



Rs 125

Dual-Core, AMD, Intel... Agent 001 Clears The Confusion

January 2006

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YOUR TECHNOLOGY NAVIGATOR



**Towards Human-Like Software**

**Would You Run Water Through Your PC?**

**Find Out What PVR Software Is Best For You!**

**Will Your Online Degree Get You A Job?**



# Editorial

## The Dollar Downpour

**I**DURING AN OCTOBER '05 trip to Germany, I specifically asked Hector Ruiz, AMD president and CEO, whether there was any possibility of AMD putting up a semiconductor plant in India. He gave me a look that implied "No way!" To my question he politely replied, "I don't think this is possible for now, given the infrastructure and technology transfer constraints."

But just last month he made a personal visit to India and proudly announced an agreement to license AMD's proven process technology for SemIndia's planned wafer fabrication and assembly-test-mark-pack (ATMP) operations. AMD and SemIndia will now jointly develop and market semiconductor solutions for India. Now that's an about-turn from his earlier stance.

Incidentally, immediately after Ruiz left, Intel's chairman Craig Barrett made a surprise visit and announced a multi-year investment plan for India totalling more than \$1 billion, stating they plan to grow their local operations, boost venture capital investments, and work closely with the Government, industry, and educators.

Then came Bill Gates on his fourth visit to India and he upped the ante—making big-ticket announcements of investing \$1.7 billion in the country over the next four years, and hiring 3,000 people in the same time-frame—taking Microsoft's Indian manpower count to 7,000.

Earlier, Cisco, the world's leading networking firm, had announced a \$1.1 billion investment plan in India, while Vodafone decided to spend \$1.5 billion for a 10 per cent stake in Bharti Tele-Ventures Ltd.

This impressive investment line-up clearly indicates the confidence global players now have in India, both as a major market for IT products and as a location for high-tech manufacturing. We have moved on from being the software sweatshop of the world.

India is no longer just another potential growth market for technology companies. Rather, India has scaled up to be one of the most important countries to be focussed on and build a consumer base. We will soon witness launch of the latest gadgets and tech products simultaneous with their global launch. R&D efforts of major IT companies will also be tuned and customised to Indian consumer needs for products they wish to sell in India. Not to forget, it will also lead to a major spurt in recruitment in



**Deepak Ajwani** Associate Editor

**"We will soon witness launch of the latest gadgets and tech products simultaneous with their global launch"**

the Indian IT sector. No this time not for any back office operations but to work on developing newer and innovative technologies that will spawn better products for the global market.

India represents a major market for desktop and laptop computers as well as Internet-enabled devices. Industry observers expect the market to see strong growth in the near future, given the impetus provided by the Government towards increasing PC and Internet penetration. Also, India's Internet user base has registered a massive 54 per cent growth, with 38.5 million users as of 2005-06 from just 25 million in 2004-05.

It is these growth indicators that have compelled the corporate honchos of the world's leading PC and processor manufacturing companies to come personally to India and shell out billions of dollars.

Who's next?

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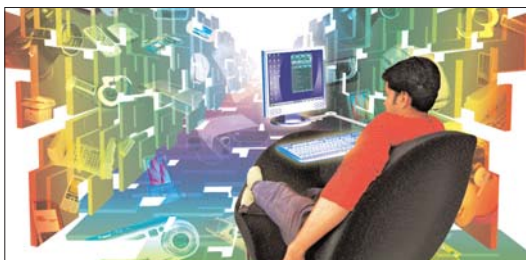


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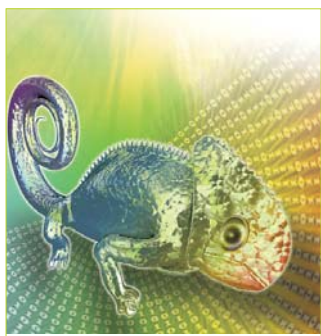
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## Digital Passion



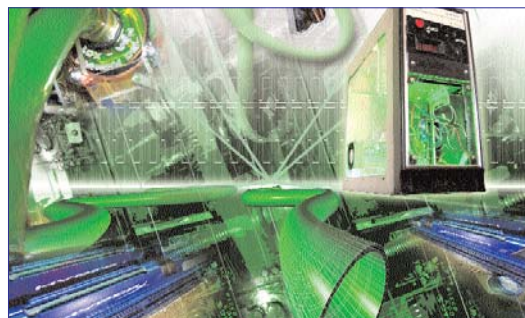
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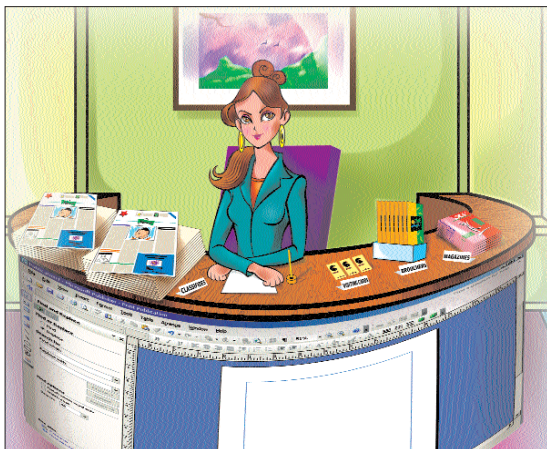
The Internet in India is just getting into top gear, courtesy ADSL. But what about VDSL?

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### 55 Pick, Choose, Publish!

Tired of trying to lay out your material in Word? Try Publisher instead



### 76 New & Notable

Portable DVD players, cool new gaming gear, a stylish new cell phone and some more goodies catch our eye this month

## 58 Home Companions

What PC suits your home best? We review three categories of home PCs for you to choose from



### 97 Agent 001

Our Agent finds out what processors you should be buying. Plus, handy buying advice from mobile phones to high-end workstations

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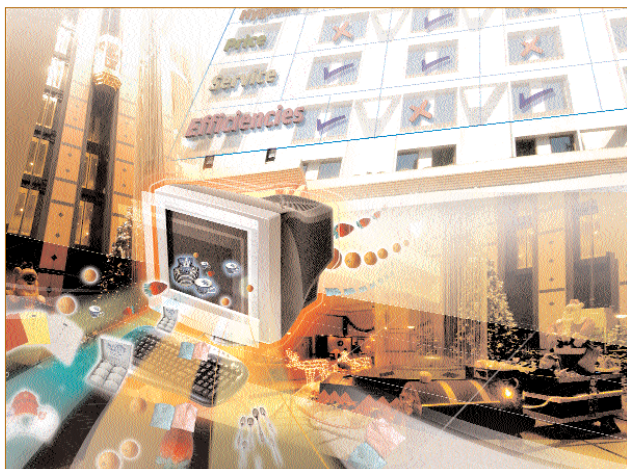
The Indian Government's new national portal is surprisingly well designed and useful



## Digital Business

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Learn how The Orchid keeps its operations running smooth and well-oiled ☒



### 110 Trend

We take a look at how the corporate world views online degrees



### 108 Blogs Mean Business ☐

Use your blog to reel in customers and promote your business

## January 2006

## Digital Leisure

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Can blogging save lives? We found out that it just might! ☒



### 118 Capture, Control, Create

Your computer is quickly nudging your TV out of the picture. We help you choose the best Personal Video Recorder (PVR) software for your PC ☒



### 124 Tech Critique

Pick your battles—the Germans or the Law? This month, we played *Call of Duty 2* and *Need For Speed: Most Wanted*

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The man who put the Ping! in Pong—Nolan Bushnell, the creator of the first computer game

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It's fun with The Really Big Button That Doesn't Do Anything

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## DIGITAL PASSION

## FPS Creator 1



Create your game instantly with this intuitive 3D editor. Drag and drop walls, lights, doors, enemies, ammo, weapons and more with pixel-perfect precision, and watch as they intelligently link together. Then with one click of the mouse, play your game!

## DEVELOPER TOOLS

- Exchange XML Editor
- Microsoft .NET Framework runtime files 2.0
- Oracle 10g Express Edition
- Borland C++ builder 2006
- Borland Delphi 2006
- Power Render

## GAMES

## Need For Speed Most Wanted PC Demo



Be Wanted. Wake up to the smell of burnt asphalt as the thrill of illicit street racing permeates the air. From the makers of the hit *Need for Speed Underground* series, *Need for Speed: Most Wanted* challenges players to become the most notorious and elusive street racer.

