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March 2005

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YOUR TECHNOLOGY NAVIGATOR

weapons for the
Mobile PRO

India's Best **PDA Phones** And
Business Laptops Compared
To Arm You With The Leading Edge

Hyderabad's 3-Star Hotel Golconda
Goes Wi-Fi, And Creates A New
Hospitality Paradigm

Kill Your Microsoft PowerPoint
Presentation Nightmare

Multifunctional Devices Versus
Standalone Gadgets What Do You Prefer?

Five Industry Leaders On
How Mobile Marketing Can Work
Without Leading To Spam

How Grid Computing
Could Change Our Future

Jasubhai
MEDIA

Maulik Jasubhai Publisher

Publisher's Note

Your Digit Just Got Better!

I N MY LAST Publisher's Note in August 2004, I recounted the many firsts that set Digit apart from the rest of the technology magazines in India—the first magazine with a regular CD, the first to bundle two CDs, the first to give away a movie VCD and then India's first magazine to distribute a DVD with every issue.

But last August was so long ago!

Our readers are demanding, and surely are India's most knowledgeable technology users. You expect nothing but groundbreaking innovation from your technology navigator. Consistently.

Having said that, at *Digit* we believe innovation does not mean adding DVDs or CDs. Innovation must be inspired, and it should serve a specific purpose.

Fast Track, the book accompanying *Digit*, was born out of this belief.

Fast Track is *Digit's* latest value addition. Sub-titled 'Your Handy Guide To Everyday Technology' this book, with 200-plus pages, is the ideal partner to the main magazine.

Digit will continue to retain its flavour of being Your Technology Navigator; reviewing the latest products, satiating your appetite for gizmos, giving you productivity solutions, helping you in business, introducing you to the other side of technology and how it touches (and can touch) our lives in a million different ways.

Fast Track, on the other hand, will concentrate on one topic every month, giving you comprehensive coverage on all you really need to know on that subject.

We decided to begin with Digital Photography, a domain most magazines touch upon only in skimpy detail. You could, of course, buy a book on the subject, but that would only dent your pocket, not to mention dealing with dilemma of which author to go by. A quality book from your favourite magazine, bundled free with every issue, therefore, makes for a perfect combination.

Value-additions like this one are the only reason why *Digit* has consistently been able to retain its leadership position among technology publications in India. But the secret to being India's No. 1 magazine goes beyond innovation. It's about passion and loyalty. The passion that every single team member at *Digit* brings to work everyday, and the unshakable loyalty that you—our esteemed reader—have displayed. Leadership is but the natural outcome.

maulik44@jasubhai.com

Don't Piss Me Off!

I DON'T KNOW who Vipin Saxena is, but he pisses me off!

Saxena, who operates from the upscale Mumbai neighbourhood of Nepean Sea Road, sent me an error-ridden SMS recently that read: "CAD/ProE/iDEA AutoCAD, AMDT Corporate Class Engg.Drawing Classes Excelant dEsign Engg.Software". This was followed by three telephone numbers and an e-mail ID that asked me to buy the software and services he sells. To cut to the chase, I had received spim, or spam SMS.

Since I did not know Vipin Saxena from Adam, I called him, and asked him why he sent me the SMS. He said it was a promo SMS. Well, d-uh!

"Where did you get my number from?"

"I send promo SMSes to random numbers."

"Can you tell me who gave you my number, and also give me your details so I can register a police complaint against both?"

"Of course," he said, and sent another SMS with his address and telephone numbers.

He also told me—very politely—to go ahead and register a complaint. I realised that I was not the only one he had angered, and that he must be getting several such phone calls from "aggrieved parties". He was used to it.

Pavan Duggal, India's leading authority on laws that govern information technology, sympathised with me on this, but told me plainly that Saxena can very well tell me to go to the police because under the Information Technology Act 2000 of India, I cannot register an FIR against him for invading my privacy, nor can I sue him for sending me spam SMSes. The Indian IT Act 2000, while being stringent on e-commerce transactions, maintains a deafening silence on privacy and spam. Saxena knows it.

Saxena represents a band of IT Act manipulators who know spam is immoral and unethical, but not illegal. I don't know a single person who does not receive SMS or e-mail spam. Yet, we only either privately crib about it, or ignore it as another fact of life.

Harsh Pathak, who recently got good press because he filed a PIL against telemarketing calls, missed out on spam e-mail and SMS. Why Pathak appealed only against voice calls and not against SMSes, may remain a mystery, but Duggal emphatically states that spam

Sachin Kalbag Executive Editor

> ## "The time has come to join hands against spammers—both of the e-mail and SMS kind"

too should be brought under the ambit of civil and criminal liability. Right now, though, there is no legal recourse against spam of any kind in India.

The time has come to join hands against spammers. We could start waging small battles like calling each spammer back and giving him a piece of your mind until he cringes; and if we keep waging these small battles, we may just win the war.

sachin_kalbag@jasubhai.com

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**

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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

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March 2005

Contents Interactive

DVD

CD

DIGITAL PASSION

Star Wars: Republic Commando

Enter the dark military side of the Star Wars universe as a squad leader of a Republic Special Operations unit.

FOUR FULL GAMES
- Grand Theft Auto
- Grand Theft Auto 2
- Wild Metal
- Steel Panthers: World at War

PLUS
Unreal Tournament 2004: Air Buccaneers

GAMES KNOPPIX
A Live Linux CD containing more than 50 playable games!

Also Included
- KDE 3.3.2
- Mathematica 5.1

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- Java 2 Platform Micro Edition (J2ME),
- Wireless Toolkit 2.1
- J2SE and NetBeans IDE 3.6
- MinGW

LINUX
- MPlayer 1.0 pre6a
- MPlayer 1.0 pre6a Source Code
- 15 MPlayer skins
- MPlayer manual
- ProZilla 1.3.3
- ProZilla GUI
- GNUsound 0.6.2
- Blender 2.2.5
- Yafray 0.0.7-2
- Kino
- mythTV
- mythTV Modules
- Skype 1.0 (for Mandrake 10.1 & FC3

DIGITAL TOOLS

NASA WORLD WIND

World Wind allows any user to zoom into any place on Earth, leveraging high resolution LandSat imagery and SRTM elevation data to experience Earth in visually rich 3D

AUTOPATCHER XP
With the latest patches for Windows XP, this release will work with ANY version of Windows

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- Template Package I for NeroVision Express
- DJ Jukebox 5.2
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- VIA Hyperion 4 in 1 Driver 4.53v
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- All-in-One Secretmaker 3.9.8.5
- Trillian 3.0

ESSENTIALS
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- Ad-Aware SE 1.05
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- Copernic Desktop Search 1.2
- Microsoft Windows AntiSpyware
- Quicktime Alternative
- VLC Player
- 7-Zip 4.15 beta
- WinZip 9.0
- DirectX 9.0c Redistributable
- Autopatcher XP Jan Edition
- Quintessential Player
- .NET redistributable

DIGITAL BUSINESS

BusyWin
Windows-based Business Accounting Software covering Financial Accounting, Multi-location Inventory, Sales Tax Reports including VAT, Excise Registers, Order Processing and Invoicing

Timeless Time & Expense
Schedules4Team is an ideal workgroup collaboration tool allowing you to create and access a common workgroup MS Outlook calendar, Free/Busy time and share appointments, meetings, events, and resources without a server
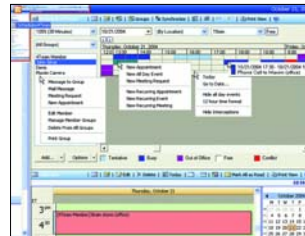
WHITE PAPERS
- Managing and Securing IM in the Enterprise: Why It Should Be a Top Priority
- The Adoption of ITIL in Large Enterprises

PRODUCTIVITY TOOLS
- ECTI 1.5
- InBoxer for Outlook 2.0
- UseBestMail 1.0.1.18
- SpamWeed 2.0

- Biometric Employee Punch Clock 1.1
- Database Designer Enterprise Edition
- KnowHowDB 2.4
- Schedules4Team 2.51.0028
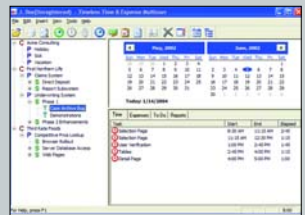
- Plan for Windows 2.07
- Easy Projects .NET 3.0
- DevPlanner 2.0.741

DIGITAL LEISURE

DESKTOP THEMES
- Universal Crystal XP BricoPack RC1

- 189 Tux PNG Icons from CrystalXP.net
- 100+ Icons for Windows
- High quality icons from the GANT pack
- 15 WindowBlinds Themes

SMALL GAMES
- AstroAvenger
- AirStrike 2
- Mario Forever
- 2D Counter-Strike
- Frutti Freak for Newbies
- Magical Broom Extreme (FULL GAME)

E-BOOKS
- Just in Tokyo
- Books on the Laws of Physics including:
  ▶ Conservation Laws
  ▶ Newtonian Physics
  ▶ Vibrations and Waves
  ▶ Electricity and Magnetism
  ▶ Optics
  ▶ The Modern Revolution in Physics

WALLPAPERS
- 240+ Wallpapers including Hollywood/Bollywood Celebrities, Games and Cool Cars
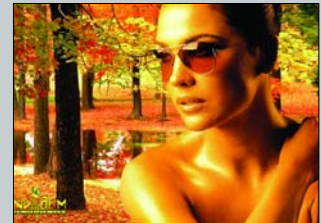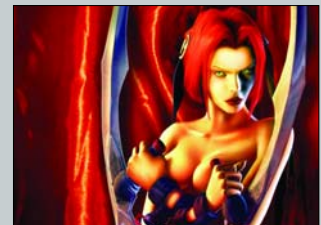
Online

By Demand

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

Games Knoppix
Grand Theft Auto 2

Digit Reader Poll

This Month's Question

What is the maximum you are willing to spend per month on a broadband or always-on Internet connection?

☐ Less than Rs 500
☐ Rs 500 to Rs 1,000
☐ Rs 1,000 to Rs 2,000
☐ Rs 2,000 to Rs 5,000
☐ Anything, just give me fast Internet

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

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

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

Hardware Discussion
The hangout haven for hardware geeks
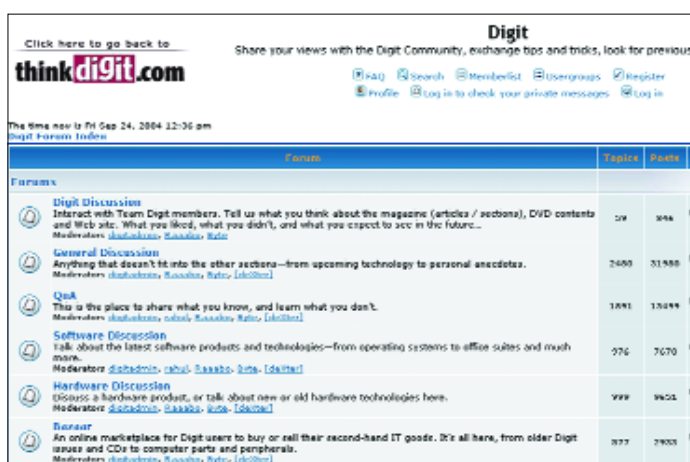
Digit Discussion
Your feedback on the magazine, the DVD, the CD and the Web site

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

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

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

Enter

AN INDIAN RAINBOW

Made In India: The Handheld Of Tomorrow

It looks like a PDA; it weighs as much as and feels like one. But functionally, it is more like a laptop computer and a mobile phone shrunk into the body of a pocket PC. And it has been developed by Indian engineers at iWave Systems Technologies, an up-and-coming embedded products firm based in Bangalore.

The 'Rainbow' handheld mobility platform is one of the first devices in the world to exploit the power of a new chip, the Bulverde. The Bulverde was launched by Intel just four months ago to fuel tomorrow's 'convergence' products.

The Rainbow has multiple wireless Internet options: GSM/GPRS via the mobile phone, WiFi, infrared and Bluetooth.

It is also one of the first handhelds to exploit the Linux OS. There is 128 megabytes of on-board memory and a gigabyte of expandable disk space.

The full-function keyboard is larger than what most handheld PCs provide, while the display is a 10-cm diagonal screen, which doubles up as a touch-sensitive panel. A camera is integrated. However, it is the Bulverde that gives the Rainbow its real strength—for instance, it also has the ability to send and receive DVD-quality digital still and video pictures.

iWave first demonstrated the Rainbow a few weeks ago at the Embedded Technology Conference in Yokohama, Japan. The company's engineers expect that the end price would be somewhere between that of a high-end phone and a laptop, which should make it around Rs 30,000 in India.

THE ALIANCE WILL WORK WELL FOR BOTH

NIIT Ties Up With SAP

NIIT Technologies has entered into an alliance with SAP, the world's largest enterprise applications software provider. The NIIT-SAP alliance will focus on implementing projects in the Government and Public sectors.

Arvind Thakur, CEO, NIIT Technologies spoke about the significance of the tie-up. "India is the fastest growing IT market in the Asia-Pacific region. Our strong competence in providing solutions around the SAP solution suite and proven track record in enabling government bodies to be more effective and efficient, will enable both organisations to grow," said Thakur.

Alan Sedghi, President and MD (Indian Subcontinent), SAP, added, "Governments in India are increasingly taking

IE Vulnerabilities

The problem
On February 8, security firm Secunia reported multiple vulnerabilities in Internet Explorer, which can be exploited by people with malicious intent to conduct 'cross-site scripting' and phishing attacks, disclose sensitive information, bypass certain security restrictions, and compromise a user's system.

Cross-site scripting occurs when a Web application gathers data from a user. The data is usually gathered in the form of a hyperlink that has malicious content within it.

Damages
The possible damages include: (a) A hacker can spoof the address bar and execute arbitrary HTML and script code in a user's browser session. This can further be exploited to execute arbitrary code. (b) Certain vulnerabilities can be exploited to link to local resources when a user clicks a link.

Precautions
Apply the patches available from Microsoft. Here is a partial list.
For Windows XP SP1:
http://snipurl.com/cvn9
For IE6 on Windows XP SP2:
http://snipurl.com/cvnb

advantage of technology to increase efficiency. This is a major sector of focus for us. Partnerships are key, and we are delighted to work with NIIT."

PAINTING PUNE RED

Red Hat Now Has Shades Of Tricolour

Red Hat, the open source company, inaugurated its Global Engineering and Support Center at Kalyani Nagar, Pune, last month.

Red Hat CEO Mathew Szulik had flown down for the occasion. The India support centre will address the support requirements of the growing customer base in India, and also serve customers in English-speaking markets around the globe.

The Pune centre will provide services such as Web ticketing support and knowledge management, and will also

have a test lab for hardware and software certification. Also inhouse will be a localisation team that will work on the localisation of Red Hat Enterprise Linux in Indian languages.

Red Hat's Global Support Services is a 24x7 network currently located in North America, the UK and Australia. These centres address the support requirements of customers in North America, Europe and Asia. India is a new addition to the list. Speaking on the occasion, Javed Tapia, Director, Red Hat India, said, "Pune was preferred as it has a large pool of engineering talent and it met all our requirements."

Compared with other centres across the globe, the manpower in India is highly qualified and comprises mainly technical engineers. The support provided by the Pune centre is only Web-based. Besides Web-based support, the Pune centre will also provide training for Red Hat certifications, such as Red Hat Certified Technician (RHCT), Red Hat Certified Engineer (RHCE) and Red Hat Certified Architect (RHCA). The centre currently employs 150.

Broadband
In late January, in a survey of almost 2,000 ad executives, brand managers and academics by online magazine Brandchannel, Apple was voted the world's most influential brand.

Google
Google has been ousted from last year's top spot in the same survey. Google has been beaten for its ability to 'capture the imagination'. Not surprisingly, Google hasn't fallen much, and comes in at second place.

Szulik is bullish about the Indian open source scene: "Indian businesses and professionals are eager to embrace open source. Also, the workforce here is very educated, energetic and qualified. Such rich resources are certainly an invitation to companies like us."

ASK JEEVES RE-EMERGES

A Firefox-based Ask Jeeves Browser?

Ask Jeeves and the Mozilla Foundation have begun discussions regarding the possibilities of a Firefox-based Jeeves browser, and of donating

---

One Silly Question — Suggest a new name for the Motherboard!

"I think 'Power Monster' fits the bill, since it is the power centre of the PC."
Nirbhay Kothari, Rajasthan

"I would call it 'Super Tank' because it contains all devices and chips."
Sameera Shaikh, Navi Mumbai

"The paraphernalia on the motherboard is like a cobweb. 'Spiderslate' maybe?"
Nirav Shah, Dahanu

"Maybe 'Governor' as it is the main circuit board."
Prakash Sapra, Gujarat

"It combines and links everything, so 'Multi-thread device' sounds apt."
Yawar Abbas Naqvi, Delhi

The Digital World

UNITED KINGDOM
In a poll of 2,000 UK customers, 71 per cent of respondents believe that mobile phone services are getting more complicated to understand and configure. The poll suggests that ease-of-use issues could deter them from upgrading to 3G handsets.

JAPAN
Technology-induced memory loss is now a proven social phenomenon. A study by Kohno Clinical Medicine Institute said more people are suffering from short-term memory loss caused by their reliance on digital devices and a lack of interaction with other people.

UNITED STATES
The grade school in Sutter, California, is requiring students to wear radio-frequency identification badges that can track their moves. The system was imposed as a way to simplify attendance-taking, reduce vandalism, and improve student safety.

KOREA
Korea's Internet penetration rate crossed the 70 per cent mark at the end of 2004. Korea also has the world's highest per capita use of high-speed Internet.

BRAZIL
South America is warming to Open Source, and Brazil is leading the way. The President sees Open Source as an important means of bridging the technology gap between Brazil and more advanced economies. He recently appointed Sergio Amadeu, an Open Source enthusiast, to head Brazil's National Information Technology Institute.

AUSTRALIA
eBay Australia withdrew a couple's attempt to sell the 'naming, advertising and promotional' rights to their unborn daughter for US$750,000. In the ad, the unnamed couple from Perth invited bids for the right to name their baby girl, due on March 1.

Jeeves' desktop search technology to Mozilla.

Ask Jeeves, which made its name as a natural-language Web search engine, has recently expanded into areas as diverse as blog aggregation and desktop search. In a recent meeting with Mozilla, the two companies discussed specifics of the collaboration.

"The main purpose (of the meeting) was to discuss Ask Jeeves and mozilla.org working together and how Ask can make contributions to Mozilla that make sense," wrote Tuoc Luong, Ask Jeeves' executive vice president of technology, in a February 11 blog posting.

SMS-A-FLIGHT
SMS 676711 For Travel Updates

Users of the Airtel, Hutch, Reliance, Idea, Escotel, MTNL, Spice and BPL mobile services can now SMS 676711 to receive travel-related information such as flight availability, schedules and seats available.

This two-way messaging service, launched by travel industry technology provider Amadeus, will provide instant travel-related updates to users.

Apart from this, Amadeus offers services that help travel service providers—such as airlines, hotels and car rental companies—disseminate information about their schedules, availability, pricing and ticketing of their worldwide services, to end users.

DECOUPLED FROM WINDOWS
IE7 Soon For Beta Testing

Microsoft chairman and chief software architect Bill Gates announced that MS will be shipping an update to its browser separately from Longhorn, the next major

Three Incredibly Useful Sites
Security, file extensions, and the 'Deep Web'

http://filext.com

The File Extension Source
You know what .exe and .dll files do, but what is a .qxd or an .lzh file? What do you do with them? To know more about files whose extensions you don't recognise—for example, to find out more about files with weird extensions on your computer—head to this site. There are thousands of file extension entries, a search tool, and a discussion forum, too.

www.invisible-web.net

The Invisible Web Directory
Use this site to search for information from the 'Invisible Web'—the part of the Internet that search engines do not normally crawl. You can search or browse by subject. This directory does not list everything that can be found in the Invisible Web—they "have over 1,000 resources listed", which is a small portion of what's available.

www.cert.org

CERT Coordination Center
Established in 1988, the CERT Coordination Center (CERT/CC) is "a centre of Internet security expertise". Here, you'll find almost everything you would want to know about the current state of Internet security, in easily browsable form. Information about all the worms and Trojans out there, what's being done about today's problems, what you can do, research and analysis—it's all there. Definitely a periodic must-visit.

Photograph **Mexy Xavier**

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

release of Windows. A beta version of Internet Explorer 7 will debut this summer, Gates said. Longhorn is still slated for a 2006 release.

Mike Nash, an executive in Microsoft's security business and technology unit, said in an interview that it has not been determined how or when the final version of IE7 will ship. The new browser version will run on Windows XP Service Pack 2.

IE7 will have stronger, inbuilt security features, including new protections against viruses, spyware and phishing scams. The move is the latest in Microsoft's three-year effort to beef up security in order to protect its software products.

The presence of Firefox, with its rising popularity, seems to be playing a role in the development of IE7: the new browser could also include interesting features such as headline-watching capabilities to allow it to better compete with Firefox.

RADIO, TIVO-STYLE

Can Podcasting Save Radio?

Podcasters are pioneers of sorts right now. Like the bloggers before them, they are changing the nature of the medium. Podcasters may, indeed, revitalise the art of radio itself.

Podcasting, which you will remember if you are a *Digit* reader, is much like an audio magazine subscription: a subscriber receives regular audio programs delivered via the Internet, and can listen to them at leisure.

Podcasts differ from traditional internet audio in two important ways. In the past, listeners have had to either tune in to Web radio on a schedule, or they have had to actively download individual files from Web pages. Podcasts are more flexible and also much easier to get. They can be listened to at any time because a copy is on the listener's computer or portable music player, and they are automatically delivered to subscribers, hence no active downloading is required.

Podcasters are by nature an experimental group. Podcasters are now experimenting with the nature of radio itself: unique placement of pacing elements, new forms of narrative, and so on.

By podcasting, some podcasters are already developing broadcasting skills that radio veterans have spent years learning.

Despite radio stations' best efforts, radio is rarely considered 'appointment listening' by the audience in the

Illustrations: **Shyam Shriram**

GENDER BENDERS

Dhruv Chakrabarti vs Sneha Patel
Finding The Hardware Configuration

15 sec

Dhruv looks completely 'chillaxed' and smiles at the simplicity of the task. He promptly right clicks the 'My Computer' icon and enters 'Properties'. The 'System Properties' dialog box soon appears, and he then clicks the 'Hardware' tab. Dhruv zeroes in on the 'Device Manager' that displays the hardware configuration of the entire system. What, done already?

52 sec

Sneha is slightly anxious. She clicks on the Start menu and opens the Control panel. She selects the 'System' icon and the same 'System Properties' dialog box appears. But instead of clicking the 'Device Manager' tab, Sneha clicks on 'Hardware Profiles', which is as good as a dead end. Repeated clicking makes no difference. She finally sees the light and hits 'Device Manager'. She has it right, but just a little late.

same way that people schedule specific times to watch their favourite TV shows. The answer, of course, is to let the listener pick the time. Podcasting's distribution model is transparent: the shows you want get dropped into your mobile audio device as they air, and you can listen to them, pause them, and resume listening whenever you want.

Radio stations face an uphill battle today getting to this kind of position. A station might own the commentary and the voice talent, and might even have the rights to use the music on air, but those rights may not extend to on-demand Internet broadcast. Once these licensing issues are sorted out, radio stations and networks might just find huge success adopting the podcasters' model.

IT'S A CPU, IT'S A MODEM, IT'S BOTH!
Cheaper Chip For Multimedia Mobiles

Here's a mobile phone chip that combines a modem and processor on one bit of silicon! In a bid to bring down the cost of making mobile phones capable of supporting 3D gaming and 30-frames-a-second video, Texas Instruments (TI) has developed the OMAP-Vox chip, which is currently being tested by firms in Europe and Asia, and could appear by the end of the year.

TI's initiative seeks to make multimedia functions such as video and gaming more affordable.

FIRST SPAM, NOW SPIM
Spimmers Beware!

US teenager Anthony Greco, 18, has earned the dubious distinction of being the first person to be arrested for sending unsolicited instant messages—or 'spim'.

Greco is said to have sent 1.5 million messages that advertised pornography and mortgage-related information to members of MySpace.com, an online networking service.

To top it all, Greco allegedly threatened to share his spam tools and methods if MySpace.com didn't sign an exclusive marketing deal that would legitimise his messages.

Greco was apprehended by the police in Los Angeles International airport after he made the trip from New York. He walked straight into the trap that the cops had laid for him—making him believe that MySpace President, Tom Anderson, called him to LA to sign the deal that would legalise his spim.

The popularity of online networking groups and IMs have led to the rise of unsolicited IM spim, which is considered to be much more obtrusive than spam—because spim is delivered to you wherever you are, without warning and without filters.

CENTRALISING COMPUTING ASSETS
ClearCube Brings PC Blade to India

With most companies trying to decentralise operations, data security is a growing concern. ClearCube Technology, the pioneer in PC blade technology, announced its entry into the Indian market in a press conference on February 16, 2005. ClearCube is targeting mid-size and large organisations. Commenting on the India launch, Raj Shah, Global Chief Marketing Officer, ClearCube, said, "We

Microsoft's Peabody Platform

Microsoft recently unveiled Peabody, a GSM/GPRS mobile phone platform designed and integrated by Singapore-based Flextronics. The platform is based on Microsoft's Windows Mobile software, and is a low-cost option that has almost all the common smartphone features. Available only to OEMs, Peabody (named after the charming and cerebral dog from the *Rocky and Bullwinkle* cartoon show) can be made to order.

It's not so much that Peabody phones will be crammed full of new features, but that they'll be crammed full of today's common smartphone features cheap.

Buzzword *of the* **MONTH**

What is Pharming?

Pharming has been called the 'next generation' of Phishing. Phishing requires a person to respond to a phoney e-mail in order to be taken to an illegitimate site; in Pharming, the targeted person need not respond to anything—he or she is automatically whisked to the illegitimate site.

How does Pharming work?

Pharmers use 'DNS poisoning', or domain hijacks, to redirect users to illegitimate URLs in an attempt to gather personal data. DNS Poisoning is when your DNS files are 'poisoned' with bad information. So, for example, if you have a record that points to a trusted host, a hacker with malicious intent can change it and point you in a different direction.

Domain hijacking is when a hacker takes over a domain name illegally and directs traffic coming to that domain to wherever he wants to take it. Both methods can be used to direct users to fake Web sites that look like legitimate ones, and make users disclose personal information.

When did Pharming first appear on the scene?

Pharming is simply a new application of well-known security weaknesses. There is no 'first Pharming attack ever'.

Who pharms?

Pharmers are the same kind of identity thieves who used techniques such as Phishing. Pharming is more sophisticated because it does not require the intervention of the user!

Where have I seen an instance of Pharming?

The recent hijack of New York ISP Panix is typical of the type of threat that might emerge—such a domain hijack could well be the first step in a Pharming attack.

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hope to secure channel partners in India with vertical expertise in financial services, manufacturing, BPO and healthcare, as we belive that these sectors would be the first adopters of PC blades in our country."

The ClearCube solution aims at centralising all PC computing assets into PC blades at a secure location, with end-users connected to the blades through small devices called User Ports. The PC blade computing solution comprises of the User Ports, 'cages', the PC blade, and the ClearCube Management Suite (CMS).

The User Port connects computer peripherals such as the monitor, keyboard, mouse, etc. to PC blades at the data centre or telecom closet. The ClearCube cage is a centralised chassis that houses upto eight PC blades. The PC blade is each user's actual computer. It includes processors, RAM, a hard drive and a video card. The CMS helps IT administrators manage the complete ClearCube infrastructure from any location.

THE SCOTS ARE COMING
Scotland Invites Investments From India

Scottish Development International (SDI), a joint venture between the Scottish Government and Scottish enterprise, is seeking to attract overseas investors to Scotland. They would like companies to invest in R&D centres, joint ventures with regional companies, and technology transfer subsidiaries.

Shivendra

Singh, country manager, SDI, says, "We look forward to Indian companies investing in microelectronics, telecom technologies, the animation industry and life sciences." Scotland is one of the most preferred European locations for companies looking for an offshore setup. Singh attributes this to the high quality of manpower, number of graduates, employee loyalty and the cost of setting up shop.

Scotland is also a preferred location for contact centre operations. The reason being cited for this is high-quality multilingual staff at lower cost, low attrition rates, and a favourable time zone.

Scotland recently won the European Region of the Future 2004-05 Award, presented by FDI magazine.

Sounds like the good times for India will keep rolling!

DVD PIRATES AVAST!
New DVD Protection Technology

Content-protection company Macrovision has released a new DVD copy-protection technology in hopes of substantially broadening its role in Hollywood's anti-piracy efforts. The copy-proofing on today's DVDs was broken in 1999; courts have ordered that DVD-copying tools be taken off the market,

but variations of the software remain widely available online.

Macrovision executives said that even if it's not perfect, the new RipGuard DVD technology can prevent much of the copying done with such tools and can help bolster studios' DVD sales.

"Encryption standards either work or they don't," said Adam Gervin, Macrovision's senior director of marketing, "Now the cat's out of the bag. (DVD sales) are going to be one of the main sources of revenue for Hollywood for a long time, so why leave billions of dollars on the table when you can do something about it?"

FASTER INTEL CHIPS
More Cache Per Chip

Intel recently announced a new line of Pentium 4 desktop chips, which contain 2 MB of secondary cache—twice as much as current Pentium 4s.

The new 600 series of Pentium 4s consists of four chips ranging from 3 GHz to 3.6 GHz—all of them with an 800 MHz bus. Prices range from $605 (Rs 26,300) for the Pentium 4 660 (in quantities of 1,000) and $224 (Rs 9,700) for the 630.

Also unveiled was the latest Pentium 4 Extreme Edition family—running at 3.73 GHz with a 1.066 GHz bus. These chips are made for high-end gaming PCs and serious technology geeks.

From mid-2005 onwards, Intel will start selling only dual-core processors. These are not as fast as single-core chips, but with an equivalent of two separate 'brains', will offer better performance. ⊠

Compiled by Aditya Kuber, Ahmed Shaikh, Meera Vankipuram, Preethi Chamikutty, Ram Mohan Rao and Renuka Rane
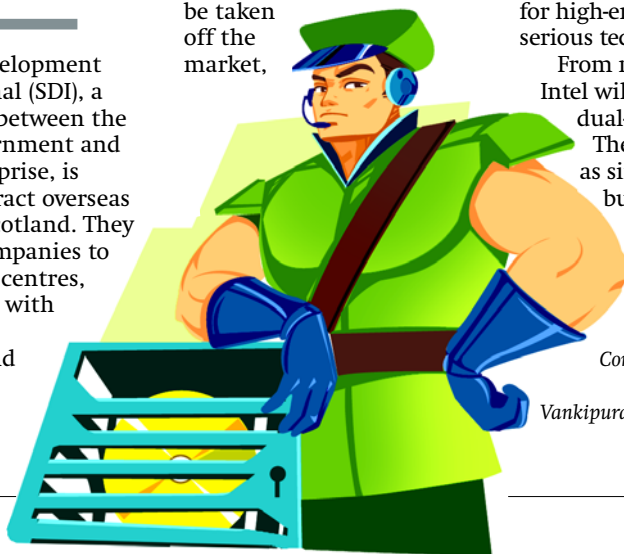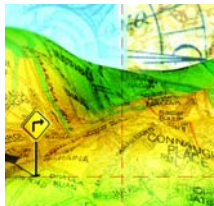
Lead Feature

The Attack Of the Mobile Gamers

The mobile gaming boom is upon us. Here's how India is gearing up

Aditya Kuber

Mobile phone users in India grew to almost 50 million in 2004, and now outnumber landline users in the country. While this has opened the doors to many allied industries, mobile gaming is being seen as the next big thing. And why not: in 2004 itself, the mobile gaming industry is said to have been worth $26 million (Rs 113 crore), and is believed to have the potential to grow to a massive $336 million (Rs 1,460 crore) by 2009. Given the numbers, activity in this industry is currently hectic, and all the major players want to carve out a niche for themselves before the big bang!

Big Business

Even now, the numbers are not small, given the size of the market. It is believed that almost six to seven lakh games are downloaded daily across India. "Ringtones are the current leaders in downloads by mobile users, but games are catching up slowly," says Rajiv Hiranandani, country head, Mobile2Win.com.

As has happened with other IT services, India may soon find itself the preferred destination for creating games as well. Given the

Illustration Shyam Sriram

Number Crunching The Mobile Gaming Industry

▶ The mobile gaming market was expected to make about £13.8m (Rs 113.16 crore) by the end of 2004, according to a report by InStat

▶ Many Indian kids see mobiles as must-have gadgets. This is the target audience for games

▶ Experts reckon that 22 crore people across the world will be playing games on their mobiles by 2009

▶ Overall, the Indian mobile gaming industry will experience growth from three million annual game downloads by the end of 2004, to 367.2 million annual downloads by 2009, and revenues will rise to $336 million (Rs 1,461.6 crore) by 2009

fact that almost 70 per cent of the income for the top three mobile gaming companies in India-Indiagames, Mobile2Win and Paradox Studios—comes from selling their games overseas, this might not be an entirely outlandish thought. Indiagames and Mobile2Win also provide games to many service providers across Asia, Europe and North America.

Friends Of The Games

Revenues for these companies have been on the rise, and the industry overall has also seen a substantial rise in game downloads. But what kind of games work best in India? "Bollywood-based games are doing very well right now, as are games that are event-based—like the ones we create for festivals such as Dussehra and Diwali," says Hiranandani.

Vishal Gondal, founder and director, Indiagames, agrees. "Bollywood is overrated, but the games we create for them do work. Unfortunately, their life is not as much as that of some others. Bollywood movies often lack a theme or a story, and are hence not as attractive for most gamers. At the end of the day, it's content that's selling, not Bollywood."

While gaming enthusiasts are taking to the new way of playing, service providers also need to be 'gaming friendly'. It is being said that Bharti Televentures (Airtel) are the most game-friendly network, followed by Hutch and Tata Teleservices. "This is mainly due to the circles these providers are present in. Bharti, Hutch and Tata are all present in the metro circles, where the penetration of GPRS is higher. Mumbai, Gujarat, Delhi, Punjab and Haryana are the top five circles for game downloads," says Hiranandani.

The Players

The average age of mobile gamers is a little higher than the average age of computer gamers. "Ages 16 to 27 are our primary target group, followed by the 25-35 age group," says Gondal. The second group of gamers prefers the slightly quieter and sportier games, including Chess and Cricket. But for the former, anything goes. "Racing, warrior games and action

> **Bollywood is overrated but the games made for them work**
>
> Vishal Gondal,
> Founder-Director,
> Indiagames.com

games are their favourite," says Hiranandani.

A look at the break-up of the types of games sheds more light on what's popular in the Indian mobile gaming arena. *(See 'The Pack Leaders')*

Interestingly, Hollywood games are the most popular, and as Gondal says, "These games have a better theme to go with them. Hollywood producers understand mobile gaming as a market and as a money-making proposition, and treat it so. Creating games for a Hollywood movie can start even six months prior to the release. In case of Bollywood movies, producers sometimes come in a week before the release, and that much time is hardly enough for a quality game."

While Hollywood has its share of classics, including *Prince of Persia*, on mobile, Bollywood is just waking up to the reality and opportunities mobile games are offering. "The *Sholay* game is the only one at present that has any chance of becoming a classic. The rest are made just so they coincide with the release of the movie and create some more hype," says Hiranandani.

Money Matters

Games for mobiles are normally priced between Rs 50 and Rs 149. And contrary to belief, games priced higher have seen greater downloads.

"On a particular day late last December, we saw 8,500 downloads of games priced at Rs 150 while those at Rs 100 were downloaded about 3,600 times. But games priced at Rs 50 were downloaded only 400 times. The problem here is that the Rs 50 games are downloaded only once and they don't get popular. Word of mouth is a very strong tool in this business, and games priced at Rs 150 benefit from this, thanks to the quality," says Gondal.

Games end up being priced this high thanks to the monies spent by these companies in acquiring rights to various titles or properties. More often than not, these are non-exclusive deals, but still cost a lot of money. "Rights to Hollywood movies and characters are the most sought after thing because the brand sells the games. This number can be as high as almost 50 per cent of all games sold. This is where we really compete," says Hiranandani.

While the GSM market is flourishing, CDMA is not far behind. Reliance Infocomm offers games for free as of now, but will start charging soon. Paradox Studios, a Reliance company, is currently developing games for them in addition to contracts from international carriers, including Verizon. "With Reliance, we see greater downloads daily, almost to the tune of five to seven lakh a day sometimes. So far, with Reliance offering them for free, we have created about 55 titles for them," says Salil Bhargava, chief marketing officer, Paradox Studios.

The Pack Leaders

Hollywood **25 %**
Cricket **20 %**
Action **15 %**
Racing **15 %**
Bollywood **15 %**
Others **10 %**

Infographic Shyam Sriram
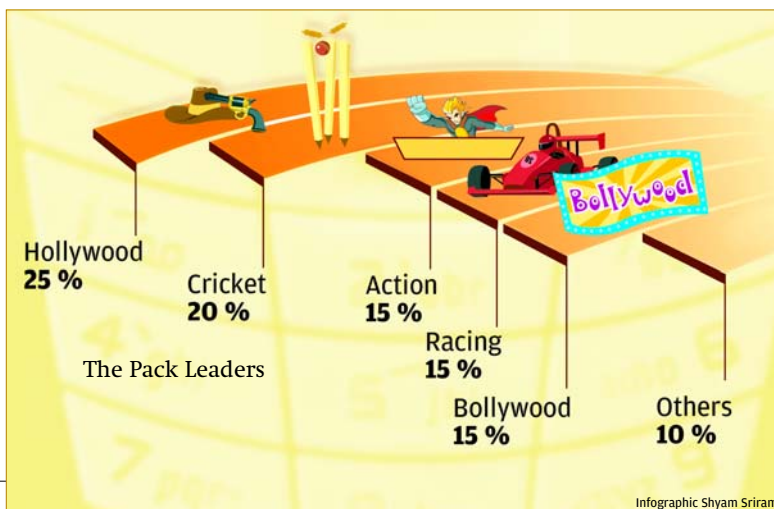
Bhargava agrees that other companies are realising the importance of gaming and could be bigger competitors on the global stage: "The race is for intellectual property. We have the rights to Jean Claude van Damme for two games that can be sold globally. Similarly, other companies could have rights to other stars or actors."

While other Indian companies create and sell about 70 per cent of their games internationally, Paradox sells almost 90 per cent of their wares in the global marketplace.

Tech Talk

With the increase of Java-based mobile phone handsets in India, most of the games being churned out are, naturally, based on this platform. But BREW, we believe, is the next big thing waiting to happen. "We are already creating BREW games for Hutch in Thailand so we won't be off-guard when it's time to do that elsewhere," says Bhargava.

Gondal agrees. Tata Teleservices has launched BREW-based games in India: "BREW has a better business model and also receives better support from Qualcomm. With Java, there is no standardisation, since there are so many vendors for it. In fact, in Japan, even Flash Lite has caught on for games on mobile phones."

But Hiranandani has a different opinion on this. He believes BREW is "not gonna happen". "Right now, almost 80 per cent of the gaming content is in Java, and given the spread—existing and

Most-Popular Games

- Cricket World Championship
- Spider-Man
- Munnabhai MBBS
- The Fast And The Furious
- Van Helsing
- Sholay
- Speedforge
- The Day After Tomorrow
- Main Hoon Na
- Teen Patti

future—of Java-based phones, BREW will not be such a significant player," he says.

Laws And Legality

In a country such as India that can be best described as a lawless haven for Intellectual Property Rights and cyber-laws, these companies are taking it unto themselves with the help of regulatory bodies such as the Telecom Regulatory Authority of India (TRAI) to maintain the sanctity of their property.

Recently, Indiagames took a competitor to court for allegedly copying the source code of one of their popular cricket games. The action sent a warning signal that stealing is not acceptable.

"The smaller outfits, or what could best be described as mom-and-pop shops, will not survive. It's not just about money but also about protecting whatever you have created," says Gondal. Bhargava and Hiranandani concur.

Future-Ready

As with computer games, the future of mobile gaming, too, is with multiplayer and 3D gaming. In Japan and Korea, multiplayer gaming is already big, and community gaming is catching on. "3G networks will fuel the rise of multiplayer gaming and give the industry its next big thing," says Gondal. Reliance is already offering three multiplayer games, and is adding more shortly, confirming this trend.

While mobility changed the way we worked and lived, mobile gaming may just change the way we entertain ourselves. Are you connected? ∎

aditya_kuber@thinkdigit.com

Imaging **Binesh sreedharan**

Jewellery
for your
Phone!

Here's looking at some eyeball-grabbing accessories for your cell

Varun Dubey

Are you one of the millions of cell phone fanatics who go into depression if the cell doesn't buzz for a while? Is your cell phone your loved one? Do you want to pamper and spoil it? We take you through the myriad accessories available to dress up your beloved and enhance its functionalities.

Standard Bundles
Most cell phones today come in a fairly bulky package, which contains a charger and a vanilla hands-free set. More expensive models come with driver disks and data cables for synchronisation with your laptop or PC. These, however, are just the basics. A little more investment, and you can get a lot more functionality and convenience.

The Cosmetics
The first thing that people change on their phones is the face-plate—Nokia calls them XPress-On covers. The Nokia 3220, for example, has Wave Covers—wave them in the air and they flash a message you have written on them!

There are hundreds of face-plate options available that let you personalise the look of your phone. Though the majority of face-plates will only fit Nokia phones, alternatives for other brands such as Sony Ericsson are available. If you have the money, your phone can take on a new avatar everyday—perhaps matching your outfit for the day. The costs? As little as Rs 60 in the grey market, for the popular mid-range Nokias, to as much as Rs 2,500 for an original Sony Ericsson P800 face-plate.

So, what next? You can now choose from a whole range of stickers and cool flickering LEDs, which can be stuck behind your phone, near the antenna. These will jazz up your phone, and without burning a hole in your pocket—the LEDs start at as little as Rs 30. If you can afford them, Swarovski crystal embedded tattoos will give your phone the uniqueness you yearn for.

Free Your Hands!
Now that your cell phone is all jazzy-looking with blinking lights and colours that border on the outrageous, you probably never want to have to pull it out of your pocket, except for special occasions or when the lights go out! The solution? Go hands-free!

