDs and DVDs. I am currently pursuing my graduation in information technology. Since my library is a Digit subscriber, I have no problems gobbling up all the information in the magazine in text format. But our college does not allow us to access the CDs and DVDs, which become college property.

May I suggest that you start, along with your current great scheme of four movie DVDs, a CD-only subscription, without the magazine. I would be really happy if you start one soon.

The primary reason for not subscribing is because of the magazine pile-up, and they are not something I want to throw. Because of this reason, the read, re-read and re-re-read issues have just piled up over time.

You could engage an organisation to collect old magazines and recycle them to make new magazines. The idea may seem bizarre, but you would be the first company ever to publish a truly environment-friendly magazine.

Also, it could add to your image, giving rise to hugely positive public opinion of your company.

Mohammed Shaik Hussain Ali

Via e-mail



Tabloid TECH

People And Events That Grabbed Headlines—For Better Or For Worse

Stone Becomes Minister On Net



Anything for friends: Sharon Stone

The things people do on the Internet these days! It seems it is possible to become a minister over the Net. Hollywood star Sharon Stone did just that—getting ordained online—in order to officiate at the wedding of two of her friends.

The 46-year-old actress married restaurant owner Michael Bourseau and stylist Brenda Swanson in a ceremony witnessed by actors Jack Nicholson and Robert Wagner.

The event was conducted by Ms Stone at her luxury home in Coldwater Canyon.

Conceived On The Net

Nonu and Cornelia Dragoman, from Medias, Romania, recently had a baby and named him Yahoo, after the Web portal. They'd had a virtual relationship for three months before seeing each

other and finally tying the knot. Cornelia said, "We named him Lucian Yahoo, one name after my father and the other from the computer. These were the two elements which guided my life."

The New-look Bill Gates

After Bill Gates' visit to Las Vegas for the Consumer Electronics Show, rumours are rife that the man is getting a PR makeover. The Microsoft chairman gave his first interview to a blog—Gizmodo—at the show. He also hung out with a couple who won a 'meet a celebrity' contest sponsored by Swatch. And most of all, he agreed to be photographed in bed with an Apple laptop.

All this led CNET News.com commentator Jeff Pelling to suggest that Mr Gates has aged and lightened up. Only time will tell



Has he mellowed with age?

whether the apparent softening-up of Bill Gates is permanent, or whether it's just a Vegas thing.

You In The Mood, Baby?

A team of scientists at Rambam Hospital in Haifa, Israel, has invented a machine that can measure how randy one is feeling. The gadget has been dubbed, rather obviously, the 'hornometer', and calculates whether a person is feeling randy. British tabloid *The Sun* reported that patients are asked to watch erotic videos,

along with "films of a non-sexy nature."

Electrodes attached to their heads read the electrical responses to the images. A computer then analyses the data to measure the patient's libido levels.

Like we need a machine to figure how sexed up we are feeling. Or someone else, for that matter.

Self-Help Books, Anyone?

Why are you living? This is, of course, the ultimate question. And since you can buy just about anything at eBay, it turns out that you can buy the answer to that question, too. Refer to this issue's *Escape* for other weird eBay auctions.

The title of the auction was "Purpose in life—do you need it? Get a Purpose in

Life." It began at just 99 cents. What the seller was offering was what he (or she) desires for his (or her) life. Of course, that may or may not be the same as what you want.

"Do you feel aimless, undirected, and unfulfilled? Do you desire a reason, point and a purpose in your life? If so you have come to the RIGHT auction," the item description began. And then the details: "the five-year plan for your life," "five of my best life stories that have given (sic) me purpose," and, most important, "a certificate of authenticity signed by me."

Last time we checked, the bidding had reached \$5.50.

The seller is apparently not aware of the thousands of self-help books out there.



Wisdom @ \$5.50

3-Easy-Steps to Freebies!

- 1 Log on to www.thinkdigit.com/digitpatron to register.
- 2 Enter this 16-digit code and score points (you will find your code at this place every issue)
- 3 Your points get added every month and can be redeemed for exciting gifts!