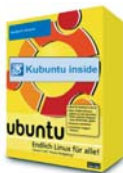
## Quake 4 Demo

This demo offers enough multiplayer action to keep you competing online for days, with two versions of the popular map "The Fragging Yard." The single player also starts from where the full version takes off.



## Kubuntu 5.10

Kubuntu is a user-friendly operating system based on KDE, the K Desktop Environment.



- F.E.A.R. Update Patch
- Quake 4 Update Patch 1.0.4
- Hammer And Sickle
- Peter Jackson's King Kong
- The Chronicles of Narnia: The Lion, The Witch and The Wardrobe

## LINUX

- Kubuntu 5.10
- amarOK 1.3.7
- mCube Music Manager 20051205

## DIGITAL TOOLS

## MULTIMEDIA

- DigiBook v.11
- GX::Transcoder 2.24.2936 Beta 2a
- AVOne Video Converter 2.52
- FMV Pro 5.99
- VideoCharge 3.3.9
- WinDVR 3

## INTERNET

- Gamer's Own Instant Messenger 0.1.7
- Server2Go 0.9.8
- TryFast Messenger 4.6.1672
- Capturix VideoSpy 2.12.1760
- CoffeeCup HTML Editor for Windows 2006
- ConceptDraw WebWave 5.3.0
- Post2Blog 1.10 beta 7
- ZoneAlarm Internet Security Suite

## SYSTEM

## System Mechanic 6.0p

The only system optimisation and security software you'll ever need—six award-winning products contained in one complete solution. Fix stubborn errors, accelerate performance, maintain peak PC health, protect against viruses, hackers, spyware, adware, and more using the System Mechanic 6 Professional robust arsenal of powerful tools.

## VMware Workstation 5.5

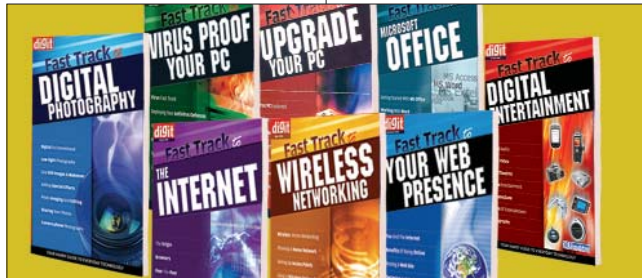
VMware Workstation is a powerful desktop virtualisation software for software developers/testers and enterprise IT professionals. It runs multiple operating systems simultaneously on a single PC.

- Ashampoo WinOptimizer Platinum Suite3 3.00
- VisualCron 2.7.6
- Unofficial Windows 98 SE Service Pack 2.1a
- Acronis Disk Director Suite 10.0
- Backup2005 Pro 4.4.6.155
- Diskeeper Professional Edition 10.0.593t
- PCMark05 Basic 1.1.0

## FAST TRACK IN PDF

By popular demand, archives of the past 12 months are back!

- Fast Track To Digital Photography
- Fast Track To Anti-virus
- Fast Track To Wi-Fi
- Fast Track To Upgrade Your PC
- Fast Track To MS Office
- Fast Track To The Internet
- Fast Track To Your Web Presence
- Fast Track To Digital Entertainment
- Fast Track To Essential Windows Tools



## DIGITAL BUSINESS

## Ultra Hal Text-to-Speech Reader 1.0

The Ultra Hal Text-to-Speech Reader application reads your documents out loud in one of its many high-quality voices. This can be a great tool for proofreading, because hearing your text spoken out helps you spot the mistakes you've made.

## NetSupport DNA 2.5

NetSupport DNA (Dynamic Network Administration) facilitates central management of your enterprise PCs in a secure, co-ordinated and efficient manner.



## PRODUCTIVITY TOOLS

- Windows Server System Reference Architecture (WSSRA) 2.0
- Audiomatic 1.01
- Florescent DiffEngineX 1.24
- MySQL Migration Toolkit 2.3
- NetSupport Manager Remote Control 9.10
- SameShow PPT to SWF Converter 1.6.0

## MOBILE APPS

## Sony Ericsson Themes Creator 1.92

The "Themes Creator" is now official, and supports all Sony Ericsson phones that support themes.

## Oxygen Phone Manager II

Oxygen Phone Manager II lets your PC and Nokia mobile phone communicate with each other using infrared, Bluetooth, DLR-3 cable, DAU-9P compatible cable in FBUS mode, and DKU-5 (Pop-Port) cable.



- Nokia PC Suite 6.7 Release 21
- Siemens Mobile Phone Manager 3.04.40.48.4
- iPodSync 2.26
- Oxygen Phone Manager II 2.8 build 3.3
- VisSie 2.5.6a

## DIGITAL LEISURE

## SMALL GAMES

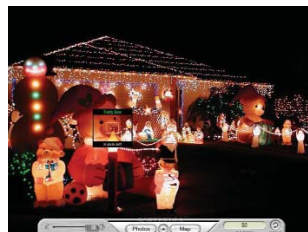
## Starport Galactic Empires

The highly acclaimed, independently developed MMORPG, *Starport*, is now available and still 100% free to play. Be the captain of a space-ship in this fully graphical, real-time action game, set in a multi-player world.



## Christmas Quest 1.0

Christmas Quest is part trivia contest and part treasure hunt. Navigate the planet in search of your holiday assignments.



## VIDEOS

## F.E.A.R. Machinima Episodes

The newest series from Rooster Teeth Productions (the creators of the famous Red Vs. Blue series), P.A.N.I.C.S. (People Acting Normal In Crazy-ass Situations) has arrived!!!

## PoP: The Two Thrones

POPT2T takes place in the homeland of the Prince—Babylon. For the first time.



## Path Of Neo

*The Matrix: Path of Neo* is the follow-up to 2003's hit action video game based on *The Matrix* film trilogy.





## DIGITAL PASSION

### Solar 1.0

Solar is an advanced, secure software protection and licensing system that allows you to protect your program



from unauthorised users, while providing you with a reliable yet easy-to-implement licensing system.

### Actual Drawing

Actual Drawing is a visual publishing tool that helps create Web pages without you



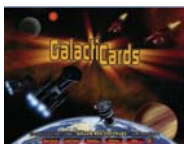
having to know HTML, allowing you to drag and drop page content. The program has its own image-manipulation tools, so you don't need to use a third-party image editor.

### Synopsis—Visual Programming Tool 1.1.10

Synopsis is a visual programming tool that dramatically accelerates software development. By dragging and dropping icons and connecting them with graphical links, it is possible to assemble complex programs literally in seconds.

### Galacticards 1.002

In Galacticards, five players start out with a home world, some defensive ground units, and a hand of five cards with which they begin their struggle to become the largest species in space.



## DEVELOPER TOOLS

- MSN Messenger Activity SDK 1.0
- PHP Designer 2005
- Stani's Python Editor 0.8.0b
- Treeview—JavaScript Tree Menu 4.3
- Visual C# 2005 Express
- Visual Web Developer 2005 Express
- FlashDigger Plus
- OZEXE 3.10
- SlavaSoft QuickCrypt Library 2.5
- Tristana Writer

## LINUX

- Banshee 0.10
- Dirac 0.5.4
- GStreamer 0.10.0
- MadJACK 0.1
- Mkdvd 2.43
- mkvtoolnix 1.6.5
- mplayerplug-in 3.17
- OST-Box 0.1.0
- Shoutcast 1.9.5

## DIGITAL TOOLS

### REAKTOR 5 5.00



REAKTOR 5 fuses all audio applications into a single, extremely versatile and powerful tool. Musicians, producers and sound designers are all catered to by the very broad range of instruments and sounds already included.