Apart from hiding your phone, hands-free kits will liberate you from the chore of pulling your phone out of your pocket every two minutes and 15 seconds to answer a call or view an SMS. Just set the phone to auto-answer, and plug in your hands-free! Be careful though—you will need to get used to people looking at you strangely for walking about talking to yourself!

So what's available? A standard made-in-an-Indian-back-alley wired hands-free for as little as Rs 100, the real deal for Rs 400 or more, and futuristic-looking Bluetooth headsets that start at Rs 2,800 (grey market). Good Bluetooth headsets are really tiny, have a range of about 30 feet, and cost anywhere from Rs 4,750 to Rs 6,000. Check the talk and standby time of the cheaper models.

Jabra has released its BT800 Bluetooth hands-free, which has an LCD screen that lets you access last-dialled and recently-called numbers, send or read SMSes and access your phone's voice tags—remember, you still can't access your phone's menu or your contact list!

Even if you are one of the unfortunate few stuck with a phone without Bluetooth, there are adapters available that set your phone free of wires. Nokia retails theirs for Rs 2,300, and it works with almost their entire range of colour-screen phones.

More, More...

Another type of hands-free that is available is radio hands-free. This headset has radio integrated—you can hum your way through the chores of the day! An original Nokia radio headset is priced at around Rs 1,800. Local-made radio hands-free sets are available for as little as Rs 100, and their clarity is decent enough.

For MMS-enabled phones, Nokia has released a headset with an integrated camera that retails for about Rs 3,450. Now you can snap pictures and share them via MMS. This will make your phone look really cool and you, tech savvy—though the ladies might avoid you like the plague!

Speaking of public broadcasting, who says your hands-free kit and phone conversations need to be personal? Get Bluetooth-enabled hands-free speaker sets with inbuilt batteries. Now, people can hear both you and your caller yelling over the phone while travelling in crowded buses.

▽ What is Bluetooth?

Bluetooth is a short-range communications standard for wireless data communications. It works in the 2.45 GHz band, and allows various devices to connect wirelessly. Bluetooth technology was conceived by Ericsson, but founded and developed by Ericsson, Nokia, IBM, Intel and Toshiba.

The current Bluetooth technology provides for data transfer at a rate of 1 Mbps, with a personal area range of up to 10m-client-to-client and open air, and 5 m when in a building. For client-to-access point connections, the current range is 100 m in open air and 30 m in buildings.

Unlike Infra Red, Bluetooth does not require line of sight, as long as you stay within the range you will remain connected. Setting up Bluetooth is easy, just switch on both devices and let them find each other. Now all you have to do is enter a common pass key and you can start exchanging data.

Some of these speaker sets are meant for your car, and plug into your car using a cigarette lighter adapter. Nokia sells one car kit for Rs 12,000—it comes with a phone stand, charger, speaker and the option of using the car's speakers or headset. The cheaper version has a charger with an inbuilt speaker for Rs 4,000.

Backup Your Data

Imagine losing your phone! More than the cost of a new phone, people cringe at the thought of having to re-enter those hundreds of contacts. What if you don't have a hard-copy backup of your contacts? Such disasters can be soothed by synching your phone with your PC. All you need is the manufacturer's software and a data cable.

Data cables from leading brands cost about Rs 1,600, though most higher-end phones come bundled with them. Though most phones can connect to a via IR and Bluetooth, most of us do not have computers with IR and Bluetooth ports, making data cables more popular. You can buy a USB to IR or USB to Bluetooth adapter for Rs 500 and Rs 1,000 respectively.

Certain high-end phones with SD I/O (Secure Digital Input/Output) interfaces, and no Bluetooth functionality, can use Bluetooth cards that look like SD memory cards to become Bluetooth-enabled. The same interface supports Wi-Fi cards and modems, too.

Powerless

Your standard phone charger is good for your home, office or hotel room. What if you are travelling by car and your batteries die? Buy a cigarette lighter car charger for your phone, which costs Rs 200. Now charge your phone using the car battery. Not everyone is a Nokia fan, and as a result, when leaving on a family trip, you have to pack three or four different phone chargers. This problem can be solved by buying a universal

There is another type of charger that uses your energy! Connect it to your phone and start winding. It gives you talktime and a great workout!

Why is it called Bluetooth?

Harald Bluetooth was king of Denmark in the late 900s. He managed to unite Denmark and part of Norway into a single kingdom and introduce Christianity into Denmark. He was killed in 986 during a battle with his son, Svend Forkbeard. Choosing this name for the standard indicates how important companies from the Baltic region (nations including Denmark, Sweden, Norway and Finland) are to the communications industry, even if it says little about the way the technology works.

charger, which has pins that connect to various phone brands, an all-in-one adapter, and costs a mere Rs 150.

Another cool accessory is the desk stand, which lets you charge your phone *sans* the hassles of attached wires—when the phone rings, the desk stand's speakers and mic let you accept the call without having to touch the phone.

What happens when you are out in the wilderness (read: away from a electric socket)? There is a charger that runs on three AAA cells and can restore enough power to your phone for about an hour of talk time or four hours of standby time. And all this for just Rs 120!

There is another charger that uses *your* energy! Connect it to your phone and start winding. It gives you talk time and a great workout! This product is yet to make an entry in India.

Signal Strength

If you travel to areas with low signal strength, or your operator has bad coverage, consider external antennas. These attach to your car roof, connect to your phone wirelessly, receive signals, amplify them, and then send them to your phone—the result is much higher clarity than normal.

Other Cellular Eye Candy

Almost all manufacturers offer external cameras that you can use independently. The Nokia Medallion costs Rs 8,000, can be worn around the neck, and displays the photos you click.

Nokia also has the Digital Pen, for approximately Rs 12,000. You can scribble notes and send handwritten personalised notes via MMS. Whatever you scribble is stored in the pen itself, and can later be transferred to a PC. It also boasts of Bluetooth and an integrated camera.

Another useful but quaint accessory is the Cell Socket. Connect your phone to its cradle and receive cell phone calls via your landline—like an EPABX system.

Another cool accessory is the Travel Pac Wireless Handsfree Kit, which connects to your phone speaker and beams the voice at any of two preset frequencies that you can catch on your car's FM radio using the car speakers as a hands-free kit!

This is just the beginning. Accessories are being invented by the thousands—just think of a way life could be easier, and accessorise! Not all the aforementioned accessories are readily available in India, but then again, what good are relatives who live abroad? ⊠

varun_dubey@thinkdigit.com

Staying connected all the time is now a reality!

2.4 GHz

1 Mbps

Using Bluetooth, you can achieve data transfer speeds of 1 Mbps between your devices

Enter The Matrix

Imagine every device in a grid; imagine if every device could compute and store data like a supercomputer

Ram Mohan Rao and
Robert Sovereign-Smith

Think of the way you use your mobile phone, anywhere you have network. Think of how you charge it: at least 10 points all over your home, your office, your car charger, in hotels, airports, airplanes and trains! Now, think of these network areas and electric supplies becoming computing power outlets...

There's a fundamental reason why you cannot store a two hour DivX movie on your handheld computer; it's the same reason you cannot do high-end video rendering on your old Pentium III computer. Resources!

From RAM to computing power and hard disk space to optical drive resources to network bandwidth, every aspect of our current computing experience is marred by boundaries, by limitations. Computing technology is on the verge of evolving past these boundaries—researchers have been coming out with solutions to the current limitations.

The Computer Caste System

Just as in every other aspect of life, we have segregation of the haves and have-nots in the computing world. Just as everywhere else, this boils down to money. The reason why one of us has an AMD Athlon XP 64 and the other still works on a Pentium 3 500 MHz, is the Computer Caste System.

What about electricity? Every little house in India's big cities enjoys the once-luxurious commodity called power. Another example is Internet penetration. This has increased in orders of magnitude over the past decade. Why? The keyword here is utility! A computer or a car are examples of luxuries; electricity, water, public transport and the like are examples of utilities. You pay for as much as you use!

Most of us cannot think of buying a limousine, but we can rent one to impress a client. So imagine if you could use computing power as variably as you do water or electricity. At the end of the month, you receive a 'computing bill'. This is not a dream; in fact, experts say it's only a matter of time before it becomes the norm.

Utility Computing

As we mentioned earlier, every traditional computer environment setup is limited to itself, every computer is self sufficient, or actually, self limiting. Every component of a computer is treated as an individual product—each computer's graphics card for example, dictates

what that computer can achieve in terms of display. The same applies to hard drives and other components. Networking has reduced the limitations of storage space—now other components of the computer need to break free.

In a Utility Computing (UC) scenario, nothing is bound to anything else. There is a virtual pool of resources, available to any task, and as a result, any user, who needs it. The dynamics of this resource pool are constantly changing as the needs of the collective user-base change.

In order to understand the functioning here, imagine a PC just the way it is, with the difference being the fact that none of the components in your computer belong solely to you. In a UC environment, your computer's unused resources could be allocated to other users in the same UC grid. It all boils down to leasing computing resources just as we do for electricity. Billing can also be done easily on a per-grid, per-group or per-person basis. We could have next-generation *Param*s sitting in government labs, computing for the masses.
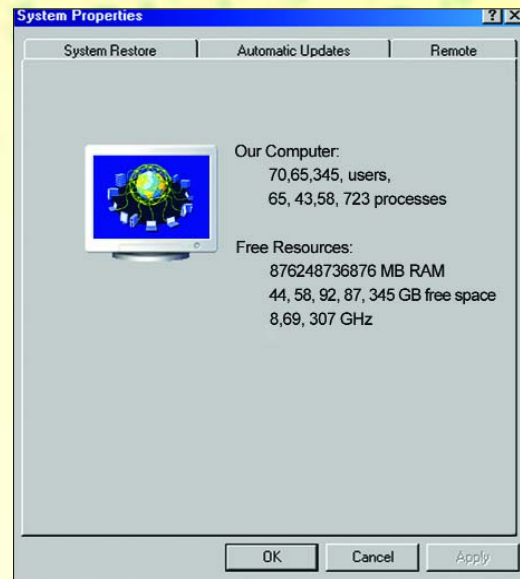
What About Software?

Current software is as limited as our hardware, but this will need to change in order to achieve Utility Computing. In a true UC environment, things such as an OS don't mean a thing. Users are not classified according to 'Windows' or 'Unix', but merely by the task they want done. Yes, applications need to remain familiar, but hardware and software need to become two independent entities.

So You Mean Grid Computing?

No, we do not! Grids may simply enable utility computing. Grid computing is used to achieve impressive number crunching capabilities, as is the case with the SETI@home project.

The Search for Extra-Terrestrial Intelligence (SETI) revolves around capturing radio waves from space and computing them to look for patterns—as in communication. The problem is that all solar masses in the universe release radio waves into space. Essentially, the SETI project is looking for the proverbial needle in a haystack the size of our universe. Since they don't have multi-billion dollar research grants, they hit upon the idea of using the Internet as a distribution tool and getting computing help from the masses. If you

As technology becomes more pervasive than ever, your PC might soon wield more power than today's supercomputers

System Properties

| System Restore | Automatic Updates | Remote |

Our Computer:
70,65,345, users,
65, 43,58, 723 processes

Free Resources:
876248736876 MB RAM
44, 58, 92, 87, 345 GB free space
8,69, 307 GHz

OK   Cancel   Apply

Soon, My Computer will become 'Our Computer'

download and install the SETI@home client, your computer will download a small chunk of radio data from SETI, and when you are not using your computer, it processes the data.

Because of the millions of people running this program, SETI benefits from free computing that would otherwise cost them millions of dollars in supercomputer time.

'Our' Computer?

Utility Computing, however, is not just about number crunching. It is about sharing every resource that a computer currently uses. And more importantly, UC is all about 'on-demand' resources.

In the ideal UC scenario, terms such as speed and capacity do not exist. When a task needs to be completed, it is done as fast as the overall UC grid will allow. So, say you want to render a two-hour animation you created, you don't need to worry about which drive to store the large file on, or shutting down applications to make the process faster. Hard disk space and CPU and GPU resources would be allocated as the need arises. Gigahertz clock speeds and GBs of disk space would mean nothing. A system specification

A Chip That Computes 10 Times Faster Than Exisitng CPUs

IBM, Toshiba and Sony recently collaborated on research for a new chip called the 'Hard Cell' or 'Cell'. This new chip will power Sony's upcoming PS3 gaming console. Toshiba will also put the Cell to use in an upcoming line of HDTVs. The companies call it a "supercomputer on a chip."

The best thing about the Cell is that it is rated to be 10 times faster than existing CPUs. According to IBM, it contains "eight synergistic processors and top clock speeds of greater than 4 GHz (as measured during initial hardware testing)." This new chip is capable of massive floating point processing—which is required by graphics.

However, that's not the reason why we mention it here. The feature that excites us most is that the cell is a multi-core chip with a difference: each processing unit in the Cell can process information from different tasks. Existing chips can only handle one

task at a time, so even if the task is relatively small—using almost nothing of the CPU's capability—the processor does not accept more tasks. With the Cell, however, multiple tasks can be executed simultaneously, with the central Processing Unit (PU) deploying work to the Attached Processing Units (APUs). This increases efficiency tremendously, and is the reason why the creators are confident of the Cell outperforming current chips 10 to 1. Since the APUs are sort of like freelance workers, unused computing power can be shared over a network of Cell-based computers, forming a computing Grid.

The 'cell' that gives the chip its name doesn't refer to the hardware, but to a virtual clump of software that roams the system looking for computing resources. For Sony's PS3, this means that a network of PS3s can share resources so that everyone has a better gaming experience. This could be the beginnings of Utility Computing. At least we know now that the hardware already exists!

query might return something akin to what KaZaA displays—Our Computer: 70,65,345 users, 65,43,58,723 processes; Free resources: 44,58,92,87,345 GB; 8,69,307 GHz!

Who Will Govern UC?

A valid question, but one that still has no clear answers. In order for UC to become a reality, governments will need to get involved. The infrastructure required is tremendous, and more than any individual company can finance. Of course, software also has to be written to support and share the hardware.

Another possibility is that, as with SETI@home, groups may form to freely share resources and form private grids. In this scenario, everyone buys hardware and software and then joins their favourite UC group. Perhaps private groups will charge a nominal fee to become a member and review each member's contribution, based on which the annual fee would increase or decrease.

Another possibility is to leave UC to care for itself, as happened with the Internet. Just a few governing bodies here and there to prevent total mayhem, but we'd still have the gigantic processing power of every computer online!

What About Privacy And Security?

The greatest fear of using UC will stem from privacy and security. Every computer out there, whether at work or at home, contains some information that the owner considers private. People fear that joining a UC grid is akin to publishing all your hard drive's content on the Internet—and with write access!

Perhaps that's why governments need to be involved. We need the accountability that is sorely lacking with the Internet. The threat of spyware, adware, viruses and worms from the Internet is already invading our privacy—we don't need less privacy, we need more. Software and hardware vendors will claim to design products that offer you privacy, but they promise that already, and we already know that everything tech is fallible.

What About Other Devices?

It's not only computers that will benefit. With pervasive computing and convergence becoming reality, soon everyone will know how to use gadgets, and will want to only work with gadgets. We will forget about, say, standard refrigerators. We will want a single input device, like the computer, and expect everything else to know what our computer does.

Let's say you plan a two-week vacation; you tell your computer this; the computer informs all your gadgets. The fridge informs you that you better

Info-graphics Binesh Sreedharan

Communications Central

Everything will be able to communicate, and share resources

remove the ripe tomatoes and the Macaroni Salad, lest you want to come back to a messy and smelly fridge. The washing machine reads the tags on your clothing and tells you that you need to do a quick wash if you plan to take your best clothes. The car informs you that you haven't had it serviced this month, and you definitely need to do so before your long drive. Your mobile automatically selects and chooses the right roaming plan. You give the go ahead, fall asleep, your body monitoring-watch and alarm clock communicate and find the ideal time to awaken you—they consider how much rest you have got according to your body's readings, and also how much time you normally take to get ready at this time of the day. You wake up, your hot bath is already waiting for you...

This scenario seems out of place when talking about Utility Computing, but is a necessary example to inform you that everything will have an embedded chip soon, and everything will be connected. Universal resources are the key; and just as they are not hardware or software specific, the are not device or task specific either.

Is Any Of This Actually Possible?

All of the above was theory of course, but theory based on facts. (*See boxes 'Sun's Grid' and 'The Cell'*) The fact is, companies have just started releasing results of years of research. The Cell, for example, was developed by IBM, Toshiba and Sony. It will be the first processor that can share resources with similar processors.

Sun's UC plans also prove that there is a market for on-demand computing, and that the bigwigs are sitting up and taking notice. UC needs the likes of Sun, IBM, Sony, and others, to take interest in this promising field. Not only will this increase competition, it will speed up the creation of solutions to the problems faced by UC.

As technology becomes more pervasive than ever, your PC might soon wield more power than today's supercomputers. And all this will come at the price of your household utility bills! ⊠

ram_mohan@thinkdigit.com
robert_smith@thinkdigit.com

Sun's Grid

Sun Microsystems Inc. is ready to unveil its Sun Grid. It plans to open six grid centres around the world.

Customers can access the grid and are charged a mere $1 per hour per CPU. Out of the six data centres, three are in the US, two in the UK, and one in Canada.

The servers consist of both Sun's SPARC and AMD's Opteron processors, all running Solaris 10. This is the first step to managed UC being offered around the world. Sun plans to have a global grid, but with regional services.
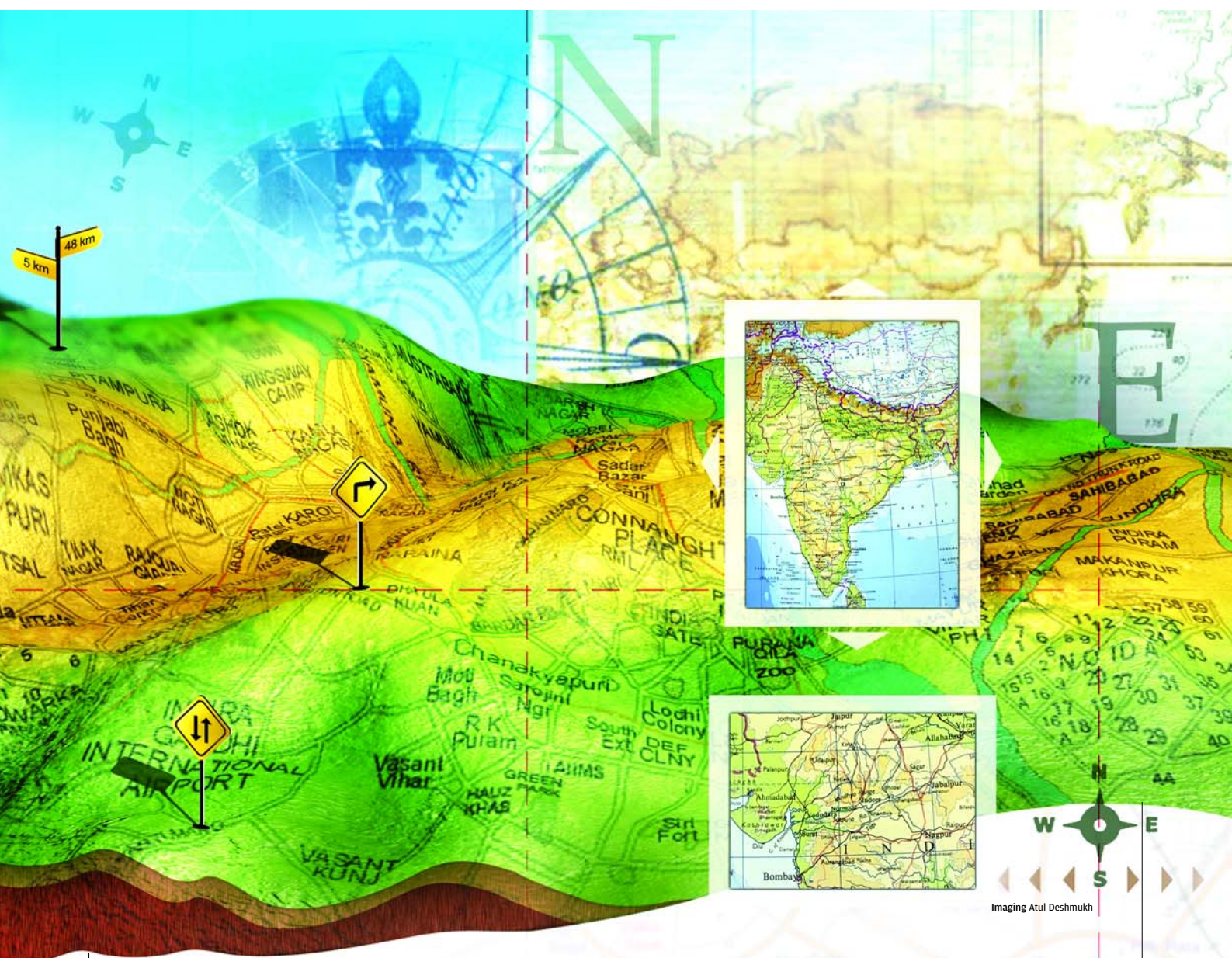
'How Do I Get There?'

This question could well be redundant, thanks to 19-year-old Rohan Verma's MapMyIndia.com

Meera Vankipuram

The geographically challenged amongst us have yet another reason to cheer. Nineteen-year-old Rohan Verma from New Delhi has helped create a Web site that has digitally mapped several cities in India.

MapMyIndia.com, one of the largest map and digital information databases in India, helps you access the map of a particular city, town or village at the click of a mouse. Just type in the name of the state, city and area and bingo, you get a detailed map.

You can choose to zoom in or out further, or even pan across the map to look for a specific area. City maps have a greater resolution, and can be zoomed in to the street level. Maps of rural areas have not yet been charted in such detail.

Cities in the level 1 to 4 segment have maximum detail, and you can choose to plot on the map anything from holy sites to railway stations, and hotels, shopping centres, historical landmarks, hospitals, and even the nearest ATMs.

Digitising India

Created with the help of satellite images and geographical surveys, digital maps resemble photographs with information mapped in the form of points—each point has a specific colour, representing land, water bodies, roads, etc. Digital maps are also accompanied by databases of relevant information—a list of popular tourist spots, for example.

Intended to be an Indian version of popular international ventures such as Yahoo! Maps and Mapquest, MapMyIndia was an idea born during Verma's summer internship with

CE Info Systems, a Delhi-based company that has been involved in Geographical Information Systems (GIS) development for the past decade.

Says Verma, "I wanted to develop a service that was India-specific. It was originally intended to be an Indian version of Mapquest, but now we're thinking of adding more services relevant to India."

The MapMyIndia team has currently mapped about 35 cities and several villages, with more being added on a weekly basis. The team is also collaborating with state governments to execute the project.

Says Rakesh Verma, MD of CE Info Systems, "We received numerous requests from users and members of the GIS community to prepare an interactive and user-friendly map-based information services."

By making the service available on the Web, MapMyIndia has made it easy for anyone with a PC and an Internet connection to access the information. "We aim to empower anyone who travels within India—be they local residents or business travellers or tourists," affirms Rohan Verma.

MapMyIndia also provides customised solutions for businesses. Displaying the location of a company, bank or hotel on an interactive map could be an attractive value-add for a customer.

Says Verma, "We could extend our GIS services to ATMs, for example. Using the

"It (MapMyIndia) was originally intended to be an Indian version of Mapquest, but now we're thinking of adding more services

Rohan Verma

The brain behind MapMyIndia.com

Store/Enterprise Locator feature on the site, people who are in a particular area can log on and find an ATM."

MapMyIndia will soon also provide business listings, which can help customers identify business districts, restaurants, and so on.

Track Your Team

In 2000, CE Info Systems launched 'Mappls Mumbai Pathfinder' in print and CD-ROM versions, a comprehensive collection of digital maps of localities in Mumbai city. 'Pathfinder' covered over 800 square kilometres of geographical area, demarcated by PIN codes, telephone exchanges, police stations, municipal wards and so on.

The collection is in the form of sectional maps of 15 square kilometres, each linked to the other. The maps depict every street and road in a particular area, including prominent landmarks, offering a magnified view of up to one square kilometre of select localities—and even individual buildings.

Although Pathfinder was a fairly comprehensive undertaking, an online venture, feels Verma, would help a lot more people access and utilise the digital map database. MapMyIndia has now tied up with several corporate organisations, as well as the Government of India, to add more cities, towns and villages to their database.

The company is also planning more features such as car-based navigation systems, and local tracking systems—for parents to track children returning from school with the driver, for example, or a company to track its sales force through mobile phones and other WAP/GPRS enabled devices. These services will be made available to customers via MapMyIndia's "Business Solutions" section.

Stanford Sophomore

Rohan Verma's initial ideation was followed by exhaustive research on the technology back-end, the business model, and design specifics. Post the launch, in the first month alone, the Web site registered a million hits—a number that has been steadily on the rise.

The MapMyIndia.com team currently comprises software developers, cartographers and GIS digital experts.

Rohan Verma is currently pursuing a BS in Electrical Engineering at Stanford University in the US. At Stanford, Verma is involved with the Hindi Film Dance club ("There is only one kind of Indian dance out here, and that's the Bollywood kind!"), sports and entrepreneurship cells.

He has earned many accolades, including the 'Best Work Study Student Award' from the Stanford University Registrar (for making the Stanford Bulletin Web site more accessible and Net-friendly), and the President's Award for Academic Excellence in the Freshman Year.

Verma foresees a career in chip design or architecture. "I also want to develop and offer some world class location-based services to people in India," he says. ⊠

meera_vankipuram@thinkdigit.com

The more detailed the query, the better the search results.

MapMyIndia also provides customised business solutions: companies, banks, hotels, and the likes, could be featured on the map of a particular area

Write In

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

...Nokia 9500 Communicator

Sanket Naik

I got to use the Nokia 9500 Communicator for about a month. Here's a brief account of my fling with it.

Day 1

We received the 9500 Communicator, and as usual, The Question was asked: Who'll get it for a month? Well, since I reviewed the earlier 9210i Communicator, I made my stand clear. I opened the box, and behold, there it was—a big silver chunk. Someone shouted: "It's a compass box!!" For the moment, I slotted in a SIM card and hooked up the thing to charge it.

Day 2

The sliver-grey outfit on the 9500 doesn't do it justice; Nokia could have come up with a better colour scheme. This phone is much better than the 9210i Communicator in terms of weight and ergonomics. I found the full QWERTY keyboard a pain to operate: the keys were cramped. I thought I'd get used to it over time. Typed in an SMS proclaiming I had a 9500, and sent it to all my friends. In the evening, they were drooling all over the thing.

Day 4

Used the device to take some photographs, and wanted to transfer them onto my PC. Went through the menu looking for the Bluetooth and switched in on. Transferring files was a piece of cake. Later on,

I found you can activate or deactivate Bluetooth, IR, etc. using a shortcut on the keyboard—how thoughtful of Nokia. The phone part of the 9500 is a usual series 40 Nokia phone. The keys are large, however, the round five-directional rocker is quite dodgy—you end up getting into the wrong menu when you press the centre of the rocker.

Day 7

Decided to try out the PDA functionalities. The menu structure is easy to grasp, and applications are properly grouped. Synchronising the phone with Outlook means you first need to install the Nokia PC Suite from the CD. The Nokia PC Suite places an icon in the system tray, and one can select the appropriate module. Using the software is simple: just select, click 'Next', and voilà—all my contacts were in the phone. I also copied some MP3 files and other data to the phone.

Day 13

Went to the Orange centre to activate GPRS on my SIM, and was politely made to wait for a half-hour before they did the needful. It cost me Rs 500. I tried some browsing, and though I'm not accustomed to a small screen, I found it reasonable. Filled in the mail server settings and got all my mails delivered right to my palm. Fantastic!

Day 21

Attending a press conference at the Taj, I decided to check out the WiFi; however, despite my best attempts, I wasn't able to configure the device to connect to their network, and discarded the idea. Back at the Test Centre I got it working in about three hours. (Frankly speaking, I am not good at networking.)

Day 23:

The 9500 Communicator is a great device, loaded with features, easy to use, and the best thing to show off with. Though the keys are small, getting used to them is a matter of days; in my case, 15 days!

Day 30

What everyone's got to say about the 9500 is, it's a great device if you don't mind keeping it gripped in your palm all the time.

sanket_naik@thinkdigit.com

Imaging: **Sivalal S.**

Address

Phone

Notes

TAKE a CRACK

How would you display your company logo before your Windows XP Login screen?
Send your solutions to **takeacrack@ thinkdigit.com**

Displaying Your Company Logo Before The Windows XP Login Screen

LAST MONTH'S CHALLENGE

▶ Creating A Windows XP Boot CD With SP2

Prerequisites

▶ Windows XP CD
▶ Windows XP SP2 archive
▶ CD-RW Drive
▶ CD-Writer Software with Boot CD feature
▶ A software that can extract Boot image from Bootable CDs
▶ Around 1 GB of free space on hard drive. This can be freed once the CD is created.

A Three-step Process

STEP 1 First, create a folder on your hard drive e.g. **D:\XPCD**. Now, copy the entire contents of existing Windows XP CD to this folder. The Windows XP SP2 executable file is an archive of the Service Pack 2 files, so you can use WinZip and extract SP2 files to another folder say **D:\SP2**. Now, locate **update.exe** under **D:\SP2**. This can be found inside the sub-folder named 'update'. Go to the DOS command prompt and change your directory to this 'update' folder. Run the command "**update /integrate:<dir>**" where "**<dir>**" is the directory you saved the Windows XP CD files to, ("**D:\XPCD**" in our case). This will start integrating SP2 into the

Starting the Integration Process

Windows XP Installation files saved at **D:\XPCD**. You should get message box confirmation that integration was successful. Now the **D:\XPCD** folder contains Windows XP installation files with SP2 integrated.

STEP 2 Extracting the boot image from the existing Windows XP bootable CD is easy. You need to use software that can do this. Bart's Boot Image Extractor (BBIE) is a simple but useful utility and is available for download from **http://www.nu2.nu/bbie/**.

Insert the Windows XP CD into the CD drive, and go to the command prompt and change directory to the folder
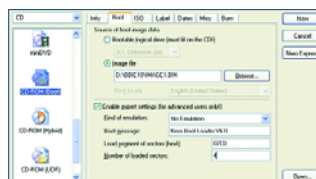
Selecting the boot image options

where BBIE is located. Run "**bbie -v <CD drive letter>**" e.g. "**bbie -v F:**". You should now find a file named '**image1.bin**' being created in the same folder from where bbie.exe was run. This file is the Windows XP Boot image.

STEP 3 Insert a blank CD-R media into your CD Writer. Use burning software such as Nero to

Starting the burning process

create your boot CD. Go to **File > New**, select 'Boot CD' and select the boot image file that you created in Step 2. Make sure that emulation is set to 'No emulation'. The boot segment is automatically filled in by Nero—all you need to do is set the number of loaded sectors to 4. Select Mode1 and ISO Level 2, from under the ISO tab. Enable all options under 'Relax ISO Restrictions', and use the ISO 9660 Character set. Under the Label tab, enter the same label name as that of the original CD. To find this, just insert the Windows XP Installation CD into your CD-ROM drive and open Windows Explorer to see the name displayed against your CD drive. Click 'New' to open the File Explorer browser. In the file browser, select all the XP Installation files with SP2 integrated (from **D:\XPCD** in our example) for writing to a new CD. Finally open the CD Write dialog box, and under the 'Burn' tab, enable the Finalize CD option. Now, write the compilation to the blank CD-R.

You have successfully created a bootable Windows XP installation CD with SP2.

When they said widescreen, they meant it. The 7710 looks good from any angle

A cursory glance at recent Nokia products, points to an alien race of engineers employed by the Finnish giant. The snake-like button layout of the 7260, absence of a keypad on the 7280, alien symbols etched on the products... evidence of Martians who like to experiment with mind-altering drugs.

In this range of flower phones, the Nokia 7710 resembles a yuppie—with silver hair, a grey suit, and a big, bad, gorgeous screen. At a resolution of 640 x 320, with 65,000 colours and a comfortably-wide viewing angle, the screen is a beauty to behold. With touch sensitivity alongside some nifty software, the unit shines as a personal information device.

Based on the Symbian Series 90 OS, the 7710 has 90 MB of internal memory, expandable to 1 GB via MMC cards. The widescreen is put to good use with an Internet browser, a PIM suite

for SMTP, POP3 and IMAP4 e-mail protocols, along with VPN support, Bluetooth, GPRS, EDGE, HSCSD (did we mention that the 7710 is a phone?), conference call, fixed dialling number, a flight mode...if you are a gamer (who isn't!), this Nokia promises much love with support for MIDP 2.0 and CLDC.

Nokia 7710*, proof that Martians are a friendly race.

Nokia 7710

and readers for Word, Excel and PowerPoint. Multimedia dances to an integrated music player with stereo audio, a one mega pixel camera with 2X digital zoom, an extensive set of video features such as playback, streaming and recording, and an FM radio, which the Martians like to call the 'Visual Radio'.

Underlining its yuppie leanings, the 7710 is the businessperson's best friend with support

* Read our Test Centre's review of the Nokia 7710 in the cover story of this issue

Sumod Hajela

Building a Needle Stack

Selfish, individual work can indeed have a collective effect—given the right tools and context

A long time ago in a place far, far away, the wonderful concept of bookmarks was born. Fast forward to today, the collection of a few hundred bookmarks in your browser is nowhere as useful as the simple text entry box on the Google homepage. If you have been bookmarking the Web over a couple of years, you know what a mess the most studiously organised collection of links can become.

It all begins with the problem of categorising. Bookmarks tend to be organised as a folder hierarchy where each folder is the equivalent of a category and various sub-categories. This is your personal taxonomy. Now you must answer this simple question—where should a link be saved? Eleanor Rosch, who has been credited with revolutionising the science of categorisation, asks, "If you're to identify true or false, an apple is a fruit, you're fast. A boysenberry is a fruit? A bit slower. A kumquat is a fruit? Pause: uuuh, I think so."

So where does a page about configuring a Windows 2003-based Web Server go for you? If you put it under Windows, you may not be able to locate it when you think of Web servers because you are thinking of IIS, Apache, Xitami, Abyss, etc. Web server software, and contrariwise if you are thinking based on the OS. If you put it under both, are you complicating retrieval or simplifying it?

Separating where the object is stored and how it is marked for retrieval is the biggest step to organising information the way our brain wants to get it back. The same memory could be triggered by many different stimuli. It's hard enough to remember things as it is—imagine how hard it would be if there were only one handle to pull the memory out with.

Today, the new shared power marking tool is Del.icio.us. It's a Web-based service that allows you to save your bookmarks online, with a twist. Much like Furl or Spurl or Backflip, it makes stored links publicly viewable on its home page. The twist is that you can associate tags—just words—with links, and those tags become publicly available too. This means that if you go to Del.icio.us (http://snipurl.com/cxkp) and look at Del.icio.us/tag/Apache, you can see all the pages people using Del.icio.us thought were related to Apache. Look at Del.icio.us/tag/Apache+Windows, and you get the subset of pages that other people thought were related to both these concepts. Any tag that you use that has not been used before only adds to the vocabulary of the system. You can try any combination of tags to slice your view of links the way you want. For a detailed overview, check out this Us.ef.ul page.

The interesting new concept is the collective effect of selfish individual work. Because your link is added to a collective heap of tagged links from which people can sort out things of their interest and slap on their own tags to organise their view of the heap, it becomes a great medium for social discovery and meaning.

The concept of the Semantic Web (http://snipurl.com/cxkv) is a tantalising one, where all pieces of information on the Web are described by a computer readable global taxonomy so you can always find exactly what you are looking for. The forces that make Wikipedia a fantastic resource despite its incompleteness, shortcomings and serious problems of arbitration are being brought to bear around the Tagged Web concept. According to the Semantic Web, the meaning must be connected to the categorisation so the world can make sense of it. The Tagged Web believes that 10,000 monkeys can indeed create something meaningful. Just slap on words that make the resource meaningful to you, and given enough other people doing the same, the resource will be well-defined enough.

Whether you use Del.icio.us to browse pages or flickr (http://snipurl.com/cxla) to see photographs, there is a constant side list of related tags that encourages you to explore. In your own link collection, you can see tags that other people have applied to your tagged links or photographs. You can see who else is marking up the same things that you have.

Stewart Butterfield, CEO of Flickr, says, "We've done step one of relatedness of tags, which is just cluster analysis of how people tag, and then we suggest related tags. So if you tag 'Italy', it will suggest 'Rome', 'architecture', 'travel', 'food', 'Europe', etc. And it works astoundingly well."

Says the scientist Howard Rheingold, "I look to see who the other people are on del.icio.us who tag the same things that I think are important. Then, I can look and see what else they've tagged... And isn't that part of the collective intelligence of the Web? You meet people who find things that you find interesting and useful—and that multiplies your ability to find things that are interesting and useful, and other people feed off of you."

The DMOZ Open Directory Project (http://snipurl.com/cxll) works on a system of trusted 'editors' responsible for a small slice of their category tree who are permitted to add links to their categories. While it isn't languishing, there is a real shortage of people volunteering to handle the less 'popular' categories. With a service like Delicious where everyone is responsible only for their personal view of tags and links, the emergent behaviour will take care of that problem too. Part of that emergent behaviour are the many cool tools that hook into Del.icio.us (http://snipurl.com/cxlc).

If you are looking for needles, try browsing Del.icio.us links via fac.etio.us (http://snipurl.com/cxlw) for a serendipitous experience.

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

Jumpstart

Blog On The Go

Deepak Pawar marries the growing capabilities of mobile phones with the next big thing on the Internet—blogging. The result is a potential moneyspinner

Aditya Kuber

Blogging, with an estimated 25 million active users, is the next big thing, say pundits all across cyberspace. Taking this to the next level—mobile blogging—would be logical thing to do. But how will this work? Are there enough people interested in blogging using their mobile phones?

Deepak Pawar of Midas Events, the company that has put up Mobylog.com, India's first and so far, only mobile blogging site, thinks the concept will certainly work.

"As of right now, there are a number of mobile phone users who have upgraded to camera phones, and these guys are not sure how to share their photographs. Such a site would help them by not just storing their photos, but also sharing them with minimal fuss and least requirement of technological know-how," says Pawar.

The idea was born when Pawar, a self-professed tech freak, was wondering what to do with the hundreds of photos he had on his phone. Scouring the Net for a resource, he found a few, but they were all either paid or did not facilitate mobile blogging.

Imaging: Binesh Sreedharan
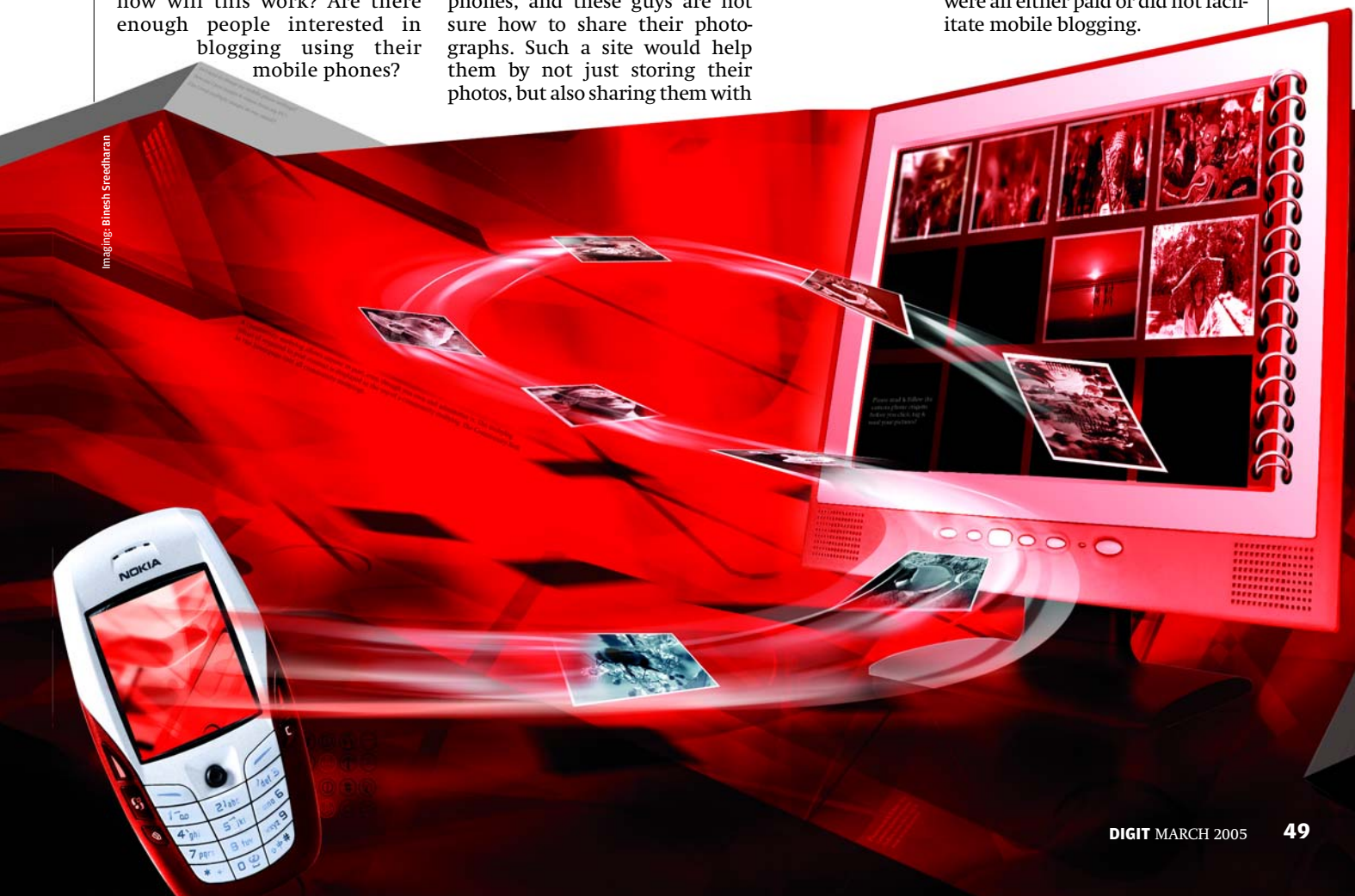
"We will endeavour to keep this site free. This would encourage more users to sign up. Our revenue would mainly come from advertising. There are some corporates who are already asking us about the possibilities, and this would form one revenue source for us," elaborates Pawar.