## MULTIMEDIA

- ALLPlayer 2.2.7
- Circle Virtual CD v1.02
- Cliprex DVD Player Professional
- DIMIN Image Viewer n5 5.2.1.111
- ForceVision 3.3 Final
- Fusion Media Player 1.7.2
- nDVD 1.0.2146.18505
- Screenshot Captor 2.06.02
- StickyView 1.1.4
- Visual CD 2.0
- Vrecord 0.57
- AKRAM Audio Converter 2.17
- BatchPhoto 1.0
- djDecks 0.70b
- eJukebox 3.991
- Firegraphic XP 8.0.810
- Movie DVD Maker 1.3.8
- MP3Producer 2.47
- Music Stop 1.0
- PicaJet FX 2.5 (440)
- REAKTOR 5 5.00
- River Past Cam Do 2.81
- ThumbNailer 8.0.8.4

## INTERNET

- Deepnet Explorer 1.5.2 beta 2
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- Free Browser 1.5.38
- Fresh Download 7.42
- Mozilla Firefox 1.5 Final
- Pando 0.8.1.0 beta
- Portable Firefox 1.5 RC3
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- Internet Download Accelerator 4.4.1.935
- Internet Download Manager 5.0 beta 3
- QuadSkucker/Web 3.0
- The Bat! Voyager 3.63.07 BETA
- WebCamSplitter 1.2.6
- Willing Webcam 3.2

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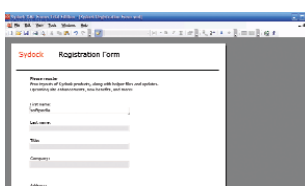
- AutoHotkey 1.0.40.10
- LookinMyPC 1.0
- Monitor Calibration Wizard 1.0
- Partition Logic 0.6
- Squirrel Morph 1.2d
- TreeSize Free V1.77
- VICE 1.18

## ESSENTIALS

- Adobe Acrobat Reader 7.5
- Avast Home Edition 4.6
- IrfanView 3.97
- Kazaa Lite Mega Codec Pack 1.40
- Kerio Personal Firewall 4.2.2
- Norton AntiVirus Definitions Update
- Spybot Search & Destroy 1.4
- WinRAR 3.51

## DIGITAL BUSINESS

### Sydock XForms 2.5.4.6



Sydock Document Processor FREE lite version gives organisations and working groups the ability to collect and distribute information using the flexible and varied possibilities of XML-based forms.

### iMediaCONVERT 3.3.16

iMediaCONVERT converts PowerPoint presentations (including sounds) to Flash, and instantly delivers Internet, Intranet, CD-ROM or LMS-compatible results, suitable for online distribution or interactive e-learning platforms.



## MOBILE APPS

- iDirectionz 1
- Symantec Mobile Threats Removal Tool 1.0.3
- iPodRip Win 2.8
- Monopoly for Palm OS 1.2.3
- Party-Pod Pro 6

### Canto Pod 2



This program quickly puts song lyrics on your iPod at no cost. After you connect your iPod and open the application, be sure to check the Settings panel to make sure the proper drive is selected. While you can enter a search term to find a particular track, it's easier to simply have the program display all tunes on your iPod. From there, you can simply check boxes for songs you'd like lyrics for.

### Pocket Tunes 3.1.1

Regardless of whether your mobile device shipped with a dedicated music jukebox, Pocket Tunes still makes a strong case for itself as an alternative solution. After you've imported MP3, WMA, or OGG files to your Palm's expansion card, the program will immediately recognise them once you start it up.



## DIGITAL LEISURE

### Harry Potter and the Goblet of Fire Demo: Nanosaur Extreme 2.03

In *Harry Potter and the Goblet of Fire*, Harry is mysteriously selected as the fourth competitor in the dangerous Triwizard Tournament. Each contestant in this international competition must confront a fire-breathing dragon, rescue friends from the icy depths of the Black Lake, and navigate the twisting mysteries of a vast, dangerous maze.



## GAMES

- Archer Battle 1.0
- Backgammon Lite 5.1
- Bastille Solitaire 1.0
- Bingo Liner 3.0
- Free Cribbage Card Game 6.40
- Free Hearts Card Game 6.40
- Free Spades Card Game 6.40
- jose 1.4.0
- Poker Mania 3.2.1
- Silke Halma 1.0.4
- Black Jack for Windows 1.0.2.1
- Frenesia 1.1
- Lotto007 XP 2005 6.4

## VIDEOS

### Age Of Conan Trailer



A trailer of the *Age Of Conan* game that will take you to the mythical worlds of fantasy.

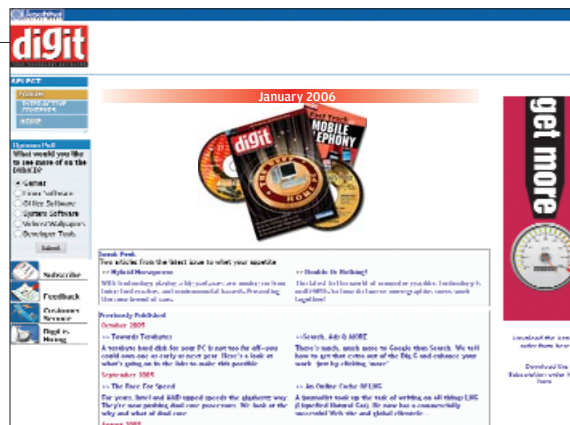
### NFS Most Wanted Video



*NFS Most Wanted* is a game where you run from the cops, often destroying everything in sight with your souped up sports car. Here's a video that shows you what you can expect to see when you play the demo that's on our DVD.

## By Demand

You get to choose what goes in *Digit* Interactive. This month, you chose:  
**Need For Speed: Most Wanted Demo**  
**Quake 4 Demo**



## Digit Patrons

It really does pay to be loyal!  
 Find out more on [www.thinkdigit.com](http://www.thinkdigit.com)

## Digit Reader Poll

## This Month's Question

**How concerned are you about spyware/adware?**

- ☐ Totally Paranoid
- ☐ Just obsessed enough
- ☐ Only if it starts to bug me
- ☐ Live and let live, I say
- ☐ WHAT were?

Log on to [www.thinkdigit.com](http://www.thinkdigit.com) and vote

## Last Month's Question:

**What would you like to read about more in Digit?**



Total votes 8,335

taste technology at [www.thinkdigit.com](http://www.thinkdigit.com)

There's something for everyone on the Digit Forum [www.thinkdigit.com/forum](http://www.thinkdigit.com/forum)

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Digit Forum Index

**Cool Hardware Hot Reviews**  
 The latest reviews of mainboards, graphics cards, cpu, storage etc  
[www.hardwarezone.com](http://www.hardwarezone.com)

**Graphics Card**  
 Find Great Prices on a Wide Range Desktop PC Accessories. Buy Now!  
[www.buyingwise.co.uk/dell](http://www.buyingwise.co.uk/dell)

**Multiple Monitor Display**  
 Video cards for 2-16 monitor with independent displays. By Xentera.  
[www.naplestechn.com](http://www.naplestechn.com)

Ads by Google

Username:  Password:  Log in

The time now is Wed Dec 21, 2005 3:31 pm View unanswered posts

Share your views with the Digit Community, exchange tips and tricks, look for previous Digit issues, etc.

Forum	Topics	Posts	Last Post
<b>Feedback</b>			
<b>Digitized</b> Interact with Team Digit members. Tell us what you think about the magazine (articles / sections), DVD contents and Web site. What you liked, what you didn't, and what you expect to see in the future... Moderators: <a href="#">Moderators</a> , <a href="#">Administrators</a>	49	3652	Wed Dec 21, 2005 2:53 pm <a href="#">nsidd75</a> +D
<b>News</b>			
<b>Latest News</b> This forum is for members to share the latest technology news with others. Make sure to post the SOURCE at the beginning of every post. Moderators: <a href="#">Moderators</a> , <a href="#">MemberMods</a> , <a href="#">Administrators</a> , <a href="#">Trusted Members</a>	171	1412	Wed Dec 21, 2005 3:29 pm <a href="#">Febians</a> +D
<b>Hardware Troubleshooting</b> Discuss basic Hardware problems, find solutions to your hardware queries, upgrade blues. From Hardware Overclocking to Cooling and Case Modding all queries, howtos, solutions go here. Moderators: <a href="#">Moderators</a> , <a href="#">MemberMods</a> , <a href="#">Administrators</a> , <a href="#">Trusted Members</a>	357	2076	Wed Dec 21, 2005 2:56 pm <a href="#">con_tester</a> +D
	448	5017	Wed Dec 21, 2005 3:13 pm <a href="#">digitized</a> +D

**Member Reviews**



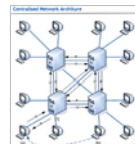
## Successor To Centrino Due this month

Intel said it would officially release its next mobile platform, Napa, in January. Napa is equipped with the powerful Yonah dual-core processor. Intel claims Napa will boost average performance 68 per cent beyond the Sonoma platform, while extending battery life beyond the 5-hour mark.