Mobile Blogging has been around for almost a year now. Nokia had launched 'Lifeblog', a software that allowed users of its 7610 model to upload to a Web site and create their own photo blog. This, however, cost a whole lot more! The software had to be bought for $30 (Rs 1,305) and a subscription to TypePad, where the blog would be hosted, cost about $5 (Rs 218) per year. So, after you had paid nearly Rs 28,000 for the phone, only an additional cost of approximately Rs 1,600 would let you host your own mobile blog.

Other services available are restrictive in nature and do not support all service providers or cell phone models. Pawar would not like to have any restrictions on Mobylog, though, and plans to support every service provider. "That would be the strength of our offering... if we started charging or restricting, the site would end up as a dud," says Pawar.

The Cost Factor
But setting up something like this would come at a price, and Pawar is ready to bear these costs. "I'm emotionally attached to this idea and I will do anything it takes to ensure its success," he says.

So far, he has spent close to Rs 35 lakh on setting up the back-end and employing a team to develop the service. "We are a team of 15 and this could expand later. We have set up three servers, one that handles all the e-mails coming to the site, one for the database and one that mirrors the site so that we are not crippled in case of an eventuality."

Options of uploading to the site include e-mailing a given address using the secret word or MMSing your photos and text. Just like that!

> "...if we started charging or restricting, the site would end up as a dud.
>
> **Deepak Pawar**
> Midas Events

The database this site would generate would also be humongous. Every user would have his/her own 'secret word' that would be a part of the e-mail sent to the site and would identify the sender. This would ensure that the photos are uploaded on to the correct blog. "We are using the .NET framework and the site is logically very strong. We do not expect too many problems once we go live," says Pawar.

Ouch! Numerical Keypads
Once you start thinking about it, doesn't it seem excessively painful to enter text using a numeric keypad for input? Of course millions of teenagers send gazillions of characters of SMS text to each other using only a numeric keypad, but comparing text messaging to blog entries is not fair. SMS messages are short by necessity, and the people that use them have developed elaborate shorthand which speeds up input. A blog entry, on the other hand, tends to be real prose, with real sentences and in many cases multiple paragraphs per blog entry.

If textual blogging has a future on mobile devices, it will most likely succeed on devices that have more sophisticated input mechanisms than a numeric keypad alone. Palm OS devices, for example, have a stylus that makes it significantly easier to enter text. Other devices, such as the BlackBerry and Nokia Communicator phones or Sony Ericsson's P910 series include a small QWERTY keyboard that could make this easier.

But photo blogging is not restricted by any such problem. All you need is a camera phone, and even a numeric keypad for a short caption is enough.

Connectivity Woes
Bandwidth is the only major cost that Mobylog is currently facing. But with sponsors and advertisers coming in, this could also be handled, feels Pawar. As of now, Airtel would be the main sponsor, but this would not keep other service providers away. Pawar is hopeful that soon, other service providers would want to be a part of this.

▽ **More Moblogging Sites**

- www.Mlogs.com
- www.Typepad.com
- www.Buzznet.com
- www.Easymoblog.org
- www.Blogplanet.net
- www.Phlogger.com

But wouldn't these guys rather put up their own site? "That threat exists, but we are the pioneers and will remain free and allow users of any service to use it. If a service provider were to set up his own site, chances are, they will not allow users of other services to use their service. But we are really not that worried about this. It's easier for them to partner with us than go on their own. Our real threat is from portals such as Yahoo! or Rediff.com," says Pawar.

Security
There are other issues, though. While this will enable and help the spread of blogging, given the recent DPS MMS incident, policing the content would be of paramount importance. "Yes we will be monitoring the content that is put up but we will, at no point, get intrusive. If we find offensive or obscene material, it would be 'flushed' instantly," assures Pawar.

The blog could also have an impact when helping law enforcement authorities. "Imagine an accident or an incident or a crime happening in front of you. To maintain your anonymity, you could post the photograph on the blog, or we could alert the authorities if we were to come across something offensive in any of the posts. This could be a strong tool," asserts Pawar.

He is also sure that this could be a strong platform for artistes to display their work. "Artistes need to reach out to a wider audience and this tool could sure facilitate that need."

Whatever the need or the use, mobile blogging is a strong tool, and the power to post from anywhere is perhaps the first step to truly unleashing the potential of mobile computing. ⊠

aditya_kuber@thinkdigit.com

Keeping (AC)Count

It's that time of year again—tax season! We take a look at the top nine tax and accounting software available to help you decide which the right one for your company is

**Deepak Dhingra,
Preethi Chamikutty** and
Robert Sovereign-Smith

The air is musty and carries the stench of old books. An old, balding, bespectacled man sits punching numbers at an ancient machine. People have long since forgotten his name, and know him only as 'Munshiji'. The name is always spoken in fearful awe; for Munshiji is the be-all and end-all of all things financial in the company. None dare disturb him when tax season comes rolling in...

If this sounds like the beginning of a fictional whodunit, it's only because *Munshiji* no longer exists. He was replaced by a computer and accounting software. The air is no longer musty, and the old ledgers have been incorporated into the computer's hard disk—always available as hard copies, courtesy the printer. Today, even small companies need to implement a corporate style of process management, and accounting is one aspect they can least afford to skimp on. Luckily, professional accounting software solutions don't cost an arm and a leg. Neither do they threaten to peer into your souls through ancient

spectacles if you dare inquire about Form 16...

We take an in-depth look at the top nine tax and accounts packages available in India to help you decide which one suits your needs best.

The software—ACE 7, atACC, BUSY, Ex Personal Accountant, Expert Quick Accounting 3.0, Simply Accounting Pro, T++, Tally 6.3 and Wings EZ—are packed with tools and functions that can make cash adjustments, debit, credit and invoicing a lot easier, maybe even fun... maybe.

Early on, this test discovered that all nine had nearly identical

features, and the differences across the software were minimal. This was expected, as they are all accounting software, all made to take care of the well-defined, result-oriented task that is accounting. There really aren't too many different ways to balance your books, now, are there?

ACE 7.0
www.coralindia.com

ACE is a strong contender for the crown, and hits back with a set of decent features. The most noteworthy feature is its excellent support for ASCII dot-matrix printers, so you won't have to invest in a new printer and spend so much more money on paper
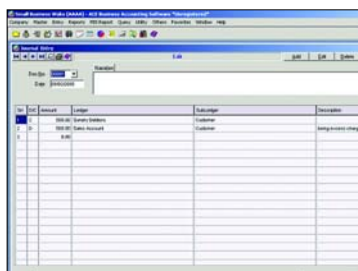
ACE 7.0 has support for ASCII dot-matrix printers

sheets and ink—medium-sized companies where thousands of account reports have to be printed every week are sure to appreciate this feature.

ACE 7.0 is totally compatible with Windows, and can Zip and e-mail reports to your clients. It can export or save files in MS Word and Excel, or HTML for those who need to publish reports online. The interface is pretty easy to get used to as well.

The software isn't taxing on the system either; it performs commendably in terms of speeds, even on older, slower computers. It has some great features, such as bank reconciliation, tracking duplicate cheque numbers, managing multiple purchase and sales accounts, calculating commissions based on quantities sold, calculating discounts, product-wise price lists, and much more.

In terms of inventory management, the software offers options such as batch-wise stocking, various inventory evaluations such as LIFO, FIFO, market, average, stock ageing analysis, calculating profit and loss on a per-product basis, and loads more.

Though ACE can create user-defined reports, you might need to be a software engineer or a programmer to be able to do so! It has a native barcode reader for importers and exporters, and has a very useful inbuilt data backup-and-restore function.

Overall, ACE is a very good software product, and it has what it takes to be your businesses accounting solution.

atACC
www.atlanta-it.com

atACC, apart from having a cool pun for a name, is another offshore product that doesn't really come preset for the Indian accounts system. The software is extensive, and has every feature that you would expect accounting software to have. However, there are too many useless fields in a form, and all of them are predefined. So you end up with fields that are displayed but will never be used. In order to disable these fields, you have to set up the account tree with the items, and then edit the master.

Accounts and items can be grouped for convenience, but there is no option for a multi-line inventory. Thus, each pack size would need to be an individual entry.

Once you have created your masters, however, things begin to flow a little better. You can enter transactions related to banks, cash, purchases, sales, and more. The most noticeable advantage of this software, however, is the abil-

atACC doesn't come preset for the Indian accounts system
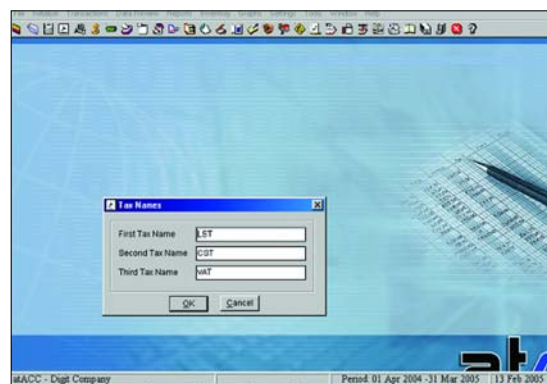
The most noticeable advantage of atACC is the ability to increase, decrease and transfer stock from one code to another

ity to increase, decrease and transfer stock from one code to another. Using this, you can manipulate your stock better and prevent shortages or excesses of stock across your company. It also has an inbuilt 'Free Quantity' feature, which will help you keep track of all the freebies that you give away with your products. The software religiously keeps reminding you to back up your data every time you exit it.

atACC seems to be really efficient when going all the way down to the voucher level from the reports, but we realised that the values were not being refreshed after saving and closing the report. The software also limits you to three tax types, and there's no way to add a fourth. Also available is the inventory handling option for shortages, excess and damages. atACC also helps define services and keeps a

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How We Tested

All the software we tested were targeted at the SoHo segment. Here, ease of use and features are overshadowed by the total cost of ownership factor.

We roped in a couple of external consultants to help us evaluate the software. Both qualified chartered accountants, they set up multiple dummy companies, used dummy data and entered standard trading transactions to figure out how easily and how well the software handles them.

Ease of use is important for any software, but since the focus is on the SoHo community, who may not have a full-time accountant doing their accounts, we gave a very high weightage to how easy the software is to install and use. How easy it is to set up new companies, users and master accounts was given due weightage. Since we are focused here towards the SoHo and small trader community, we focused only on those features of the accounting packages that are relevant for these communities. Therefore, features such as accounting without codes, receivables and payables management, multi-company accounting, invoicing, printing features, etc. were given higher weightages.

ASCII dot-matrix printing is of importance to the SoHo community, so this feature, if available, was awarded points. The reporting features of the packages and their ability to export reports to other formats such as Microsoft Excel and Adobe Acrobat were noted. Other features such as multi-currency accounting, multiple users, and online publishing were not considered very important. Since most of these software also support inventory management, we noted features such as re-order levels, multiple units, batch wise inventories, etc.

Finally, the cost of the software was taken into account to decide the winners.

track of the service tax, which is a helpful option for the service industry.

On the whole, atACC has a very good feature set, but misses out on ease of use, and a few basic features that would make the accounting experience easier.

BUSY Business Accounting Professional Edition
www.busyinfotech.com
BUSY works only at the 800 x 600 resolution, which is irritating. However, the software is easy to set up and has an easy-to-understand interface. There are only a few noticeable differences between BUSY and the rest. BUSY's sale purchase form is a little m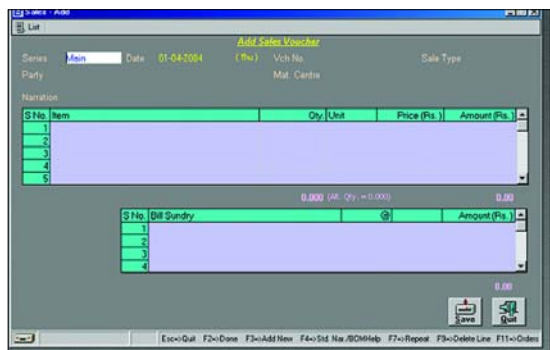ore out of place than in other software. It has an option that allows you to easily track receivables from parties or forms issued for purchase.

A highlight of the BUSY package is a very good analysis of sales and purchase

One highlight of the package is a very good analysis of sales and purchase. The package lets you search for individual options such as transaction, item and amount. Other features in terms of accounting and inventory maintenance are similar to those in other accounting packages.

EX Personal Accountant
www.tcs.com/0_products/expersonnal/products_expersonnal.htm
This accounting solution has a very easy installation procedure and interface navigation. Setting up your account is easy as well. You can set up accounts under different groups, unlike in other software, where you have to first define a group, and then go to ledger accounts and define accounts under that group. Apart from the standard feature set, sales tax handling for purchases and sales are done through the Charges Module, the setting up of

EX gives you the option to adjust open debits and credits

which is also a snap. You have the flexibility to apply charges on the invoice as per the requirement-other software offer predefined fields which you have to select.

The software gives you the option to adjust open debits and credits, which is useful for maintaining receivables or payables. This is a plus point, as such features are only found in ERP packages and not in accounting packages.

EX Personal Accountant also gives you the option of generating various MIS reports such as Income-Expense analysis, Sales Purchase analysis, Cost Centre, Account and Item-wise analysis. The software also has a feature that calculates the interest for you.

One more unique feature is the Customer folder, which gives you an overview of all transactions with the specified customer, such as sales, receipts, sales returns, opening debit/credit, etc. The Cost Centre that is present in most software is called Budget Variance in EX Personal Accountant, but it only allows you to allocate budgets for different activities, and not plan for contingencies.

You can export reports to the MS Word and Excel formats, and the software has full support for dot matrix, inkjet and laser printers.

Expert Quick Accounting 3.0
www.compubrain.net
Unless you run your screen at a resolution of 800 x 600, this software will irritate you from the moment you install it. It automatically forces your screen resolution to 800 x 600 mode. As long as the program runs, you cannot change the display back to normal, even from the system display properties.

Stock valuation options in Expert Quick Accounting 3.0 range from LIFO, FIFO, Cost, HIFO and Weighted Average. The Account Receivable and Payable option in Expert Quick Accounting 3.0 is limited, and does not offer a bill-wise outstanding amount.

The software is not user-friendly, and is not recommended if you are running accounting software for the first time. When compared to the other software, Expert Quick Accounting seems to be overpriced, especially for the plain features it offers.

Simply Accounting Pro 2003
www.simplyaccounting.com/asia/
This was the only software in this category to offer Web store integration. This is a function that allows a company to set up a Web site for selling goods, and automatically add all orders made online to your books. This feature is a must-have for all online

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👥 Our Expert Panel

Although we have a battery of technology experts right here at Digit, they're not quite professionally trained to test accounting software. So we brought in a couple of accounts experts to help us test software the lineup. Here's a little information about them.
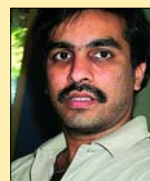
Anish Mehta, Chartered Accountant

Mehta is a Chartered Accountant. He has 13 years' experience in accounting and finance. An alumnus of Ruparel College, he also holds a diploma in Business Administration. His interests include reading, learning about software technologies, and .Net programming. A partner with R M Mehta and Co, Mehta is a consultant for the industrial lubricants trade in India. He can be reached at anish@lubricantsindia.com.

Vipul Shah, Chartered Accountant

Shah is a Chartered Accountant and consultant who writes regularly on technology and related issues for various publications. He assists companies in testing pre-release products, and also reviews released products. He can be reached at digit@ vipulshah.com
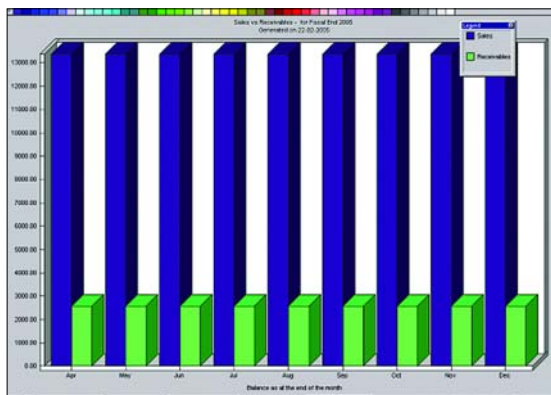
Simply Accounting Pro offers Web store integration

businesses, and even those small businesses that plan on making their online presence felt in the near future.

The major problem with this software in terms of setting it up is that none of the ready template accounts match the account heads we use here in India. You will have to modify the existing templates to match the Indian accounting system. The other option is to start from scratch and create your own template of basic accounts, groups and items.

The software was tested using the predefined templates of 'Retail Dealer', 'Generic Company' (a predefined account head as per the American accounts system), as well as a blank company, where the minimum set of account heads was created as required by the Indian accounting system. All account heads that were irrelevant to Indian accounting were deleted.

Simply Accounting Pro allows an excellent grouping and sub-grouping facility. The inventory allows multi-line products to be defined. For example, you can easily create different pack sizes for the same item, say 100 gm, 200 gm and 500 gm packs of butter. The Sales Tax module covers VAT as well as the current tax system, provided you define the correct values in the system settings.

Some of the main features of this software include a per-account, line comment capability, enhanced password security, departmental accounting, sorting of recurring entries, HTML report generation, and by far the best feature—Web store integration.

The interface, though akin to older DOS-based programs, does not easily reveal the countless functions of the software as easily as it should. The Daily Business Manager feature, however, is a boon, as it ensures that you never leave anything pending. It reminds you to make or receive payments or orders due on that particular day. The software also has the inbuilt capability of supporting electronic fund transfers for a wide range of currencies.

On the whole, Simply Accounting Pro is a necessity for those businesses with an online presence, though others might be a little put off by the entire American style of account head arrangement.

T++
www.tplusplussolutions.com
Anish Mehta, one of the experts, was thoroughly impressed by T++. He called it "clean and refreshing." The interface of the package is a cross between a Web browser and Windows Explorer. It has

The interface of T++ is a cross between a Web browser and Windows Explorer

a professional layout, with the menu laid out on one screen, so you don't need to hunt around for the various options. The home page of the software provides all accounting data at a glance, and this can be configured. The data entry forms are also very user-friendly, making data entry quite easy. The browser interface of the software means that you have buttons for back, forward, home, etc, which make navigation through different forms a snap.

T++ has a feature set almost identical to Tally's, with a few extras thrown in. Of all the software tested here, our expert Anish Mehta rated T++ as the software with the best interface, functionality and ease of use. The inbuilt help function makes understanding the software a lot easier-even for those who have never used Tally before.

The software saves data in tiny file sizes, so you can back up and entire year's accounts on a floppy! eBiz Technologies, the developers, claim that 5,000 entries of data can be backed up in a file no larger than 200 KB. The software also has an option to import data from Tally, so switching over to T++ should not be a problem at all. The import is done using XML, so you can import everything from masters to transaction records.

Invoices can be customised, and you can insert your logo into the voucher. The software uses the XML file format, which you can edit in SVG (Scalable Vector Graphics), which is bundled along.

The Advanced Search function in the Search option helps you perform complex searches, and also allows you to save search criteria for future use. There are two options to define inventory, 'groups' and 'category'-most software offer only one of these options. These groups and categories can be divided into various levels, which will let you have multi-level groups within a level; most other software restrict you to a maximum of only two levels.

The reports page of the software shows you the entire set of reports at a glance, and you can go down to the voucher level in each report. Reports can be exported in various formats, including e-mail. Reports can also be customised and exported to MS Excel as a template.

Overall, this was Anish Mehta's pick.

Tally 6.3
www.tallysolutions.com
Tally has always set the bar. Tally is to accounting what Microsoft is to OSes—it's not necessarily better, but it's so common and popular that finding accountants proficient at it is an easy task. It is quite truly the king of accounting land, and every other software in this test is attempting to steal a little of its market share. The ease-of-use factor is very high here, perhaps because of the familiarity of accountants with the product—virtually every accountant training course teaches the basics of Tally.

Tally has an intuitive interface, and has features that will take care of just about any accounting requirement. Though the feature set isn't really very different from other software, it's the easy menu layout and accessibility of functions that earns Tally top marks in terms of ease of use.

One feature that sets it apart is its inbuilt Web browser, which the others don't offer. The integrated Web browser permits accountants to browse the Net via the interface itself-supposedly useful when looking online for a solution to an accounting problem, or seeking help from the online Tally helpdesk. However, though different, this feature isn't really as great as it seems—let's find out why.

A major irritant with Tally 6.3 is the product activation process.

Tally is quite truly the king of accounting land, and every other software in this test is attempting to steal a little of its market share

As with other software vendors such as Microsoft and Symantec, Tally too, demands activation of the product before you can use it. Sounds simple enough, right? Wrong! Most small businesses have standalone computers for accounting, and they don't risk connecting this computer to the Internet, or just don't have an Internet connection—which is why the inbuilt browser isn't really a great feature!

However, coming back to activation, if the computer you use for accounting isn't connected to the Internet, you will need to install Tally on to a computer that does have a Net connection, and then activate the product, and then, transfer all the software files to your accounting computer. Though this complicated process helps curb piracy, it will also act as a deterrent to those looking to purchase it.

Tally also sports additional features: it lets you easily export data to ODBC software such as MS Word or Excel; it offers a print preview of accounting reports; it allows you to export your data in the XML format—this goes a long way in allowing those without Tally installed to view or use the data. Tally also allows for unified ledgers, ratio analysis, and more.

Overall, those with earlier versions of Tally might not want to upgrade, for three reasons: the irritating activation feature, the price, and of course, the faster speeds that the earlier DOS-based versions of Tally, such as Tally 4.5, offer.

Both our experts were unanimous about Tally 6.3's easy-to-use interface. Also, they were both quick to point out that the surplus of Tally-trained professionals who are looking for jobs would reduce the total cost of ownership of the package, as no additional training would be required.

Wings EZ
www.wingsinfo.net
Wings EZ was our winner last year. Compared to the other software we tested, Wings offers more or less the same features. It is easy to use, and has a very simple interface. All the reports generated have a very similar look, and can be comprehended easily. Extra columns can be added to the report to display any extra information required.

Wings EZ has an option that allows you to keep track of PDCs and bounced cheques. It allows

Tally is to accounting what Microsoft is to operating systems
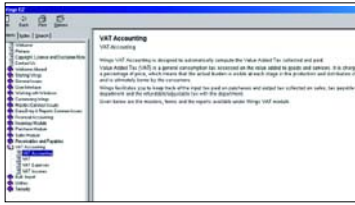
Wings EZ was the winner in our accounting software test last year

stock valuation only by the FIFO and Weighted Average method.

Wings EZ allows for customising of reports, fonts, page setup, and the date and number system. There is also the option of setting commas as per the Indian or American style.

One helpful feature in Wings EZ is the repair data function—this function enables the user to upgrade data present in a previous version to a new version of the software. Also possible is the recovery of a data backup using MS Word or Excel.

The only drawback of the package is, it takes quite a long time to start up, and setting it up is rather difficult.

Conclusion

All the software we tested had the same basic functions. Though there was a little variation here and there, but overall, it doesn't matter. Each vendor is just trying to outdo the other. Tally 6.3 offered online help, and this is a decent feature. Simply Accounting will let you take your business online. Almost all the software mentioned lets you print graphs and reports for presentations. The software help for all the packages was good, but Wings EZ was the best.

Choosing a winner from amongst the eight is possibly the hardest thing to do right now. Considering its widespread use, affordable price and easily accessible support, Tally should remain firmly on its throne. However, T++, with its intuitive interface and wholesome set of features, impressed us a great deal.

For an online business, nothing beats Simply Accounting Pro. If your company plans to take its business online, we recommend you opt for Simply Accounting Pro.

We declare T++ the winner based on the following: while doing Sales Order Processing in Tally when an order is created for a party, if the billing is only done for part of the quantity and the pending amount has to be raised in the subsequent sales order,

T++, with its intuitive interface and wholesome set of features, impressed us a great deal

then instead of only the pending quantity being displayed, the entire order is shown again. This would confuse the user, as he or she may not be very sure how much has already been billed and whether there is excess billing against that order or not. This is taken care in T++, where the subsequent sales invoice only shows the pending quantity in the sales order, and there is no repetition.

The next point where T++ scores over Tally is the tracking number—in Tally, the same tracking number can be assigned to two different customers, leading to errors when reports such as pending invoices etc. are generated. Since the tracking number is common to both transactions, it will become difficult to trace that particular transaction at a later date. In T++, however, the tracking number is unique to each transaction, and hence, the chances of such errors are eliminated.

T++ comes built in with the Tax Deducted at Source (TDS) function, which is absent in Tally. This will cost you Rs 4,500 more if you want it. ⊠

deepak_dhingra@thinkdigit.com
preethi_chamikutty@thinkdigit.com
robert_smith@thinkdigit.com

VAT Demystified

VAT, or Value Added Tax, is a multi-point levy of sales tax, which enables one to claim a set-off of the tax that he or she pays on purchases. VAT is levied at every stage of production, and is levied only on the value added by the last seller. All over the world, VAT is payable on goods and services, as they form a part of the national GDP.

VAT is a form of collecting sales tax, under which tax is collected in each stage on the value added to the goods. Here's how it works: a dealer charges tax on the full price of the goods sold to the consumer, and at every end of the tax period, reduces two things—(a) the tax collected on the sale, and (b) the tax charged to him by the dealers from whom he purchased the goods. He then pays this to the Government as tax.

The VAT system is so designed that the final burden of the tax on goods is borne by the final consumer. Firstly, the tax liability on the sale made by the dealer will be calculated on lines similar to the present Sales Tax Act, and thereafter, tax paid on purchases will be deducted—and the net amount will be paid, or claimed for refund, by the dealer.

VAT has gained substantial importance due to the decision of the Government to introduce VAT in the states from April 1. It has been introduced with the primary objective of bringing into the legal system a neutral tax regime, and removes the overlapping effects of taxes.

In simple words, VAT will replace the present sales tax system. Under the current single-point system of tax levy, the manufacturer or importer of goods into a state is liable to sales tax. There is no sales tax on any further distribution channels. It is a multi-point levy on each of the entities in the supply chain with the facility of set-off of input tax—the tax paid at the stage of purchase of goods by a trader, and on purchase of raw materials by a manufacturer. Only the value addition in the hands of each entity is subject to tax.

VAT levies will be administered by the Value Added Tax Act, and the rules made thereunder.

Let's take an example: Dealer A purchases goods for Rs 100, on which a tax of Rs 10 has been charged. Now he sells the goods for Rs 120 to dealer B, on which he charges a tax of Rs 12 at 10 per cent. The

tax payable by dealer B will be only Rs 2, being the difference between the tax collected of Rs 12 and tax already paid on purchases of Rs 10. Thus, dealer B has paid tax at 10 per cent on Rs 20, which is the value addition at his hands.

Purchase price: Rs 100
Tax paid on purchase: Rs 10
(input tax)
Sale price: Rs 120
Tax payable on sale price: Rs 12
(output tax)
Input tax credit: Rs 10
VAT payable: Rs 2

Sales not liable to be taxed under the VAT Act

Since the VAT Act applies only to sales within a state, there are some sales that will not be governed by the VAT Act :

▶ Sales in the course of inter-state trade or commerce, which shall continue to be liable to tax under the Central Sales Tax Act, 1956
▶ Sales that take place outside the state
▶ Sales in the course of export or import

Tips & Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

ADOBE PHOTOSHOP

Fix The Colour

When opening graphics in Photoshop, Web designers will notice drastic colour shifts. The new colour management system in Photoshop reinterprets files by default. If you work with Web graphics, you need to turn this feature off. Go to **File > Color Settings > Profile Setup**. Under '**Embed Profiles**', un-check '**RGB**', and under assumed profiles, select '**None**' from the RGB dropdown. Under '**Profile Mismatch Handling**', select 'Ignore'.

Photoshop 7 Easter Egg

Hold down [**Ctrl**] and [**Alt**] and click on **Help > About Photoshop**. When the 'Strange Cargo' splash screen appears, type in 'burp' and the crate will open slightly with a big electric cat peeking out. Type the cat's name, "**Udo**", to hear him meow. Press [**Alt**] to speed up the scrolling credits. Scroll to the end of the credits to see a name you will recognise. 'Strange Cargo' and 'Big Electric Cat' were the codenames for Photoshop 5 and 4 respectively while they were being developed.

A Full Scratch

If you get a warning that says, "Your scratch disk is full," you can free up some space by saving the file. However, sometimes Photoshop will not let you save the file. To remedy this, create a small file, say 3x3 pixels, and save it in the Photoshop format. Photoshop will now flush the scratch, and you will be able to save the previous file that you were working on.

Logo Stamp

If you have an image that you use over and over again, such as a logo or signature, you should make it into a brush. When creating custom brushes from image files, Photoshop saves the image on your 'Brushes' palette. Select the image, click on the Menu arrow on the 'Brushes' palette and select 'Define Brush'. The image now appears on the palette.

You can use it just as you do with other brushes.

Save Photos As GIFs

Photoshop has improved its index colour conversions, which allows for higher quality 8-bit, 256-colour conversions from 24-bit images. Although photographs are normally saved as JPG images, the improved colour conversion will let you convert them to GIFs for Web use. This reduced file size will still retain image quality. To save an image as GIF, go to **File > Export > GIF89a Export**.

3D Transform

The new 3D Transform plugin lets you work with 2D images as if they were solid 3D objects, so you can adjust the perspective on an image from straight-on to various angles. Click on **Filter > Render > 3D Transform**. Draw a wire-frame over your image and use the Pan Camera and Trackball tools to manipulate the image perspective, and click OK.

Make It An Action Item

Actions automate routine tasks and save a lot of time. To create an 'Action', click on the 'Menu' arrow on the 'Action' palette and click on 'New Action'. Click 'Record' to start recording and carry out all the steps for the action you perform regularly. Once you're done, click on the 'Stop' button on the Action palette. To repeat the action, select it and click on the Play button on the palette.

Make Your Images Fit

The 'Fit Image' command resizes an image to fit within a given area without altering its aspect ratio. Click on **File > Automate > Fit Image**. Enter a new width or height and click 'OK' to resize the image.

Memory Errors

Sometimes, Photoshop reports an 'Out of Memory Error'. Just acknowledge the dialog box and select **Edit > Purge > All** (or Undo, Pattern, Clipboard, and/or Histories).

Open your 'System Properties' (Virtual Memory Settings) by going to **Start > Settings > Control Panel > System**, and under the Performance tab, clicking the button labelled 'Virtual Memory'. Change your minimum and maximum virtual memory settings to two-and-a-half times your RAM—for example, if you have 256 MB of RAM, enter 640 in both fields. Ignore the Windows warning that pops up!

Now, in Photoshop's preferences ([**Ctrl**] + [**K**]), under 'Memory & Image Cache' ([**Ctrl**] + [**8**], or **File >**

Illustration **Harsho Mohan Chottoraj**

💡 Bet You Didn't Know

Centre An Object
If you need to position an image at the centre of the canvas, there's no need to calculate image parameters and reorganise the image. All you have to do is to cut the object and paste it back.

Preferences > **Memory & Image Cache**), enter 75 per cent for 'Used by Photoshop'.

IMAGEREADY

Slow Display

ImageReady can become very slow when working with large images. The program works best with only 72-dpi images. All other editing should be done with PhotoShop; resize to this resolution and then work in ImageReady.

Saving a Proper PNG (for the Web)

The Portable Network Graphics (PNG) is a remarkable image format with a ton of features—true colour 48-bit (or 16-bit greyscale), alpha channels, interlacing (progressive display), gamma correction, and lossless compression! Of course, if you have ever saved a PNG from Photoshop without correcting all the above parameters, you will not like the result.

The PNG format allows applications to write a chunk that determines what gamma correction to use to display the image properly. Photoshop 5 has a bug that incorrectly saves images with a gamma chunk that is off by a factor of exactly 2.0. Photoshop 5.5, 6 and 7 are better, but the gamma information is still incorrect. Though Photoshop doesn't make errors when actually writing the pixel data, applications that use the embedded information are misled, and will display an overly dark image.

As far as Web images go, it's better to use the

gamma = 2.2 colourspace, so that applications that ignore gamma information will display the image as their creator intended—this works because typical PC monitors have an inbuilt gamma of 2.2.

Save Transparent GIFs And PNGs

A common misconception is that enabling the 'Transparent' option and choosing a Matte colour, from the 'Optimize' palette, will save your image with a transparency. In fact, the image should already contain a transparency, which ImageReady will display with a checkerboard pattern, in order

to utilise the 'Transparent' and 'Matte' options.

In order to save a transparent image, you must first create or save a transparent image using one of the following techniques, and then reload it into ImageReady:

Either use the 'Magic Eraser' tool ([**Shift**] + [**E**]) to erase the region(s) you wish to make transparent, or use the 'Magic Wand' tool, [**W**], to select the colours you wish to make transparent and then delete them.

Now, if the 'Optimize' palette is not already visible, press [**F10**], or choose **Window > Show > Optimize** from the menus. Select your

preferred visualisation tab, choose a default optimisation setting from the Settings combo box, and save your settings by selecting 'Save Settings' from the 'Optimize' palette menu.

Finally, save the optimised (transparent) image by pressing [**Ctrl**] + [**Alt**] + [**Shift**] + [**S**] (or **File > Save Optimized As**). You are done!

Control Dithering

The dither Algorithm dropdown on the 'Optimize' palette lets you choose a dithering method for the image. The 'Dither' percentage slider lets you control the range of colours simulated by dithering. A higher dithering per cent creates the appearance of more colours and more detail in an image, but can also increase the file size. For optimal compression, use the lowest percentage of application dither that provides the colour detail you require.

Lights, Camera, Action

Use actions to automate repetitive tasks and save time. To create an Action, click on the 'Menu' arrow on the Actions palette and click on 'New Action'. Provide a name for the 'Action' and click 'Record' to start recording. Carry out the steps for the action, in the sequence that they should occur. Click on 'Stop' once you are done. To apply an Action, select it and click on the Play button on the Action palette.

Favouring Colours

Indexing an image is tough—you play with all the settings to achieve satisfactory results, and sometimes you still can't achieve it. For example, when indexing an image with many colours, or forcing an image to use less than 256 colours, you may end up with bad dithering patterns and colours. You can use the selection tools to select or isolate problematic colours, and Photoshop will favour these colours when choosing the palette.
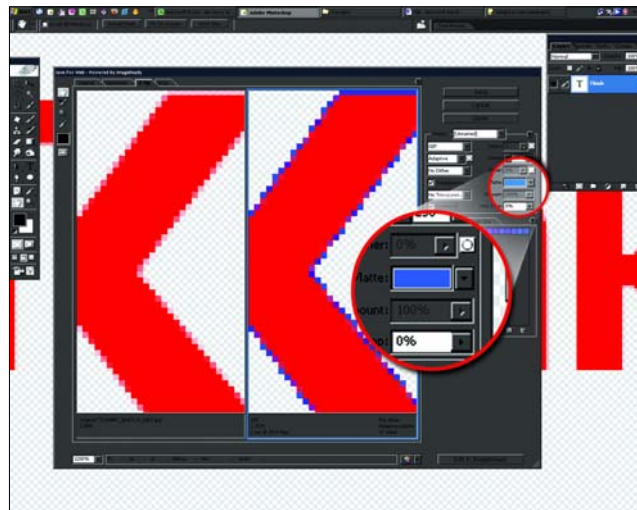
Set the Matte colour the same as the background colour on your Web page. This removes the halo effect around the edges of the text.

Enhanced Search Using The Indexing Service

Search in Windows XP is more powerful than it seems. Here's how to exploit it

Jayesh Limaye

How many times have you found yourself wishing that the Search Companion in Windows XP could turn up results faster? You have probably also wished that the search interface could have been simpler, too.

At first glance, the Windows XP Search Companion looks complicated, but it happens to be a valuable and versatile tool for searching for files gone astray. However, it is true that it is agonisingly slow when searching for keywords contained in files. And when it starts searching through compressed files, your computer comes to a virtual standstill, because the search tool decompresses the files and then searches their contents.

However, there is a nifty and lesser-known feature in Windows XP known as the Indexing Service, which can index all files on your computer and make searching for files a whole new experience. We take a look here at how to implement the Indexing method.

Open It Up
Go to **Start** > **Search** > **For Files or Folders**. The Search Companion will open.

Enable Indexing
In the Search Companion, click on 'Change preferences'. In the next window, click on 'With Indexing Service (for faster local searches)'. Now click on 'Yes, enable Indexing Service'.

**Use the Indexing Service to search better**

Customise It
STEP 3 If you wish to customise the folders to be indexed, click on 'Change Indexing Service Settings (Advanced)'. In the Indexing Service window that opens, double-click 'System'. Double-click 'Directories'. Now, the folders being indexed will be listed. You can remove a folder from the list by clicking on the folder and pressing [**Delete**]. To add a folder, click on 'Action', then on 'New', and then on 'Directory'. Enter the name of the folder to index, and click OK.

The indexing process will begin. It might take several hours to complete, but it takes place in the background. Once the files have been indexed, you will notice a vast improvement in the speed at which search results are achieved. Just type the information about the required file in the 'A word or phrase in the file' box—the indexed files can be searched on the basis of this
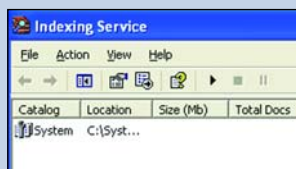
Advanced Indexing Service settings
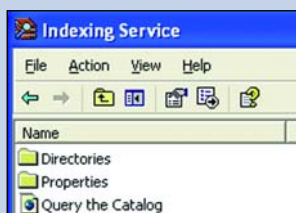
Double-click Directories to see which folders are being indexed
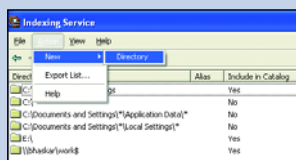
Add a directory for Indexing

information using certain prefixes. For example, '**@filename wash**' will display all filenames that have the word 'wash' in them, whereas '**!wash**' will find files that have the word 'wash' somewhere in them.

You can also use advanced search features: for example, adding '*****' (an asterisk) to the end of

How It Works

The Windows Indexing Service uses a document filter that parses through a document, extracts text and properties and passes it on to the indexer. This process is known as indexing. The indexed files' information, such as the file name, author's name, keywords, size, etc., is stored in the Catalog file.

'**wash**', as in '**wash***', will search for other words such as 'washer' or 'washing'. Boolean operators, too, are supported.

You can also search for documents based on properties. For example, specifying '**@DocLastAuthor = Mahesh**' will search for documents most recently edited by someone called 'Mahesh'. Specifying '**@DocWordCount = 500**' will search for documents whose word count is 500. For more information about such properties, refer to the 'is.chm' file in the Help folder in your Windows directory. The file is usually **C:\Windows\Help\is.chm**.

jayesh_limaye@ thinkdigit.com

If you are searching for	Query language term	What it means	What it searches for
Two terms in the same document	gold & coin	gold AND coin	Documents with both the words 'gold' and 'coin'
Either of two terms in a document	gold | coin	gold OR coin	Documents with either of the words 'gold' and 'coin'
One term without a second term being present	gold & ! coin	gold AND NOT coin	Documents with the word 'gold' but not the word 'coin'
Documents not matching a property value	! @size = 300	NOT {prop name=size} = 300	Documents that are not 300 bytes large
Two terms that are close together in the same document	gold ~ coin	gold NEAR coin	Documents with the word 'gold' following or preceding 'coin'
Either of two terms, and not two other terms if they are close together	gold | coin &! (leather~bag)	gold OR coin AND NOT (leather NEAR bag)	Documents with the word 'gold' or 'coin', and not with the words 'leather' and 'bag' if the latter are within 50 words of each other

MS WORD

Remove All Formatting From A Document

In Word 2002, to remove all the formatting from a Word document or from a selected portion of the document, select the whole document by pressing [**Ctrl**] + [**A**], or just select the portion of the document you want to remove the formatting from. Now just press [**Ctrl**] + [**Shift**] + [**N**].

Status Bar Shortcuts

The status bar—the area at the bottom of Word documents—provides shortcuts to a number of very useful features. Here are a few. (If the status bar is not visible, go to **Tools > Options**, and in the 'View' tab, check 'Status Bar'.)

▶ To open the 'Find and Replace' dialog box, double-click any location indicator on the status bar, such as the page number or section number.

▶ To turn the macro recorder on or off, double-click 'REC'.

▶ To turn the 'Track Changes' feature on or off, double-click 'TRK'.

▶ To turn extend selection mode on or off, double-click on 'EXT'.

▶ To turn overtype mode on or off, double-click 'OVR'.

▶ To change the language format of selected text, double-click Language.

▶ To resolve errors in grammar or spelling, double-click the Spelling and Grammar Status icon.

Formatting Using The Task Pane

You can use the 'Reveal Formatting' task pane in

Formatting made easier using the Task Pane

Word 2002 to view a detailed description of any text in your document. You can also use it to modify or clear the formatting, compare the formatting of different selections, or to find blocks of text with similar formatting.

Here's how to use it: select the text you want to examine or reformat. From the 'Format' menu, select 'Reveal Formatting'. (Note that you can open the 'Reveal Formatt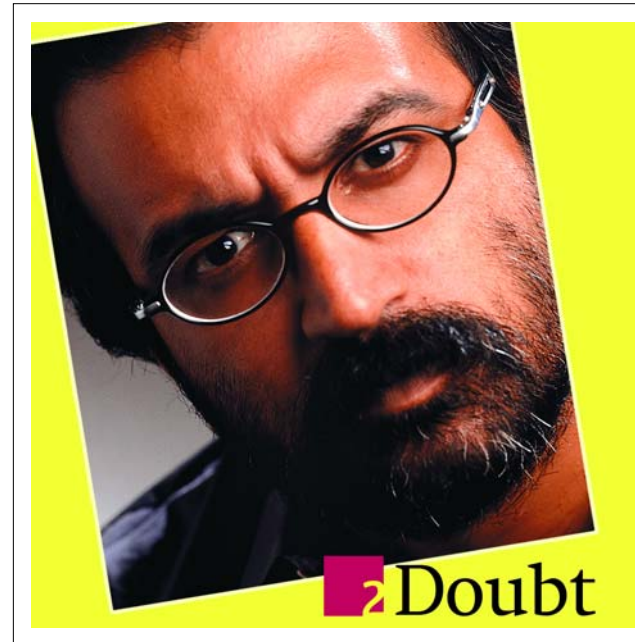ing' task pane by choosing 'What's This?' on the 'Help' menu, or by selecting text within your document and pressing [**Shift**] + [**F1**]) Now do any of the following:

▶ To change any formatting properties, click one of the underlined commands from within the task pane, and then change any options you want in the dialog box that appears.

▶ To determine the formatting source, such as whether the formatting comes from a style, select the 'Distinguish style source' check box.

▶ To show formatting marks, such as paragraph marks and tabs, check the 'Show all formatting marks' checkbox.

▶ To format a text selection like the text that surrounds it, select the text. In the 'Selected Text' box, click the arrow, and then click 'Apply Formatting of Surrounding Text'.

▶ To view a feature-by-feature comparison of your text selection with another block of text, check the 'Compare to another section' checkbox and then select another block of text.

Place Tables In Adjacent Columns

Use this in Word to put two tables adjacent to each other on a two-column page: first insert two tables, one above the other. Adjust the column widths to ensure the total width of each table is less than half the width of the page. Select both tables. Now on the 'Standard' toolbar, click the 'Columns' button, and then drag the pointer to select two columns.

Creating A Picture Of A Toolbar Icon In Word

To create a picture of a toolbar icon, you can use a screen capture program. But you can also try the following: in any Office program, right-click the button you want an image of, and then click 'Customize' on the shortcut menu. With the

'Customize' dialog box open, right-click the button again, and then click 'Copy Button Image' on the shortcut menu. Click 'Close'. Now you can paste the button image into your document.

Make Graphics Line Up Precisely With Text

You might sometimes need to include a picture of a toolbar icon. If you just copy and paste the icon into a line of text, the graphic usually appears higher than the text adjacent to it. To resolve this, do the following: first, select the graphic. Then on the 'Format' menu, click 'Font', and click the 'Character Spacing' tab. Click 'Lowered' in the 'Position' box, and then specify how much space you want in the 'By' box. Three points is usually enough for most toolbar icons.

Customise Comment Text

If you find that the default settings for comments in Word 2002 are a little too small, changing the size and font is easy. You can use standard formatting commands to modify the text in comment balloons as you type. Here's how: on the 'Format' menu, click 'Styles and Formatting', which will open the Styles and Formatting task pane in the right margin. In the task pane, under 'Pick Formatting to Apply', make sure the 'Comment Text' entry is visible.

If it is not visible, then on the 'Show' drop-down menu, click 'Custom'; and in the 'Format Settings' dialog box, under 'Styles to be visible', click 'Comment Text', and then click 'OK'.

Now that the 'Comment Text' entry is visible, you can go ahead: under 'Pick Formatting to Apply', right-click the 'Comment Text' entry, and then click 'Modify'. Select any of the options you want. To see more options, click 'Format', and then click the attribute that you want to change. Click 'OK' after changing each attribute. Repeat the last two steps for any additional attributes you
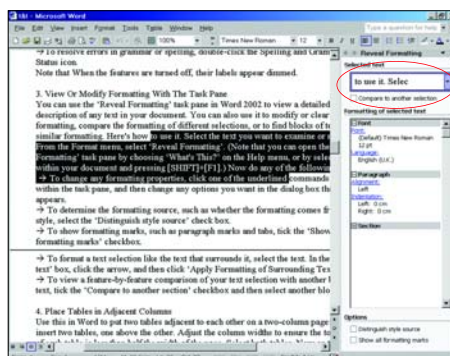
want to change.

A Shortcut To Modify Bullets and Numbering

Do you get tired of searching through menu commands to make changes to the numbering schemes in your Word documents? Skip the menus, and use this shortcut instead: to open the 'Bullets and Numbering' dialog box and adjust the numbering scheme, just double-click one of the numbers in the numbered list!

Create A Custom Word Template

If you don't like the default font and other settings in Word, you can create a template of your favourite font styles and sizes and use it whenever you want. To create a custom template, first, on the 'View' menu, select 'Task Pane'. If the 'New Document' task pane is not visible, select it from the drop-down menu in the upper right corner of the task pane. Now, in the 'New Document' task pane, click 'General Templates'. In the 'Templates' dialog box that appears, select the 'General' tab, and click 'Blank Document' once to select it. This will be the base for your new template. Under the 'Create New' section, click 'Template', and click OK. In the new template, add any text and graphics that you want should appear in all new documents that you base on the template, and delete any items you don't want to appear. Make the changes you want to the margin settings, page size and orientation, styles, and other formats. Finally, on the 'File' menu, click 'Save', give your template a name, and then click 'Close' on the 'File' menu. Your new, customised template will then be available as a choice under 'General Templates' in the 'New Document' task pane.

Navigate Long Documents Easily with Hidden Bookmarks

When you work with long documents in Word, it can be difficult to remember where certain text appears.

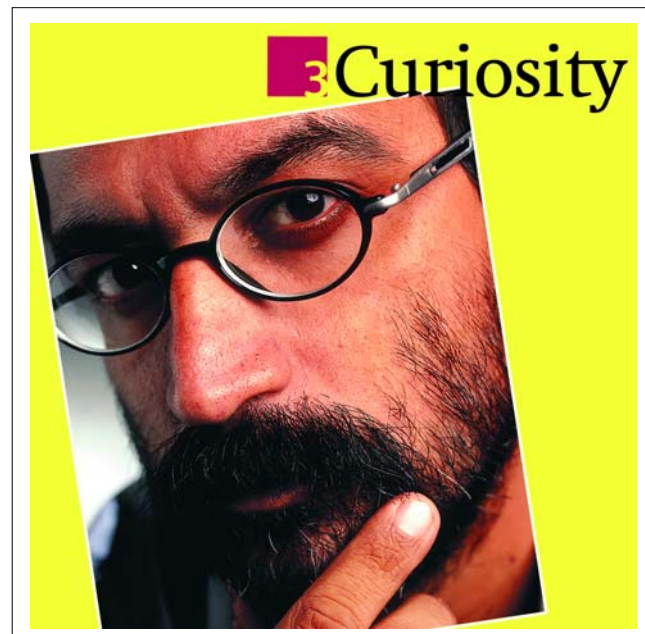You can use hidden bookmarks to quickly navigate to that text. To add a bookmark, first, in your document, click where you want to place a bookmark. On the 'Insert' menu, click 'Bookmark'. When the 'Bookmark' dialog box opens, name your bookmark. Then click 'Add'. To find your bookmark, press [F5] to open the 'Find and Replace' dialog box. Click the 'Go To' tab, and type the bookmark name in the 'Enter Page Number' field. Click the 'Go To' button to get to the text you bookmarked. In Word 2002, click 'Bookmark' in the left of the 'Go To' tab, and select from the list of bookmarks that appears.

MS EXCEL

Keep Links Up-To-Date

In Excel, you can create formulas in one workbook that link to data stored in another source workbook. But if your source workbook changes regularly - for example, if you update the source and save it under a new name each month—it can be very time-consuming to find and update links to the old source workbook. But there's an easy way to do this. First, open the workbook that contains the link(s). On the 'Edit' menu, click 'Links'. In the 'Source' box, click the name of the link with the

source you would like to change. Click 'Change Source'. Finally, in the 'Change Source' dialog box, click the source workbook you want to refer to.

Of course, to successfully change source workbooks, the linked data must reside in the same cells in the new source workbook as they did in the old one.

Removing All Smart Tags

In Excel 2003, Smart Tags can be irritating if you never use them. To hide Smart Tags in a sheet, go to Tools > AutoCorrect Options. Select the 'Smart Tags' tab, and from the 'Show Smart Tags As' dropdown list, select None.

Generate Random Numbers In Excel

Sometimes you may need to populate a sheet with random numbers. There's an easy function you can use to do this

Remove All Smart Tags!

automatically. Type =RAND() in a cell to generate a number between 0 and 1. You can type =RAND()*100 to generate a number between 1 and 100. After entering a function, you can use the fill handle to quickly populate as many cells as you'd like with random numbers. To use the fill handle, click the cell, move your pointer over the lower-right corner of the cell until it turns into a black plus sign, and drag it horizontally or vertically across the cells you wish to populate.

Results Without Formulas

In Excel 2002 and above, using the Smart Tags, it's very easy to copy and paste a result without the formula. First select the cell that contains the data you want to copy. Press [**Ctrl**] + [**C**] to copy the cell data, and then press [**Ctrl**] + [**V**] to paste the data in a new location. Click the arrow next to the 'Paste Options' smart tag, and then click 'Values Only'.

Use Your Spreadsheet Like A Database

You can use AutoFilter to analyse the data in your Excel spreadsheet based on specific criteria. For example, if you are a salesman with a spreadsheet listing all the clients you have in each region you cover, you can use AutoFilter to sort by a specific

Keep Spam At Bay With SpamBayes

Configure Outlook to use one of the best Bayesian filters out there

Varun Dubey

We have mentioned Bayesian spam filters before in *Digit*. Here, we give you a 30-minute brief on the most popular Bayesian spam-guard called, very innovatively, SpamBayes. The way it works is, the program, using Bayes' theorem, assumes that each message has evidence for being spam as well as ham, or 'not spam'. Every time you see a message, you ask yourself about it: "Is it spam or ham?" Then, what you do with the message answers the program's question one way or the other, and the system learns. The program thus learns according to how you deal with messages. So, if over time, your preferences change, so will your spam settings—and that too, automatically!

STEP 1 Get it
To set up SpamBayes, you will need to download the installation file from **http://snipurl. com/cupc**.

This is a complete installation file and will work on Outlook 2000/2002(XP)/2003. It will *not* work with Outlook Express.

Hold it! Once you have this downloaded, don't just install it. There are some preparations you need to do in order to make SpamBayes function.

STEP 2 Pre-Installation Preparation
SpamBayes learns by example, so you need to show it a set of good mails (ham) and a set of bad mails (spam). There are probably good mails residing in your Inbox right now. And there is probably some spam in your Junk Mail folder. Just keep these two sets of examples ready. If for some reason you can't set up these two folders, then you will just have to let SpamBayes learn as you classify and delete mails as and when you check them.

STEP 3 Installation
When you install SpamBayes it will ask you to choose from two options: Microsoft Outlook Addin or Server/Proxy application, which is
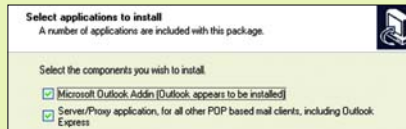
You can choose either or both at this screen

for all other (non-Outlook) POP3-based mail clients.

SpamBayes will appear as a toolbar when you start Outlook.

STEP 4 The Training
After the installation, the first time you start Outlook, you will get a pop-up asking you whether or not you have the folders configured as mentioned in step 2, or if you would rather let SpamBayes learn. If you do have the folders configured, simply point SpamBayes to them and it will analyse all your e-mails, and create its own set of criteria that will govern where future messages go.

If you do not have the folders configured, then just check your mail as you normally do, and when you want to classify something as spam, just select it and hit the button marked 'Delete as spam'. The message will be moved to your Junk folder. If you accidentally delete a message that is ham, just select it and click 'Recover from Spam'.

To edit SpamBayes settings, click SpamBayes, and then SpamBayes manager. Here you can see how many messages it has on hand to learn from. Obviously, the more the messages, the better the filtering.
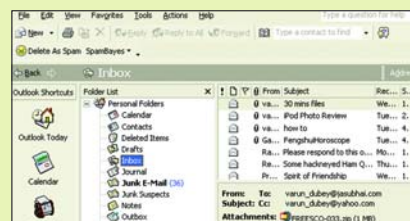
The SpamBayes toolbar

Since the program just awards points (probabilities) to messages to classify them as spam or ham, you can edit the points and the folders associated with those points via the Filtering tab.

The training tab allows you to specify the folders from where the program will learn.

Configuration For Non-Outlook Users
If you are using a different e-mail client such as Outlook Express or Eudora, then
▶ Install as option 2 (that is Server/Proxy application), as specified above.
▶ Right-click on the icon in the system tray and click configure. You will come to a Web page-based settings menu.

Here you need to enter your e-mail

The Web-based manager for SpamBayes

server settings and the requisite ports. Generally, use port 110 for the POP3 server and 25 for the SMTP server.
▶ Once this is set up, you need to go to the connection settings for your e-mail client and set the POP address to 127.127.0.0. If for some reason this doesn't work, then just type in 'localhost'.

Now every time your mail comes in, SpamBayes will analyse it and
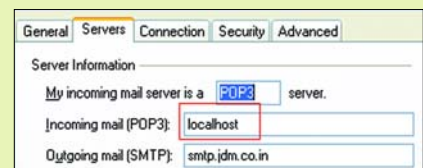
The settings page for Outlook Express

classify it a ham, spam or 'unsure'. You can configure it to add the classification word in the subject line of your message. Or you can create filters to direct the mail into the folders accordingly. You can correct improper message classifications via the Review Messages page, the link to which is found on the home page.

What remains to be seen is how good the system will be at filtering out spam of the future, and whether spammers can come up with something innovative enough to beat SpamBayes. But for now, you are set!

varun_dubey@ thinkdigit.com

region and get a snapshot of just the clients in that region. Here's how you to use the feature: first click a cell in the list you want to filter. You should choose a cell that appears in a row that contains a heading and related data, such as a set of client names or phone numbers. Now on the 'Data' menu, point to 'Filter', and then click 'AutoFilter'. Arrows will appear at the heading of each column. Click an arrow, and choose your filter criteria from the drop-down menu. For example, you could filter for a number that's greater or less than a target figure. Now only rows containing data that meet the criteria will be displayed.

Switch Between Absolute And Relative Cell References

When you create a formula in Excel, the formula can use relative cell references, which refer to cells relative to the position of the formula, or absolute references, which refer to cells in a specific location. Formulas can also contain a mix of relative and absolute references. An absolute reference is indicated by the '$' symbol. For example, **A1** is an absolute reference to column A, row 1. When working with formulas, you can easily change column and row references from relative to absolute, and back again, using this handy shortcut: first select the cell that contains the formula. In the formula bar, select the reference you want to change. Press [**F4**] to toggle through the combinations.

Quickly Calculate A Person's Age

This tip is a demonstration of the DATEDIF() function in Excel, which calculates the number of days, months, or years between two dates. So, this function makes it easy to calculate a person's age. To try this tip, in a blank worksheet, type the birth date in cell A1, using slashes to separate day, month, and year. In cell A2, type **"=DATEDIF(A1,TODAY(),"y")"**
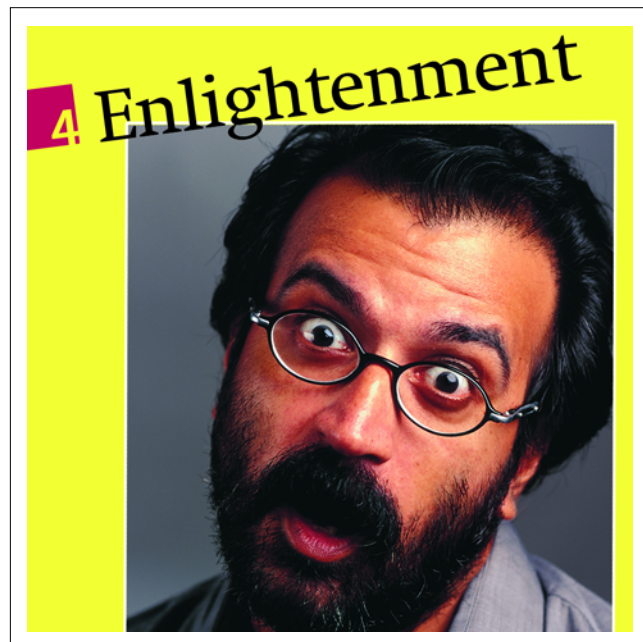
(without the beginning and ending quotes) and press [**Enter**]. The age in years will be displayed in cell A2.

Clear All Spreadsheet Formatting

Here's an easy way to quickly clear all formatting in your Excel 2002 spreadsheet. Click any cell in the spreadsheet and then press [**Ctrl**] + [**A**] to select all cells in the worksheet. Then on the 'Edit' menu, point to 'Clear', and then click 'Formats'.

Combining Text From Different Cells

The '&' symbol consolidates text information in the same way as the '+' symbol adds numbers. The space between quotation marks adds a blank character between the separated texts. To combine text using '&': in cell A1, enter the text **"Digit"** (without quotes). In cell A2, enter the text **"is a great"**. In cell A3, enter **"magazine"**. Now in cell A5, type the formula: **=A1&" "&A2&" "&A3**

MS POWERPOINT

Create Bitmap Images of Slides

If you want a quick way to send a single PowerPoint slide to someone, you can try converting the

slide into a bitmap image. You can then resize, crop, and paste it into an e-mail message or an Office document. Here's how: open the slide you want use as an image. On the 'View' menu, click 'Notes Page'. The slide will appear on the notes page as an image. Right-click the slide image, and then click 'Copy' on the shortcut menu. The image is now stored on your clipboard, and you can paste it as a resizable object into any Office document.

Create A Photo Album Presentation

Did you know you could use PowerPoint version 2002 to create a photo album? Here's how. On the 'Insert' menu, point to 'Picture', and then click 'New Photo Album'. In the 'Photo Album' dialog box, you can choose to add pictures from your hard disk or a peripheral device such as a scanner or digital camera. To add a picture from a file or disk, do the following: under 'Insert picture from', click 'File/Disk'. Locate the folder or disk that contains the picture you

want to add to your photo album, click the picture file, and then click 'Insert'. Repeat for as many pictures as you want to add to your photo album. Or to capture them all at once, hold down [**Ctrl**], click each picture file you need, and then click 'Insert'. Next, specify the look of the album under 'Album Layout'. Finally, click 'Create'.

Cut Graphics Down To Size

Adding a few images can make the size of your PowerPoint presentation huge. You could compress images manually, but there's a simpler way. PowerPoint 2002 can do it for you. On the 'Picture' toolbar, click the 'Compress Pictures' button. (If you don't see the Picture toolbar, point to 'Toolbars' on the 'View' menu, and then click 'Picture'.) To compress all pictures in the presentation, click 'All Pictures in Document'. Under 'Change Resolution', select how you intend to use your presentation by clicking either 'Web/Screen' or 'Print'. To further reduce file size, check the 'Delete Cropped Areas of Pictures' check box. Click OK.

PowerPoint Animations

In PowerPoint 2002, adding animation for professional-looking presentations is not only easy, it's fun. To apply a custom animation, in normal view, display the slide that has the text or objects you want to animate. Select the object you want to animate. On the 'Slide Show' menu, click 'Custom Animation'. In the 'Custom Animation' task pane, click
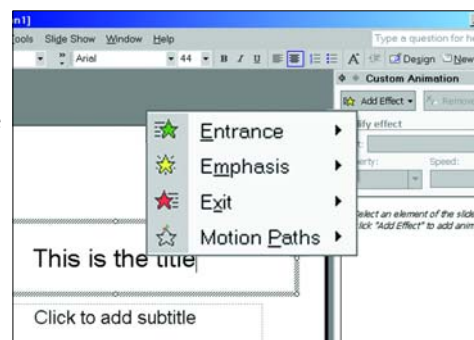
PowerPoint animations can spruce up your presentations, and they are fun to make too

'Add Effect', and do one or more of the following:
▶ If you want to make the text or object enter the slide show presentation with an effect, point to 'Entrance' and then click an effect.
▶ If you want to add an effect to text or an object that is on the slide, point to 'Emphasis' and then click an effect.
▶ If you want to add an effect to text or an object that makes it leave the slide, point to 'Exit' and then click an effect.

Nudging Objects

You can use the arrow keys to move objects very small distances. Select the object, then use your arrow keys. Each press of the key will move the object one 'Grid Unit', which is 1/12th of an inch. If you hold down [**Alt**] while nudging, or if you have the grid turned off, you can move the objects one pixel at a time.

Darken The Display

PowerPoint has a feature that lets you darken your display until you are ready to begin your presentation. With PowerPoint in Show mode, press [**B**] on your keyboard. PowerPoint now displays a black screen. When you are ready to begin your presentation, press the [**B**] key again, and your display will return. Remember to only press [**B**] to return your display - pressing any other key may advance your slides.

Proportionate Resizing

Hold down the [**Shift**] key while resizing images. Doing so will allow you to resize an image without changing its proportional dimensions.

5 Delight

MS OUTLOOK
Change The Calendar View

Did you know you can use a keyboard shortcut to modify the number of days visible in your Outlook calendar? Just press [**Alt**] and any number between 1 and 10. The number determines how many days will be displayed. So, for instance, to see an eight-day span, just press [**Alt**] + [**8**]. (For this to work, you must use the number keys on the keyboard, not the numeric keypad.)

Schedules At A Glance

The Calendar group schedule in Outlook makes it easy to see the combined schedules of a number of people or resources at a glance. You can create and save multiple group schedules, each showing a group of people or resources. To create a group, first click 'Calendar' on the 'Folder List' (or in the Outlook Shortcuts bar). Click Schedules in the 'Advanced' toolbar. In the 'Group Schedules' dialog box, click 'New'. Type a name for the new group schedule, and then click OK. In the dialog box that appears, click the 'Add Others' button, and then click either 'Add from Address Book' or 'Add Public Folder'. Select the names or the public folder, and then click 'Save and Close'.

To view the group calendar, select the group schedule you want to view, and then click 'Open'.

Unknown Sources

Want to keep e-mail messages from people that you don't know out of your Inbox? You can set rules to move messages from unknown sources to a separate folder where you can sort through them at your leisure.

First, create a new folder in your Inbox to hold any mail sent by an unknown source: in the Folder list, right-click Inbox and click 'New Folder'. Now, type a name for the folder, such as 'Unknown Senders', and click 'OK'.

Next, create a new rule with the 'Rules Wizard': on the Tools menu, click 'Rules Wizard'. Click 'New', and then click 'Start from a blank rule'. Click 'Check messages when they arrive', and click Next. In the 'Which condition(s) do you want to check?' box, select the 'On This Machine Only' check box. Click 'Next'. In the 'What do you want to do with the Message' box, click 'Move it to the Specified Folder'. In the 'Rule Description' box, click 'specified', click the folder you created (such as 'Unknown Senders'), and then click 'OK'. Click 'Next'. In the 'Add any Exceptions' box, check the 'Except if sender is in specified Address Book' checkbox. In the 'Rule description' box, click 'Specified'. In the 'Add Address List' dialog box, choose 'Outlook Address Book', click 'Add', and then click 'Next'. Type the name of your rule, click 'Finish', and then 'OK'. ☒

ram_mohan@thinkdigit.com
robert_smith@thinkdigit.com
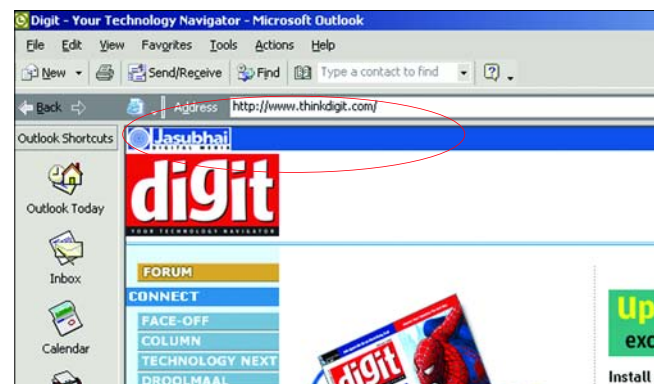
You never need to leave the Outlook window ever again; surf the Web within Outlook itself

Bring It Home

Direct-To-Home (DTH) is a globally popular method for airing TV channels. It is a form of encrypted transmission that travels directly to the consumer via a satellite. Subscribers need to invest in a dish antenna and a set-top box (STB) to use it. Here's how it works

A DTH transmission is beamed directly to the consumer via a small satellite dish. A DTH network typically consists of a broadcasting centre, satellites, encoders, multiplexers, modulators and DTH receivers.

The DTH service provider will lease Ku-band transponders from the satellite. The encoder converts the audio, video and data signals into the digital format, and the multiplexer mixes the signals.

A small dish antenna and set-top box (STB) will let the consumer decode and view numerous channels.

Hardware: STB and a dish antenna.
(Note: This is different from CAS STB)

Weighing The DTH Offering

DTH Pros:

1. DTH supports multiple connections in the same premises, but each TV set needs an individual STB

2. As the broadcaster directly connects to the user, middlemen (local cable operators) and wires (cables) are avoided. DTH can also reach the remotest of areas—villages, small towns and far-flung locations

3. High-end DTH boxes provide value-adds such as PSTN connectivity, gaming, Personal Video Recording (PVR), Web browsing, video conferencing and e-mail

4. DTH offers better picture quality than cable TV and also digital stereo sound

5. Monthly payments are made directly to the satellite company offering the service: thus, under-reporting of subscribers by cable operators can be checked

DTH Cons:

1. DTH will definitely be more expensive than cable as it exists today

2. Installation of the required equipment (dish antenna and the STB) is likely to cost around Rs 4,000 to Rs 7,000 (CAS STBs are priced at Rs 4,000). DTH's minimum subscription hovers around Rs 500 per month (around Rs 300 for CAS)

3. Though a Government directive has made it possible for all free-to-air channels on cable to be delivered to consumers without a STB, DTH signals require a dedicated STB

4. If consumers choose Conditional Access on their DTH connections as well, the subscription costs will go up, especially when adding premium channels

Cable transmission can be of two kinds—unlimited access and Conditional Access System (CAS). With CAS, consumers have the option of choosing the channels they want to view, and pay only for those, rather than the whole bouquet that the cable operator has to offer. Operators often price channel offerings based on their popularity.

CAS requires a dedicated STB along with a cable wire connecting your television set to the local operator.

A **Conditional Access—pay only for select channels. Hardware required: STB**

B **Unlimited access via a cable connection to your TV.**

India cable

Infographic **Binesh Sreedharan**
Text: Meera Vankipuram
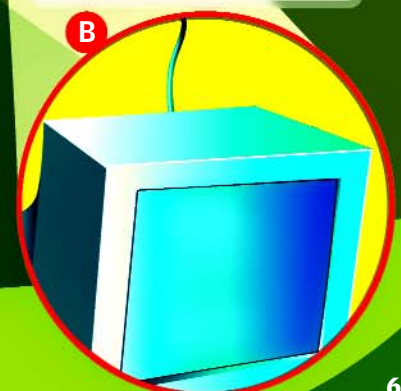
Microsoft PowerPoint

Facing flak for PowerPoint presentations acting up?
Read on for some solutions to easily avoidable glitches

Ram Mohan Rao

1. PowerPoint does not display fonts correctly
Reason: When used on a system other than the one on which the presentation was created, fonts may not display correctly. This can happen when you transfer or open a PowerPoint presentation file on another PC that does not contain the fonts that are installed on your system.

Solution: Embed TrueType fonts. When you save your presentation, use the 'Save As' command and in the 'Save As' dialog box, choose 'Embed TrueType Fonts' from the 'Tools' menu. In PowerPoint 2002 (also called PowerPoint XP), go to Tools>Save Options and check 'Embed TrueType fonts'.
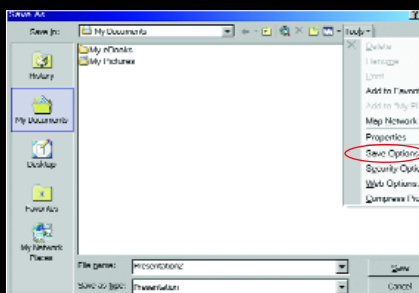
When you are saving a presentation, from the Tools menu in 'Save As', choose to embed fonts

2. PowerPoint presentation file sizes bloat
Reason: Bitmaps, if you use them, take up a lot of space. And sometimes, presentation file sizes bloat for no apparent reason.

Solution: Try reducing the resolution of your bitmap images. For viewing on screen, bitmaps need not be more than 96 dpi. If the screen is the primary viewing medium, it is pointless to have higher-resolution bitmaps. Also, sometimes, as you are working on a presentation, the file might seem to get bigger for no reason. To eliminate this bloating, save the file using File>Save As and give the file a new name. This can reduce the file size up to 50 per cent.

3. An audio clip can stop playing when you advance slides
Reason: This can happen due to the default settings in PowerPoint.
Solution: If you are using PowerPoint 2000, insert your sound file and go to Slide Show>Custom Animation. Check the
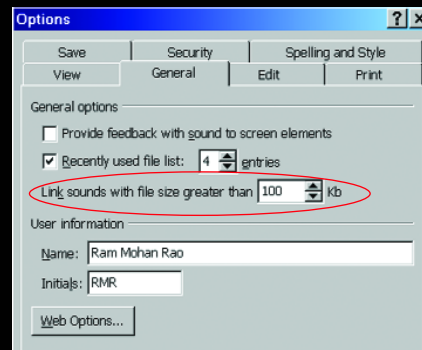
You can choose what sound file sizes to link and what sizes to embed

'Media' box that represents the sound file. Now click the 'Multimedia Settings' tab and tick the 'Play using animation order' box. Tick 'Continue Slide Show'. Specify the number of slides for which you want the sound to play. If your sound clip is for a short duration and you want it to play over and over again, click on 'More Options' and check the 'Loop until stopped' box.

A related problem is that your sound file does not play at all when you begin your presentation since sound clips that exceed a certain size do not get embedded into the slideshow. The solution is to change the default setting.

In PowerPoint 2002, go to Tools>Options, and in the 'General' tab, change the settings in the 'Link sounds with file size greater than'. Set this to a larger value.

4. The same background appears on every slide
Reason: PowerPoint automatically takes the background from the background master slide.

Solution: PowerPoint 2002 supports multiple background masters. Open the first slide and go to Insert>Slides From File. Browse to the second set of slides and choose the ones you want. In the lower left hand corner of the dialog box, tick the checkbox that says 'Keep Source Formatting'. The slides you add will keep their backgrounds.

For PowerPoint 2000 and earlier versions, from the 'Format' menu, select Background. Check the box that says 'Omit background items' and this will make the slide ignore the Slide Master's design. You can now apply whatever design you prefer to the slides.

5. Text is not very readable in front of a certain background
Reason: You may not notice it while editing your presentation in front of a screen, but dark text on a dark background does not read very well. If you want to keep your background, but would like to lighten it a little to improve readability, there is a way.

Solution: To create a light background for your presentation, open the slide master by going to View>Master>Slide Master and choose Insert>Picture>From File. Find and insert the image and resize it to fit the slide. With the image
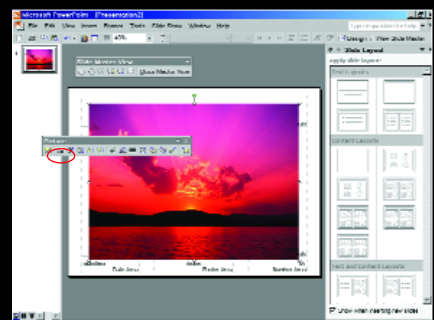
'Washout' the background from the Picture toolbar to make text more readable

selected, choose 'Draw' on the Draw toolbar, then select Order and then 'Send to Back'. From the Picture toolbar, choose 'Color', then 'Washout'. Dark text will now show up clearly. ⊠
ram_mohan@thinkdigit.com

Seagate 2.5 GB USB 2.0 Pocket Hard Drive

This external hard drive from Seagate is about as big as a Marie biscuit and 1.5 inches thick, but packs in a cool 2.5 GB of space. It connects to a system via the USB 2.0 interface. You can write-protect and password- protect the drive.

SiSoft Sandra reported read and write speeds of 6 MBps and 5 MBps respectively. The average access time was 17 ms. The compact drive does seem like a handy tool for photographers and anyone else who needs to transport large amounts of data. However, at Rs 10,000, it is fairly overpriced.

Company **Fortune Marketing Pvt. Ltd.**
Price **Rs 10,000 for 2.5 GB; Rs 15,000 for 5 GB**
Phone **26472491** Mobile **9810155208**
Web site **www.seagate.com**

Rating | 1 2 3 4 5

MSI Mega View 561 Portable Media Player

Way Too Expensive

This sleek device is MSI's answer to the iPods and Gminis of today. It packs in a respectable 20 GB of disk space and a 3.5-inch LCD screen that has surprisingly good clarity.

The device supports viewing and playback of the DivX 3.11/4/5, MPEG4, WMV, MP3, WAV, WMA9, JPEG, GIF, TIFF, and BMP formats. It supports a maximum of 30 fps in video and 320 Kbps audio—really good quality DivX.

The device records voice as well, and the mic is really sensitive. It even has an inbuilt FM tuner, programmable for eight stations.

Using the bundled AV cables, the MSI Mega View can record to and play back from a TV.

The device does not have the ability to create playlists. The bundled earphones are good, but since they are not padded, your ears cannot take more than an hour of continuous listening. Overall, great features, a few bugs, and way too expensive!

Company **Cyberstar Infocom Limited**
Price **Rs 28,500**
Phone **0-9323809599**
E-mail **info@cyberstarindia.com**
Web site **www.msi.com.tw**

Rating | 1 2 3 4 5

New&Notable

One PC EX

This device is a PC-sharing solution. Though a little expensive, it can save you money if you need another system for general office work.

It looks like a sleek blue wireless hub with a blue backlit neon power button. There are connectors for the keyboard, monitor, mouse, LAN and speakers. The existing PC connects to this device using a crossover LAN cable.

To test for performance, we used a Pentium 4 3.2 GHz processor with 1 GB of RAM, but still couldn't play two movies simultaneously on the host and virtual PCs. However, it does everything else commendably well, such as playing a movie on one computer and music on the other. The Rs 10,000 price tag is a little steep though, as today, computers for office use cost only about Rs 15,000. It's up to you to decide whether the Rs 5,000 difference is worth it or not!

Company **Adline Systems**
Price **Rs 10,000**
Phone **011-25720911 / 25720441**
E-mail **adline@bol.net.in**
Web site **www.adlinesystems.com**

Rating | 1 2 3 4 5

Kodak LS755

A Great Looker, But...

This five-megapixel, 3x optical zoom camera fits perfectly in your hand, and is nice and light. It has tiny, interesting-looking lights on the top, which display capture modes such as Auto and Movie. The 2.5-inch LCD screen crisply displays the images in focus, along with the various options such as white balance.

Strangely, the menu button is on the top, and the ON/OFF button and the hard-to-handle menu navigation joystick are placed beside the LCD screen. Selecting and navigating through the menu is difficult. The lack of an optical viewfinder means that you are forced to drain your batteries by using the LCD all the time. The Auto setting works fine, but others, such as Night Mode, end up producing images with blue tinges.

Even in broad daylight, images appear dark, and the flash goes off. Detail and textures in the captured images are superb, though.

Indoor shots come out better, especially close-ups in Macro Mode; but outdoors, with an overcast sky, the images are very dark. In order to connect this camera to a PC you need to carry around the USB connector-cum-power docking station everywhere, as it doesn't connect directly. Also, there's only 16 MB of internal memory. Overall, a great looking camera, but with a lot of drawbacks.

Company **Neoteric Informatique**
Price **Rs 23,900**
Phone **022-39828600**
E-mail **sales@neoteric-info.com**
Web site **www.kodak.com**

Rating | 1 2 3 4 5

iPod Shuffle 1GB

Very Desirable Indeed

The new iPod, christened 'Shuffle', is extremely chic, and makes for a great neck ornament. It features a circular button for Play and Pause, which also doubles up as Hold when pressed for three seconds. Press the same button thrice in succession and you are taken to the start of the playlist. The button is circled by a dial that sports the volume controls and the Next/Previous or FF/RW keys.

Three hidden LEDs lie just under the surface, and are only visible when lit. The two above the dial, green and amber, light up during various functions. Flipping the device over reveals a sliding switch that lets you switch it ON/OFF, and toggle the shuffle mode.

There is a small, pinhole-sized LED on the bottom that tells you the battery status when the battery button is pressed. Battery life is amazing—14 hours on a single charge!

The Shuffle supports the MP3, MP3 VBR, WAV, AAC, and AA 2, 3 and 4. The sound quality is as impeccable as that of any of the larger iPods. It can be used as an external storage device as well. However, transferring music using iTunes was slow—it took us about 10 minutes to transfer 1 GB of music. Also, transferring music to the device directly without iTunes doesn't work—the songs just don't play.

The Shuffle lacks a screen. It doesn't play FM, doesn't record voice, and does not support ID3 Tags.

Priced at just Rs 12,400, the Shuffle is a great buy. Lower capacity players, such as the Creative MuVo TX 256MB and Samsung Yepp YP60 256 MB cost Rs 8,000 and Rs 16,000 respectively, and only offer the additional feature of FM and voice recording. If music is all you want, nothing beats the Shuffle.
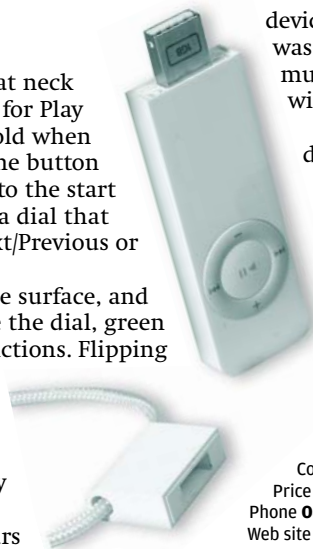
Company **Apple India**
Price **Rs 12,400**
Phone **080-25550575**
Web site **www.apple.com**

Rating

| 1 | 2 | 3 | 4 | 5 |

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iPod Photo 40 GB

Watch Playmates On This One!

The newest entrant in the hard disk-based MP3 players segment is the iPod Photo. It is essentially the regular iPod, with added photo-viewing functionality—hence the name.

The black-and-white screen makes way for a spanking new 220 x 176 screen capable of displaying 65K colours. You can also view your photos on a TV or a projector via the bundled AV cables.

The bundled iTunes 4.7 automatically converts popular image formats to its own proprietary format, and optimises them for viewing on a standard or widescreen TV. To Apple's credit, the images appeared crystal-clear on a 25-inch TV screen. The device displays 25 full-colour thumbnails of stored images. It can also synchronise automatically with albums created with iPhoto, Adobe Album 2.0 and Elements 3.0. However, once you have the images in your iPod Photo, you cannot play around with them in any way—rotating, panning, or even deleting directly from the device is not possible.

Considering the new colour display, we expected a significant drop in battery life, and were stunned to see that the battery life had actually been prolonged to a cool 15.5 hours on a single charge!

Though it is still a great music player, at the end of the day it all boils down to price. And at Rs 35,000+, Apple really is asking for the moon, considering that you can get full-fledged portable media players which do all that the iPod photo does.

However, there's one reason you might want to buy this piece of luxury: Playboy has come out with seriously hot content for the iPod photo, and has named the service iBod! Now we *really* wish the screen was a lot bigger!

Company **Apple India**
Price **Rs 36,000**
Phone **080-25550575**
Web site **www.apple.com**

Rating

| 1 | 2 | 3 | 4 | 5 |

Mac Mini

It's small, resembles a lunch box, and costs as much as six years of school education. Take the more than Rs 30,000 base price of the mini, add the price of 256 MB of memory—$75 or Rs 3,300—and the official "most affordable Mac ever" tag, while true, seems ludicrous.

The mini is obviously a "try me" for the PC crowd, a fact underlined by the missing monitor, keyboard, speakers, and mouse. The question then, is, should you pay a small fortune for a dip in the Mac OS X pool?

If your computer usage is bracketed by the tasks of word processing, Internet surfing, e-mailing, listening to MP3s and watching a movie occasionally—then yes, by all means add the mini to your tech collection. The hardware, once beefed up with 256 MB of additional RAM, is good enough to drive these tasks and the odd OpenGL game or two on a 23-inch LCD screen (we tested the mini on one). Mac OS X is a wonderful, user-friendly and mostly consistent OS to work with. If you have the cash and the missing hardware on hand, this Apple experience is indeed worth the price of the ticket.

Company **Apple India**
Price **Rs 32,300**
Phone **080-25550575**
Web site **www.apple.com**

Rating

| 1 | 2 | 3 | 4 | 5 |

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 improvment in many areas. **3** Average: Reasonably competent but 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

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

Freecom FDH-2 Pro 80 GB
⊞ Extremely compact and bundled carry case

Contact J S Equipments
Phone 022-23810713
E-mail jse@vsnl.com
Price Rs 19,500

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
⊞ Easy to set up
⊞ 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

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

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

PDA Phones
Nokia 9500 Communicator
⊞ Full QWERTY keyboard
⊟ Slightly bulky

Contact Company: Nokia India Ltd
Phone 011-22677900
E-mail jay.bakshi@nokia.com
Price 41,359

O2 XDA II Mini
⊞ Small, thin and pocketable
⊟ One-handed operation not possible

Contact Creative e-biz
Phone 022-23828100
E-mail creative@goldkist.net
Price Rs 34,888

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

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
⊞ Reasonably priced

Contact Philips India
Phone 022-56912325
E-mail PCP.India.Info@philips.com
Price Rs 17,500

LCD Monitors (15-inch)
CMV CT-522A
- ⊞ High contrast ratio—500:1
- ⊟ Average quality inbuilt speakers

Contact Cee Vision Technologies
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 17,500

LCD Monitors (17-inch)
Samsung SyncMaster 173P
- ⊞ Great design, superb contrast
- ⊟ Quite Expensive

Contact Samsung India
Phone 011-51511234
E-mail marketing@
samsungindia.com
Price Rs 32,000

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

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

Contact Hewlett Packard India
Phone 1600-444-9999
E-mail seema.dawar@hp.com
Price Rs 46,999

Printers
Canon Pixma iP4000
- ⊞ Good features, excellent performance

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

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

Colour Laser Printers
Lexmark C510
- ⊞ Blazing fast at 24 pages per minute
- ⊟ Colours print 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

Laptops
Acer TravelMate 4002
- ⊞ Very good battery life
- ⊞ Very fast data transfer over wireless LAN
- ⊟ Poor readability in sun light

Contact Acer India (Pvt) Ltd
Phone 080-25219520
E-mail raghu_s@acer.co.in
Price Rs 51,999

MSI MegaBook M510C
- ⊞ Terrific performance, typical feature set
- ⊞ High screen resolution
- ⊟ Average wireless LAN performance

Contact Maxtone Electronics
Phone 022-23011434
E-mail maxtone@vsnl.com
Price Rs 65,990

Fujitsu S2020
- ⊞ Hot swappable combo drive
- ⊞ Good graphic performance
- ⊟ Average screen readability in sunlight

Contact Fujisan Technologies Pvt Ltd
Phone 022-56368718
E-mail gathani.paresh@
fujisan.co.in
Price Rs 80,000

Zenith Presidio Vu
- ⊞ Good battery life
- ⊞ Built in web cam and SD/MMC card reader support
- ⊟ No recovery CD provided

Contact Zenith Computers Ltd
Phone 022-28377300
E-mail kalpak_bhatt@
zenith-india.com
Price Rs 70,000

Gizmodo.com

"Gizmodo is an online review dedicated to gadgets, gizmos, and cutting-edge consumer electronics," says its home page. They are lying! It's so much more...