## Legal P2P In A Set-Top Box

MuViBOXX!, a new entertainment company, introduced the world's first legal P2P media centre in a set-top box. The box will feature biometric DRM, and allow consumers to download movie and music content from a proprietary global file-sharing network. The box has a 500 GB hard disk.



# Enter

### Rahul Bose

Actor and Director

Rahul Bose gave up an illustrious advertising career only to emerge as a prolific actor, director and script writer. After a successful debut as Agastya Sen in *English August*, he went on to write and direct the critically acclaimed film *Everybody Says I'm Fine*, and endeared himself to audiences through his role in *Mr and Mrs Iyer*. Rahul discusses his tech quotient with *Digit*:

#### What role does technology play in your life?

Technology has helped me enhance my creativity. Whether it is acting, theatre, or writing scripts for that matter, technology gives you a distinct advantage. For instance, I use Final Draft—software to write film scripts.

#### What gadgets do you own?

I own a Motorola V3 phone, an iPod Nano, and an Apple Mac at home—nah, that's not because I am partial to Apple or anything, but I guess I've really gotten used to the Mac.

#### What do you mostly do online?

I surf the Net, e-mail and blog. The one site I frequently blog on is Intentblog.com. It's a platform for people to develop a dialogue about new paradigms in creativity, communication, and fulfillment.

#### Any instance where technology really helped?

When I was in the tsunami-hit Andamans, it was the Internet that helped me stay connected with the rest of the world.

## WILL THE \$100 LAPTOP TAKE OFF?

# Mere Gadget Or Affordable Laptop?

Will the \$100 laptop change the world? Will it at least positively impact some students in developing countries? Opinion is divided. Even as Taiwan's Quanta, the world's largest manufacturer of notebooks, signed on to the project, Intel's chairman dismissed it as a mere "gadget".

The pedigree of the \$100 laptop is impeccable. It's been designed by industry specialists at MIT in co-operation with the One Laptop Per Child (OLPC) association, and was first conceived by MIT Media Labs founder Nicholas Negroponte. The project itself is very ambitious, aiming, as it does, to empower every child with a laptop. Even the UN has expressed support for the idea that cheap laptops will be an effective way to spread computers across the world.

The response from the media, governments and the industry has been fantastic. Orders for millions of units have been received from governments in Brazil, Egypt, Thailand and Nigeria. Negroponte unveiled the design of the device in November last year, and plans are underway for the first units to be shipped early in January '06.

Given this background, what are we to make of Craig Barrett's remarks? Intel's chairman openly criticised the concept. At a press conference in Sri Lanka, he insisted there will not be a market for the devices.

Barrett argued that a computer's features are more important than price. He claims that the laptop is an ineffectual gadget that

that has the full functionality of a PC, reprogrammable to run all the applications of a grown up PC... not dependent on servers in the sky to deliver content and capability to them, not dependent on hand cranks for power."

So what does the "gadget" feature? The CPU is 500 MHz; the colour/monochrome dual-mode screen is 7.5 inches diagonally; there's 128 MB of RAM, 512 MB of Flash memory, and there's 802.11b wireless support. Two speakers and four USB ports are provided. There's no hard disk, optical or floppy drives. On the software front, the laptop runs Red Hat Linux, and incorporates a Web browser, a word processor, an e-mail program, and a programming system that includes the Squeak programming language.

The most obvious explanation for Barrett's remarks is the fact that in August, Intel opened four platform design centres in Brazil, China, Egypt and India, to design computers for local markets. So are we to entirely dismiss Barrett? Perhaps, perhaps not. History has shown that attempts to bring computers to the poor are likely to fail. There have been several attempts, without success, to bring low-cost PCs to Brazil. Then there's the Simputer,



will suffer from low demand and limited success despite huge international interest in the project. Citing hardware limitations, Barrett said that the \$100 laptop will not adequately meet the needs of its target consumers and that Intel's contributions to IT in developing countries are far more tangible and relevant:

"Mr Negroponte has called it a \$100 laptop—I think a more realistic title should be 'the \$100 gadget.' The problem is that gadgets have not been successful. It turns out what people are looking for is something





## Security Watch

### Opera Upgrade Recommended

#### The Problem

Users of Opera 8.1 may be at risk of attack. Security firm Secunia has uncovered a security weakness in that version. Researchers at Secunia said they found that a design error in the way Opera processes mouse clicks in new browser windows. This, combined with the predictability of the position of the 'File Download' dialog box, could be exploited to trick users into clicking the 'Open' button of a file download prompt, even if they intended to click 'Save' or 'Cancel'.

The exploit has only been verified to work in Opera version 8.01, though earlier versions may be vulnerable too.

#### The Damages

Naturally, you wouldn't want to click 'Open' for a file you intend to save and then virus-check. And if you're prompted to save or open a file from an untrusted source, you're more likely to click 'Cancel'! Hackers could use the weakness to trick users into downloading and running unwanted programs. The flaw cannot be taken lightly—running a malicious program could damage your computer!

#### The Solution

The flaw was eliminated in Opera version 8.02, but why not upgrade to the latest version—8.51? The update is available at [www.opera.com/download](http://www.opera.com/download).

designed in India, of which we've been hearing about for a long time—but of which nothing seems to materialise. AMD has not sold many of its cheap Internet devices—the Personal Internet Communicators—for the developing world.

But still, history has also taught us that some bad ideas meet with wild success, and that some great ideas fall flat.

The \$100 laptop could turn out to be a good idea that works. After all, it's targeted at children and students—and looking at the features on offer, who needs more? Even if the project can place a laptop in the hands of every twentieth child, it would have succeeded.

### AWASH IN CONTROVERSY

## Is Wikipedia Credible?

It was only a matter of time before an encyclopaedia based on the wiki concept became the subject of a controversy. It was a relatively minor incident that sparked it off, but the questions are now really being asked. Wikipedia, for those who came in late, is an online encyclopaedia that anyone—including you—can edit. And it currently has more than a million entries.

The incident we're talking about was an

anonymously-written biography entry that linked former *USA Today* editor John Seigenthaler Sr with the assassinations of President John F Kennedy and Senator Robert F Kennedy. The writer, Brian Chase, later issued an apology for his prank. Seigenthaler, in a *USA Today* editorial, criticised Wikipedia and called the fake biography "Internet character assassination."

In an interview with BusinessWeek Online, Jimmy Wales, Wikipedia founder and president of the Wikimedia Foundation, which runs Wikipedia, said they were revamping the process of entry creation so credibility could be maintained. Asked how users should view Wikipedia, he said, "It should be thought of as work in progress. It's our



Illustrations Harsho Mohan Chatteraj

### HOT

#### Microsoft Xbox 360



The current darling of gamers, Xbox 360 is the most powerful game console in the market. Microsoft has re-built the 360 to provide an experience that leaves the competition gaping like a goldfish.

### NOT

With the Playstation 3 still a few months away,



Top Dog Sony has been ingloriously knocked over by the Xbox 360 for now. Sony devotees must either shift loyalties to Microsoft or gnash their teeth in jealousy.

intention to be Britannica or better quality, and our policies and everything are designed with that goal in mind. We don't reach that

quality yet." Most tellingly, when asked if he thought students and researchers should cite Wikipedia, Wales issued a frank "No." But he went on to say he didn't think people should cite Britannica either.

When it comes to Wikipedia vs. Britannica, opinion on the Internet varies wildly. Some, including CNN, say Wikipedia is as accurate on science as the venerated Britannica. Others have cast doubt on Wikipedia's credibility even before this recent



## One Silly Question

### "Why is the mouse called a mouse?"



"It's a nice name for the device"  
Preksha Sharma, Jaipur



"Since it's so tiny?"  
Mona Dhumal, Pune



"Coz it looks like one!"  
Sarosh Aziz Chougale, Ratnagiri



"It moves around like one"  
Priya Talreja, Mumbai



"It couldn't be called a cat"  
Akanksha Srivastavi, Delhi





## The Digital World

A Round-up Of Technology News From Across The Globe

## UNITED STATES

Christmas wish-lists of kids today aren't neatly-typed letters to Santa anymore. For example, 11-year-old Katie Johnsen in DC got tech-savvy and turned her list into a Power-Point presentation with a red and green background, a picture of Santa, and links to the sites where her items could be bought!