Robert Sovereign-Smith

If you are a gadget freak, you have probably already set www. gizmodo.com as your homepage. For the rest of us—those with the normal level of lust for all things geeky—here's a look at how one site can keep you updated with the latest in the personalised technology world!

After you enter the address into your browser, be prepared for a little wait. The home page is a little heavy with images, but it's worth the wait. Everything from the latest gadgets to an exclusive "never-before" Bill Gates interview with a Weblog, it's all here.

The beauty of the reviews is that the authors all seem to have a decent sense of humour. If you have even the slightest interest in technology, you will never yawn even once when at this site—something that's rare amongst the drab cacophony of the Web.

On the right of the page, you will see a navigation panel that has categories such as Cellphones, Digital Cameras, Gadgets, and so on. This will help you jump straight to the category that sets you drooling.

Not only do you get to view product reviews, which of course is the sites main purpose, but you also get to read news of the latest happenings in the gadget world. If there's a sneak-peek to be had
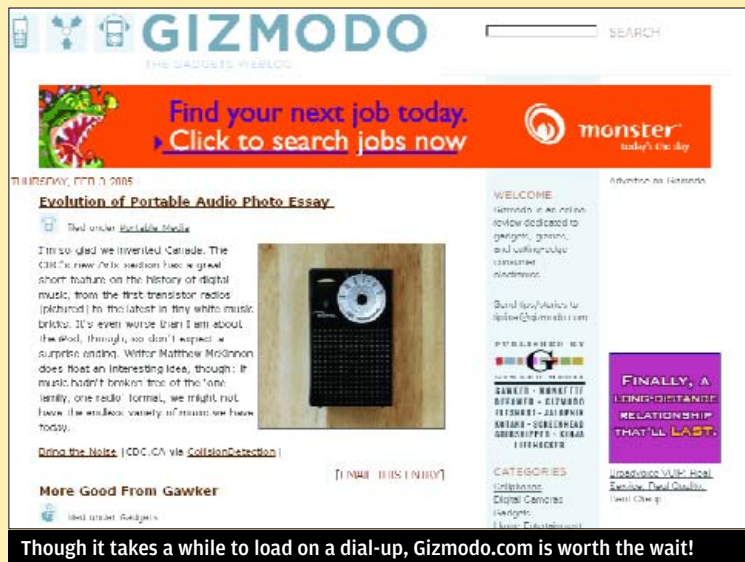
Though it takes a while to load on a dial-up, Gizmodo.com is worth the wait!

of a gadget, this is where you'll hear about it.

One thing you have to check out is the "Deals" link, http://www. gizmodo.com/gadgets/deals/. Here, Gizmodo gives you news of the latest offers being made on sites across the world. Though this is mostly US-centric, most of us will not have a problem—everyone has an aunt, uncle, cousin, aunt's uncle's cousin, etc, in the US, who can bring it with them when they come down. At last visit, there were offers of a free N-Gage QD, $100 (Rs 4,350) discount on

U2 iPods, a steal of a deal for Podwave speakers for your iPod, and more.

Of course every gadget is only as good as the software that powers it! So, Gizmodo provides you with a software section for the latest and greatest software applications and operating systems for your toys. Just log on to the Software section (http://www.gizmodo.com/gadgets/ software/) to find out why the experts believe that Google is going to launch VoIP services, or just to read about the 10 most bizarre applications ever developed for the Palm OS.

All in all, Gizmodo offers you great in-depth knowledge of the latest hardware and software—you will not feel clueless the next time your buddies have a three hour conversation on the pros and cons of the specifications of the upcoming HP HW6500 iPaq Mobile Messenger.

Of course, you could just sign up for a newsletter, courtesy Wired magazine's GadgetLab, but the site is a better experience. ⊠

robert_smith@ thinkdigit.com

If there's a sneak-peek or news about a new gadget, this is the place to look!

The latest news and reviews of the software that power your gadgets

Topping Up Your Prepaid Card

Aditya Kuber *(aditya_kuber@thinkdigit.com)*

Having a prepaid cell phone card has its advantages but recharging it by buying a voucher periodically is not one of them. For people like me who often forget, it can be a nightmare to suddenly be unable to 'stay connected'. With this determination, I set out to figure out a better way to recharge my cell phone
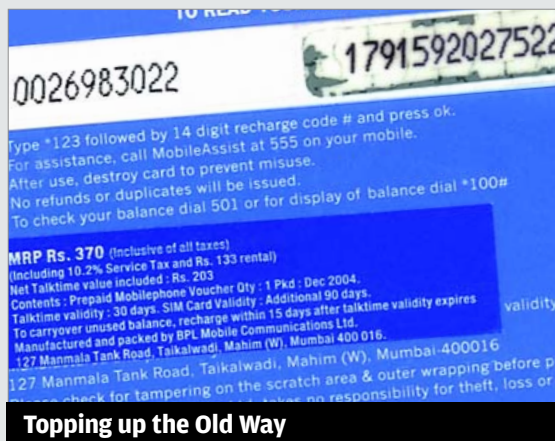
Topping up the Old Way

Topping up the E-Way!

	Old Way	E-Way
1	Dialling the 'Balance Inquiry' number informed me that there was just about Rs 3 left in my card and that would hardly allow me to make one call. Time to head for the corner store Time taken **5 minutes**	Thankfully, the service I use gives me a balance report after every call I make. So I know when I need to top up my card. This was one such time! Time taken **0 minutes**
2	There's a lot of choice available in the amount to choose to recharge and the higher the value of the voucher, the more talktime you get. After a quick look at my options, I chose for the Rs 400 voucher gave me about Rs 225 worth of talktime. Time taken **10 minutes**	I realised I would need at least Rs 300 to get any value for the recharge and my choice, for long, has been the Rs 400 recharge voucher that offers nearly Rs 225 in talktime. So I headed to the nearest ATM to recharge my wallet and my phone! Time taken **10 minutes**
3	Handing over the cash, I pulled out the voucher and scratched the code hidden behind the strip on the card and punched it into my phone. Then, I sent it as an SMS to the service provider and my account was topped up. Time taken **15 minutes**	Once at the ATM, I had to wait my turn. Soon enough, I slid in my card, put in the details and chose the prepaid recharge option. I entered the recharge value I wanted and that's that! I'm done! Time taken **15 minutes**
4	A quick check on the balance inquiry and I knew the account had been topped up. Who should I call?	I received an SMS confirming the recharge and a subsequent check rid me of any further doubts!
5	Total Time Taken: **30 minutes** Total Cost: **Rs 400**	Total Time Taken: **25 minutes** Total Cost: **Rs 400**

And The Winner Is...

The tech way wins but only narrowly. While costs incurred are the same, shorter queues at the ATM or the shop could change the equation. One thing that tilts the equation in favour of the tech way, is the fact that you know where your ATM is while you might have to look around a while for a shop and pray he has the voucher in the denomination of your choice. No such hassles with the ATM. In the end, it's about convenience and using either mode could be just as easy or difficult!

Q&A

Multiple Modems?

Q I have a PC with Windows 98 and XP installed, and I am using an Intel Pentium 4 1.7 GHz. I want to increase the speed of my Internet connection. Can I use two modem cards for increasing the bandwidth with a single phone line?

Manu

A You cannot increase bandwidth with a single phone line using two modems. You need to get a second phone line, or migrate to broadband—'broadband' prices are falling by the day. If you get another phone line, then you can download a software called MidPoint Teamer from http://snipurl. com/cujv

HOT keys!

Q We have Windows 98 SE and Windows XP Pro in the C and D drives respectively on a Pentium 4 1.7 GHz. First, XP only works in the 'Last known good configuration' mode, and not in Safe or Normal modes, after repeated reboots and normal boots. When it boots in Normal or Safe mode, after some time, the screen goes black showing some junk characters on the screen, and a countdown timer at the end of the screen which counts up to 100, after which the computer reboots.

In 'Last known good configuration' mode, the computer starts and works fine, but initially shows a message in an alert box:
"\\.\DRI_KBFilter
The system cannot find the file specified."
Second, when we run setup again to correct the problem with Win98 SE, setup proceeds just beyond 'Detecting hardware' and reboots. After that, Win98 SE does not boot and shows the following message—
"Error: NAV AutoProtect is unable to start! SYMEVNT.386 is not loaded. You may need to re-
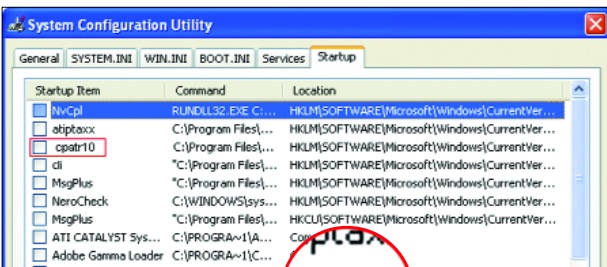
Remove Hotkeys From Startup

install Norton AntiVirus to correct the problem. Press any key to continue."

R C Behera

A This is a keyboard driver problem. There are two ways to solve this. You can either update the drivers for the DriTek multimedia Hotkeys from http://snipurl.com/cuk4

Or, you can completely remove the Hotkeys from your Startup. To do this, go to **Start>Run**. Type in "**msconfig**" and click OK. In the window that opens up, click on the 'Startup' tab. Clear the checkbox next to 'cpatr10'. Click OK. Now restart your machine—it should work fine.

Duplicate DLLs

Q I often get the following error message: "Error Number: 0x8007025 Incompatible version of the RPC stub Setup will now terminate."

How can I correct this? Also, your December 2004 *Digit* CD works at first and after some time, when I click a link to install something, it does not work properly. It opens IE6 and nothing happens after that. My system details are: Intel 845g chipset, a Pentium 1.6 step2 processor, Windows 98, 128 MB of RAM, and a 40 GB HDD.

G Gurumoorthi

A This happens when, while installing a program, you get duplicate copies of the Oleaut32.dll, Olepro32.dll, Asycfilt.dll, and Stdole2.tlb files, which creates an incompatible environment. If Office 2000 or an Office 2000 component is installed on your computer, obtain and install the Office 2000 Service Release 1a (SR-1a) from http://snipurl.com/cuk6

If Office 2000 or any of its components are not installed, then obtain and install the 'mcrepair.exe' tool from http://snipurl.com/1oua

Restart your computer and everything should work fine.

My PC Lies About RAM!

Q I am using a Pentium 4 2 GHz. When I start the computer it shows "Main Processor: Intel Pentium (R) 4 2.00 GHz (100 X 20.0)".
However, when I go to the DirectX diagnostic tool (Start>Programs>Accessories>System Tools>System Information>Tools>DirectX diagnostic tool), the following system information is displayed:

"Operating System: Windows 98 (4.10, Build 2222) A
Language: English (Regional Setting: English)
Processor: Intel Pentium III
Memory: 224MB RAM
Page File: 115MB used, 1708MB available
DirectX Version: DirectX 6.1a (4.06.03.0518)
DxDiag Version: 4.06.03.0518"

Why is this so, and why does the RAM show up as 224 MB instead of 256 MB ?

Prashant Chordiya

A The version of DirectX you are using is outdated. Upgrade to DirectX 8 or later, and your problem should be solved. The RAM is 'missing' because you have a 32 MB shared memory graphics adapter onboard. This is the memory that the system reserves to show you the display on the screen and also during playing games. If you do not play too many games then you can reduce the size of this from the BIOS.

PhotoStop!

Q My machine hangs when I use Photoshop 6.00 or 7.00 for a few minutes. My machine configuration is: an Intel Pentium 4 2 GHz, 256 MB RAM, an 80 GB HDD with four partitions of 20 GB each, and Windows 98. In the virtual memory settings, I have selected 'Let Windows manage my virtual memory settings'. I have changed the 'Memory and Image cache' setting in Photoshop this way:
Cache levels: 4
RAM maximum used by Photoshop: 55%
Plug-ins and Scratch Disks:
First: Startup
Second: C:\
Third: D:\
Fourth: None
History states: 20

When using Photoshop I always keep WinAmp and all other software closed, and also try to keep a maximum of two or three files opened at a time in Photoshop. In spite of that, when I use Photoshop for 10 to 15 minutes, my machine hangs. I also used Windows 2000, but the problem persisted. Please help!

Prashant

A This is most likely an overheating problem. It is possible that your CPU fan or heat sink is malfunctioning. To keep a check on the temperatures, you can download a free utility called Motherboard Monitor, which will monitor your CPU temperature, fan speed and so on. You can set up alarms if the temperature exceeds the desired levels. You can download this from **http://snipurl.com/cujz**

We also recommend that you get your system checked for the heating problem by a qualified technician, and if required, replace the CPU fan with an Intel certified fan.

It's Hot In Here

Q I have a D915GAV motherboard with an Intel Pentium 3.0C GHz processor, 512 MB of DDR RAM and an 80 GB SATA HDD. I use a KOB-115 cabinet with a 250 W power supply. My system heats up quickly—within an hour from the time it starts, and the Intel Active monitor pops up windows alerting me of the temperature. Normally when I start the system I check the temperature using the Intel Active monitor, and it shows the processor temperature as 58 degrees Celsius and system zone 1 and 2 as 42 degrees Celsius. After an hour, these temperatures rise. Should I change the system cabinet? If so, can you please tell me about a cabinet—a good and economical one—suitable for this motherboard?

Vishwanath

A It need not be just the cabinet. It is possible that your CPU fan is not up to the mark. Get that checked and if required, change it to an Intel certified fan. Make sure your cabinet is properly ventilated. You could add an additional fan for more ventilation. Make sure the cables inside are neatly tied up, as that increases air flow and leads to more efficient cooling. If your cabinet is too small and the components are getting cluttered inside, then you could look at upgrading your cabinet to one from brands such as Antec or Odyssey. Antec cabinets could be slightly expensive, but getting one would rid you of your overheating blues!

Sasser Strikes Back!

Q I have dual-booted my PC with Windows 98 and XP. Whenever I connect to the Internet in XP, I get the message 'LSA encountered problem', and my PC restarts. There is no such problem with Windows 98. What do I do?

Via e-mail

A You have the Sasser worm or one of its variants. Simply download the following files from another computer and run them on your system. Stinger, which can be found at the McAfee Web site, will find and repair this problem. Download it from here:
http://snipurl.com/1syv
Now, at the following page:
http://snipurl.com/cuk0

Scroll down to where it says 'Download the 841720 package now'. Download and run it. This should fix your problem. If, however, you
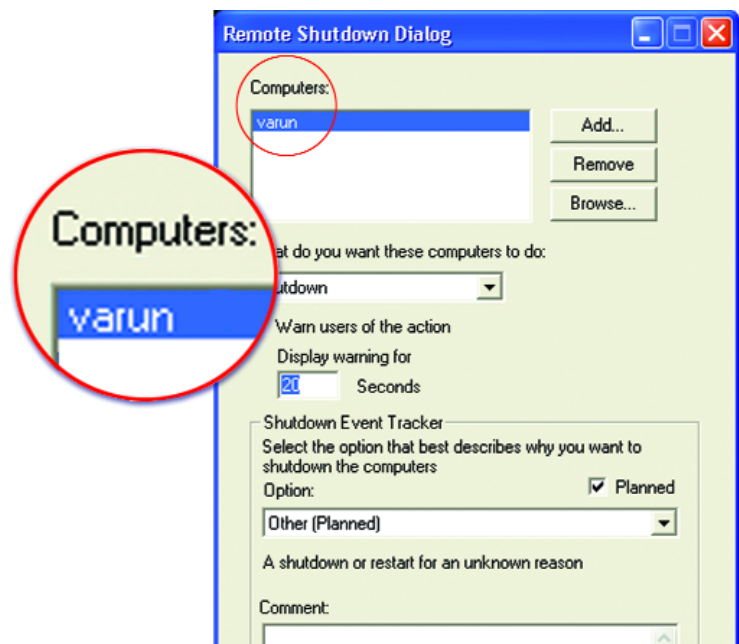
The Remote Shutdown Dialog Box

Create A VCD Out Of Your Digital Photos

You always wanted to view a slideshow of your images on your big screen TV, but didn't know how to do it. Here's the lowdown

At some time, we have all been stranded because the people we wanted to share our digital photos with don't have a PC and making prints from digital photos is just too expensive. But with changes in technology, it is actually quite simple to create a VCD of your favourite photos and view them on a VCD player.

Before you start sending invites for the premiere, though, here are few things to do…

You will need software called photo2VCD. The trial version of this software can be downloaded from **www.photo2vcd.com**. You will also need a CD Writer to burn your final product on and a blank CD. And most importantly, you will need lots of digital photos! These obviously need to be on your PC.

STEP 1 Getting Started

Download and install the trial version of the latest Photo2VCD Studio 3.0. On start, you will have the ubiquitous pop-up wizard which will pretty much beg you to help it create the VCD for you. Follow the simple steps and you should do fine. If you are a little more adventurous, click 'Cancel' and let's get our hands dirty!

The interface is really slick, albeit a little slow. It is divided into two panes like the
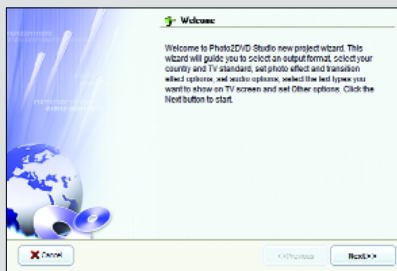
The Photo2vcd wizard

Windows Explorer. In the left pane, you can select your slideshows; each of these will be played as a single movie.

Once you have added photos to your

The main window

album, (you can also add multiple slideshows by clicking the button on the bottom left, labelled 'Add Slideshow'), you will need to arrange the photographs in the order you would like to show them. For this purpose, basic buttons such as Renaming, Removing and Rearranging a slideshow have been provided.

STEP 2 Adding Effects

Now that you are done adding photos, let us add some effects to your transitions! To do this, click on the 'Options' button on top and you get a window, next to the 'Basic' tab that lets you choose between VCD, SVCD and DVD tabs for TV format (NTSC/PAL). If you are confused about this, just select your country and it will choose the right format. Effects, audio options and some other options are
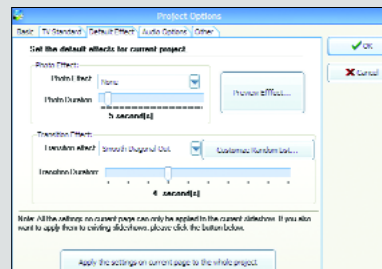
The configuration window

found under the 'Options' tab.

The default 'Effect' tab will let you apply two kinds of effects: one to the photo itself and the other to the transition of one photo to another. It will also let you set the duration the photo is displayed for, the duration of the effect and has, of course, a huge list of effects to choose from.

The default 'Effect' tab also has a neat feature that lets you preview the various effects before you actually apply them. It uses a preset image which morphs into another image using the effect settings which you choose.

Preview your effects

STEP 3 Add Background Music

On the right, there are two more tabs. One that lets you add the photos or videos, while the second tab lets you can add custom background music. In order to do this, simply select the button with the musical note icon and select
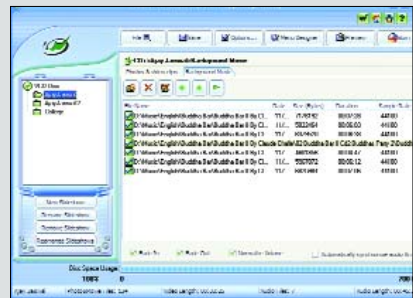
You can use MP3 and WAV files here

all the files you want. You also have the option of fading in/out and normalising the volume of your music files.

STEP 4 Burn It!

Once you have configured the background music and photos and the various effects to your satisfaction, just hit the 'Burn' button on the top right and go make yourself some coffee and sandwiches and start sending the invites, for the
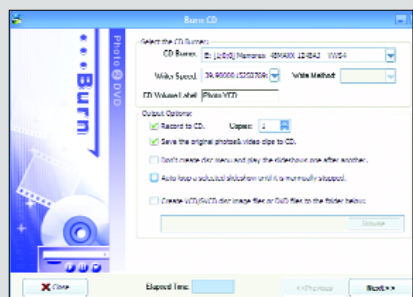
Burn your photos!

software takes some time to encode it to the VCD format and then of course, it needs to actually burn the CD.

Once it says 'Done', take your VCD out and pop it into any—old or new, cheap or expensive—VCD player and get nostalgic with those memories!

The trial version will add a stamp across your photos displaying the website name. If you do not want this, you could just buy the software for about $39.95 or approximately Rs 1,800.

MS DOS Error In XP

Q My machine's configuration is: a Pentium 4 2.4 GHz, an Intel 865GBF original motherboard, 256 MB of DDR 400 Zion RAM, a 40 GB Samsung HDD (7,200 rpm). I am using Windows XP professional with FAT32. Other software on my machine include Office 2000, Norton AntiVirus 2005, AutoCAD 2000 and AutoCAD 2004.

Everything was fine, and one fine morning I received a peculiar error, in the screen alongside. I cannot find any solution for it and it is not possible for me to format and reload XP because there is a huge amount of data in there.

Bishwajit Laha

A First try re-installing the MS-DOS based application that causes this error: Go to **Start>Run**. In the Open box, type in "cmd", and click OK. At the command prompt, type in the following commands, pressing [ENTER] after each command:
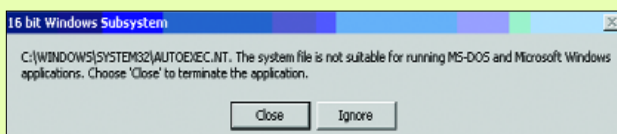
C:\WINDOWS\SYSTEM32\AUTOEXEC.NT. The system file is not suitable for running MS-DOS and Microsoft Windows applications. Choose 'Close' to terminate the application.

Close   Ignore

expand CD-ROM Drive Letter:\i386\config.nt_
c:\windows\system32\config.nt
expand CD-ROM Drive Letter:\i386\autoexec.nt_
c:\windows\system32\autoexec.nt
expand CD-ROM Drive Letter:\i386\command.co_
c:\windows\system32\command.com
exit

Now try re-installing the program.

If that does not fix it then start Notepad. In Notepad, type in:

dos=high, umb
device=%SYSTEMROOT%\system32\himem.sys
files = 40

Save the file with the name 'Config.nt'.

Now again open a blank document in Notepad and type in the following entries:

@echo off
lh %SYSTEMROOT%\system32\mscdexnt.exe
lh %SYSTEMROOT%\system32\redir
lh %SYSTEMROOT%\system32\dosx
SET BLASTER=A220 I5 D1 P330 T3

Save the file as 'Autoexec.nt'. Now locate the 'Config.nt' file, and copy it to the %SYSTEMROOT%\System32 folder.

Do the same with Autoexec.nt and command.com, and restart your computer. This should fix your problem.

do not have access to another computer, follow these steps: Go to **Start>Run**, and in the box type in "**cmd**". In the DOS prompt that appears, type in "**shutdown −i**". Make sure to enter a space between 'shutdown' and the hyphen. Press [**ENTER**]. The Shutdown Settings window will appear. In the first box, click Add, and type in your computer's name (To find out your computer's name, right click on My Computer and click on the tab that says 'Computer Name'). Beneath, in the box that says '20' (seconds), type in '9999'. In the box beneath that, which says 'Comment', type in anything and click OK. This will increase your time on the Internet to 2.45 hours. You can then connect to the sites listed above and download the tools to clean your system.

"Pixel Shader"?

Q I have an Intel 2.4 GHz P4 CPU with 256 MB of RAM and a GeForce4 128 MB. While playing *Splinter Cell: Pandora Tomorrow*, my machine gives an error: "Inadequate pixel shader support." Also, in 3D Mark Pro, it gives a Direct3D error with a 'pixel shader' problem. How can I play the game?

Avik

A Your graphics card does not support pixel shader—a graphics function that calculates effects on a per-pixel basis, giving ambience and a look of realism to the displayed image. You would need to upgrade it to at least a GeForce4 Ti card. If you are upgrading, go for a higher-end card, say the GeForce FX5950. If you are looking for a slightly cheaper card, try the GeForce FX 5200 or the FX 5700, or the 9600 Series from ATi.

sos@jasubhai.com

E-mail us your computing problems along with your contact details, 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!

Upgrade, Upgrade, Upgrade!

Q I have a Compaq Presario 3600m machine with a Pentium 4, 1.5 GHz processor, 128 MB of SDRAM, and an nVidia Vanta graphics card with 16 MB of memory. My problem is, of late, no games seem to work on my PC. The error messages mainly show that my hardware does not support my games. *Max Payne 2* was the last game that worked fine. After that, whether it is *NFS Underground*, *Doom* or *FIFA 2005*, it does not work. Will I have to buy a new computer, a new processor, or a new graphics card?

Anjan Jyoti Bora

A The problem lies mainly with your RAM and your graphics card. You have not mentioned what motherboard you are using, but we think it will not support DDR RAM. The best solution would be to go for a complete overhaul of your system, wherein you upgrade to a P4 2.4 or 2.8 with at least 256 MB of DDR 400 RAM, and a decent 64 MB graphics card, say a GeForce 5700 Ultra. That should let you play all the latest games at fairly decent settings. For a full comparison and specification, check out the graphics cards shootout in the January 2005 issue of *Digit*.

If you do not want to go in for a complete overhaul, you could go in for a GeForce4 Ti card, which should let you play quite a few of these games at the minimum settings. Make sure to check what AGP slot your motherboard supports—8x or 4x. 8x is backward compatible with 4x, but there is no point in buying an 8x card if you cannot use it to its full potential.

Back to the Basics:
Back To The Basics

You use a keyboard and a mouse all the time—it makes sense to get your hands on a good set

My next-door neighbour just bought a spanking new multimedia PC and thinks he has the perfect reason to look down upon me. Well, actually it's just the cordless keyboard and mouse that are better than what I have. However, his scorn was exactly what got me looking out for a new keyboard and mouse.

Unlike components such as monitors, which are installed once and are seldom touched except during cleaning sessions, keyboards are subjected to harsh treatment day in and day out. They therefore simply have to be sturdy. Mechanical keyboards of yesteryear were a different breed; today, almost all keyboards use a membrane with a rated life of a maximum of five years. But remember that your usage should determine what device you buy, not the technology the device uses.

So, as usual, off I set to Lamington Road in Mumbai. Enquiring in a few small shops, I was greeted with just one question—corded or cordless? It does seem that cordless desktops have gripped the imagination of most people, and are moving quickly off the shelves. Personally, I am not in favour of cordless devices: first, due to their high running cost—they require batteries to run—and secondly, I can't imagine people sitting a mile away from a PC and working.

However, if you want a clutter-free desktop, cordless is what you should go for. Alternatively, you can go in for a combination of a cordless mouse and a corded keyboard, since keyboards are hardly moved around. With a mouse, though, the cord can be a limiting factor.

Basics For All
The cheapest keyboard and mouse that you can probably buy cost around Rs 150 each; however, don't expect them to last too long. More often then not, you will be lured into buying such low-cost devices, but my advice is, steer clear of them. However, if you own a cyber-café, you might want to look at these. If they don't suit your taste, you can hunt for devices in the Rs 250-300 bracket. Logitech, Samsung, iBest, Adcom and others have some decent products in this range.

For our general users who get their PCs assembled, I would recommend the new Logitech Easy keyboard Deluxe, which retails at Rs 500, or Microsoft's Internet keyboard. Hard

Look at ergonomic keyboards if you do a lot of typing and value your wrist; after all, keyboards can be replaced but your hands can't!

as it is to believe, IBM and Dell keyboards are also available, and are sold in the Rs 600 to Rs 700 range. I tried my hands on one IBM keyboard and it was quite good.

Multimedia Basics
If the new multimedia range of keyboards with plenty of keys thrown around is something you're looking forward to, don't worry, there are plenty of them. They start from as low as Rs 900 and go up to Rs 2,500. iBest has some real snazzy models to choose from, but remember that multimedia keyboards require the proper drivers to work correctly.

On the mouse front, you can settle for a decent optical mouse for Rs 500; entry-level mice from Logitech and Microsoft fit the bill. If you are always on the Internet, I say you should go for a five-button mouse; the Back and Forward buttons are great, and will get you hooked. Mice with five buttons are available in the range of Rs 1,200 to 1,500, with Logitech's and Microsoft's devices standing out from the crowd.

Touch-typists demanding firm key feedback should look for the TVSE Gold keyboard, probably the only mechanical keyboard on the market. Gamers could also look forward to this keyboard for the ruggedness over membrane-based keyboards, which give away early when stressed. Gamers who need that extra precision when it comes to mice should look no further than the MX series of mice from Logitech. You can go in for the MX-510 corded mouse, which will set you back by Rs 3,750. If you want a mouse with loads of features—such as horizontal scroll and pin point accuracy—look to Logitech's laser mouse, the Mx-1000. This one costs Rs 5,500!

Do You Type A Lot?
If your job involves a lot of typing—like in the case of writers, editors, and data entry personnel—I would recommend a look at ergonomic keyboards. I have used Microsoft's Natural multimedia keyboard and can say it offers good comfort, but at a price: it retails for Rs 2,350. Buy it if you value your wrist; after all, keyboards can be replaced but your hands can't!

I finally settled for Microsoft's Internet keyboard and a Logitech five-button optical mouse, all for under Rs 2,500—the best of both worlds!

Illustration **Shyam Shriram**

Style Computing

Q I want to buy a stylish, sturdy and thin laptop weighing no more than 2.5 Kg, preferably from a reputed brand. The configuration should be as follows: an Intel Pentium M processor (top end), 512 MB of RAM, a 40 GB hard disk, a combo drive, 15-inch widescreen, and the necessary ports. Connectivity options should include Bluetooth. Software inclusion does not matter.

Peeyush Paani

My personal favourite is the IBM Thinkpad T-series of laptops; they are light, extremely sturdy and conservatively styled. You may want to look at the T42 model; it comes with everything you want. However, mind that IBM charges quite a premium for these products, and they are usually in the Rs 85,000+ range. IBM allows you to tailor the hardware configuration and hence, depending on the hardware, the version and price increases or decreases. For models from other vendors, refer to the laptop comparison test in this issue.

I Can't Find It

Q I wanted to purchase an Archos Gmini or Samsung Media Centre portable video player, but was unable to find a retailer in India. Could you guide me to where I can get it from? Also, I would like to get a GeForce 6800 Ultra Extreme graphics card.

Satyajit Patnaik

We're sorry to say this, but the Archos Gmini is not sold in India through authorised channels. However, you might find it in shopping centres selling foreign goods, but after-sales service might be a problem. MSI has apparently introduced a similar product in the Indian market—the MSI MegaView 561. This little device plays MPEG4 video and MP3s; you can store data on it too. It retails for around Rs 27,000.

You could contact Cyberstar India on 0-9323809599, or Tirupati Enterprises: 0-98310022600. For a GeForce 6800 Ultra card, you could call the same companies and for the MSI MegaView 561, or you can try Rashi Peripherals at 022-56290785 for Asus or XFX cards.

Flipping On Colour

Q I want to buy a mobile phone that looks great, has good features, is durable and does not cost more than Rs 5,000. Also, if possible, I would like a flip-style mobile phone. Can you suggest somewhere to look for second-hand mobile phones, possibly a Web site?

Arnav

There are two models I would recommend you look at: the Sony Ericsson Z200 and the Nokia 2650. They are equally good; I would go for the smart looking Z200, though. Of course, if you are a Nokia fan, you would want to look at the 2650. It is pretty much like the other lower-end colour phones from Nokia.

> You can procure a digicam from either the official channels or the grey market—the latter offers the same cameras for much less, but without a warranty

The Right Mix

Q I want to upgrade my PC and am thinking of buying an AMD-based system. I want you to help me choose the right motherboard and processor combo. The motherboard should have on-board sound and no graphics. Also, it should support a PCIe graphics card.

Shravet

Please refer to the February 2005 issue of *Digit* for a complete solution regarding AMD processors and motherboards. For a mid-range solution, there are just two chipsets—one from ATi and the other from nVidia—that support PCIe on the AMD platform. Motherboards based on nVidia's nForce4 chipset are yet to make it to the Indian market. MSI has launched a motherboard based on ATi's Express 200 chipset, and is available as RS480. These motherboards take 939-pin AMD processors, which are slightly more expensive than their 754-pin counterparts. You can contact Cyberstar India at 0-9323809599 or Tirupati Enterprises at 0-98310022600.

Swearing By Sony Ericsson

Q I am interested in the Sony Ericsson P910i and S700i cell phones. Can you please tell me how much these phones cost and which one will be best suited to me?

A Reader

Since you have not provided details about your usage patterns, saying which one is best-suited to you is a difficult job. However, I will highlight the general usage profiles of both these phones. The P910i is a PDA-phone—you can use it as a PDA and as a phone as well. The target audience for the P910i is executives who have to juggle between a phone and PDA. The S700i is a media-centric phone where the digital camera, video recording, music playing capabilities, etc. are stressed upon. As you can see, there is a clear demarcation when it comes to the usability of both these phones.

The Sony Ericsson P910 would set you back by around Rs 40,000, whereas the S700i should cost around Rs 30,000.

A Basic Digicam

Q I want to buy a digital camera with decent features priced not more than Rs 10,000.

Rajagopalan M R

You can procure a digicam from either the official channels or the grey market—the latter offers the same cameras for much less, but without a warranty. Look for Nikon's 3100 or 4300 models. Both are good, and should be available in the grey market at a comfortable price. However, if you value warranties and support, then at Rs 10,000, there are few good digicams I can recommend. Even so, have a look at Kodak's CX-4XXX series: they are priced at around Rs 10,000 and deliver fairly good results. ⊠

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Digital
Business
How Technology Can Help Your Organisation

Case Study

No-Strings-Attached
Hospitality

Hotel Golconda in Hyderabad has deployed wireless LAN across five floors. Find out why Wi-Fi is the new buzzword in the hospitality industry

Meera Vankipuram

With information technology changing the face of corporate India, it was only a matter of time before this had an impact on other businesses. Cities in IT hubs of the country are facing a new challenge—catering to the tech savvy clients. Even hotels are not spared of the ever-changing needs of this fraternity. Perhaps, they could take a leaf out of Hotel Golconda's book and create a haven for the tech-enabled traveller.

"Thanks to IT, the face of Hyderabad has changed in the past decade. Today, the hospitality industry in particular, is catering to a new segment—IT and Biotech professionals—who demand certain services and use those facilities actively," says Suresh Reddy, executive director, Hotel Golconda.

Located in the heart of Hyderabad, Hotel Golconda, which falls into the three-star category, recently installed a Wireless LAN on their premises. This wireless "hotspot" has been deployed across five floors (and two more would be networked soon with six additional access points). Guests can now access the Internet from anywhere in the hotel at an additional charge of Rs 200 per day.

Internet access being a prerequisite for almost all business travellers, Wi-Fi enabled hotels have become more the norm than the exception. In India, deployment of Wireless LANs has largely been restricted to four- and five-star hotels (about 200 such hotels in India are Wi-Fi enabled).

Wi-Fi Central

Golconda, which derives its name from the majestic fort located on the outskirts of Hyderabad, is nearly 15-years-old, and has a capacity of 150 rooms. Says Reddy: "The hotel was inaugurated in August 1989 and has been renovated since. About a year-and-half ago, we were one of the first hotels in Hyderabad to offer Wi-Fi connectivity to our customers. The response has been excellent."

To set up the Wireless LAN, Cisco Aironet 1100-series Access Points were
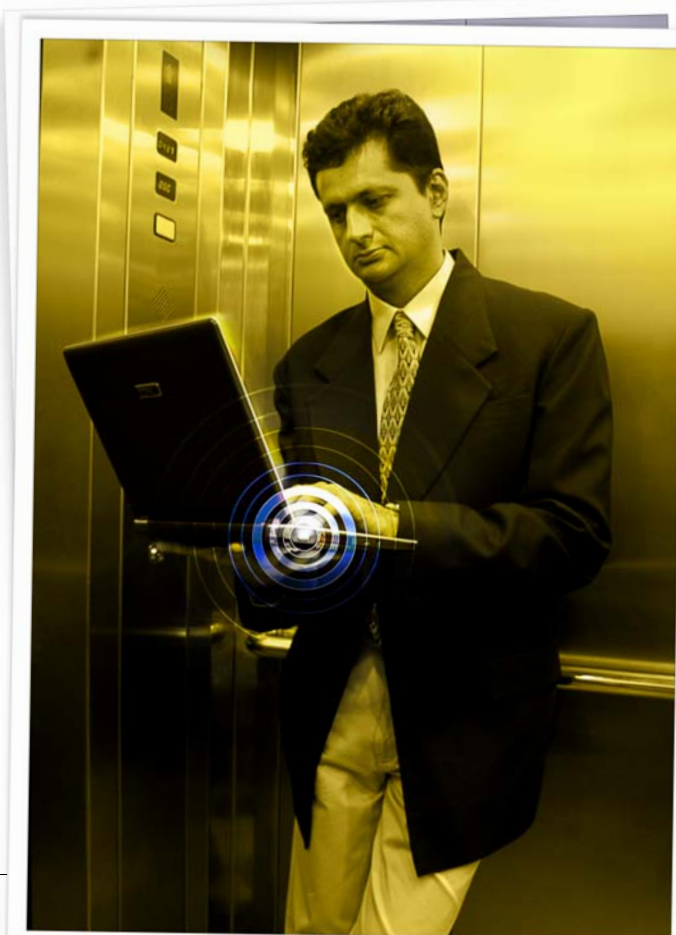
deployed across five floors. The hotel also invested in five 350-series Access Cards (to be rented out to guests) which, when fitted into the laptop, would enable Internet access. Apart from the rooms, Wi-Fi connectivity is also available at the business and convention centres and at the restaurants. "At our business centre, we provide computers and broadband access to clients who don't carry laptops," says Reddy.

Reddy says that the LAN has been optimised to ensure high speeds and seamless connectivity within the premises and to minimise channel interference. Interactive TV, video-on-demand and video streaming services are on the cards.

'Broadband Is The Key'

Wireless networking enables sharing an Internet connection across a Local Area Network (LAN), without using cables or drilling holes to insert network cables.

Wireless LANs (WLANs) are popular in office environments, where laptop/notebook users can stay connected all the time, even while on the move within the premises—especially in places where a network cord may not be available.

While WLAN deployment was an expensive option a few years ago, today WLANs are being viewed as viable alternatives to cable-based LANs. WLANs are being installed in homes and SoHo environments as well.

In India and abroad, WLANs are extremely popular in offices (Enterprise and SMB), warehouses, hospitals, educational and professional training institutes, airports, and of course, the hospitality industry.

"Enabling connectivity is an integral part of customer service, especially in the hospitality industry. It's no longer a perk, but a necessity," says Varghese M Thomas, Senior Manager, Corporate Communication, Cisco Systems (India and SAARC).

Cisco's offerings in the Indian Wireless market include Linksys systems for the SoHo segment and the Cisco Aironet solutions for the Enterprise segment.

"Not just hotels, but in cities such as Bangalore, Wi-Fi access is available even in studio-houses which are being rented out to business travellers or IT professionals on the move," says Thomas.

There is great potential in India for wireless connectivity, but increased broadband proliferation is the key to its success. Hardware is still expensive here in India, and people need to know that broadband can be used for a lot more than faster data transfer.

"Most business transactions take place online now, and if we have to keep pace with international deals, Small and Medium companies must consider investing heavily in broadband," adds Thomas.

Early last year, the city of Philadelphia in the US, launched a massive initiative to set up the world's largest wireless hot spot spread over 135 square miles of city-space. Placing small transmitters around the city, which could communicate with wireless networking cards, the network would enable citizens to access broadband Internet connection from practically anywhere in the city, free or for a minimum charge.

While Wi-Fi-enabled cities are a distant dream in India, wireless LANs are helping the Indian hospitality industry match its counterparts abroad.

The race to capture the business travellers mindshare has gone high-tech... will WiMAX be the next trump card? ⊠

meera _vankipuram@thinkdigit.com

Anywhere You Roam

A tale of laptops and PDA-phones: we tell you the best means to take your data and walk!

Aliasgar Pardawala, Jayesh Limaye and Sanket Naik

There is something to be said about a world that expects you to carry your work with you, wherever you may be, whenever. As a digitally connected society, we are programmed to take blurred timelines, back-breaking roads, jetlag and virtual meetings in our stride, and sally forth to bring back that winning deal. While it is tempting to take a philosophical look at this state wherein "no time to stand and stare" is an accepted reality, such meanderings are best left to others.

So while the Deepak Chopras of the world address those issues through easily available paperbacks (perhaps as e-books readable on your PDA), we shall accept the status quo and make the best of it. We will, therefore, take a look at the best means of staying mobile with your precious data.

With mobility on our mind, our focus will be on two consumer devices—laptops and PDA-phones.

Did Someone Say Status Quo?

An interesting and recent development has been the proliferation of laptops in business houses, and to a lesser degree, within homes. These portable PCs are currently powerful enough to carry out the most common tasks—writing and staying connected with peers and loved ones, while offering the necessary digital entertainment via movies and songs. The most important criterion here is, of course, portability, quickly followed by quick, convenient and safe retrieval of that portable data. Right now, laptops offer all this in an affordable package, and are quickly replacing desktop computers.

Going hand-in-hand with laptops are handhelds. Indeed, the competition on this turf for both size and features is so fierce that it has become quite a mental exercise to differentiate a phone from a 'smartphone',

with the rest of your team over a shared Web calendar—instead of booting your sizeable laptop.

It is always easier to update your PDA-phone while on the go and then sync it later with your PC later at night. Similarly, reminders about meetings or birthdates, and checking e-mail while travelling, are tasks for which PDA-phones are more practical than laptops.

On-the-road practicality is what prompted Santosh Savant to opt for a PDA-phone over a laptop. As the brand manager of Cosmos Brands International Pvt Ltd, Savant relies on his Nokia Communicator 9210i for "scheduling meetings and anniversary reminders." As he puts it, "While travelling, the size and weight of the device really matters; a laptop weighs over a kilogram, and the 250 grams of a PDA-phone is a significant reduction... the PDA-phone notifies me about events instantly. The same can't be said about laptops for the simple reason that they won't be switched on all the time."

We are, of course, not suggesting that the laptop is replaceable by the phone—not yet at least. The two complement each other well—a phone to gather and check upon data quickly, a laptop to work upon collated data at a less hectic time and locale. As Santosh Savant, brand manager, Cosmos International Brands Pvt Ltd, agrees, "...a laptop is a better bet if you do lot of presentations, work with sheets, etc, but for e-mail on the go, a PDA is as good as a laptop."

Mobile e-mail has become very important in the business world. A 2004 survey by research firm InStat/MDR highlighted that the biggest concern to mobile business users is staying connected to customers, co-workers, and critical data. The survey went on to note that for their cell phones, users want basic functionalities such as speakerphones and e-mail capabilities. This fact has been underlined by the industry itself—Blackberry devices are finding favour with users for their e-mail capabilities and their ability to tie seamlessly with Microsoft Exchange servers. Indeed, their success has prompted PalmSource to carve

We are, of course, not suggesting that the laptop is replaceable by the phone—not yet at least. The two complement each other well

and a smartphone from a PDA. If you are looking at a communication device that offers rudimentary contact management and call management, then almost any cell phone in the market would be it. But we went a little further here.

With an eye on data manipulation and data portability, we argued that an ideal device would be a 'PDA phone': more PDA than phone, with a good, viewable screen, data input via either a keyboard or handwriting recognition software, and finally, with the ability to make phone calls. Such a device is ideal when called for noting down someone's contact (or for exchanging contact information wirelessly after a meeting or presentation); to create to-do lists; or for synching your calendar

out a deal with Microsoft to be able to communicate with Exchange servers... Microsoft, in turn, is looking to add support for so-called 'auxiliary display devices' to their upcoming—any time now—Longhorn OS.

Microsoft wants PC makers to mount cell phone-like displays on the lids of laptop computers so that users can check the time, battery status and appointments, or see if new e-mail has arrived without having to start up their portable PCs. Such functionality is already planned for 'handtops' such as the upcoming FlipStart (www.flipstartpc.com).

Will the future bring in the so-called 'road warriors'—men and women connected digitally to offices yet not tethered physically to a geographical location?

A look at present devices certainly points to such a scenario. When we tested devices for this article, convergence and portability featured prominently across laptops and PDA-phones. So let's take a look at what the market is offering. As mentioned, we have divided this article into laptops and PDA-phones. We begin with the laptops.

LAPTOPS

Based on its form, a laptop can either be an 'ultra-portable'—small and light—or a workhorse—big and feature-rich. One of the common elements threading through these disparate devices is battery life. Although it is an important element in the usability of portable electronics, battery life, at present, doesn't satisfy. Hovering around the three-hour mark, you would be remiss not to carry an extra battery pack along. Perhaps with the introduction of less hungry processors, better batteries, and someday, of OLED screens, this facet will improve.

As of today, large screens, optical drives, fast hard disks, wireless connectivity, all conspire to hold battery life down—the best a laptop could do under our admittedly gruelling battery test was make it past four hours (it was an Acer TravelMate, in case you are wondering). Our recommendation is that you seriously consider investing in an extra

Fujitsu LifeBook S7010

battery pack when purchasing a laptop.

Barring the odd one here and there, most of the LCD screens on laptops are usable. Some are exceptional, such as the specially-coated screens offered by Sony or Sharp (with exceptional price tags too); some are not very usable under certain lighting conditions, such as the 'mirrored' Toshiba Satellite. But, on the whole, they are all usable for the task at hand, which is mostly reading, writing and some portable cinema, if you are lucky with time and if your battery allows.

Before purchasing a laptop, ensure that you are comfortable with the viewing angle—place it in a position you will most frequently use: on your lap, on a table, in a cramped airplane seat, or seated in a local train. If the screen is readable at the angles you try out, you are good to go.

Another noteworthy aspect is that of the hard disk speed, but all the laptops we tested had 4,200 rpm disks, which is good

enough. Just remember that faster, though better, would also drain batteries quicker.

Lastly, on build quality—IBM laptops are the best in this regard, bar none. The quality of their keyboards is on par with, if not above, that of desktop keyboards, their machines are build extremely well, and to last. Time will tell whether the IBM-Lenovo deal will affect this; notably, Thinkpads will still be made under the aegis of IBM for at least one more year.

We will now move on to the crux of this section—the performance of the laptops we received, starting with the Workhorses.

THE WORK-HORSES

Workhorses are built to take care of demanding computing needs. They, therefore, include good I/O, graphics and multi-media sub-systems to enable you to tackle tasks we

ACI Emerald C2
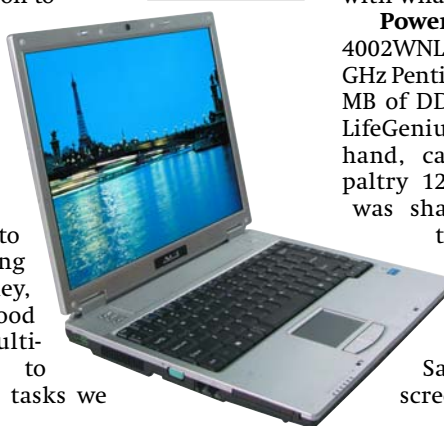
usually perform on our desktop PCs. We rounded 12 models from nine brands under this category. HP and Dell could not send in their models in time for our test, despite aggressive follow-ups from our end.

A workhorse is generally employed both at home (where you will likely use it for work) and at work (if the boss is looking, for work). These machines, therefore, are powerful enough to pull the requisite load. Let's look at their features, starting with what makes them tick.

Power: The Acer TravelMate 4002WNLCi comes with a fast 1.6 GHz Pentium M processor and 512 MB of DDR333 RAM. The Wipro LifeGenius 1000D, on the other hand, came equipped with a paltry 128 MB of RAM, which was shamelessly shared with the graphics chip—its performance did suffer on account of this. The Acer, Zenith Strategist and Toshiba Satellite all had wide screens, which are a plus

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How We Tested

The laptops were assessed on four main parameters—features, performance, usability and price. The weightages applied to these parameters varied from one category to another depending on the relevance of a particular parameter to that category.

We used a fresh copy of Windows XP Professional SP1 as the OS. After the installation, all the latest drivers were loaded for optimum performance.

Features

We noted features such as the type of RAM, hard disk capacity, type of optical drive, types of ports, connectivity options, and so on.

Usability

A laptop's usability is evaluated on the basis of how simple or difficult it is to handle in day-to-day life—primary importance was given to weight, dimensions, and other ergonomically-inclined issues such as keyboard feel, touchpad sensitivity, etc.

Package contents

We noted whether the vendor provided an OS, a recovery CD, a user's manual and driver CDs with the laptop. We also noted the extra software provided, and the accessories—power adapter, carry case, etc—bundled along.

Performance

To gauge the performance of each laptop, we ran a battery of tests to evaluate each sub-system. The following benchmarking suites were used to test the laptops.

PCMark 2004: This is a system-wide benchmark that tests individual components such as the processor, memory, hard drive and the graphics sub-system. It returns aggregated scores as well as individual scores by running different applications used in day-to-day work, such as file encryption, virus scanning and so on.

SiSoft Sandra 2005 Professional SR1: This was used to evaluate CPU, memory and hard disk performance.

Ziff Davis Business Winstone 2004: ZD Bench's Business Winstone—a benchmark that tests the system with applications that are used on daily basis—evaluates complete system performance, and returns a unified score.

Video Encoding: A 100 MB VOB file was encoded using Dr. Divx 1.0.6 to the AVI format, and the time taken to encode the file was noted.

Gaming benchmarks: *Call of Duty* was used because it doesn't work on graphics chipsets that don't support Hardware T&L (Transformation and Lighting), and tests the OpenGL

graphics subsystem. *HalfLife 2* supports different versions of the DirectX API. The games were run at 800 x 600 and 1024 x 768, and the average frame-rate was noted.

Screen display tests: DisplayMate Video Edition was used to evaluate the quality of the LCD display. We used the test to gauge the sharpness and level shift of the LCD screens. Pixel Persistence was tested using the PassMark Monitor Test suite, in which white moving blocks were observed for the tearing effect, and the screens were rated accordingly. The laptops were then taken outdoors to see how viewable the text and video on the screen was in sunlight. The laptops were placed such that the sun fell on the screen at a slant, rather than perpendicular to the screen.

Digit Battery Meter: In order to stress the battery to the utmost, we ran a VOB file until the battery ran out, to gauge whether the notebook battery would last a full movie—pretty real-world.

Wi-Fi Test: To evaluate data throughput over Wi-Fi, we used the NetCPS program—a utility that pumps in data to check the TCP/IP connection. We also copied 52 MB of assorted data, and streamed a movie file, to further check Wi-Fi performance.

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while working on worksheets or while watching a movie.

Oddly enough, the Toshiba Satellite had a 'mirror finish' to its monitor, which took away much of the detail while viewing anything in a properly lit room. The MSI M e g a B o o k sported the
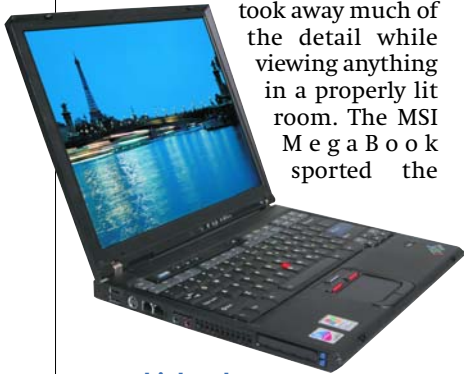
IBM Thinkpad T42

highest native resolution of 1,400 x 1,050. When it comes to connectivity, serial and parallel ports, while still important, are sidelined by the now-ubiquitous USB ports. A few models, from vendors such as MSI, came with a parallel and a serial port. The Zenith Director had four USB ports, which was the highest, three or two being the norm.

FireWire is also gaining in presence, and all laptops except for the IBM Thinkpad T42 came with a FireWire port. This provides a fast interface for connecting digital imaging equipment such as DV cams to a laptop.

An infra-red (IrDA) port, though old, was still present on almost every laptop except for the Zenith and the Toshiba. IR ports, slow as they may be, are a very useful feature for exchanging data with handhelds such as cell phones and PDAs. IrDA allows for synching of your Outlook address book, notes, to-dos, images and so on. The models from Acer and BenQ also supported the faster and more convenient Bluetooth.

As wireless networks increase in popularity within offices, and as Wi-Fi hotspots trickle into our country, Wi-Fi-enabled laptops make for a worthwhile investment. Most of these are based on Intel's Centrino platform. Wi-Fi connectivity was indeed part of every laptop, save for the Zenith Director.

Faster Gigabit Ethernet ports were provided with the Fujitsu, the IBM and the MSI laptops, and this number will

only grow, as the popularity of Gigabit is fast increasing. Gigabit allows ten times faster data transfers over a LAN.

To be able to make presentations while on the road, D-Sub and S-video connectors are important. These can also be used to output video onto bigger televisions at home in order to watch movies, play a game or run a slideshow of your personal photographs.

When it comes to data storage, anything above 20 GB is decent for a laptop, and all the laptops we tested had at least this much to offer. The MSI MegaBook M510C came with an 80 GB drive.

The integrated graphics chip present in most of the laptops is good enough for common usage. However, some laptops do offer the option of a dedicated card. If you are looking to do design work on your workhorse, such as CAD/CAM, consider such a solution. Some Thinkpads, for example, offer the option of workstation-class graphics cards with 128 MB of onboard memory.

The IBM T42 had an ATi Radeon 7500 with 32 MB of dedicated DDR RAM; the Acer and the MSI came with an ATi Radeon 9700 with 64 MB of dedicated DDR RAM, whereas the Toshiba came with an nVidia GeForce Go 5200 with 64 MB of dedicated DDR RAM.

All the laptops in this category came equipped with an optical combo drive capable of burning CD-ROMs. This is a handy feature, suited for taking backups on either archival CDs or on rewritable CD-RWs. The Fujitsu and the IBM T42 also featured biometric fingerprint scanners for added security. These allow biometric access to password-protected data within e-mail boxes, instant messengers and VPNs.
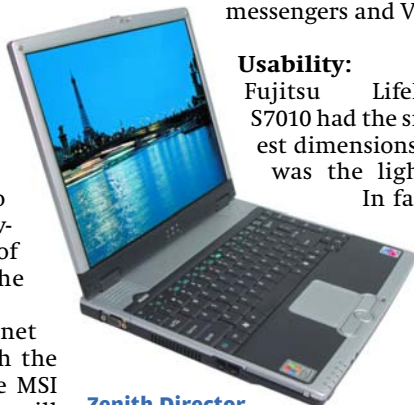
Usability: The Fujitsu LifeBook S7010 had the smallest dimensions and was the lightest. In fact, it

Zenith Director

▼ 'Why I Use A Laptop'

Jehangir Wadia, Trustee of the A H Wadia Trust, has been an avid laptop user for at least 10 years now; he currently uses a Fujitsu 7010 for everyday work.

Flexibility is the primary reason he cited for opting for a laptop over a desktop PC. According to Wadia, you can take your entire office with you if you have a laptop—whether you're on the move, visiting your branch offices, or working at home. "Such mobility and flexibility ensures that you deliver on both—professional as well as personal demands."

weighed in at just 1.98 kg—much lighter than the next-lightest, the IBM T42, at 2.28 kgs.

The Fujitsu is an ideal travel companion—it's so light that you can easily carry around that necessary extra battery pack, or even a spare mouse.

The usability of a laptop is enhanced by accessible expansion ports—it is better to have USB ports on either side of a unit than at the back; ditto for the D-Sub ports. Ports on the Acer, BenQ and Fujitsu units were nicely spread out and very easy to access.

Some laptops such as the MSI and the Zenith Strategist had touchpads with tacky keys. The Toshiba had the Windows key in the top row, and the IBMs simply did not feature a Windows key.

When the sole method of analogue input to a laptop is a touchpad, the touchpad needs to be sensitive and responsive enough to your fingers. Struggling with this will soon lead to tired fingers and a drop in productivity.

Here, the IBM Thinkpad offered the best tactile feel on both the touchpad and the keyboard. Moreover, its signature red pointing stick is a great replacement for a mouse in terms of ease of use.

The Fujitsu and the Toshiba Satellite fared equally well here. We found the IBM laptops and the Acer unit very ergonomic. IBM is to be commended for its rock-solid build quality. When we tested onscreen readability in daylight, except for the Zenith Strategist, the remainder were nothing but eye strainers. The Fujitsu S7010 had the most difficult screen to read. As far as viewing angle goes, the Fujitsu, the Toshiba and the MSI offered good angles of 170 degrees. ACI offered the lowest at 145 degrees.

For movies, the best viewing angle of 160 degrees was offered by the Zenith Strategist. The Wipro CP had a pretty bad screen, which didn't allow for any lateral movement; we had to sit right in front of it to get a viewable image.

Although all the laptops came equipped with speakers, none came close to the Harmon Kardon speakers that shipped with the Toshiba Satellite M30.

All laptops came with either Microsoft Windows XP Professional or Home, with Wipro and Zenith being the exceptions. They didn't come preloaded with an OS at all; you are expected to either install an OS yourself or pay extra for this barest of necessities.

Performance

Laptops falling in this category are flexible enough for home and office use. This means a good workhorse should run office applications as well as a desktop PC would. To test this, we employed the Business Winstone benchmark, under which common applications such as Microsoft Word, Excel, Outlook and Internet Explorer are run in a scripted sequence.

Here, the IBM T42 logged the highest score of 21.2, followed by the 20.7 that the Fujitsu S7010 scored. The IBM T42 also was the fastest in video encoding, and in the SiSoft Sandra 2005 synthetic benchmark suite. The T42 thus comes across as a machine that will not only perform well in most work-related applications, but one that also lends itself to minor workstation-class jobs such as rendering and image resizing and conversion.

Under PCMark 2004, the Acer TravelMate 4002 scored the best, and should suffice for all computing needs—office, home or while travelling. The IBM T42 and MSI also showcased good performance.

Wi-Fi, though not very common, is finding a foothold in India. Wireless connectivity provides flexibility and lets the user work and access data and the Internet while away from the desk. Speed, however, still remains an issue, especially with the 802.11b standard, where the peak data throughput is just 11 Mbps. Thankfully, 802.11g, with 54 Mbps, is gaining in popularity.

The Acer TravelMate 4002, with an 802.11g-based Intel card returned scores comparable to those of a wired LAN. It took just 34 seconds to copy 50 MB of data using Wi-Fi on this laptop!

We also ran a few games to test the DirectX and OpenGL performance of these machines. Since most had an integrated Intel graphics chipset, they returned very low scores, while
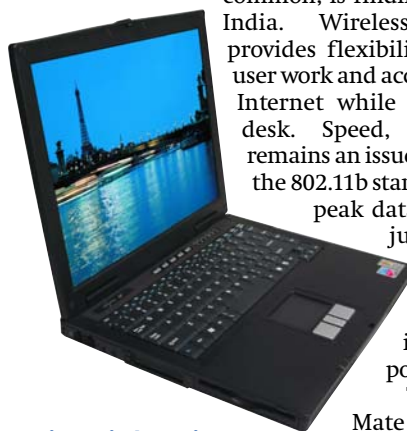
Wipro LittleGenius CP

Score Board — Workhorse Laptops Category

Brand	Model	Basic Specifications	Score (Out of 100)	Price (Rs)
Acer	TravelMate 4002WNLCi	Pentium M 1.6 GHz, 512 MB, Mobility RADEON 9700, 15.4-inch, 60 GB, Combo Drive, 802.11g, 10/100 Mbps, 2.98 Kg	67.64	51,999
ACI	Emerald C2	Pentium M 1.7 GHz, 256 MB, Intel 855, 14.1-inch, 40 GB, Combo Drive, 802.11b, 10/100 Mbps, 2.40 Kg	65.58	44,999
BenQ	Joybook 5100U	Pentium M 1.5 GHz, 256 MB, Intel 855, 15-inch, 40 GB, Combo Drive, 802.11b, 10/100 Mbps, 2.40 Kg	57.70	79,000
Fujitsu	LifeBook S7010	Pentium M 1.6 GHz, 256 MB, Intel 855, 14.1-inch, 60 GB, Combo Drive, 802.11g, Gigabit, 1.95 Kg	63.99	130,000
IBM	T42	Pentium M 1.7 GHz, 512 MB, ATI Mobility RADEON 7500, 14.1-inch, 40 GB, Combo Drive, 802.11g, Gigabit, 2.28 Kg	60.51	124,000
IBM	R51	Pentium M 1.7 GHz, 256 MB, Intel 855, 15-inch, 40 GB, Combo Drive, 802.11g, Gigabit, 2.86 Kg	61.85	85,000
MSI	MegaBook M510C	Pentium M 1.5 GHz, 256 MB, ATI Mobility RADEON 9700, 15.4-inch, 80 GB, Combo Drive, 802.11g, Gigabit, 2.84 Kg	66.88	65,990
Toshiba	Satellite M30	Pentium M 1.6 GHz, 256 MB, GeForce FX Go5200, 15.4-inch, 40 GB, Combo Drive, 802.11b, 10/100 Mbps, 2.76 Kg	56.44	105,000
Wipro	LittleGenius 1000D	Celeron 2.4 GHz, 128 MB, SiS 315, 14.1-inch, 20 GB, CD-ROM, NA, 10/100 Mbps, 3.06 Kg	54.30	43,990
Wipro	LittleGenius CP	Pentium M 1.4 GHz, 256 MB, Intel 855, 14.1-inch, 30 GB, CD-ROM, 802.11b, 10/100 Mbps, 2.76 Kg	56.39	51,990
Zenith	Director	Pentium M 1.6 GHz, 256 MB, Intel 855, 14.1-inch, 40 GB, Combo Drive, 802.11g, 10/100 Mbps, 2.58 Kg	54.03	51,000
Zenith	Strategist	Pentium M 1.6 GHz, 256 MB, Intel 855, 15.4-inch, 40 GB, Combo Drive, 802.11g, 10/100 Mbps, 2.82 Kg	58.31	57,500

For the complete scoreboard, log on to www.thinkdigit.com

the IBM T42 simply failed to run *Half-Life 2*. The Toshiba Satellite M30 running on a GeForce Go 5200 and the MSI MegaBook M510C with an ATi Mobility 9700 chip were the exceptions, and fared well in both games.

Finally, it was time to test the battery life. Most of the laptops we tested supported some form of speed throttling—wherein the CPU runs faster or slower depending on the load—and they also switch off the screen and park the drive after a while in order to extract the most from the battery. We wanted to test them under extreme conditions, however, and therefore disabled these features. Keep in mind, therefore, that real-world battery life will be better than what our tests reflect.

The Acer TravelMate 4002 was indeed a traveller's friend—it ran for a whole 230 minutes. On the other extreme were the models from Wipro, which drained out in just 66 minutes, which is poor by any standards.

Acer TravelMate 4002WNLC

Conclusion

While both the IBM T42 and the Toshiba M30 put up a solid performance in most tests, the

MSI MegaBook M510C

Acer TravelMate 4002 came out on top as the best performer.

This wide-screen wonder with a 1.6 GHz Pentium M processor and 512 MB of DDR333 RAM sported a 60 GB hard drive and an 802.11g wireless card. The screen supported a native resolution of 1280 x 800, a resolution ideal for both work and leisure. Being powered by the ATi Mobility Radeon 9700 did not hurt its performance either. Although it weighs in at 2.98 kg, the performance is well worth the extra kilogram!

The MSI MegaBook M510C came in second, closely following the Acer. With a 1.5 GHz Intel processor and 256 MB of DDR333 RAM, the Acer also sports Gigabit Ethernet and an SD/MMC/MemoryStick card reader. This laptop had an 80 GB hard disk, which was the highest capacity in the comparison test.

THE ULTRA-PORTABLES

While the Workhorses are meant to replace your desktop PCs, ultra-portables are designed to be as small and as light as possible. Their screen size is therefore small—less than 14 inches—and they weigh less than two kgs.

A small form factor calls for some compromises though, including the screen size, which may lead to eye strain after prolonged use—and a smaller keyboard, which can be cumbersome to work with. We tested five such models from five different vendors.

Features

All the ultra-portables were based on Intel's Centrino platform: with an Intel Pentium M processor, the Intel 855 chipset and an Intel Pro Wi-Fi chipset.

The Fujitsu S2020, with an AMD Athlon XP-M 2100+, was the exception. The Acer TravelMate 381TCi had a whopping 512 MB of RAM, a lot for its size!

All these laptops had a 4:3 screen, except for the Zenith VU, which featured a 16:9 wide screen. The Zenith Presidio VU also had the highest resolution of 1280 x 768 pixels; the other laptops featured 1024 x 768. The Zenith's only drawback was a 'mirror finish' screen, which was very distracting—it reflected too much light. The Fujitsu LifeBook S2020 had the largest screen size of 13.3 inches, and was a lot easier on the eyes.

Dr Uday Lajmi
Dean, D Y Patil Institute of Management Studies

Dr Lajmi has equipped himself with an ultra-portable laptop. Why an ultra-portable one? "Weight and size were the two things I was looking at, and it's only an ultra-portable that fits the bill. I often have to lug the laptop around for presentations, so a lighter laptop makes more sense. Moreover, the small size ensures you can take it almost anywhere."

The Toshiba Satellite M30 running on a GeForce Go 5200 chip fared well in both games

The Zenith Presidio VU had three USB 2.0 ports, while the others only had two. The almost-obsolete serial port was only available on the Fujitsu LifeBook S2020, which also sported a parallel port—along with the ACI Ethos Lite.

All these laptops had a FireWire port. They also all had a PCMCIA slot that supported Type I and II PC Cards. Due to their small size, the support for the thicker PCMCIA Type III was absent. The Zenith Presidio VU supported SD/MemoryStick/MMC cards, whereas the ACI Ethos Lite supported SD/MMC—and the Toshiba Portégé M100 supported only SD cards. The rest had no memory card reading capability at all.

IrDA ports were present on all laptops except the Toshiba Portégé M100. It doesn't hurt to have an IrDA port onboard, especially if you wish to transfer files between a cell phone and the laptop.

All the Centrino-certified laptops, as well as the Fujitsu LifeBook S2020, had Wi-Fi connectivity, which is fast getting popular in offices, airport lounges, hotels, and even a few retail outlets.

The Acer TravelMate 381TCi, Fujitsu LifeBook S2020 and the Zenith Presidio VU supported the 802.11b/g standard, while the rest supported the 802.11b standard. It should be noted that the faster 802.11g (54 Mbps) should be preferred over the older and slower 802.11b (11 Mbps). None of the ultra-portables supported Bluetooth. However, all were equipped with a 10/100 Mbps LAN port as well as an internal 56 Kbps modem.

All the laptops came with a 40 GB hard drive, except for the Acer TravelMate 381TCi, which had 60 GB. Only the Toshiba Portégé M100 had a 5,400 rpm hard

Score Board — Ultra-Portable Laptops Category

Brand	Model	Basic Specifications	Score (Out of 100)	Price (Rs)
Acer	TravelMate 381TCi	Pentium M 1.5 GHz, 512 MB, Intel 855, 12.1-inch, 60 GB, External Firewire Combo Drive, 802.11g, 10/100 Mbps, 2.08 Kg	58.31	84,999
ACI	Ethos Lite	Pentium M 1.7 GHz, 256 MB, Intel 855, 12.1-inch, 40 GB, External USB Combo Drive, 802.11b, 10/100 Mbps, 2.14 Kg	60.34	59,999
Fujitsu	LifeBook S2020	Athlon XP-M 2100+, 256 MB, ATI IGP 320M , 13.3-inch, 40 GB, Combo Drive, 802.11g, 10/100 Mbps, 1.90 Kg	66.09	80,000
Toshiba	Portégé M100	Pentium M 1.4 GHz, 256 MB, Intel 855, 12.1-inch, 40 GB, Combo Drive, 802.11b, 10/100 Mbps, 1.98 Kg	54.14	99,900
Zenith	Presidio VU (MW12)	Pentium M 1.6 GHz, 256 MB, Intel 855, 12.1-inch, 40 GB, Combo Drive, 802.11b, 10/100 Mbps, 1.95 Kg	62.75	70,000

For the complete scoreboard, log on to www.thinkdigit.com

drive—all the others had 4,200 rpm drives. On the graphics front, only the Fujitsu LifeBook S2020 came with the ATi IGP 320M graphics chipset: the others had the vanilla Intel Extreme Graphics 2, which is a decent solution when you limit usage to presentations, movies and office applications.

The Acer and ACI models came with external optical combo drives—the Acer had a FireWire drive, the ACI a USB one; the other laptops came with inbuilt combo drives.

It is important to note that in this category, an external drive grants greater flexibility. By not integrating an external drive into the device, the laptop can be smaller; you are granted the freedom to only use it when needed. Thus, the Acer was the lightest laptop tested at 1.66 kilograms, followed closely by the ACI at 1.72 kgs.

Notably, the Zenith Presidio VU had an inbuilt swivel Web camera, ideal for ad-hoc video-conferences. Also worth noting was that the Toshiba lacked a touchpad, which made navigation a torture.

Usability

As pointed out earlier, the Acer and ACI models were the smallest and the lightest, thanks to their external optical drives. For those who will always require an optical drive, the Fujitsu offered the best portability. One negative about external drives is that they occupy a port while in use. Speaking of ports, the Fujitsu's ports are not placed all that well, but the device made amends with its touchpad and keyboard, which we found to be the best to work with in this class. We found the

build quality of the Toshiba to be the best. The Acer had an unconventional, round touchpad and a small keyboard. The Zenith featured a touchpad whose feel was worse than the feel of the surrounding surface, and the touchpad keys were tacky to boot. The Toshiba did not feature a touchpad at all, going for a pointing stick instead.

All these laptops came bundled with Windows XP Professional, with the exception of the Zenith Presidio VU, which came without an OS. Only the Fujitsu came with a complete software package, which included a recovery disk, RecordNow—which is CD-burning software, Norman Virus Control and Cyberlink PowerDVD 4. It skipped the driver CD, though. The Toshiba Portégé M100 made system restoration easier by providing a restore DVD instead of multiple CDs.

Acer TravelMate 381TCi

Performance

When we put these laptops through the Winstone suite of tests, the Toshiba Protégé M100 scored the highest at 19.4.

Surprisingly, the ACI Ethos Lite with a 1.7 GHz Intel Pentium M processor could only manage 9.5, which is a very low score.

We encoded a video file to determine the muscle of the processors. Here, the Zenith Presidio VU took just 217 seconds to encode our VOB file to AVI. The ACI was once again the slowest, at 287 seconds.

The Zenith will offer you the best frame rates if you plan on watching movies while in transit. The ACI did do well in the synthetic SiSoft Sandra 2005 CPU test, which tests the CPU in isolation, a scenario that is hardly practical.

The Zenith Presidio VU has an inbuilt swivel Web camera, ideal for ad-hoc video conferences

As we noted before, a fast hard drive goes a long way in improving your computing experience. The Toshiba M100 with its 5,400 rpm drive was certainly the fastest, logging an impressive 32 MBps as the drive index and offering an access time of just eight ms, which is usually in the range of 10-12 ms. Applications will launch faster, and data will be saved and backed up faster on this laptop.

While you might not play games on these machines, gaming scores reflect the capabilities of the video card, and are important if you are a CAD/CAM designer or an architect.

In *Call of Duty*, an OpenGL game, the Acer 381TCi gave the highest frame rates of 25.3 fps at 800 x 600. In *Half-Life 2*, a DirectX game, the Fujitsu S2020 with its Athlon XP-M processor and an ATi IGP320 chipset returned the highest scores of 15 fps and 12.22 fps at 800 x 600 and 1024 x 768 respectively.

While testing viewing angles, all the screens offered readable text from angles as high as 160 degrees, with the Toshiba going as high as 170 degrees. For movies, however, the Toshiba was visible within a range of 130 degrees, whereas the Fujitsu offered 150 degrees. When tested in daylight, except for the Toshiba M100, the others were too dark to be readable.

When it came to battery life, the Zenith Presidio and the Acer 381TCi went 170 minutes on a full charge, which is as good as it gets for an ultra-portable. The Fujitsu, with a 100-minute battery
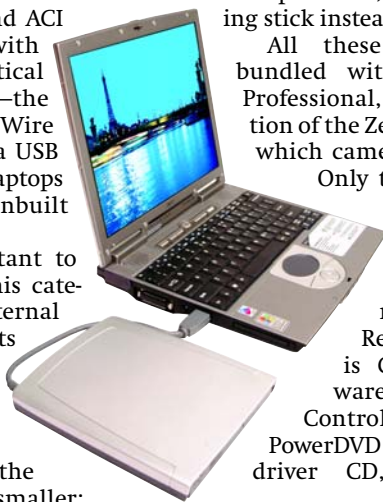
Toshiba Portégé M100

life, demands that an extra battery pack be carried alongside.

For wireless data transfer, the Fujitsu S2020 with a transfer rate of 2.37 MBps one-upped the Acer 381TCi at 2.03 MBps. This will let you stream music from colleagues without a hitch.

Conclusion

The ACI Ethos Lite and the Acer TravelMate 381TCi, both of which featured an external combo drive, earned almost equal points in the final scorecard, with just a point separating them, and were the second and third runners-up respectively. At the end of the day, the Fujitsu LifeBook S2020 was adjudged the

Fujitsu LifeBook S2020

winner, followed by the Zenith Presidio VU.

Even though the Fujitsu cost Rs 10,000 more than the Zenith, what it lost in price, it made up in features. With a 13.3-inch screen driven by an ATi IGP 320M chipset, the Fujitsu

Zenith Presidio VU

offered a great viewing experience. It also sported a variety of ports, save for a memory card reader—which wasn't present on any of the laptops in this category.

In terms of ergonomics, the Fujitsu excelled. Also worth noting is that it carried along the best software bundle.

The mixed marriage between the PDA and the cell phone is promising the ideal breed

PDA-PHONES

We have talked about and tested laptops to this point; that device class in its current avatar is not ideally suited for instant, one-minute tasks. Making a quick phone call, perhaps even a conference call, sending an emergency SMS across, scheduling or rescheduling meetings, taking small notes, recording voice memos, exchanging electronic contact information—such tasks as these require a different beast to drive them.

While a PDA was ideally suited for all these tasks a few years ago, the mixed marriage between that strain of product and the cell phone is promising the ideal breed. What we have termed the PDA-phone is a device that straddles the boundaries, offering the best of both worlds. The key is the means of data entry, then screen size, and then the other features. So why not smartphones? Smartphones typically have much smaller keypads—this is essentially what differentiates them from the PDA-phones we are discussing here, which have a full-fledged data entry system.

In the scenario we've painted, laptops are your primary device, while a device that provides the functionality of a PDA and the connectivity of a cell phone plays the sidekick. Thus, Nokia's Communicator 9500 is more of a phone with slapped-on PDA features, whereas O2's XDA-II mini is essentially a PDA with cell phone features.

We received two devices from Nokia—the 9500 Communicator and the 7710; the Treo 600 from PalmOne; the O2 XDA II mini; the Blackberry 7730 from Airtel; and the A768i from Motorola. Sony-Ericsson failed to send us the P910i in time.

We tested each of these devices on the various parameters that would be of importance to a mobile professional.

Portability

These devices need to be pocketable. Dimensions, though important, should not affect important elements such as screen size too much; an ideal device will therefore have the correct balance of dimensions and screen size.

Motorola's A768i is most pocketable; the clamshell design aids it further, serving as a screen protector, and you can safely throw it along with loose change and house keys. However, as you will soon find out, the A768i isn't very feature-rich.

The O2 XDA II mini on the other hand, has a perfect balance of dimensions and screen size. Despite its large screen, the O2 mini maintains a small profile, thanks to minimal face buttons, and can be easily slipped into your pocket.

The Blackberry 7730 has a sufficiently large screen, but is somewhat too large to be easily carried—this one is definitely a coat pocket or a trouser pocket device.

The PalmOne Treo 600 is surprisingly small and pocketable; it does have an external antenna, though.

While Nokia's 7710 might be

How We Tested PDA-Phones

Parameters such as portability, usability and productivity formed the backbone of this PDA comparison.

In 'Portability', we noted the dimensions and the weight of the device. We also looked at whether the device fits easily in a pocket. 'Usability' included general ergonomics, where we assigned scores by typing messages using the QWERTY keyboard/pad or using the stylus.

We also used the device for browsing the Internet, and logged its ability to render Web pages well. As for contact management and schedules, we added some entries and then synchronised the device with a desktop PC to check compatibility with MS Outlook. We also used the provided data backup tool to back up the data, and assigned scores based on how simple this task turned out. We also took the devices' ease of use into account.

In 'Productivity', we assessed how easy to use the bundled software was—such as the word processor, the spreadsheet application, the PDF reader, the presentation tool, the e-mail client, etc.

To obtain realistic values in the battery test, we had the device simulate optimal usage, and noted the time it took for the device to drain the battery from a full charge.

▼ 'For e-mail on the go, a PDA is as good as a laptop'

Santosh Savant
Brand Manager,
Cosmos Brands
International Pvt Ltd.

As a brand manager for up-market luxury brands, Savant often has to shuttle between his office in India and headquarters in Europe. He relies on his Nokia Communicator 9210i for daily communication. Here's what Savant had to say to us about his preference for a PDA-phone over a laptop.

"When you're travelling, the weight and size of the device really matters. Any laptop weighs over a kilogram, and the 250 grams of a PDA-phone is a significant reduction. Secondly, I use the 9210i for scheduling my meetings, anniversary reminders, etc. when travelling; the PDA-phone notifies me about such events instantly—it's not this way with laptops for the simple reason that they aren't switched on all the time.

Practically speaking, a laptop is a better bet if you do lot of presentations, work with sheets, etc. But for e-mail on the go, a PDA is as good as a laptop. The added phone features make it even better—you can stay in touch with your loved ones."

considered pocket material, its large display is prone to scratches, and should not leave home without protection. Finally, the Communicator series from Nokia was not meant for the pocket, and the 9500 is no exception.

Next, we tested the usability of each device. Here's where the data input method, display properties, UI speed, applications and connectivity come to the fore, and make all the difference between a good product and a bad one.

Display Properties

We looked at and evaluated the screen size, screen resolution, screen orientation, legibility of text, and colour depth of the display used in these devices.

The Nokia 9500 is graced with a 65K colour display—long, crisp, and perfectly legible even with outdoor lighting. The screen is horizontally placed and is perfect for reading documents and browsing the Net. These same qualities can be attributed to the 7710's screen; however, the 7710 has the upper hand when it comes to the size and resolution of the screen.

The O2 XDA II mini comes with a 320 x 240, 65K colour screen, which is almost the same as the Nokia screens in terms of quality. With its ability to switch between the landscape and portrait modes, it has its own benefits to offer. The Blackberry's screen has sufficient resolution for messaging—its screen, though low on brightness,

Blackberry 7730

offers excellent contrast, and is very legible under all lighting conditions. The Motorola A768i comes with a crisp 65K colour screen, but the screen is useless in daylight—it turns dark and is unreadable.

Data Input

Nokia's 9500 Communicator comes with a sufficiently spacious QWERTY keyboard that makes data entry a breeze. In general, the keyboard is fairly ergonomic, but people with short fingers might have problems with key navigation—stretching for a key is a common scenario, which in time leads to fatigue.

Both the PalmOne Treo 600 and the Blackberry 7730 employ a small QWERTY keypad. The keys on the Blackberry are well-spaced and slightly slanted to avoid accidental presses, and data input is fuss-free. The keys on the Treo 600 are tiny, but are raised like a dome; these take some time to get used to. A point to remember with the Treo 600 is that although it is based on the Palm OS, it does not support data input via the stylus; you can only use the stylus for navigation.

The 7710 is the first production device from Nokia with a touch screen, employing a stylus for data input. Data input is where, however, the 7710 could have done better. While its letter recognition is highly accurate, the 7710 can only take one character at a time. Furthermore, the scribble area is too small for comfort. It

> The Communicator series from Nokia was not meant for the pocket, and the 9500 is no exception

does come with an onscreen keyboard though.

Motorola's A768i also makes use of a stylus; however, its character recognition and speed is nowhere near the likes of the O2 XDA mini or the Nokia 7710.

Thanks largely to Microsoft's Pocket PC OS, data input via a stylus on the O2 XDA II mini is fantastic. Character recognition is excellent—so much so that you can input data much faster than you can with the keyboard-based 9500 Communicator!

For any handheld device, one-handed operation is a must; the PalmOne Treo 600 and the Blackberry 7730 were the only devices to offer complete one-handed operation. The Nokia 7710, the O2 XDA II mini, and the Motorola A768i meet you halfway on this facet, while the Nokia Communicator 9500 requires you to use both your hands for data input or for accessing information.

User Interface Speed

The answer to how fast applications open largely determines the usability of a device. This apparent speed depends on the processor performance as well as the OS.

The O2 XDA II mini was the zippiest of all, thanks to its 416 MHz XScale processor and Microsoft's Pocket PC OS. The PalmOne Treo 600 took second place, while the Blackberry was sufficiently responsive. Tasks involving larger files, though, slowed down the device. Both the Nokia 7710 and the 9500 were the least responsive of the lot. The snail's pace at which they launch your applications wrecks your nerves. Having noted that, it has to be said that these devices exhibit sluggishness only during the launching of applications; once the application is launched, the devices resume acceptable speeds.

Messaging

If your life revolves around e-mail, the Blackberry should be your first stop. It makes your e-mail system as fast as an SMS service—immediately following the receipt of a mail, you get a system notification, thus eliminating the

PalmOne Treo 600

need to download mails from the server as in the O2 or Treo. The mails are delivered to your handheld. As of now, the only device available and compliant with this service is the Blackberry 7730. Consider buying this one only if, like we said, your life revolves around e-mail.

The Nokia 9500 Communicator makes a great messaging device due to its full keyboard and easy-to-use applications. The PalmOne Treo 600 comes in at second place, offering the advantage of one-handed operation alongside its mini keyboard. The O2 XDA II mini and Nokia's 7710 are pretty much in the same league when it comes to messaging, with their stylus-driven interface.

Motorola's A768i does no better than a cell phone on the messaging front. All these devices support POP, and hence make it possible to receive your corporate e-mail via GPRS.

Contact Management And Scheduling

Both the Nokia devices, the O2 XDA II mini and the PalmOne Treo 600, offer easy contact management with multiple fields for numbers, addresses, e-mail IDs, etc. Notably, the Nokia 7710 automatically links a contact's birthday to your calendar. Synchronisation of contact information with MS Outlook works perfectly on these devices. The Motorola A768i and Blackberry 7730, though not in the league of the Nokias and the PalmOne, also have a decent contact manager.

Nearly all the devices have good scheduling features. The Nokia 9500 and 7710 made good use of their large screen by showing the current month on one

half of the screen and the event on the other half. The 9500 offers you a yearly view of meetings and anniversaries as well. The O2 XDA II mini has the familiar Outlook feel, and is simple to use.

Data Manipulation

When it comes to reading and editing documents, the O2 XDA II mini and the Nokia 9500 take the top spot. O2's OS comes bundled with Pocket Excel and Word, making it simple to work with documents and worksheets. The ClearVue application allows you to work with presentations and PDF documents. Nokia devices are bundled with their own versions of word processor and spreadsheet; the 9500 comes with a PowerPoint presenter too.

PalmOne's Treo 600 features 'Documents To Go', which provides support for MS Word and Excel. The Picsel browser on the Motorola A768i allows for viewing of common documents and browsing the Internet.