## UNITED KINGDOM

The UK's largest robotics laboratory is set to open—in a bid to rival institutions in the US and Japan. The new facility in Bristol hopes to develop intelligent robots designed to work with people and be able to carry out tasks independently.



## MEXICO

"North American country" seems a misnomer for Mexico. According to a recent survey, only 16.5 per cent of the population has a PC, and only 9 per cent has any Internet connection at all. Compare this with the 50 per cent broadband penetration in the United States, just across the border!

## THE UAE

Despite being the most progressive of the Arab nations (think Dubai!), the UAE blocks nearly all pornography, gambling, and illegal drugs sites. The state also blocks access to all Israeli sites and even English-language dating sites.

## JAPAN

Japanese universities have decided to include student ID cards on students' phones. From April, new students at Kanagawa Institute of Technology will carry an ID on their phone that lets them register for classes, open locked doors and such.

## SOUTH KOREA

Some estimates peg the number of online gamers in Korea at 70 to 80 per cent of the population! The South Korean government therefore keeps a close watch on online gaming, announcing in December '05 a "set of measures" to "crack down on increasing hacking attacks on online game items."

incident. So what is the real story?

Science journal *Nature* chose 50 science articles from both encyclopaedias, and gave peer reviewers a blind test to find mistakes. Britannica turned up 123 errors, and Wikipedia 162. To quantify that, the quality of information from Wikipedia was 25 per cent worse.

Whatever such figures may say, the questions remain. On the one hand, anyone with knowledge of a certain topic can contribute to Wikipedia, and who would want to mess with an entry if he didn't know too much about the topic? On the other hand, what about opinionated people, who put up entries posing as facts but which merely reflect an opinion? Then there's the question of policing: with hundreds of entries coming in every day, who's to check them all? What about quality of writing, and consistency? How can Wikipedia possibly be cited, when one knows that the material could be merely something

someone at the other end of the world casually wrote? And yet, one still needs to ask, what can possibly be wrong about a project that aims to bring together, onto one platform, the collective knowledge that we as a species possess?

We would like to hear from you on this issue—do write in!

## WILL THE IDEA LAST?

## Sprint Brings Movies To The Mobile

Sprint's movie content provider MSpot said on 12 December that the global voice, data and Internet service provider had soft-launched its MSpot Movies service in November 2005, featuring 10 full-length films customers can stream to their Vision phones serially in five-minute increments.



## Three Incredibly Useful Sites

Et Cetera

## www.deraradio.com



## Deraradio.com

A hot spot for music buffs, DeraRadio.com is an on-demand Internet radio station. The site's database includes Western, Arabic and Hindi music, and the latest numbers. All you need is Real Player. There are also online dedications, request shows and the popular Derachat.

## www.nivalink.com



## Nivalink.com

A Web-based hotel reservations firm, Nivalink.com has put together more than 1,000 holiday options within India with details on each such as location, accommodation, transport, latest tariff, facilities, meals and so on, with actual photos. The site has profiled over 100 weekend retreats, beach getaways, hill stations, health resorts, and star cruises among others. It's definitely worth checking out!

## www.nasscom.org



## Nasscom.org

The National Association of Software and Service Companies (NASSCOM) is the premier trade body and the chamber of commerce of the IT software and services industry. Read success stories of key software and services companies here, and buy Nasscom publications, research reports, and register for industry events.

# Beat That!

**Digit Caption**  
**'Once More!!'**

## Last Month's Winner!

Mangesh Patki  
Aundh, Pune  
"Double-Click!"



E-mail your caption with the subject 'Beat That', and your postal address, to [beatthat@thinkdigit.com](mailto:beatthat@thinkdigit.com) and win **Unix for Programmers and Users** by Graham Glass and King Ables. Published by Pearson Education, Delhi



Photograph Jiten Gandhi

Every month, *Digit* will carry a caption for a photo. Come up with something funnier, and beat the *Digit* team at their own game! Entries accepted by the 15<sup>th</sup> of this month.

The movies on offer aren't the latest, though: the most recent of the 10 currently available available is *Short Circuit*, a 1986 flick. Why? MSpot CEO Daren Tsui said film rights are notoriously difficult to procure, and since Sprint's movie service is a first-of-its-kind, it has to be content with old movies in order to get it off the ground.

MSpot, however, now has deals negotiated for the rights to 380 films, and as the service gains attention and subscribers, Tsui

expects the movie studios will have more interest in putting newer content on the network.

That, of course, depends on how well the service does. A little after news of Sprint's movie service appeared, ZDNet released a list of seven reasons why movies on the cell phone won't work: first, that many films have wide vistas, fast action, split screens and multiple colours, which do not work well on a small viewer. Second, the obvious point of how long one can be expected to

squint at a little screen. Then there's the issue of whether the shifting between movies and calls will be seamless, and of battery life. Imagine watching part of a movie, then recharging your handset and picking up where you left off! ZDNet also talks about the noise factor—imagine a scream from a horror

movie emanating from your cell phone's speakers in a public place!

"This is a controversial service," Tsui said. "Some people don't believe in it because of the small screen size, but look at the market. Services like MobiTV, Sprint TV and Verizon Wireless' Vcast have been doing great. There is a consumer appetite for video on the mobile phone. You can't dispute that."

## HE'S GOT A JOB

# Asimo As Receptionist

**H**onda recently announced that its Asimo, the world's first walking humanoid robot, is set to make its office debut in 2006 as a receptionist. The latest version Asimo



will be starting its new job in April at a Honda office in Wako, north of Tokyo. The prototype can guide guests to a room, push a cart with a load of up to 10 kilograms, and serve coffee on a tray!

"The level of Asimo's capability was just good enough to entertain people on the stage in the past, but the new Asimo can work at places closer to us," says Satoshi Shigemitsu, the Honda official in charge of the robot's development. "Honda is aiming to create a humanoid robot that can help people and live together with people."

During its unveiling, the new Asimo, which stands more than four feet tall and weighs 54 kg, ran at top speed on a stage, and then carried four cups on a tray to a coffee table. Honda plans to produce more models and lease them to organisations for an estimated rental fee of

¥20 million (Rs 75 lakh) per year.

Asimo, of course, isn't the





## GENDER



## BENDERS

Sameer Koli vs Ashwini Kadam

## Make 'My Computer' items appear as a bar on the Desktop

1 min  
36 sec

Sameer's reservations vanished the moment he sat down at the computer. He right clicked the screen, headed to 'Properties' and scanned in the 'Display Properties' box that popped up. As the search seemed futile, Sameer quickly exited. Next, he right clicked the Taskbar at the bottom of the monitor and clicked Toolbars > New Toolbar > My Computer. However, the Taskbar had been locked and it took him a few more seconds to unlock it and place it on the desktop.

3 min  
5 sec

Although she claimed to be not very familiar with computers, Ashwini was game enough to take up the task. Just like Sameer, she began by right-clicking the screen. However, she spent more time scanning each item in the menu. After several unsuccessful attempts, Ashwini moved to the Taskbar. She right-clicked it, opened the menu and selected the icons to create the bar. Ashwini could not unlock it and managed to do so only after it was indicated to her. Still, not bad at all.

only robot out there that can do something as advanced as being a receptionist. There are many practical robots already on duty in Japan. An example is Ligurio, a prototype security robot that can move at 7 kmph on its wheels, and can identify an intruder 50 metres away even at night. It can grab explosives or containers of lethal

chemicals and remove them to safe places.

What makes Asimo's "job" as a receptionist a landmark development of sorts is that this indicates we're getting closer to seeing robots as personal companions. As we mentioned in *I, Robot—Your Friend*, Digit September 2005, it's been predicted that robots will walk the streets by 2010. We

mentioned in the article that it sounded "rather impossible." But if, in 2006, we are already seeing robots as receptionists, who's now to say that's a far-fetched prediction?

25 MILLION TO 38.5

## Internet Penetration Increases

You'd have expected Internet penetration in India to have increased, but we have the figures. It remains relatively very low, but has soared 54 per cent over the course of 2005 to 38.5 million, and will jump to 100 million in two years, according to a IMAI (Internet and Mobile Association of India) study. In comparison, China already has 100 million Internet users, according to government statistics.

With increased Internet penetration comes more e-commerce; as of now, the e-commerce market is estimated at Rs 1,180 crore. It's estimated to grow to Rs 2,300 crores in 2006-07.

Dayanidhi Maran, Union Minister for IT and telecommunications said about these growth figures, "We have ambitious goals regarding Internet access and are providing all support to attain them. The Government is making concerted efforts with a clear emphasis on the importance of affordable broadband... Our aim is to achieve critical mass across the country with a special

impetus in rural and remote areas."

According to Preeti Desai, president of the IMAI, "E-mail and chat have become a 'ubiquitous' part of online Indians' daily routine, and online banking, bill payment, stock trading, job searches, and matrimonial searches have seen 'tremendous' rise in usage."

Unfortunately, the fact remains that it's mostly urban India that's online. In fact, urban India taken as a separate entity has one of the highest Internet penetration rates in the world, while the overall rate for India stands at just about two per cent. Urban India is hankering for broadband, while rural India is still to be educated about the possibilities the Internet opens up.

How long this stark, uncomfortable contrast will last is anybody's guess.

USE A THIEF TO CATCH A THIEF

## "Honeypot" Could Help Counter Viruses

The problem of computer viruses won't go away anytime soon. But a new mathematical study by Eran Shir at Israel's Tel Aviv University shows that you can tackle the virus problem using a cure that itself spreads in a viral fashion, and, as a result "immunises" the entire Internet.

## Virtualisation

While Virtualisation—partitioning your computer into two or more 'virtual machines' to run multiple software simultaneously—is not really a new concept, Intel has brought it back in the news by announcing its support for virtualisation at the chip level. Virtualised machines can handle the load of many under-utilised machines, saving the cost of buying a whole new set of hardware.

Thus far, virtualisation was done only through software such as VMware, but now with hardware support for Virtual Machine Monitors, Intel will take the performance of such software to new heights. Virtualisation has been used in servers for a while now and Intel hopes to bring it to desktop PCs as well, with two new virtualisation-enabled Pentium 4 processors ready for shipping.

Buzzword  
of the MONTH



### What is ZigBee?

ZigBee is a set of standards for low-power, low data-rate networks that operate over small distances. ZigBee networks work even in congested radio environments. Up to 255 devices can be connected in a network, a maximum of 30 m away from each other.

### How does ZigBee work?

ZigBee is a wireless network of devices that communicate with each other. Modest amounts of data are shot over small distances. ZigBee devices can be arranged in a *Star* network, where devices report to a ZigBee Controller; a *Mesh* network, where all devices are at the same level and 'co-operate' with each other; or a *Clustered Tree* network, which combines the best of both.

### Why ZigBee?

ZigBee is targeted towards Wireless Personal Area Networks (WPANs), so a ZigBee network is cheaper and simpler to implement than a Bluetooth or Wi-Fi network. A typical ZigBee node will require two to 10 per cent of the software a Bluetooth node would require. Extending a ZigBee network is easy—you don't need to re-wire any of the devices to add another ZigBee node.

### Where would I see a ZigBee network?

ZigBee can be used in homes and offices to remote control every device possible. In factories, they can be used to automate manufacturing tasks and asset management besides monitoring heat and energy usage to optimise energy consumption.

### Who thought it up?

The ZigBee Alliance, a consortium of companies, published the ZigBee standard. They monitor and control products that seek to employ the standard.

### When was ZigBee started?

Although in development since 1999, the ZigBee standard was ratified by the ZigBee Alliance in December 2004. In June 2005, the ZigBee specification was thrown open to the public.

Shir's paper only discusses his mathematical model; there has been no effective implementation as yet. Shir, however, plans to release a simple example program soon.

"Our focus is to immunise the whole network, not to clean individual computers or fix what is already broken," Shir said on the Web edition of *Nature*. In a paper titled "Distributive immunisation of networks against viruses using the 'honey-pot' architecture," Shir and colleagues have made a proposal "to propagate the immunisation agent as an epidemic."

The current problem is that if a cure is sent over the same network as that on which the virus is spreading, there is bound to be a lag. The virus will affect nodes (computers) before the cure gets to them. Shir and colleagues therefore propose the development of dedicated "honeypot"—or attractor—computers, distributed all over the Net. The honeypots would attract a virus (to which the honeypot would appear as a regular computer), analyse it automatically, and distribute a countermeasure.

The honeypots would be linked to each other via a dedicated, secure network. This way, once one honeypot has attracted and analysed a virus, all the others would immediately know about the infection—the existence of the "honeypot network" would enable the countermeasure system to be faster than the virus. That's where the real trick lies. Each honeypot would act as a hub sending out healing countermeasure code. This countermeasure would spread across all of the network—in theory, possibly even all of the Internet: simulations have shown that the larger the network is, the more efficient this scheme would be.

### WHAT'S THAT SONG?

## Google Eases Music Search

Google is tailoring its search engine to better address music search. A search for an artist will now bring up song titles, album art, links to lyrics and reviews, and advertisements for places where the music can be purchased. Items that can be purchased will have links to merchants for online ordering or downloading. The online sources include Apple, RealNetworks and eMusic, and retailers selling CDs including Amazon, Wal-Mart and others. For the CD retailers, Google receives data feeds of the inventory and only returns a link to a store if the item is available.

Search results will include links to supplemental Google Web pages with more information about the music, including names of tracks on a CD and other CDs a band or artist has released. Google also will provide snippets of reviews from sites on the Web, as well as links to those sites.

The company has, of course, constantly been improving its search service to match user needs. Marissa Mayer, the company's vice president for search products and user experience, admitted "one of the things Google wasn't good at" and that consumers wanted was music.

There's more to the move than just better search results: Google's

current focus on music comes at a time when more companies are selling and distributing music online. Mike McGuire, research director for Gartner Inc., said Google would be a natural place for consumers to look when they're trying to think of songs or shop for music. "It gets people to move from CDs to online."

Google's improvement of its music search capabilities is part of the always-on war with its rivals.



Yahoo! launched its Yahoo! Music service earlier this year, and tied it with its blogs and other communication tools. And with the proliferation of online music content, more companies are enhancing their search capabilities: Apple's iTunes, for example, allows users to search its database by artist or title, or within various genres. Online libraries such as Rhapsody and Napster also offer searches of their databases. And services such as 411-Song sell song identification: you can hold a cell phone up to a speaker playing a tune, and you get the name of the song you played! ☐

Compiled by Jyotsna Rege, Nimish Chandiramani, Ram Mohan Rao and Renuka Rane





**44** O2 Xda Atom



**46** Touched By Tech



**52** Let Your Computer Chill

Digital

# Passion

Fuelling the pursuit of technology knowledge

Lead Feature

## Touched By Tech

**Advancements in technology have made life much easier for all of us, but how much do we realise it?**

**Robert Sovereign-Smith**

**T**wenty years, or perhaps even just a decade ago, life was a lot tougher! Depending on when you were born, you may or may not appreciate that fact. And the fact is, it's technology—not politics or the economy or anything else—that's made most of the difference.

Let's say you have to type a letter, or a résumé; you start the computer, open MS Word, type it out, format it with colours and fonts and then press [Ctrl] + [P]. Simple, isn't it? Now, consider how your father would have done the same task when he was your age: he'd pick up a huge, heavy typewriter (if he had one), find paper, load it in, hammer away at the keys—carefully, as he didn't have a Backspace or a Delete button, and use whiteout to

cover his mistakes, and finally one copy would be ready. What if he'd needed to type something in triplicate? If he lived in the age of the photocopier, he'd have been able to go to a shop and make a few copies; if he didn't, he'd have had to type out the same letter all over again. All you need to do is change the "Number of copies" option in the print dialog box to "3"!

This, however, is something you already know, so why is *Digit* reminding you? Well, we want to look at what inventions and technological developments have truly enriched our lives, and what upcoming





technologies could revolutionise the comfort levels we already enjoy.