Motorola A768i

Web Browsing

Thanks to its excellent widescreen, Nokia's 7710 is the best device for surfing the Internet. The Web browser, however, lacks features, and sadly, Opera is not yet available for this model. The Communicator 9500 comes in second, followed by the O2 XDA II mini; the browser on these devices is decent and their screens are reasonably large. The browsing experience on the Treo 600 and Blackberry 7730 is limited largely due to their small display; ditto with the Motorola A768i.

Connectivity

Nokia's 9500 Communicator lives up to its moniker, sporting the maximum number of

The O2 comes bundled with Pocket Excel and Word, making it simple to work with documents and worksheets

connectivity options. The 9500 supports Wi-Fi, Bluetooth, IR and a proprietary Pop port for a USB connection with a PC. All this makes the Communicator an ideal device on a business trip.

The O2 XDA II mini and the Motorola support Bluetooth and USB for connecting to a PC. The PalmOne Treo 600 and the Blackberry 7730 lack Bluetooth, and use USB for PC connectivity.

GPRS is available on all these devices, so connecting to the Internet via a GPRS-enabled SIM is simple. However, you might need to carry some of these devices to your service provider's outlet, as over-the-air activation is not yet supported.

When it comes to good, old-fashioned telephony, the Nokia 9500 offers the best interface, followed by the PalmOne Treo 600. The Blackberry 7730 with its keypad is also usable. For all the other devices, you need to use either the touch screen or a five-way d-pad to scroll through your contacts, and then dial.

Conclusion

In this section, we were looking for a compact PDA-phone ideally suited for the mobile professional. Two devices stood apart from the rest: the Nokia Communicator 9500 and the O2 XDA II mini. The highlights of the Communicator were Wi-Fi, the full QWERTY keyboard, and the intuitive applications. For a globe-trotter, these features are a boon, more so the wireless capa-

BEST BUY digit MARCH 2005

Nokia 9500 Communicator

Score Board (PDA-Phones)

Device	Screen Resolution	Memory (Int-Ext)	MP3/Radio	Camera (Res/Video capture)	Wi-Fi/Bluetooth	Practical Battery life (Approx)	Overall Score	Price (Rs)
Blackberry 7730	240x240	16 MB	No/No	No/No	No/No	4 days	58.92	30,995
Motorola A768i	240x320	58 MB	Yes/No	NA	No/Yes	3 days	53.25	19,020
Nokia 9500	640x200	75 MB+	Yes/No	VGA/Yes	Yes/Yes	3 days	77.39	41,359
Nokia 7710	640x320	&5 MB+128MB	Yes/Yes	1 Megapixel/Yes	No/Yes	3 days	69.85	29,400
O2 XDA-II mini	240x320	64MB+256MB	Yes/No	1.3 Megapixel/Yes	Yes/No	3 days	76.56	34,888
Treo 600	160x160	32MB	Yes/No	VGA/Yes	No/No	3 days	61.23	26,500

For the complete scoreboard, log on to www.thinkdigit.com

bility, which grants the 9500 unparalleled flexibility.

Some might be put off by the bulky form factor of the 9500; if you are, you might want to look at the O2 XDA II mini—this little device, though devoid of a keyboard, allows for fuss-free and unrestrained operation. Overall, it is a great everyday device due to its ultra-compact size and the features it offers.

The Nokia 7710 is a great device, packing in a lot of

features, but its means of data input isn't exactly ideal - and is its biggest negative. While the Blackberry 7730, as a general device, can't match up with the rest, we give it a thumbs-up for its e-mail service; it is exclusively offered with Airtel's service.

The Verdict

If you are looking for a device that fares well on contact management, calendaring, and offers easy e-mail management features, the Nokia Communicator 9500 fits the bill perfectly. If you are into sales and marketing

and often have to give presentations, and at times travel a lot, the ideal solution would be the Acer TravelMate 4002 as your primary device and the O2 Xda II Mini as your secondary device.

If you think a PDA-phone is too small and a laptop too big for comfort, we recommend Fujitsu's S2020 ultra-portable laptop. Even then, we advise you to add on a small, basic PDA-phone such as the O2 Xda II mini. ⊠

aliasgar_pardawala@thinkdigit.com
jayesh_limaye@thinkdigit.com
sanket_naik@thinkdigit.com

O2 XDA II mini

Contact Sheet

Brand	Company	Telephone	E-mail	Web site
Laptops				
Acer	Acer India (Pvt) Ltd	080-25219520	raghu_s@acer.co.in	www.acer.com
ACI	Allied Computer International	022-56943260	hirji@aci-asia.com	www.aci-asia.com
BenQ	BenQ India Pvt Ltd	022-25705230	SalesEnquiryIn@BenQ.com	www.benq.com
Fujitsu	Fujisan Technologies Pvt Ltd	022-56368718/25	gathani.paresh@fujisan.co.in	www.fujitsu.com
IBM	IBM India Ltd	080-22063199	sanmenon@in.ibm.com	www.ibm.com/in
MSI	Maxtone Electronics	022-23011434/37	maxtone@vsnl.com	www.msi.com.tw
Toshiba	HCL Infosystems Ltd	0120-22520977	notebook@hclinsys.com	www.toshiba.com
Wipro	Wipro Limited	1600 333312	littlegenius@wipro.com	www.wipro.com
Zenith	Zenith Computers Ltd	022-28377300	kalpak_bhatt@zenith-india.com	www.zenith-india.com
PDA-phones				
Blackberry	Bharti Cellular Ltd	9892754000	mumbai_blackberry@airtelindia.com	www.airtelworld.com
Motorola	Motorola India Pvt ltd	0124-5191760	W4440C@motorola.com	www.motorola.com/in
Nokia	Nokia India Ltd	011-22677900	jay.bakshi@nokia.com	www.nokia.co.in
O2	Creative e-biz	011-51619800	creative@goldkist.net	www.myxda.com
Palm	Esource Global	9820822205	sales@esourceglobal.com	www.palmone.com

Playing It Safe

Never underplay the need for a backup solution. Find one suited to **your** needs

Robert Sovereign-Smith

A computer is the single most complicated piece of equipment we use. It has moving parts, magnetic storage, heat dissipation, and has to contend with fallible operating systems and software. Today, critical data stored on a computer connected to the Internet has a lower probability of survival than a kitten crossing a busy highway. All this we are well aware of. We have all been inducted into the religion of backups—either through articles like this one, or due to prior, horrendous data loss encounters. What we don't realise, however, is that every office has different needs. What's good for the goose is not necessarily good for the gander.

Subjective Selections

Every office has its own requirements—you may be spending too little or too much on your data backups. So what are your requirements?

The first step towards identifying a solution is to identify your needs. The first thing you need to do is analyse the amount of critical data that needs to be backed up. Once you have a clearer picture of your data, you can segregate the data into three broad categories.

The first is data that is used on an everyday basis, and needs to be backed up more than a couple of times a day, such as databases. The second is data that might be needed about once a week, and will be modified. The third is data that no one needs more than once a month (or even a year), and might or might not be modified, such as invoice archives for tax purposes.

You have to put your business, and the data it generates and uses, under the microscope and figure out what data fits into which category.

Depending on the volume of data to be backed up in each case, you can come to a solution.

Most businesses already have file servers or network servers that act as a critical data repository. Because of the large amount of reading and writing—and the resulting heat—that servers' disks are subject to, they are prone to failure. What you need to do is get a backup option for these servers. We look at some of the backup technologies available, and what needs they might fulfil.

Definitions

DAT: Digital Audio Tape; has a maximum capacity of 40 GB and offers data transfer speeds of 19 GB per hour

DLT / SDLT: Digital Linear Tape/Super DLT; has a maximum capacity of 320 GB and offers data transfer speeds of 115 GB per hour

AIT: Advanced Intelligent Tape; has a maximum capacity of 260 GB and offers data transfer speeds of 112 GB per hour

LTO (Ultrium): Linear Tape Open; has a maximum capacity of 400 GB and offers data transfer speeds of 216 GB per hour

Backup Software

Backup software have just as important a role to play as does the hardware. All the best and fastest hardware in the world will not help much if you choose a software that does its job inadequately. Though companies with really big backup requirements could have existing software customised to their setup, there are a few good software that will do the job straight out of the box.

Most hardware vendors will provide you with their own software when you purchase their hardware, and these are often good enough. You should look for distributed backup software as a total backup software solution for your company.

Distributed backup software will give you, at the head office, total control over backup policies at your branch offices. This is done via the Internet, and lets the head office engineers dictate a uniform backup policy for all offices. System engineers at branch offices have only the task of managing the servers and media (tape, optical media, external drives, etc.), and other routine local tasks.

Computer Associates (**www.cai.com**), Veritas (**www.veritas.com**), Legato (**www.legato.com**) and HP (**http://welcome.hp.com/country/in/en/ welcome.html**) are just a few of the biggest names that offer easy-to-set up and robust enterprise-level backup software solutions.

NAS (Network Attached Storage)

Basically, a NAS is nothing more than a very simple computer with many hard disks and a simple OS, used mainly to increase the capacity of existing servers, or to supplement the storage capacity for users over a LAN. The hardware and OS are made specifically to enable fast file transfers and handle many simultaneous requests. A NAS device can also be used as a backup device that can be plugged in when backups are needed, and stored away for safety after the backups are done. The beauty of a NAS is that it costs less than a backup server, while still providing all the desired functions.

NAS devices are available from all the top vendors in the country, such as HP and Iomega. A typical NAS generally offers anywhere from 250 GB to 2 TB of storage space. The advantage of a NAS is that it uses drive-based storage, which offers data transfer speeds that are much higher than traditional tape-based storage. Also, NAS devices are very easy to add to an existing LAN, as they are more or less plug-and-play.

Tape Drive Servers

These servers use magnetic tapes to store large volumes of data. They are great for high volumes of data storage, but have slower read and write speeds. Tape media is also a high-risk storage medium, as the media is frail, and needs to be stored carefully.

Systems engineers also need to constantly monitor the media and avoid overuse of a tape, as this could lead to wearing away of the magnetic layer and thus, loss of data. Also, tape drives need to have regular maintenance done, especially the heads that read the tape—these need frequent replacement or cleaning.

The biggest advantage of tape servers has always been cost. For volumes of data backup in terms of terabytes, nothing beats tape on per-GB cost. Also, the portability of tape cartridges means that off-site storage of archived data is easier, faster and cheaper.

Hard Drive Servers

Hard drive servers have fast read and write speeds, and require less maintenance than tape drives. However, the drawback here is cost, lack of portability, and the maximum capacities. Most companies use them as file servers for data that requires constant access, due to the higher speeds they offer. They aren't as cost-effective as tape drives, but are a lot more reliable. As far as portability goes, even with a Hot Swap drive server, the safest place to store the hard disks is probably inside the server cabinet itself!

For a company that needs to have a short turnaround time after a disaster, disk drives are often the only alternative. As businesses turn global, data is required 24/7, and not all companies can afford the time spent on backing up to or recovering from tape servers. For such scenarios, though more expensive, disk servers offer the required data access speed, both while backing up and while recovering lost data.

What Do I Need?

Now comes the hardest part—choosing a solution, or a combination of solutions, for your company. There are three broad categories that any business would fit into, based upon the amount of data that needs to be backed up, and the frequency at which backups are performed. Let's take a look at the three hypothetical companies and their backup solution setups.

Small Business

Company A has two or three network servers, and has less than 80 GB of critical data. Their daily backup is less than 40 GB, and they require archiving of data at least once a month. The company has a per-user backup policy—each user is solely responsible for backing up his or her own data on the servers. The solution they use is an additional network server with dual hard drives running with RAID 1 configuration. Backups are taken at the end of every working day. At the end of the month, data for archiving is manually burnt onto DVD media.

Company A runs personal software on every user's computer to back up data onto their network file servers. Then, software on the backup server copies the data from the network servers—it is scheduled to do so about an hour

Online Storage

With broadband penetration in India increasing, online backup solutions are looking more attractive, especially for offices. The advantage of this solution is that your data is accessible from anywhere in the world—only to you. It is also the most convenient in terms of ease of use and infrastructure. All you need to do is run the provided software, select which folders you want backed up, and then back up the data. There is no hassle about maintaining hardware. The drawbacks are that you are dependant solely on your Internet connection, and you might not trust the Internet for critical company data that may contain trade secrets, proposals, etc.

The costs are falling here too, but are still a lot more than using tape or hard drives as backup solutions. If you do opt for this backup technique, make sure to check for hidden costs, data redundancy at the provider's end, encryption and security, and, of course, company reviews and experiences.

Fifty GB of backup space can cost anywhere between Rs 80,000 and Rs 3,80,000, depending on whether you need a single-user or workgroup backup solution. Some online backup providers are: **www.ibackup.com** or **www.xdrive.com**.

after the day's work is completed. In the final step, every month, backups are done manually by a systems engineer onto DVD media.

Hardware
File server, dual RAID 1 120 GB hard drives
One system with DVD writer and DVD media

Software
Personal backup managers
Professional backup application for servers

Humanware
One systems engineer

Medium-Sized Business

Company B has five network servers and needs to regularly back up between 80 and 250 GB of data. They generate or use over 80 GB of data a day, and need it all backed up and stored safely in case of a crash. This company relies solely on its data to function.

Individual employees use the various network servers to access work data. These SCSI network servers have a capacity of about 120 GB each, and have external hard drives connected to each server, taking hourly back-ups of each server's data. In addition, there is a NAS for redundancy and failure protection, which takes backups from the network servers at the end of each day. All this data is then backed up or archived on tape drive about once a week. The tapes are stored in a separate location, in order to enhance data security. This entire cycle of weekly full backups requires about five backup system engineers to monitor and maintain systems.

Hardware
Three file servers with dual RAID 1 SCSI hard drives
Tape drive with tape cassettes
NAS device

Software
Personal backup managers
Professional backup application for the servers

Humanware
Five systems engineers

Corporate

Company C is a corporate company with offices widely distributed across the globe. Let's say they have 10 worldwide offices, and all 10 need access to about 80 GB of core company data, apart from the backups of each office. The total amount of data that needs to be backed up here could be in the terabyte range. The company also needs the backups done every hour, and effectively works 24/7 due to the different time zones

Rough Estimates

Here's what you are looking at in terms of costs, for implementation of the backup solutions mentioned here.

Product	Type	Capacity	Rupees	Brands
Tape Servers	DAT	40 GB	21,750	Dell, Seagate
	DLT / Super DLT	80 GB	65,250	Quantum
	LTO	400 GB	174,000	HP
Tape Libraries	Super DLT, 8 slots	2.5 TB	174,000	Dell
	DLT, 100 slots	8 TB	282,750	Quantum
	LTO, 72 slots	28.8 TB	391,500	Dell
Tape Media	DAT (19 GB per hr)	40 GB	522	TDK / Maxell / Fuji
	DLT/SDLT (115 GB per hr)	320 GB	2,393	TDK / Maxell / Fuji
	AIT (112 GB per hr)	260 GB	2,393	TDK / Maxell / Fuji
	LTO (216 GB per hr)	400 GB	1,740	TDK / Maxell / Fuji
RAID Servers	Ultra ATA	1.2 TB	165,300	Iomega, Dell, HP
NAS	SATA-150, Hot Swap	1 TB	282,750	Iomega, Dell, HP

of its branch offices. The central backup with core company data is located in the head office.

Here, each individual office will have backup systems akin to medium-sized businesses, with the only difference being that specific data will be uploaded at pre-defined intervals to the head office servers. Each office will also have a NAS device as additional backup security.

If the core data is less than 20 GB, and daily uploads from each branch office are less than 300 MB, the company could opt for online storage or online backup. This would make it easier for the company to manage and share core data securely and easily. It also reduces the required infrastructure and manpower needed to monitor and maintain an online server.

The alternative is to locate the online server at the head office, under 24/7 monitoring by systems engineers. Here, each branch office needs about five engineers, and the head office needs to have systems maintenance engineers, security professionals, Web developers, etc.

Multiply the hardware and software requirements below by the number of branch offices you have.

Hardware
Five file servers
A NAS
Two Automated Tape drives
A T1 line
Online Storage

Software
Professional Distributed Backup Software

Humanware
A full-fledged IT department

Conclusion

These three models broadly categorise all medium to large-sized businesses across the globe. Your business may be exactly like one of these, or be somewhere between any two.

If you choose carefully, and wisely, you can use various combinations of the hardware and software mentioned here to find a perfect backup solution for your requirements. ⊠

robert_smith@thinkdigit.com

Backup or Archival?

People often do not understand the difference between backup and archival. Many small offices have a DVD-Writer as a backup solution for working data, and over-spend on media. Due to these costs, backups are infrequent and loss of data may mean an unacceptable setback of days. On the other hand, some offices may have a server or external hard disk solution for archival purposes. This results in running out of hard disk space and in deletion of archives.

You need to identify whether your requirements are backup- or archival-based. A simple rule of thumb here is to use the previous self-assessment you did: if your backup requirements are infrequent and less than 5 GB, you are better off using DVD-R or DVD-RW media.

"Yahoo! India does not believe in unsolicited, spamming on behalf of advertisers. All communication is pull-based—initiated by the subscriber.

Y! India Mobile currently has tie-ups with all leading Indian cellular operators in India including Airtel, Hutch, RPG, Escotel, Oasis and Spice Telecom.

Yahoo! India uses its short code 8243, to power advertiser's SMS responses. Pull-based marketing invites the customer to participate, and it is non-intrusive.

Yahoo! aids a variety of marketers (ESPN, Pepsi, and Motorola to name a few) to establish an SMS-based communication link with subscribers. And these clients have reported 50 to 60 per cent conversions on sales leads using the SMS medium.

Vishal Maheshwari
Head, Yahoo! India Mobile

Is Sms Marke

Indian corporates wanting to exploit new media to reach out to customers, are increasingly relying on SMS to market products. How do they keep the line that divides marketing from spam?

Jayant Khosla
CEO, Bharti Cellular Ltd.
Mumbai Circle

"Airtel uses SMS marketing to promote its own services and products—informing the customers of new offers and value added services. SMS targets audiences who are difficult to reach through traditional media channels. The conversion rates are as high as 80 to 90 per cent.

Over 1 million text messages are sent every month, and SMS messages are always read, making SMS a highly personal communication tool. They can also be timed, to achieve maximum impact.

Proper profiling is a must. For example, if we want to communicate to young women about attractive schemes, we use our database to customise our message to suit her needs.

Mobile marketing is at a nascent stage in India. Though there are no official figures regarding SMS, according to industry estimates, approximately 2 billion SMSs were exchanged among Indian consumers in 2003. This is much below the international average.

At Airtel, we don't intend to exploit our services as a medium to generate additional revenue, but we are open to the idea of providing our customers with value-added services.

We are conscious of the difference between spamming and providing information. Messages that we pass on have information that our subscribers can make use of.

Jiten Gandhi

"I would not say that we do SMS marketing, but yes we are involved in mobile marketing. We mainly do pull marketing. Here we advertise using the conventional methods of print, TV, etc, and give a number for interested customers to respond to.

This method of marketing is very effective. In fact, one of our success stories is the Manhattan cards project which we did for Standard Chartered bank. The entire campaign ran on 8558, and was very successful.

As far as conversions are concerned, I cite the example of Aviva Life Insurance. Because of mobile marketing, they have been able to get 200 leads a day, which would be quite impossible otherwise.

More recent examples are the figures available for Indian Idol—American Idol got 30,000 fewer responses than Indian Idol! This proves that Indians are more than willing to participate.

The mobile phone enables one to one communication with the customer—certainly an advantage to businessmen. This form of marketing is certainly more cost-effective than the conventional advertising mediums. Responding to an SMS short code is much less of a hassle than writing a letter, for example.

Alok Kejriwal
CEO, Contests2Win.com

TING EFFECTIVE?

"Using the mobile phone as a medium of marketing means providing some benefits to the end consumer. This could mean the ability to respond (votes, polls), interact, participate (Contests), download (ringtones, games), etc, based on our shows. STAR also provides its many clients with interactivity. We do this by enabling their advertising through 7827.

Many of our customers only use SMS as a return path for generating leads. Organisations that are so driven in this direction would confirm that well-designed and integrated interactivity works, and works well.

As this is a personal medium, we try and individualise the responses, keeping in view the activity, the potential customer profile and similar factors. The advantages are that it is personal, direct, confidential, immediate and digital!

This service is cost-effective and efficient, as it allows you to target the potential customer without the attendant wastage. Also, it makes your other media work harder to allow you to deliver specific results.

Most marketers use it for spam, which is wrong. They miss out on the interactivity of the medium and all the attendant benefits. Since we do not spam on the mobile platform, we do not have mailing lists. Our whole service runs based on delivery of solicited information only. We do not give mailing lists nor support such ideas even from our clients.

Viren Popli
Senior Vice President,
Wireless, STAR India

"We believe that unsolicited communication, including SMSes, invade the privacy of our users and is tantamount to spamming. We do not have tie-ups with any corporate or political bodies to sending bulk messages to our subscribers, and do not intend to do so for any consideration.

Harit Nagpal
Chief Marketing Officer,
Hutch

E-mail: preethi_chamikutty@thinkdigit.com

Are MFDs Better Than Standalones?

What works better in an organisational set-up? MFDs or standalone devices? The fight is on...

It is a little early to say that MFDs are better than standalones

Rediff.com is an online provider of news, information, communication, entertainment and shopping services. By and large, Rediff.com uses standalone machines and prefer those over MFDs.

"Our standalone devices provide good scanning and printing speeds, good colour reproduction and so on. Scanning and printing is slower with MFDs. Moreover, there is virtually no queuing with standalone devices as the various machines print, scan and fax independently.

"With standalones, there is proper distribution of equipment area, since one can divide and deploy work. Moreover, downtime is considerably less with single-use devices. For instance, if a printer develops problems, that alone can be sent for servicing, and hence the functions of

> With standalones, there is proper distribution of work area, since one can divide and deploy work. Moreover, downtime is considerably less with single-use devices.

Rajesh Kathuria,
Information Technology
Manager, Rediff.com

the entire department need not come to a grinding halt—which is bound to happen in case an MFD malfunctions. As a media organisation, our functions never come to a standstill, since all is not dependant on one piece of equipment. We must have alternatives to resort to.

"Products that are properly maintained have delivered value for money till date. Maintenance is 10 per cent cheaper with a standalone machine.

"I feel that MFDs are appropriate for secretarial cadres and extremely convenient for home users who need a printing and faxing solution with a small footprint. It is a little early to say that MFDs are better than standalone machines. Improvements in technology and an increase in efficiency, coupled with a drop in prices, will make MFDs more attractive to buyers—and single-use devices may one day become a thing of the past.

"At the same time, one cannot deny the possibility of standalone machines getting outdated due to consumers demanding multi-functioning products. Nowadays, don't people prefer to buy a CD and DVD combo over a separate CD-Reader and DVD-Writer?

"Having said that, I would still advise other businesses to use standalone machines and not MFDs, since the combo features have not worked well so far. By and large, MFDs are not yet equipped to meet the rigorous demands of professional work."

MFDs work out cheaper, and are easier to operate

Established in 1995, Spanco Telesystems and Solutions Limited is a networking and systems integration solutions company, with offices in Mumbai, Pune, Gurgaon, Kolkata, Bangalore, Lucknow and Guwahati. Spanco prefers MFDs over standalone devices.

"We use MFDs because they offer an all-in-one solution, centralised technology, ease of maintenance and a smaller footprint that saves space. Moreover, MFDs work out cheaper than single-use solutions. An MFD combines all the essential features otherwise provided by separate devices into a single, convenient desktop unit. Indeed, an MFD offers all the benefits that standalone machines offer such as copying, printing, faxing, scanning and telephone—plus optimal utilisation of relevant features.

> For general applications, scanning, printing and faxing through MFDs is as good as that offered by standalone machines. However, for specialised usage, standalones serve the purpose better.

Deepak Bhagchandaney
Director, Sales and Mktg, Spanco
Telesystems and Solutions Ltd

"Shifting from single-use machines to MFDs was a drastic change. We took some time to adjust, and also had to train the operations staff. The major benefit we have seen after shifting to MFDs was ease of operation. It is a really a big boon—there is no more running to and fro as all the work is done at one place. This obviously saves time and has led to higher productivity.

"The main advantage of MFDs is multi-location usage; they can be conveniently used in the office or at home. For general applications, scanning, printing and faxing is as good with standalone machines. However, for specialised usage, standalones serve the purpose better. For instance, the quality of the zoom and sorter feature in our MFD's scanner is almost same as that of a regular office-use scanner. The image quality and resolution in printing is as good as that of a regular office-use printer. However, the memory capacity of an MFD is lower.

"I feel that MFDs and standalone devices have their own target markets and complement each other—there is no question of competition. MFDs are reliable and never completely break down; any issues with specific functions are taken care of by the service network of the vendor.

"Since we have deployed MFDs very recently, there have been no maintenance, upgradation or downtime issues so far. Of course, it is advisable to have multiple MFDs if the user base is large."

As told to Renuka Rane (renuka_rane@thinkdigit.com)

Touched By Tech

And Then, There Was Light

Computer education at Mumbai's Helen Keller Institute for Deaf and Deafblind helps students become economically independent and helps them communicate effectively

Photographs Jiten Gandi
Imaging Jayan Narayanan

"A person who is severely handicapped never knows his own hidden source of strength until he is treated like a normal human being and allowed and supported to shape his own life—for life is either a challenge and an adventure or nothing at all."
- Dr Helen Keller

Renuka Rane

They gently feel your hands, your watch, the shape of your fingernails and the texture of your skin. Their hands talk and are, in effect, their eyes. They write the letters of the alpha-bet on your palm and tap your wrist to signal the end of each word. After this novel exercise in palm printing follows an interactive session on the computer.

"Hi Zamir."
"Hello."
"How are you?"
"I am doing fine."
"Tell me more about yourself."
"I first came to the Helen Keller Institute for the Deaf and Deafblind when I was 12..."

Does this resemble a chat transcript? Actually, it is a written dialogue in MS Word, with Zamir Dhale, who is deaf-blind. Dhale cannot use the mouse, can't see the monitor and neither can he

Productions of HKIDB's Computerised Mini Braille Press

▶ Twelve different types of greeting cards for special occasions such as festivals, birthdays, and so on.
▶ A unique all-time desktop calendar of inspirational thoughts.
▶ 101 amazing science experiments and brain tickling activities for students.
▶ Human anatomy Atlas.
▶ An India Atlas titled 'India at your Fingertips'.
▶ Books in Braille and large print so that deaf-blind and low-vision students can read them. These include *Who Moved My Cheese*, the Chicken Soup series, *Indian Cookery* and *Light From Many Lamps*.
▶ Braille labelling, another upcoming income-generating line.

Attractive educational material in Braille with tactile graphics

hear any instructions. Yet, he does not falter or hesitate while working on the computer.

Dhale is an assistant computer trainer at the Helen Keller Institute for Deaf and Deafblind (HKIDB), Mumbai, a pioneering institute in India and Asia in the education of the deaf-blind. In 1977, founder Beroz Vacha and two other teachers—Diana Fernandes and Brinda Nanavati, started with just three students and a meagre Rs 150. At the time, services existed for the deaf and blind separately, but none were available for the deaf-blind.

In 1979, they moved to the present municipal school at Byculla. HKIDB provides early education services for deaf-blind children, a school for older students, vocational training for rehabilitation and a teacher-training course. Most of the students come from the lower strata of society, but from families with a vision of their children having access to adequate educational facilities and happy futures.

The Legacy Of Helen Keller

Dr Helen Keller (1880-1968) who paved the way for educating the deaf and deaf-blind, was herself deaf-blind. Says Vacha, "I believe that there is no dearth of goodness in this world. Our strength comes from Helen Keller's legacy. Our belief that 'No one is incapable of being educated, loved and accepted with dignity; it is the fundamental birthright of every child to be educated, loved and accepted with dignity' has served us over the years. Our students think, 'we can because we think we can'."

The deaf and deaf-blind have differing degrees of both vision and hearing loss, that could be accompanied by other debilitating conditions such as mental retardation, cerebral palsy and seizures. A deaf-blind child, due to the combination of hearing and visual handicaps, needs a specialised, individualised programme that will help him or her function better. By and large, HKIDB has a 1:1 teacher-student ratio.

HKIDB follows the philosophy of total communication—oral, aural, manual, print, mime and dance that helps improve cognitive levels, thus enabling free modes of self-expression.

Why Teach Computing?

The educational curriculum at HKIDB aims to develop a student's literary and academic skills including reading and writing, cognitive skills (reasoning, attention to tasks, memory, retention, cause and effect), motor skills (such as hand-eye coordination), perceptual skills, orientation and mobility. So far, these skills were taught the old-fashioned way, using books or charts in Braille.

Computers have become a vital part of the modern education process. Some children with deaf-blindness are disinclined to explore their environment—computers motivate such children and improve concentration. Software with attractive visual and auditory features encourage low vision or hearing impaired children to use their residual vision and hearing—larger fonts enable children suffering from low vision to read comfortably.

Vacha says, "How long will the

Computers have become a vital part of the modern education process for the deaf-blind students as well

deaf and deaf-blind earn a living making flowers, candles and paper bags? They are not lesser mortals! They can be as competent as the next person if given the right chance. Don't they have an equal right to be computer-savvy? Deaf-blind children are bright and have tremendous potential for education and work. Computer literacy enables children with disabilities to lead a normal life."

Former students Zamir Dhale and Pradip Sinha (both deaf-blind) insisted on learning computers. Both are now computer training assistants at HKIDB.

The Cybernetic Approach

"Language is the channel through which you become expressive. Language acquisition takes place almost automatically and in due course for people with normal vision and hearing. However, the deaf and deaf-blind must first learn to communicate using language before they can move on to using technology.

"But, how do you expect a deaf-blind person to use the PC or even the typewriter without knowing the alphabet? For that, they must first learn to communicate through sign language, palm-printing, writing and reading in Braille," adds Vacha.

She reflects, "Most suggestions centred on imprinting the tactile Braille script on the keyboard. Again, that would mean undermining their intelligence. I insisted that all the deaf-blind learned touch-typing, a pre-requisite to operate the keyboard. While our aim is to work effectively with electronic technology, we cannot afford to ignore manual technology such as the portable 'Brailler' that teaches alphanumeric typing in Braille. We essentially follow a cybernetic approach."

Teaching With Tender Loving Care

Katy Gundevia has been teaching English and other subjects at HKIDB for three years. She says, "My initial reaction when I was faced with the prospect of teaching them was—how can I do it? I learnt palm printing and sign language. On hearing that we would soon use computers, I was instantly relieved! The familiar sight of the PC was encouraging. It is now easier to communicate with students through computers."

The students are very enthusiastic about using computers and often try to monopolise the machine! They are taught the aids and appliances necessary to operate the computer—starting with the typewriter to learn touchtyping, followed by the Perkins Brailler (a special Braille typewriter) and finally moving on to the computer keyboard.

The deaf-blind and the blind cannot see the monitor and the mouse serves no purpose either. This is where the electronic Braille display board comes in. This display board indicates each and every change that takes place on the monitor.

The deaf-blind and the blind can understand these changes by moving their fingertips across the cells on the display board, which are in Braille.

The Braille cells move as data is entered through the keyboard enabling the deaf-blind to read the text on the screen, manoeuvre accordingly, make changes and even e-mail, surf and download content from the Internet.

The Computerised Mini Braille Press

An integral part of HKIDB is the pioneering Computerised Mini Braille Press project, set up in January 2002. Here, the deaf and deaf-blind are trained to use computers and undertake computer-related programming and designing. This computer-training unit-cum-mini braille press produces a variety of materials to suit the needs of the deaf-blind/blind/low vision/sighted and hearing individuals.

The deaf students are trained in graphic design and produce tactile graphic educational material. While, the blind, those who are proficient in Braille, help in proofreading. The newsletter *Deafblindness in Asia: A Communication Link* is composed and published by the Braille Press and is circulated among all centres for the deaf-blind in Asia, Europe and other parts of the world.

Vacha says, "The success of our Computerised Mini Braille Press is thanks to the contribution of the Rangoonwala Foundation, UK. We also owe a debt of gratitude to the British High Commission, Christoffel Blindenmission and other donors. We are equally grateful to our trainers for their efforts to teach the students."

The Process

A software called JAWS (Jobs Accessing With Speech) enables the blind (who have normal hearing) to use computers by listening to the audio instructions.

JAWS is also essential for synthesising text or commands on screen into Braille, which then appear on the electronic Braille display board. The deaf who have normal vision work on graphics using CorelDraw, while the printing and the packaging jobs are looked after by the deaf-blind.

Computer trainer Devyani P states, "We had nobody to emulate and had to start from scratch. We researched a lot to produce material in Braille and normal print. We started with greeting cards."

Tools And Techniques

The Duxbury Braille Translator (DBT) is a software that translates text, say, from MS Word, into Braille. Printouts in Braille can then be taken through an embosser. Even those who do not know Braille, can type in regular English and print in Braille, which otherwise would be time-consuming and tedious even for those who can write in Braille.

Picture In A Flash (PIAF) is a piece of hardware that produces excellent tactile graphics. However, the A3 paper required for

Picture In A Flash or PIAF is used to print tactile graphics

PIAF is costlier as compared to the one used on the Tiger Advantage machine, another output device that prints tactile graphics. But the print-outs from the Tiger Advantage machine are no match for the PIAF ones that are more distinguishable and attractive.

The equipment used at the Braille press is expensive—a single electronic Braille display board costs an astronomical Rs 2.5 lakh! Prices of other equipment range from Rs 50,000 to Rs six lakh.

> " *Don't the deafblind have an equal right to be computer-savvy? Computer literacy enables them to lead normal lives*
>
> **Beroz N Vacha**
> Director and Consultant, HKIDB, Mumbai

At The Workshop

Assistant computer trainer Pradip Sinha (25) is a father of five. His family is in Kolkata, while he stays in Mumbai, as the facilities provided by HKIDB are not available elsewhere.

A Devkumar (25) who is deaf, is the DTP operator. The hearing-impaired but extraordinarily talented Mahesh Joshi (31) and Dhirendra Dubey (27) are graphics designers. A first-year B.Com student, Aarti Shetty (20) is hearing-impaired and works as the data-entry operator. Naina (30) was diagnosed with juvenile diabetes and her vision and hearing is on the decline. She says, "In seven months I have learnt Braille, computers, candle and perfume making and other crafts. I am glad to be independent."

Incidentally, Dhale (27) is one of the people responsible for teaching Amitabh Bachchan manual communication for the deaf-blind for the film *Black*, where the Big B plays the teacher of a deaf-blind girl. Sanjay Leela Bhansali and his team visited HKIDB to study the characteristics of the deaf-blind.

Income Generation

Balaji J, administrator at the Braille Press, says, "Our assignments range from printing stationery, brochures to educational material. These assignments help us disburse stipends and salaries to the deaf and deaf-blind who work in the Braille press."

Their clientele reads Sunchem Corp, Sauradip Chemical Industries, Fine Stitches, Tankaria Exim, Shreepaul and Company and various other firms. They recently completed an assignment for the Mumbai District AIDS Control Society—a brochure in Hindi and English with 5,000 copies in normal print and 10,000 in Braille. They received a work order for 2,500 copies from Dignity Foundation. At present, they are working on a safety introduction manual in Braille for Jet Airways.

At exhibitions and displays of the Braille Press products, visitors are stunned to see the deaf and deaf-blind expertly handle computers. Through learning and using computers, the physically handicapped can become contributing members of the society and lead successful lives.

For more information, visit **www.helenkelleridb-mumbai.org.** ☒

renuka_rane@thinkdigit.com

Too dumb for a smartphone?

Increasing device complexity is no laughing matter

Rashmi Bansal

There was once a man with a cell
He loved it wisely and well
Then he traded it in
For a shiny new thing
And now he is going thru hell!

Sounds familiar? It's the story of every second person who decides to 'upgrade' to a new, feature-packed cellphone.

One day you are perfectly happy with your trusty two-year-old handset—it does the two things that a phone really needs to do, call and SMS! The next, you are seduced by a younger, slimmer model packed with a dozen oh-so-cool features.

You feel vaguely guilty about coughing up Rs 20,000 for a palm sized contraption—an amount that could buy you a full size fridge, two 21-inch colour TVs, or three microwaves! But when was there ever a sense of logic in lust?

Two months later, the passion cools. Your new companion's *asli roop* is now evident—high on maintenance, low on efficiency. The phone is too complicated to use! And no, this conclusion isn't a case of sour grapes—I speak not from envy, but from experience.

Take the simple task of text messaging. On my ancient Nokia 3310 it took three lightning quick finger flicks. On my new Nokia 6670, initially it took me six keypresses, and not all the buttons were close enough for comfort. Eventually, I learnt to do it in four, and then, hallelujah, I discovered a one touch option.

OK, so I didn't—a junior office colleague who happens to be an alpha geek figured it out for me. He's the kind of guy *Wired* magazine would describe as 'technosexual'. The difference between technosexuals and ordinary mortals can be summed up in three quick observations:

▶ Technosexuals are never 'too lazy' to read user manuals—even if they are the size of telephone directories, which is what smartphones will soon be accompanied by!

▶ 'Fiddling around' is harmless fun for technosexuals. Ordinary mortals end up deleting their phonebooks, and no, we don't have backups!

▶ Technosexuals love complexity. The rest of humanity just gives up.

This is a species which will skimp on everything else, but own the latest, jazziest gizmo. One such member of the geekerati, a student I know, has a call centre job. He sports a Rs 30,000 Sony Ericsson S700i, but isn't concerned about the holes in his socks.

The engineers who design smartphones probably share this profile. And so, they end up designing instruments that are compatible with folks like themselves.

So why did I buy a smartphone? Partly because of peer pressure. I had the oldest and ugliest phone amongst anyone I knew—partially chipped after kissing the ground a few hundred times. But mainly, I picked up the Nokia 6670 for its one-megapixel camera. The with-you-at-all-times factor made the camera phone a must have.

Although I must say I am pretty satisfied with its picture quality, the same can't be said about the way the camera functions. It does not respond as rapidly as a conventional digital camera. What's more, downloading the pictures is a pain. The data cable just refused to connect the computer and phone. A simple but maddening case of loose connections.

To make matters worse, some of the pictures got mysteriously corrupted. Eventually, the entire multimedia card (MMC) died. It most likely needs to be formatted, and of course, all the stuff on it I tried to back up will be lost forever.

Connecting to GPRS was another nightmare. Simply saving the settings sent by my cellphone provider was not enough. I had to actually visit the provider's store where an executive explained that my phone required 'advanced' settings. Hidden somewhere deep inside the menu!

Is it any wonder that a recent survey in Europe found that 85 per cent of consumers admitted to being 'too dumb' to access or use mobile services—mainly due to increasing device complexity? Nearly three quarters feel that handsets have become 'too difficult to navigate'. Another study found 30 per cent of participants rated 'not knowing what features are available' as their top complaint.

Bottomline: There's so much packed into the average smartphone that basics often take a backseat. On the Nokia 6670, the green and red buttons generally used for making and ending calls are designed for a circus midget's fingers! And yet, overall, these phones are generally bigger and bulkier than average—you don't get that comfy palm-fit feeling.

I guess the first generation of smartphone users will be the *bakra*s who will help companies figure out what is it that people really want. In the interim, they need to help users figure out what the technology in their hands can really do. I mean, if refrigerator companies can send a guy home to give a 'demo' (I kid you not!), surely handset makers can do the same?

Until then, scream for help! There are always alpha geeks lurking, dying to rescue the 'damn cell in distress'.

Rashmi Bansal is founder-editor of the popular youth magazine JAM (www.jammag.com). She can be reached at **rashmi@jammag.com**

> I guess the first generation of smartphone users will be the *bakra*s who will help companies figure out what it is people really want

Illustration **Shyam Sriram**

Tiger Woods PGA Tour 2004

TWPT2004 PROMISES A whole lot of family fun, and is addictive and innovative. But even more commendable is that the game is extremely welcoming to rookies while also having enough goodies to keep the fanatics coming for more.

So what does '04 have that '03 doesn't? Tons! *TWPT* offers the virtual golfer 19 different courses that include some already-seen world-class ones. It also offers five new PGA sites (15 in all), two fantasy locations, and 12 characters. It carries the extra load of several new game playing modes—Alternate Shot, Stable Ford Scoring, Best Ball, Long Drive Shootout, and Battle Golf.

On the great Game Face mode: this is where you dabble with the image of your virtual golfer. There are over 40 slide bars controlling numerous features, such as bone density, body mass, chin and jaws, eye/hair colour and shape, to name just a few. Tons of accessories, from cowboy hats to tattoos, are available to jazz up your golfer.

Another big addition is of course a real PGA Tour. If '03 lacked anything, it was this. '04 offers your golfer the chance to participate in a full PGA tour, with over 30 four-day events.

Your golfer starts his career right down at the bottom—you begin as a true rookie. Solace lies in the fact that a challenge's difficulty is proportional to your golfer's talent. It would be advisable to spend time practising, just to see what your golfer can do.

Money is definitely important, providing you with access to tons of goodies at the Pro Shop. From animations to best represent your moods, to hats, clothes, faces, hairstyles, clubs, sunglasses etc, you can have a ball splurging the green.

The graphics are near-perfect. The tracks used in *TWPT2004* are better than before, but still rely on a lot of rap, with the likes of DMX and Roscoe. The best part though, has to be the sound of your club smacking the ball in perfect synch with the animation on the screen. It truly gives you the feel of having hit one helluva shot.

This game definitely gets our 'Highly Recommended' stamp on it.

Tiger Woods PGA Tour 2004
Publisher **EA Sports**
Developer **Headgate Studios Inc**
Web site **www.easports.com/games/tigerwoods2004**
System requirements **333 MHz CPU, 128 MB RAM, 16 MB video card, 1.3 GB free hard disk space**
Distributor **Gayatri Impex**
Price **Rs 1,299**

The Great Escape

AS FAR AS raw material goes, the premise for *The Great Escape* is right up there with the best. You've got one of the greatest escape flicks ever made, populated with ultra-cool actors. You've got a series of intricately planned diversions, lots of stealth sequences, and a frantic dash towards freedom across hostile territory at the end.