The technologies we speak of in what follows are arranged in order of the impact they've had on our lives.

### The PC

The PC began way back in 1973 with the ALTO, developed by Xerox. This wasn't released to the public, as they didn't think there was a market for this sort of product—famous last words!

The first publicly available PC was the Altair 8800, developed by Ed Roberts. Fast-forward to the present day, and thanks to all the battles and wars raging between manufacturers of various PC



The Xerox ALTO was perhaps the first development in the PC business. However, Xerox misjudged the need for a PC and never sold it. One of Xerox's biggest mistakes

components, a PC is today cheaper than ever before. There are hundreds of billions of dollars being spent and earned on PCs, and jobs that did not exist just a decade ago are now some of the highest-paying ones.

The PC has become our primary interface with technology. Almost everything technology-related we do needs a PC in one way or another, whether it's gaming, programming, accounts, printing, surfing or e-mail. There's no doubt that the PC wins hands down as the technology that vastly changed our lives!

### The Internet

If the PC changed our lives, the Internet enhanced the way your PC could be put to use, and, in a very real sense, made the world a truly tiny place.

What started out as a bulletin board style of exchanging information has now taken over our lives in ways we do not imagine. Take simple e-



People often confuse the "Internet" with the World Wide Web (WWW). The truth is that though no one person invented the Internet, the WWW was the brainchild of just one man—Sir Timothy Berners-Lee. Thanks to Berners-Lee (left), all of us can surf the WWW and find the information we need

mail for instance: at a time when official and personal communication had to be done over the telephone or via snail mail, e-mail gave us all the ease of sending a message, letter, business quotation and more, to someone across the world in a matter of seconds.

The beauty of e-mail was that, just like post or snail mail, a message could be delivered to a person even if he wasn't in at work on that day—a phone call, instead, meant that both people had to be present at their respective phone instruments to "talk".

However, e-mail is not the only thing the Internet has given us; you can use it to find information, people, services, adult content, images and so much more. Thanks to the Internet, you can now chat in real time, via text and even voice and video, with someone at the other end of the world—and all this at minimal cost!

Innumerable Web-based companies started that have no 'brick-and-mortar' presence in the form of an office or anything 'concrete', but still earn millions of dollars a year through services. There are also Web sites that help you or your company get work contracts such as [www.renta-coder.com](http://www.renta-coder.com) and [www.elance.com](http://www.elance.com). Then there are the evils of file sharing and P2P, which have been a boon to most users and a bane to the movie and music industry.

Thanks to the Internet, we've created a completely virtual world, in which we have communities that contain everything that you see in regular society—friends from across the world, criminals (hackers), people looking to cheat you, shady deals, dating sites, matrimonial sites, in other words, a huge resource for learning that's bigger than any library in the world.

It's not an exaggeration to say that the Internet has enabled us to go beyond our bodies; we've gotten very close indeed to "social virtual reality"—as anyone who "lives" on the Internet will affirm. And that's just scratching the surface of the Internet. The Internet really is the best example of a technology that has changed our lives!

### Mobile Computing

Just a few years ago, we were starting to get used to doing everything on a computer. Laptops were for rich folks, and mobile phones were not powerful enough to handle everyday computing needs. Then entered the new breed of devices that changed that situation forever. Though they used age-old wireless data transfer ideas, mobile



Imagine every child using a tablet PC at school; it's not impossible or even improbable, this is a photo from an actual school in Japan! All thanks to Mobile Computing



devices were much better equipped, with bigger colour displays and faster processors that could handle more tasks.

With the entry of 2G services such as GPRS and WAP in India, being connected on the go also became a reality. Users were now able to access Internet content from just about anywhere in a mobile provider's service area. This has changed life for many of us, even if it means staying signed in to IM services such as Yahoo! Messenger, or being able to access e-mail from anywhere, at any time.

These services let you enjoy full-blown Internet access by connecting your phone to your laptop. Short-range wireless services such as Bluetooth or Wi-Fi also meant that communication between two users, or connecting to the Internet at, say, a coffee shop or an airport, was easier than ever before.

Though not as path-breaking as the PC or the Internet, mobile computing set us free from the shackles of wires and fixed terminals, and has forever changed the way we compute on the move.

## Digital Entertainment

A little over a decade ago, VCRs, movie theatres and VCD players were our only source of entertainment. Sure, there was the TV, but what if you wanted to watch what you wanted to watch? Along came digital audio and video to forever



Microsoft's Media Center OS is catching up, proving that the PC is really becoming the entertainment solution in many homes

change the face of personal entertainment. The spotlight gradually shifted from the TV to the PC monitor, and today, even if we have a DVD player, we tend to pop a DVD movie into our DVD-ROM drive to watch it on the PC.

The most notable of the digital formats was perhaps MP3. This audio format, although not a lossless compression technique, was single-handedly responsible for bringing digital audio to the PC. It was developed and standardised in 1991 by a team working for the ISO/IEC MPEG audio committee, and we first started seeing .mp3 files sometime in 1995. With the popularisation of MP3 on the Internet, mainly due to the smaller file sizes and decent audio quality, piracy of audio CDs took off. Songs could be downloaded for the first time, even on lower bandwidth connections, and Napster ruled the Net.

A major contributing factor to the popularity of the MP3 file format was the fact that encoders and rippers were easily available, and could also run on lower-powered PCs. So just about anybody with a computer could pop in an audio CD and rip it to MP3, and also use P2P clients to share the songs with people across the world.

Though there are considerably better encoding formats such as AAC and Ogg Vorbis, and even lossless formats such as FLAC and Monkey's Audio, it will take considerable time for any other encoder to dethrone the MP3. Because of its popularity, most DVD and VCD players have incorporated MP3 support.

Almost every computer-literate has heard of the format, and many software media players bundle at least one MP3 song with their installers. If that weren't enough, a whole slew of portable music gadgets sprung up, and though they support most popular compressed audio formats, they have kept the title of "portable MP3 players".

In terms of video, it was perhaps DivX that popularised digital video on PCs. Though DivX was really a hit at one point, it does not enjoy a similar stranglehold on video compression as MP3 does on audio. It's controversial, but DivX perhaps helped boost the online pornography industry by allowing movies to be compressed and distributed via P2P and also Web sites.

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More than video, games have taken over as a source for entertainment at home. As details in games became better, so did their demand for high-end hardware. As of now, it's not just PC users who enjoy games, but also mobile users and console gamers.

Gamers are known to spend hours and hours on a single game. It's not only high-end games that get us addicted, it's also their lower-end arcade counterparts. Even Solitaire, also known as the game for bored secretaries, can be extremely addictive.

As a whole, digital audio, video and games have converted the simple PC into a complete entertainment centre. And thanks to this, an entire leisure and lifestyle industry has been established, and both manufacturers and buyers are thankful.

### The Future

Here's where all this gets more interesting. We all know most of what we've spoken about thus far, but no-one can be truly certain of the technologies that will change our lives in the near future. We're willing to stick our necks out and try and play soothsayer.

### Wireless Networking

Although wireless technologies have been around for some time, none have been able to create enough impact to have revolutionised our lives. Yes, we can go to airports and hotels and use our laptops to stay connected, but what happens when you leave those buildings?

In India, true broadband penetration is still a dream—most of us who have always-on “broadband” connections are struggling with speeds that are barely twice or thrice as fast as dial-up. Contrast this with, say, the US or Europe, where broadband means speeds in excess of 512 Kbps.

This is not to say that speeds of 1 Mbps and more are not available in India; it's just that an unlimited access, 1 Mbps plan costs way more than the average worker's salary, and limited MB-based plans, too, are very expensive. Again, compared to the US, where even people living on welfare can afford broadband, India falls far short of expectations. And if those of us living in metros are complaining, imagine the plight of those living in villages and smaller towns.



Wireless technologies have moved us away from our PCs and freed us from the shackles of confinement when computing! Courtesy wireless technologies, we can surf the Net even on a train journey (above)

WiMax, or the wireless technology that succeeds it, could bring hope to remote areas of India—with wireless networks that can cover 10 km using one antenna.

While we cannot deny that it's too expensive to lay fibre optics all over India or set up a nationwide WiMax service, but the passage of time and technology prices are inversely proportional—so chances are prices will fall. The future of broadband penetration could possibly be a mix of fibre optics and wireless solutions.