The Great Escape is almost completely a stealth-based third-person game. If you have not seen the movie (you should), it involves a group of daredevil WW II POWs who attempt to break out of a maximum security camp in Germany. All-out action is present only on the few occasions when you get a weapon or vehicle to use. Think of this game as *Splinter Cell*, but without the weapons, neat-o gadgets, graphics, gameplay, and fun.

The in-game sound effects and music tracks are passable. All guns sound the same—big guns make bigger noises.

Coming to the missions themselves, they don't differ too much. You hardly ever get weapons, so most of the time, you have to sneak around and avoid the guards. Your objective is mostly to talk to people, sneak around, get items, talk to them again, get directed to some more people, get more items, and keep repeating until the game decides it's had enough of you. It's just like an adventure game, without the adventure in it. It wouldn't have been so bad were it not for the horrid controls.

There is always just one and only one way to complete your objective. The only choice you have to make is whether you'll strangle that patrolling guard or simply sneak past him. In a stroke of pure evil, the game's designers decided that to strangle a guard, you'll need to sneak up behind him, then mash the mouse button as fast as you possible can. Some guards are harder to strangle than others, which means that you'll have to hit that button even harder and faster.

There is no compelling reason to play *The Great Escape*, unless you are on the endless quest of playing *every* game you can get your hands on.

The Great Escape
Publisher **SCi Games**
Developer **Pivotal Games**
Web site **www.thegreatescapegame.com**
System requirements **933 MHz CPU, 128 MB RAM, 32 MB video card, 1.6 GB disk space, DirectX 8.0**
Distributor **e-XPRESS Interactive**
Price **Rs 499**

5 TOP SELLING GAMES

1. **Half Life 2**
   Rs 1,499
   Milestone Interactive Software Pvt Ltd

2. **NFS Underground 2**
   Rs 1,299
   Gayatri Impex Pvt Ltd

3. **Doom 3**
   Rs 1,499
   World Wide CD-ROMS

4. **Tribes Vengeance**
   Rs 1,299
   Milestone Interactive Software Pvt Ltd

5. **FIFA 2005**
   Rs 1,299
   Gayatri Impex Pvt Ltd

List Courtesy **Crossword** Mumbai

Worms And Black Thumbs

1 Yahoo! Inc. started as a Web link page compiled by two graduate students at Stanford. What was its original name?
a. Jerry's Guide to the World Wide Web
b. Yet Another Hierarchical Officious Oracle
c. The Best Darn Link List on the Web
d. FiloAndYang.com

2 Tech guru Bill Joy recently joined venture capital firm Kleiner Perkins Caufield & Byers which had helped set up a technology bellwether that Joy co-founded. Name the company.
a. Oracle Corp. **b.** Sun Microsystems
c. PalmSource Inc **d.** eBay Inc

3 China's ministry of information industry reported a 24 per cent increase in mobile phone subscribers since 2003. What was the total number of reported mobile phone subscribers in China in 2004?
a. 60 million **b.** 127 million
c. 198 million **d.** 334 million

4 Name Microsoft's home-grown search engine that has indexed five billion Web pages, gives direct answers to factual questions and contains tools to create detailed queries.
a. Microsoft Search **b.** MSN Search
c. MSN Online **d.** MSN Beta

5 The Internet Corporation for Assigned Names and Numbers (ICANN) plans to choose the next registrar of Internet domains ending in .net in March, subject to approval by the Commerce Department. How many .net addresses currently exist?
a. 15 million **b.** 10 million
c. 5 million **d.** 1 million

6 Name the recent $30 (Rs 1,300) book by Jesse Torres and Peter Sideris that offers solutions to problems faced by PC users.
a. Surviving PC Disasters, Mishaps and Blunders
b. Surviving PC Disasters and Mishaps
c. PC Troubles
d. Surviving Your PC

7 Doctors in the US and UK warn that repetitive use of this device, mainly when typing e-mail or text, can harm tendons or cause osteoarthritis in the thumb.
a. PalmOne Tungsten T5
b. Nokia 9210 Communicator
c. Blackberry **d.** Nokia N-Gage

8 ____ is now an ICANN-accredited registrar of domain names. The organisation can now sell names in seven top level domains, or TLDs, including .com, .net, .org, .biz, info, .name and .pro.
a. Go Daddy **b.** Yahoo!
c. AOL **d.** Google

9 Which newly inaugurated legal firm provides free legal support to Free and Open Source Software (FOSS) projects?
a. Free Software Legal Cell
b. Software Freedom Law Centre
c. Software Freedom Legal Cell
d. Open Source Law Centre

10 Teenager Jeffrey Lee Parson was sentenced to prison for unleashing a variant of the ____ Internet worm that debilitated nearly 48,000 computers in 2003.
a. Blaster
b. Santy
c. Cabir.T
d. MyDoom.AM

Answers

1. Jerry's Guide to the World Wide Web
2. Sun Microsystems
3. 334 million
4. MSN Search
5. 5 million
6. *Surviving PC Disasters, Mishaps and Blunders*
7. Blackberry
8. Google
9. Software Freedom Law Centre
10. Blaster

Got an interesting question? Send it in with the answer to **editor@thinkdigit.com**

According to Skype founder Niklass Zennstrom, Skype's VoIP application currently has 13 million users worldwide, in more than 200 countries with 80,000 new users signing up daily.

Did you know?

Send in your answers to the crossword to **TQ@thinkdigit.com.** If you get them all right, one lucky participant will win a **Professional Java Programming** By Brett Spell, published by Shroff Publishers
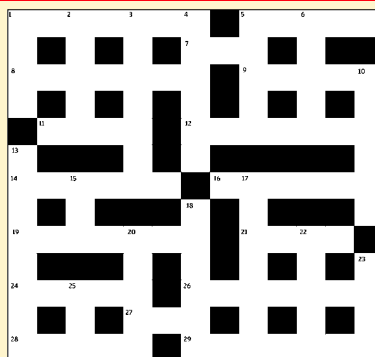
Win!

Crossword

Across
1. 2002 computer virus (7)
5. Short for abnormal end (5)
7. Electronic Code Book (abbr) (3)
8. Ethical hacker destroys reed mat (3,4)
9. Sony's implementation of a standard IEEE 1394 (1,4)
11. Windows NT server (abbr) (4)
12. 'Dock' in Apple operating systems (4,3)
14. Audible warning seeks user's attention (6)
16. Japanese cellular telephone sets (6)
19. Cartoon images upset tan mine (7)
21. Computer savvy person (4)
24. Magnitudes of two quantities (5)
26. Xerox's e-paper? (7)
27. Distributed Computing Environment (abbr) (3)
28. Signaling code of dots and dashes (5)
29. Ward off a virus (7)

Down
1. Cause combustion to write on a CD (4)
2. Compatible text editor for the GNOME desktop environment (5)
3. One of the items in data array (7)
4. Unlikely distant host server (6)
5. Advanced Basic Input/Output System (abbr) (5)
6. Emergency position-indicating rescue beacons (abbr) (5)
10. A frog is a file transfer and terminal emulation programme from Columbia University, we hear (6)
13. Packet of address information destroys 'drag a mat' (8)
15. Enterprise Application Integration (abbr) (3)
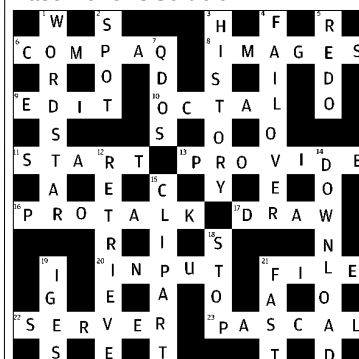17. Internet relay chat programme for Linux users (7)
18. Accounting journal is a horizontal gravestone (6)
20. Positive electrode in a circuit (5)
22. Microsoft's spreadsheet programme (5)
23. Jump if Not Less or Equal (abbr) (4)
25. Short for Tape Archive (3)

Last Month's Solution

	W		S				H		F		R
C	O	M	P	A	Q		I	M	A	G	E	S
	R		O		D		S		I		D
E	D	I	T		O	C	T	A	L		O
	S		S		S			O		O
S	T	A	R	T		P	R	O	V	I	D	E
	A		E		C		Y		E		O
P	R	O	T	A	L	K		D	R	A	W
	R		I		S				S		N
	I		I	N	P	U	T		F	I	L	E
	G		E		A		O		A		O
S	E	R	V	E	R		P	A	S	C	A	L
	S		E		T				T		D

Media**Wise**

Groping In The Shadows

FOR MOST TECH readers across the world, John C Dvorak is the most respected columnist. Want proof? Here is a column he wrote for pcmag.com in February.

Last Tuesday's massacre, when Microsoft released a whole slew of patches, begs more than a few questions. First of all, why can't the company consolidate multiple patches that seemingly do the same thing? And second, isn't it about time that we all got a new free operating system that incorporated all the dozens of patches that have been released? The main reason I ask for this is because when I visit my add/remove programs subsystem, the Microsoft patches clog up the list-to an extreme.

Now before I go into exactly how Microsoft can get us all one free clean OS, I have to also mention last Tuesday's

weird new patch called the "Malicious Software Removal Tool." This is the first "tool" that I recall showing up in the Windows Update list. I could be wrong, since there have been so many updates, but most of them seem to be security patches rather than full-blown software tools. The question is whether you should even install this new tool.

The Malicious Software Removal Tool is primarily an antispyware product. People who have used the tool and reported on its functionality, say that it never tells you what spyware it is actually removing. The problem I have with it is the concept that it only removes "malicious" spyware. Does this mean that it leaves all those ad-tracking spyware systems installed? Surely they are not meant to be malicious. And since Microsoft sells advertising a la Google on its search engine, it seems unlikely that they'd want to kill that advertising "feature." This seems to explain, to me at least, why the tool doesn't do any detailed reporting. I'll pass, thank you, and stick with the various commercial products that do give me the details.

Apparently, the tool is kind of spyware itself, since it reports back to HQ with data on what it has done on your machine. It's not that I care that Microsoft has a huge database of spyware infections and their relative popularity. It's just that I have yet to see what good any of this has done me. They never release the data. So what's the point? The company's argument that it collects this data so it can do a better job doesn't wash with me, given how secretive Microsoft always tends to be. For all I know they are going to push some spyware out there themselves and market it as foolproof.

The Fox Is Lurking

A MONTH AFTER the Firefox browser was released, it already raked up 10 million downloads, making it one of the fastest growing software in the world. *Wired* magazine profiles Firefox, which is a culmination of a collaborative effort of thousands of programmers the world over.
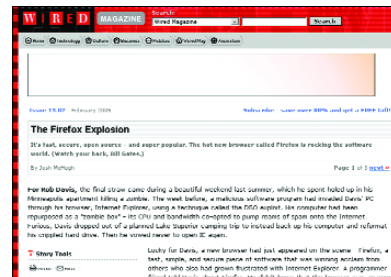
For Rob Davis, the final straw came during a beautiful weekend last summer, which he spent holed up in his Minneapolis apartment killing a zombie. The week before, a malicious software program had invaded Davis' PC through his browser, Internet Explorer, using a technique called the DSO exploit. His computer had been repurposed as a "zombie box"—its CPU and bandwidth co-opted to pump reams of spam onto the Internet. Furious, Davis dropped out of a planned Lake Superior camping trip to instead back up his computer and reformat his crippled hard drive. Then he vowed never to open IE again.

Lucky for Davis, a new browser had just appeared on the scene—Firefox, a fast, simple, and secure piece of software that was winning acclaim from others who also had grown frustrated with Internet Explorer. A programmer friend told Davis about Firefox. He didn't know that the browser was an open source project and a descendant of Netscape Navigator now poised to avenge Netscape's defeat at the hands of Microsoft. He just knew that he didn't want to waste another weekend cursing at his machine. So Davis drove to the friend's house and copied Firefox onto his battered laptop. He hasn't had a problem since—and now he's telling anybody who will listen about Firefox's virtues. "I'm no anti-Microsoft zealot, but it's unconscionable that they make 98 per cent of the operating systems in the world and they let things like this happen to people," says Davis, a PR man by day who liked Firefox so much that he initiated a fundraising campaign to help promote the browser. "There's a lot of pain out there."

Firefox couldn't have arrived at a better time for people like Davis—or at a worse time for Microsoft. Ever since Internet Explorer toppled Netscape in 1998, browser innovation has been more or less limited to pop-up ads, spyware, and viruses. Over the past six years, IE has become a third world bus depot, the gathering point for a crush of hawkers, con artists, and pickpockets. The recent outbreak of malware—from the spyware on Davis' machine to the .ject Trojan, which uses a bug in IE to snatch sensitive data from an infected PC—has prompted early adopters to look for an alternate Web browser. Even in beta, Firefox's clean, intuitive interface, quick page-loading, and ability to elude intruders elicited a thunderous response. In the month following its official November launch, more than 10 million people downloaded Firefox, taking the first noticeable bite out of IE's market share since the browser wars of the mid-'90s.

The Top Trends At CES 2005

CHARLES HEROLD OF *New York Times* says old arcade favourites are making a comeback. And how!

Imagine that every few years, the technology to broadcast television changed so radically that everything produced up until that time could no longer be shown. No more reruns of **The Mary Tyler Moore Show,** no more old **Marx Brothers** movies. You could only watch entertainment produced in the last two or three years. That is exactly what happens with computer games, where new technology is often incompatible with old games, turning great games into forgotten ones.

Happily, games are sometimes resurrected. Old arcade games like **Centipede** and **Pac-Man** have been released both for play on newer machines and in inexpensive devices you can plug into your television. Occasionally, something less ancient is resurrected, as when the original **'Resident Evil'** was refurbished with slicker graphics for the GameCube. Recently, Sid Meier's 1987 game **Pirates!,** a collection of minigames representing various aspects of pirate life—battling ships, treasure hunting, trading goods, sword fighting—was completely remade for the modern PC.

Different gamers are excited by different rebirths, and for me, the biggest thrill has been the restoration of one of the oddest and most original adventure games ever made, Pulse Entertainment's 1996 game **Bad Mojo,** newly dubbed **Bad Mojo Redux.**

Bad Mojo begins as a scientist about to skip the country with his research money is inexplicably transformed into a cockroach who must make a perilous journey through his landlord's squalid apartment.

Mojo has a high gross-out factor, as you crawl over dead rats and half-eaten TV dinners trying to find a way around deadly hot-water pipes and roach traps. As you travel, you encounter slugs and water bugs that recite obscure passages of prose that contain clues to the game's puzzles.

As you wander through vast kitchens and under giant beds, you crawl over letters and photographs, learning about the landlord's tragic past. The game becomes increasingly surreal: photographs of eyes blink when you approach them, and visions hint that you are on some sort of spiritual journey.

The game's puzzles are generally straightforward, involving your limited ability to affect small objects, moving a cigarette butt or triggering an answering machine by walking on the Play button. There are a couple of more elaborate puzzles, but they tend to be based less on logic than on a spacey sort of synchronicity.

Read the full piece at www.snipurl.com/digit_games

▲ **Epson sees into the future?**
A beautiful photograph, but all we could think of was how Epson tested that the photograph remains "smudge-free for more than 100 years!"

▲ **Nooo! Leave the poor fishy alone!**
A great visual, an even better punchline, but all we want to know is, "Did the poor fish survive the photo shoot?". Quick, someone call PETA!

Taking Broadband To The Skies
Radio scientists in the UK have demonstrated the first air-to-ground 'mesh broadband' connection. A microlight plane established a broadband connection with the South Witham mesh, at an altitude of 2,000 feet. Voice and data traffic was sent over the link.

Cell Phones As Bar-code Scanners!
New York inventor Bruce Hodge and his partner have created technology that allows people to comparison-shop with their cell phones. In early February in New York, he demonstrated it by waving his cell over a bar code: the phone listed the closest places to buy the item, and the cost at each retailer.

Escape

FIVE FEET UNDER
Talk To The Dead

We don't know what exactly to call this—a gadget? A service? An idea? Whatever you call it, Jürgen Bröther's 'invention' allows you to listen to the sound of grave soil. Seriously, it is supposed to enable a link to the body of the deceased—useful if one couldn't attend the funeral.

The German innovator's offering, the TelefonEngel or 'Phone Angel', consists of three items in a box—a mobile phone, a high-power battery, and a small loudspeaker, all in a waterproof container the size of an average shoe box. The loved ones of the deceased are supposed to bury this kit at the grave, keeping it 12 inches above the coffin.

Anyone can then phone in, and here's where the Phone Angel kicks in. You get to say whatever you

Jürgen Bröther with his invention

want, and it will be faithfully played back through the speaker—and what you get to listen to is, well, nothing, since the deceased is, well, dead.

One is tempted to say at this point, "So this is progress? Is this what technology is getting us to?" and so on... but we'll let that pass.

One also wonders what would happen to someone if he or she called and actually got a response from the other end...

IMMORAL NET USE
Cyber-café Crackdown In China

China has long had an anti-cyber-café agenda, and every now and then, we see reports about what the government has been doing to implement its stance. It has recently emerged that Chinese authorities closed down 12,575 cyber-cafés in the last few months of 2004.

According to the official *Xinhua* news agency, most of these close-downs happened because the cafés were "operating illegally."

And what exactly was illegal about the cafés' operations? It turns out that they were too close to schools. Chinese Internet cafés are supposed to operate under a set of strict guidelines, and many

UNUSABLE!

http://calcutta.city news.com/

"Calcutta, India Photo Classifieds and Bargain Provincewide Ads". A little cryptic? The layout is deliciously terrible, with overlapping text, and links that seem to have no business being there. What are "free chats" doing on a classifieds site? What is a "Provincewide Ad"? And most intriguing, what are "Biggerads"?

The real fun begins when you dig a little deeper. Click on the 'Employment & Help Wanted' link. There's an ad from Brooklyn, one from Aberdeen, Scotland, one from San Jose, and one from Tokyo—"Come and work at the top strip clubs in Tokyo."

Click on 'Baby sitters', and you get the same ad from San Jose, and one saying 'Work At Home While Nurturing Your Kids!' Clicking on 'Education' takes you to the same San Jose ad (which, incidentally, is about boosting the power of your cable connection), as well as a link that says 'Protect Your Child From Abduction'! The list goes on—clicking on 'Motorcycles' takes you to ads that purport to help you track your car 24/7, and so on.

Hilarious navigation. With not a word about Calcutta, Kolkata, or, for that matter, even India.

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 receives a copy of **Unix for Programmers and Users, Third Edition** By Graham Glass and King Ables, published by Pearson Education
This month's winner is **Ranadeb Ray, Mumbai**

Ranadeb Ray's desktop has really been customised beautifully; way to go Ranadeb
Sent in by Ranadeb Ray, Mumbai

of those that were closed most recently broke rules that limit how close they can be to schools: they need to be at least 200 metres away.

China seems obsessed with the so-called moral issues related to Internet usage, a culture breakdown among the youth stemming from the use of the Internet and playing violent video games, and so on. For example, the recent shutdowns are the latest in a series of steps the government has taken to crack down on "immoral Net use."

All the one lakh or so cyber-cafés in China are required to use software that controls what Web sites users can view.

The government also keeps logs of all the sites that its people visit. The 'Reporters Without Borders' group said in a report that the technologies that the Chinese government uses to intercept e-mail and to censor the Internet usage of its citizens, are amongst the most highly developed in the world. Big Brother really does watch you when you are in China!

ABSTRACT AND DYNAMIC
Modern Art On Ancient Machines

Apple's ancient, easy-to-use programming tool, HyperCard, has found an afterlife—at the cutting edge of European modern art. British artist Richard Bolam uses HyperCard to create generative art using ancient Mac classics. Bolam, who lives and works in Sheffield, England, is gaining recognition as an artist successfully working with technology.

What's interesting here is that he doesn't use the latest technology; quite the contrary, he uses the relatively ancient technology embodied in the HyperCard software and old Macintoshes.

"I enjoy embracing the technology of old Macs," Bolam said.

A recent work, *Hyperscape 1*, was shown at Sweden's Malmö Konsthall as part of the Electrohype festival. *Hyperscape 1* is a generative art installation that runs on eight compact Macs. One Mac runs a program that Bolam wrote in HyperCard.

The HyperCard program determines the screen output on the other seven machines. All the screens start out blank, and steadily fill with semi-random shapes and images. The master Mac running HyperCard proposes certain image manipulations—inverting areas of the screen, tracing edges or copying parts of images—and the other machines decide whether or not to accept the changes.

The result is abstract, random and dynamic—an ever-changing montage of broken and distorted shapes spread across the eight screens.

Bolam said the idea is to illustrate how humans process information. "If you put a series of objects in a line, your brain looks for similarities as they've been queued," said Bolam.

"It is obviously organised. Hyperscape 1 is just the opposite: because the screens are all similar, the brain looks for differences," added Bolam.

The Wizard Behind Windows

One of the most important people in Microsoft's history, David Weise, was one of the developers responsible for a technical breakthrough that brought about the success of Windows.

After leaving Princeton with a PhD in molecular biophysics, Weise and a few others founded Dynamical Systems Research (DSR) to create a clone of Topview,

David Weise

IBM's text-based multi-tasking shell that was supposed to revolutionise the PC industry. It was an utter flop.

Microsoft was looking at integrating Topview support into Windows. In 1986, Microsoft acquired DSR and hired Weise. Just two years later, Microsoft was planning to abandon Windows and move to IBM's OS/2. However, Weise figured out how to get Windows to run on the 80286 in 'Protected Mode'. Thanks to this breakthrough, Microsoft out-marketed IBM. Weise is credited with almost single-handedly making Windows a viable product—Windows 3.0, soon after its release, was the most successful software project in history, selling more than 10 million copies a month.

Weise was made a 'Microsoft Distinguished Engineer' in 2002, a title that marks the pinnacle of a developer's career at Microsoft. He quit Microsoft in February, and now intends to pursue molecular biology.

Of PDA Phones And Mac Minis

Keep a skimpily clad Mallika Sherawat in a room and a PalmOne Treo 600 on the table adjacent to her, and you can bet your last buck that our Test Centre guys will pick the PDA phone. For them, the feel of a PDA phone is like, well, actually let's skip the details.

It was no surprise, therefore, that not a single person from the Test Centre decided to share their collection (and so what if it was temporary?) of PDA phones with the rest of the crowd at *Digit*. Selfish pigs, we call them. Plus there was the O2 XDA II Mini, a smaller version of the original beauty. We must admit that looks-wise, the Mini is not a patch on its big brother, but an O2 is an O2. Sanket Naik fell in love with the Nokia 7710, a product he refused to let go for quite some time, and when he had to do the inevitable, you could see quite a few unshed tears.

If it were one of those K serials, Sanket could have got an automatic casting as a harassed son-in-law. Last heard, he was still in mourning because of the Nokia 7710. "Wait until April," he told his sympathisers, "when I get my raise!" We will wait.

Then, there was the Apple Mac Mini, which sent Senior Writer, Ahmed Shaikh into raptures. But that's another story!

DIGIT DIARY

Cell Phones Turn Into Golf Clubs

The local branch of British mobile giant Vodafone recently unveiled the V603SH. It has been billed as the first phone in Japan to respond to movements—and it will let users perform basic mobile functions via programmed shakes and jerks. But the appeal of the 142-gm V603SH goes beyond that.

The phone can be used as a golf club—users putt with the phone, then look back at the screen to see how well they did. It can also be moved like a gun for the shooter game 'House of the Dead'.

Both these novel uses for the phone could mean merrier times on the Tokyo subway, where people often sit glued to their phones.

Original Bullet Holes, along with stand, were up for sale on eBay

Top 10 Weird Stuff On eBay

Talk about inspired selling! Flip through eBay's 'Weird Stuff' section for a taste of the wackiest ways to make an extra buck.

The *ThinkDigit* Forum recently received news of an extremely unusual item up for sale on eBay—a man was auctioning his wife's PMS, which, he claimed, "is in excellent condition. You won't find a more authentic or volatile PMS on the market. My wife's PMS is always right... wins every argument... can fight your wife's or girlfriend's PMS with certain victory..."

Scouring eBay led to the discovery of many more such inspired sellers. Here's our selection of Top Ten Wacky Items:

1. *Soul For Sale:* A 26-year old artist from Newcastle-upon-Tyne (UK) actually sold his own soul on eBay for $16.95 (Rs 737).
2. *Kangaroo Scrotum Pouches:* Better known as 'The Golden pouch'— genuine Kangaroo Scrotum Pouches from Australia.
3. *Ad Space on Forehead:* A 20-year-old from Omaha, Nebraska (US) was selling advertising space on his forehead.

# whatweretheythinking.com

www.googlefight.com

This is one of those this-is-cool-but-gets-boring-in-twenty-seconds sites. The first time you do it, it seems like fun. "Hey, God versus Satan! This is cool!" The second time you do it, it still brings a smile to your face—"Hey, My Girlfriend versus Pamela Anderson! Cool!" The third time—nah! You are bored already.

What this site does is simple. In fact, really simple. You type in two search terms, such as 'India' and 'Pakistan', and googlefight.com compares how many results turn up on Google for each of those two terms. That, essentially, is the fight. Then there's a graphic representation of who 'won', along with an animation—the same one every time—of one stick-man bashing another stick-man.

Seriously, how long did they expect people to stick at this site? Anyone who frequents this site needs to seek medical attention! It's perhaps only children who would go, "Again! Once more! Once more!"

If you find yourself asking, "I wonder which term has more results on Google, 'me' or 'myself'," just go to Google, type in the search terms consecutively and look at the number of results thrown up. Not only will it save you time, it will also save you from having to see that stupid stick-man animation and the simple bar graph over and over.

And oh, by the way, 'God' hammers 'Satan', 'India' beats the pants off 'Pakistan', and 'My wife' (Google) fights way better than 'My girlfriend'...

www.googlefight.com
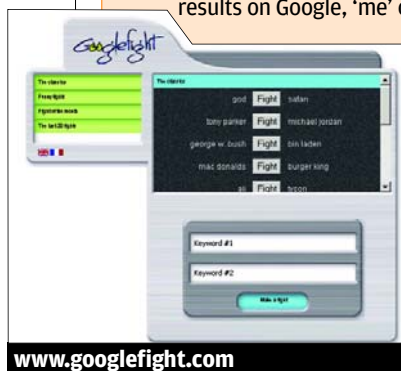
4. *Original Bullet Holes:* The original "Hardley-Dangerous" bullet holes along with display stand. "The sizes of bullet holes range from small (miniature impacts) to medium (high impact) to large (rapid fire). They are all brand new and sealed. Great for a store front resale or just gag gifts."

5. *The Meaning of Life:* The seller, who claimed to have gained enlightenment from a fisherman, put up the meaning of life for sale for 78 cents (Rs 34).

6. *Beatles' Toilet Paper:* A roll of (unused!) toilet paper formerly owned by the Beatles had a $76,000 (Rs 33 lakh) bid on eBay.

7. *Real Shrunken Heads:* Handmade goatskin and hair shrunken heads approx. 4"-5" tall; direct from the jungles of the Ecuadorian Amazon, where the original *tsantsa* ritual of head shrinking was performed.

8. *Crisp Clean Canadian Air:* "Every living human needs air, and who wouldn't want some clean fresh air with all the pollution now-a-days," claims the seller, who'd ensure that the air will be delivered in a tightly-sealed vial.

9. *A Ghost:* In an attempt to placate his five-year old son who was afraid of his deceased grandfather's ghost, a distraught dad did what he thought was best— put up the ghost for sale.

10. *Acre of land on Mars:* A whole acre of land on the Red Planet! More or less. Until humans actually step foot on Mars, a certificate of ownership "presented on luxurious parchment, fully personalised, ready for framing..."

Other items on sale ranged from Britney Spears' chewed gum to hurricane debris, to entire towns, the US of A, Osama bin Laden's toilet, mining barrels of unsearched rubies and diamonds, unsearched bags of uncut sapphires... ⊠

Compiled by Aditya Kuber, Meera Vankipuram, Renuka Rane and Ram Mohan Rao

Blog WATCH

As we do each month in this space, we take a look at some read-worthy blogs. This month, there's one about a Microsoft employee's reaction to the continuing news reports about Firefox's growing popularity; one about how to make up your passwords; something about the organisation of our digital information, and then, there's something called the Digital Lifestyle Aggregator

MeyerWeb
http://snipurl.com/co6l

Password Production
It occurred to me that I ought to pass along a password-generation technique I've used for years now. Maybe it's a well known technique, and maybe not. In any case, my best recollection is that I learned it from either John Sully or Jim Nauer back in my CWRU days. The general idea is to pick a two-word combination you can easily remember. For example, suppose you're a big fan of pizza and Pepsi, and would have no trouble remembering those words.

Geeked
http://snipurl.com/co6n

Thoughts on the Digital Lifestyle Aggregator
I am still hooked on Marc Canter's concept of the Digital Lifestyle Aggregator. Think of it as a local node that lets us have the best of both worlds: the awesome informative and communicative power of the distributed Internet, and the centralisation/aggregation of those bits of information created by, or most relevant to, an individual person...

Neopoleon.com
http://snipurl.com/co6o

Firefox Pomposity
As always, I've been watching Slashdot lately. To recap for those of you who may have missed what's going on, here are a few recent post titles:
"Firefox use up .00032%"
"Firefox use up .0078% in Tennessee"
"Microsoft employee admits to using Firefox"
Etc.

Outside Slashdot, something else happens that I find interesting: Often, when someone learns that I work for Microsoft, one of the first things I'm told is, "I use Firefox," and it's accompanied by a defiant look, as though I'm supposed lose control over my bowels and ruin a perfectly good pair of shorts upon hearing the news that Morton B. Pumpernickel isn't using my company's browser anymore.

I'm not sure what it is that drives people to want to tell me that, but I wanted to state, for anyone of this mindset who might be reading, that I don't care.

Always-On Network
http://snipurl.com/co6m

The Growing Market for Organising
We thought Google's eight billion crawled Web pages was a lot. We haven't seen anything yet.

Our own content will likely dwarf what's currently being created by large media and the traditional providers of information.

As everything becomes digital, the need to organise the information becomes even more urgent. That's why I believe that organizing our digital world is not a minor feature, as some have said about desktop searching. In fact, these features will be far more useful and addicting than we think.

Are We alone in this Universe ?

rajesh
Warmed-Up Nerd
Location: **Bangalore**
I always wondered: are we alone in this universe?

I don't believe we are alone though. What are your thoughts guys?
****

swatkat
Digitized!
Location: **Shimoga, Karnataka**
In my opinion, we are not alone!!! But, an even more interesting question is why UFOs visit only USA??!!!
****

babumuchhala
Resident Techie
Location: **Vashi, Navi Mumbai**
I think we are the only ones in this whole Universe. Guys just think over these Questions seriously for a minute or so:

1. They say the Universe is always expanding and there is nothing outside the Universe (not even a vacuum). So where is the Universe Expanding into?

2. They say the Universe began with a Big Bang. What created such an explosion? What was there before the Big Bang?

3. If we assume God Created everything, then who created God? Where did God come from?
****

borg
In-House Geek
Location: **Delta QuadrantI**
If someone asks who created God, then the question doesn't conform to the very meaning of God. The moment you say that God was created, it means that the entity you assumed was God, was not God at all.
****

FastCoder
Analogue Novice
What if the aliens have already landed, and are keeping us in a matrix. All the UFO sightings may be glitches in the matrix...
****

neerajvohra
In-House Geek
I don't know about the Universe, but I am alone in my room now!!! Lol
****

sreevirus
Digitized!
Location: **The 3rd rock from the sun**
Life on earth was the result of coincidental chemical reactions which took place at the right place at the right time... the conditions on earth were perfect enough for life to sustain itself.... now in this universe, why cant there be another world where the conditions can be perfect for life? The probability is still there, though not large.

Have a look at the Drake Equation...it pretty much sums it up...

http://www.seti.org/site/pp.asp?c=ktJ2 J9MMIsE&b=179073

http://www.activemind.com/Mysteriou s/Topics/SETI/drake_equation.html

Yeh Dil Maange More

I am an active member of the ThinkDigit online forum. Add dedicated to active, and you will know what I actually feel about the forum. Most of my computer or technology related problems are solved by my peers and buddies on the forum. Sometimes, even I help other people with their problems. It is a perfect society out there—you get as much as you give.

But most of my friends are not even aware of the ThinkDigit forum. What is shocking is the fact that most of them actually subscribe to the magazine. Just imagine if they had known about the forum, how vibrant and active the online discussions would have been. I am sure they lose out in the end.

But all is not lost. There is a way around this. Why not accumulate all the great posts on the forum, and publish them in the form of a separate book (just as you had compiled *1001 Amazing Tech Facts* last June for the anniversary issue). And once you have released such a book, maybe you can keep compiling a "Best of ThinkDigit Forum" series, and give them along with the magazine every six months. Here are the benefits:
▶ Magazine subscribers, who are not forum members, would get a chance to read some great posts of the forum.
▶ They will find out what's going on in the forum, and may be influenced to take part there.
▶ The original authors of the posts will get recognition, and would be encouraged to post more forums.

Lovedeep Wadhwa
New Delhi

These days, it would be a cliché to say that *Digit* is India's No 1 technology magazine. I would be the first in line to say that you get all your readers on the right track of technology knowledge. Having said that, may I suggest a couple of things to take *Digit* to the next level:
▶ Add a glossary with every issue of *Digit*; it would help beginners to understand the language that technocrats use. I am not a beginner myself, but I found some terms in the January and February issues daunting.
▶ Please avoid ads in the middle of an article. It diverts the reader's mind, and is more irritating than informative.

Until now, *Digit* has been the single-largest reason for all the change in my life, thanks to the *gyan* on technology. Ditto for my fellow students in college. My suggestions could just take *Digit* to an undefeatable level.

R X Marshall
Tuticorin

Dear Lovedeep and Marshall,
It is really heartening to note that our readers are thinking of innovative ideas. It keeps us on our toes all the time. We will definitely work out the feasibility of your idea. In the meantime, please enjoy our newly-introduced book 'Fast Track', your handy guide to everyday technology, bundled free with this issue.

This time around, we have an entire book on Digital Photography. And for the next 12 months, *Digit* will publish a book on a specific topic with every issue, thus delivering reader delight month after month. It is value for money like nothing else, right?

As far as your other suggestions are concerned, we will definitely try and implement them soon.
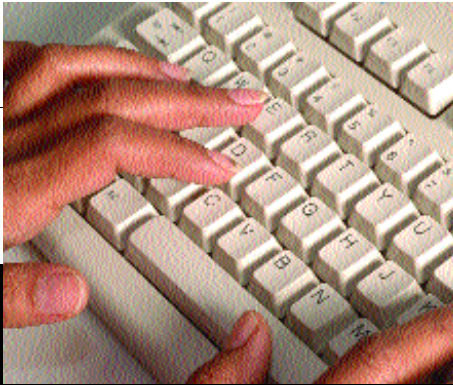
—Executive Editor

The ThinkDigit forum: a place to exchange ideas

Inbox

Bust The Google Myth

On Page 81 of the February 2005 issue of *Digit*, in the story relating to Gmail, the Web site address provided in Step 1 was incorrect. The correct address is **www.viksoe.dk**, and not **www.viskoe.dk** as mentioned.

But that is not the real reason for writing this mail. The media the world over goes gaga whenever Google does something. It may have been justified at one point of time. Not any more. Google may have become synonymous with online search, but if Microsoft's beta version of search is anything to go by, then hard days are up ahead for Google.

Search for any term on both Google and MSN, and check the results for the following:
- Number of results generated
- Relevance of the results
- Speed of loading the page
- Last updated date of the cached version of the page

Is MSN Search really better than Google?

The truth is that MSN wins hands down in most cases. I am no MSN junkie nor am I being paid by Microsoft to write this mail. I also know there are a lot of people who swear by Google, and will vehemently disagree with me on this. So, how about checking it out on your own?

Maybe Google could strengthen its search capabilities, and retain its No 1 position.

Ramanpreet Singh
New Delhi

Dear Ramanpreet,
Cola wars are part of advertising and marketing folklore. The 21st century's online history could well begin with the war of the searches. With Google, MSN and Yahoo vying online for a piece of the search pie, it is only logical that all three players come out with more and more innovative products every month. While most people at *Digit* prefer Google, we are not loyalists. If a better search engine comes along, we will hop there. Having said that, we just cannot take Google lightly. After all, it has some of the world's best software engineers and leaders including Sergey Brin, Larry Page and Eric Schmidt heading its dynamic team. Our opinion is, don't write off Google just yet.
—Executive Editor

Some Random Observations

Digit's December and January issue were simply great! Thank you for the Encyclopaedia Britannica Concise Edition CD. It was a pure treat to read all the gadget reviews, and I even got to learn a lot about Formula 3, courtesy the race driver Karun Chandok. The story on Jagdeep Dangi and his Hindi browser was unique, and was a positive piece on how one can overcome challenges to succeed in life.

When I read the piece I wondered why Indian technology biggies do not come out with affordable software products for the Indian market. Given their expertise and financial prowess, they could easily give even the giant Microsoft a run for its money, and greatly help in reducing piracy due to cheaper software.

Digit: navigating you through more than just tech

I have a similar opinion about hardware. Unless India gets manufacturing plants to produce all the components of a PC here, I doubt whether we will be able to achieve the sub-Rs 10,000 PC dream.

Let's hope that we see a day when affordable computing becomes a reality.

Nitin
Via E-mail

Dear Nitin,
Your observations are well thought-out and perceptive. It is indeed a paradox as to why India supplies some of the world's best customised software to various countries, but has no product to show off for the domestic market. Perhaps the day will come soon when we will be able to assemble sub-Rs 10,000 PCs in India.
—Executive Editor

Apple Of My Eye

I learn, breathe and sleep design at the National Institute of Design (NID), Ahmedabad. I may not be a technologist anymore, but I have to deal with it in every product, which I design or think of.

For years, *Digit* had been my 'navigator for technology', and it continues to be so for me, a loyal subscriber, even after that 'sensible' decision I took to leave all the so-called service packs, patches, blue screens, and viruses behind and switch over to the Apple Macintosh!

LETTER OF THE MONTH

As expected from the Mac cult, it is not just brand loyalty that prompts me to write this mail. The "Old Way Tech Way" article comparing an iPod with the Walkman (*Digit*, February 2005) does no justice to the Apple product.

Admittedly, the Walkman was a revolution when it was introduced. It created a new concept of carrying music; but so did iPod change the way people buy and share music. Even Steve Jobs might not have anticipated that music could bring more revenue for Apple than all their products put together.

Does *Digit* really feel your brand head's Walkman deserved a smiley face for that it takes more than an hour to load a 20-song playlist compared to less than half an hour the executive editor took to import your entire music collection for life to an iPod? Or do you feel the total cost of Rs 1,055 for only 20 songs is much cheaper than Rs 15,000 for 3,000 songs? I guess the total cost for the Walkman didn't consider the cost for hiring a truck to carry the entire music collection as audio tapes!

It is a wrong to say that Apple product owners are only show-offs; the user-experience that one goes through can never be replaced by anything else! I did not expect *Digit* to make a comparison based only on someone's personal views.

Nithin Ismail
Ahmedabad

Preference for Pink

Melanie Griffith: I want pink—*now*!

Sales associates at the four Apple retail stores in the Los Angeles area have plenty of opportunities to rub elbows with Hollywood celebrities. And it turns out isn't always pleasant.

Hollywood actress Melanie Griffith, according to one associate, threw a tantrum when she was unable to buy a pink iPod mini early last year.

The associate, who asked to remain anonymous, said Griffith came right up to him and "pretty much demanded" a pink iPod mini. The mini was in short supply, and the associate told her there were none in stock.

He told *Wired* News, "She then proceeded to get pissed off at me personally because we didn't have any in stock. She said we have a special stock of iPods for people like her.... I hadn't seen any celebrities there up until then, so at first I was like, 'Oh wow, cool, Melanie Griffith.' But then she opened her mouth and used me as a doormat."

Other celebrities who have indulged in pompous, obnoxious or cheap behaviour at Apple's LA stores include singer Pink, and actors LeVar Burton Val Kilmer and Fred Durst.

So It Was You?

A Jordanian recently divorced his wife after discovering that she was also his virtual girlfriend.

Bakr Melhem had been flirting with a woman on an Internet chat room for several months before the two decided to meet. When they finally met at a bus station in Zarqa near Amman, he recognised her to be his wife Sanaa!

The wife had described herself as an unmarried Muslim lady whose cultural interests included reading.

Bakr Melhem immediately shouted the Arabic words for 'I divorce you' thrice. Jordanian news agency, *Petra,* reports when the man uttered the words that effectively ended their marriage, she called him "a liar" before fainting.

Sleeptexting!

Britain is a nation of prolific texters, as we reported earlier. As a sort of 'proof' of this, it has emerged that a man in Swansea, Wales, sends text messages in his sleep—a sign of the times, according to a sleep expert.

Richard Griffiths, 23, has sent a series of messages while asleep—one even mirroring a nightmare he was having.

He said: "I text so much it's second nature. But I was still freaked out." He once sent a text message to his friend Ashley Jones saying: "Help, I'm in trouble, someone's chasing me." She immediately rang back, and found that he had been only dreaming and was not in trouble.

Another text, referring to the film *Jungle Book* he had seen, read: "Baloo, have you seen Bagheera?"

Sleep expert, Professor Chris Idzikowski, said: "I have not heard of this before, but it is entirely plausible— and possibly a sign of the modern age."

'Cybersex' Takes On New Meaning

Kim Jong-Hwan, director of IRRC (Intelligent Robot Research Centre) in South Korea, plans to give the gift of sex to robots. He has developed a series of artificial chromosomes, which, he claims, will allow robots to "feel lusty." It could eventually lead to them reproducing, reported *Free Internet Press,* the news portal.

OK, so it's all about software in the end. Jong-Hwan said the software would, amongst other things, give the machines the ability to "feel, reason and desire."

"We must consider this as the origin of an artificial species. Until now, most researchers in this field have focused only on the functionality of the machines, but we think in terms of the essence of the creatures," said Jong-Hwan, a leading authority on the technology and ethics of robotics. According to him, the 'essence' is a computer code modelled on human DNA.

"Robots will have their own personalities and emotions, and as films like 'I Robot' warn, that could be very dangerous for humanity. If we can provide a robot with good, soft chromosomes, they may not be such a threat," Jong-Hwan said.

We are not very clear on what "good, soft chromosomes" means—but let's wait and watch.