### Alternative Displays

Displays that are flexible, or displays that are projected, will reduce the size of gadgets and their prices as well. Holographic displays could finally give us true 3D viewing pleasure, and although it may sound like something out of *Star Wars*, holographic displays are already becoming a reality.

The reason new display types will change our lives is that for almost a century now, all



**Above:** The Philips Polymer Vision Readius is an example of just how alternate display technology (paper displays, in this case) can completely re-design the way a device is designed

**Below:** A concept design by NEC of a device that will use projected displays to do away with both keypads as well as the screen



gadgets that featured the visual element have been 2D. When holographic projection displays finally do become mainstream and affordable, we can be sure that movies, games and images will never have looked so good.

Imagine clicking a picture of your friend, then going home, uploading it to your PC and projecting it. You will actually be able to walk around the image, and look at angles you never saw before. Now picture the Internet; have you ever imagined what a 3D Web site would look like? Actually it's hard to imagine anything, because 2D has been burnt into our brains. Hopefully, we will not need to try imagining for long.



## Improved Batteries

In order to be completely free and move around as we please, we need to build better batteries. Decades ago, solar-power seemed to offer the promise of cheap and easily rechargeable batteries, but they just weren't efficient enough, and not to forget, useless at night. Currently, fuel cells are the most promising: they're cheap, use easily replenishable fuels, and already offer as much as 10 times more battery life and power than standard lithium-ion batteries.

Consider that we already have the capability of making laptops that are as powerful as the best desktops, and that mass usage of such devices is only stopped by the fact that we don't have decent batteries to support them. Future battery technologies will play a major role in making better and reliable mobile gadgets.

## Software

Software, too, will have a huge role to play in our technological future. The idea of adaptive software is surfacing, and AI researchers are coming up with new ideas every day. If all goes well, you will soon be running your PC on software that can "think."

Wouldn't it be nice to wake up in the morning and find that your home's "central server" has already drawn your bath, chosen your favourite genre of news and made you the perfect cup of tea? Perhaps we will soon be able to do away with the keyboard and mouse and be able to converse with our PCs.

Research is underway to use a camera to follow eye movement and expressions, which will allow you to control a mouse cursor just by looking at it and mentally moving it to the desired place on the screen. Courtesy advanced algorithms, some robots can now learn, all by themselves, how to perform in the real world: they can evolve from scratch, growing up like a child.

Even weather forecasting systems will finally become reliable, crunching gargantuan amounts of data to predict precisely how many inches it will rain in a given hour. Number crunchers will also completely map the human genome, and there's no limit to what researchers can do given that mapping. Similarly, there's no



Several years ago, even X-Rays were considered to be high-tech. Today, there are telesurgeries conducted with the help of robots, so, a doctor's physical presence might not be required in the near future



telling what will happen when software is able to predict exactly how much a certain stock will be worth on a certain day!

## Medical Technologies


In order to improve our lives, we need to first do away with suffering and premature death. *Digit* has talked about cyborgs earlier, and advancements in cybernetics offer a lot of hope. Most of us would readily trade in all material comforts to be able to live 10 or 20 years longer, and cybernetics makes this a very real possibility.

Imagine a person suffering from lung cancer; the standard procedure is to undergo chemotherapy, which often does more harm than good. If cybernetics is perfected, all the patient would need to do is undergo lung transplant surgery and get fitted with synthetic lungs. Arteries, veins and even muscles could just be rebuilt using plastics.


There's also the developments in areas such as telesurgery, where the surgeon sits at a workstation with mechanical arms, and has a 3D view of the surgical site. Telesurgery could be performed on patients at the other end of the world. Then there's cryonics—the science (or science fiction) of keeping a person alive in a


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frozen state until something comes along that will be able to cure him. In this, the 21<sup>st</sup> century, cryonics may really reach perfection. The list of ideas that technology has in store for the direct betterment of human life is endless!

### Nanotechnology

You hear news about nanotech all the time—a new kind of fibre that will prevent socks from smelling, or a full-fledged guitar that can only be viewed through a microscope. Make no mistake about this: such news is only the beginning, and nanotech is certainly not dedicated to the manufacturing of interesting but useless products. It's the direct manipulation of things on the atomic or molecular level, and who can say what's not possible with that? Nanotechnology, all by itself, can be called the technology of the 21st century.

Synthetic bones. Metal rubber. Nanocrystals that make metals harder. Stain-resistant cloth. Automotive lubricants. High-power rocket propellants. OLED screens. There's no area of life that nanotech does not find a place in!

### Information Retrieval

The 21st century, is the century of information, and, naturally, information overload. We're repeating ourselves when we say there's too much information around, but it cannot be overstated. Mature technologies that will help us sift through all this data are the need of the hour.

The last five years have seen truly dramatic improvements in search technology, and arti-



Will any search or information retrieval tool ever dethrone Google? It doesn't matter though, because regardless of which company does it, searching with the help of AI is still an exciting concept

cial intelligence is one of several methods that will make search better and faster.

Data mining—finding useful patterns in masses of data—is rapidly maturing, and companies such as airlines, for example, will soon be able to make precise observations about the huge piles of customer data they have. The goal, ultimately, is to be able to quickly get meaningful answers to ques-

tions for which we already have the data.

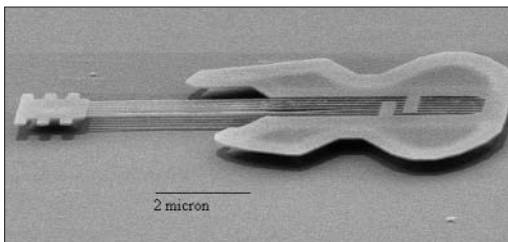
If you need to know what car best suits your needs, your computer— or whatever it will be called—should be able to give you one answer with complete confidence. You should just need to key in your criteria. Going by current trends and the amount of research being done on information retrieval, such a scenario is not far off.

### Exciting Times

What you've seen in this article is just a taste of the things to come. One could write tomes on the amount of research being conducted in each field of technology—and we'd need a two-thousand page issue of *Digit* to cover that! Some of the technologies we've mentioned have already been looked at in previous issues of *Digit*, and the ones that haven't, we'll cover in upcoming issues.

So far, technology certainly has changed our lives for the better, and will continue to make life easier in the near future. There's no doubt that this generation is living to see some of the most exciting times, and is witnessing more advancements than any other. Look forward to future issues of *Digit* to read up on the enhancements to these technologies—as well as the emergence of newer ones that will impact our daily lives in some way or the other. ■

robert\_smith@thinkdigit.com



With nanotechnology, you can literally manipulate matter at atomic levels. The guitar above is just 10 microns long (about the size of a cell), with strings that are just 100 atoms wide!

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# The Lizard Of Oz

**Future software will go beyond the intelligence of the wizards who will create them**

**Nimish Chandiramani**

**W**e speak in awe of the Artificially Intelligent being. People have come and gone thinking that they would see the ultimate Computer in their lifetime—one that's indistinguishable from a human being. In the past and even today, many researchers have tried to build such a computer.

Alan M Turing, in 1950, proposed the "imitation game" to test the intelligence of a machine. The Turing Test for Artificial Intelligence basically states that if you were chatting with a human and a machine and couldn't tell the difference, then the machine is intelligent; it has "reached AI."

To achieve the technological Nirvana of an intelligent computer, AI researchers use two approaches. The first approach—the top-down approach—is the creation of an all-knowing machine. Machines are great at storing knowledge, but they are awful at little things like basic common sense, so rather than programming the machine with all the

knowledge in the world, program the computer with all the common sense in the world, and let it loose upon civilisation. This is what Douglas Lenat, CEO of Cycorp, is using for his robot Cyc (pronounced "psych"). There are problems with this approach, though.

First, there is the horrifyingly large size of the world's collective common sense. Second, most people would not be able to tell the difference between such a machine and a human, and it would pass the Turing Test. However, there will always be the odd person who would figure out it was a machine he was talking to, and it would then be easy for him to poke holes in the software.

It's nice to know a lot, but realistically, you can't know everything. To be regarded as human, software cannot take shortcuts that we aren't privy to—it will have to go through life just as we do. This is the reasoning Rodney Brooks of MIT uses for his

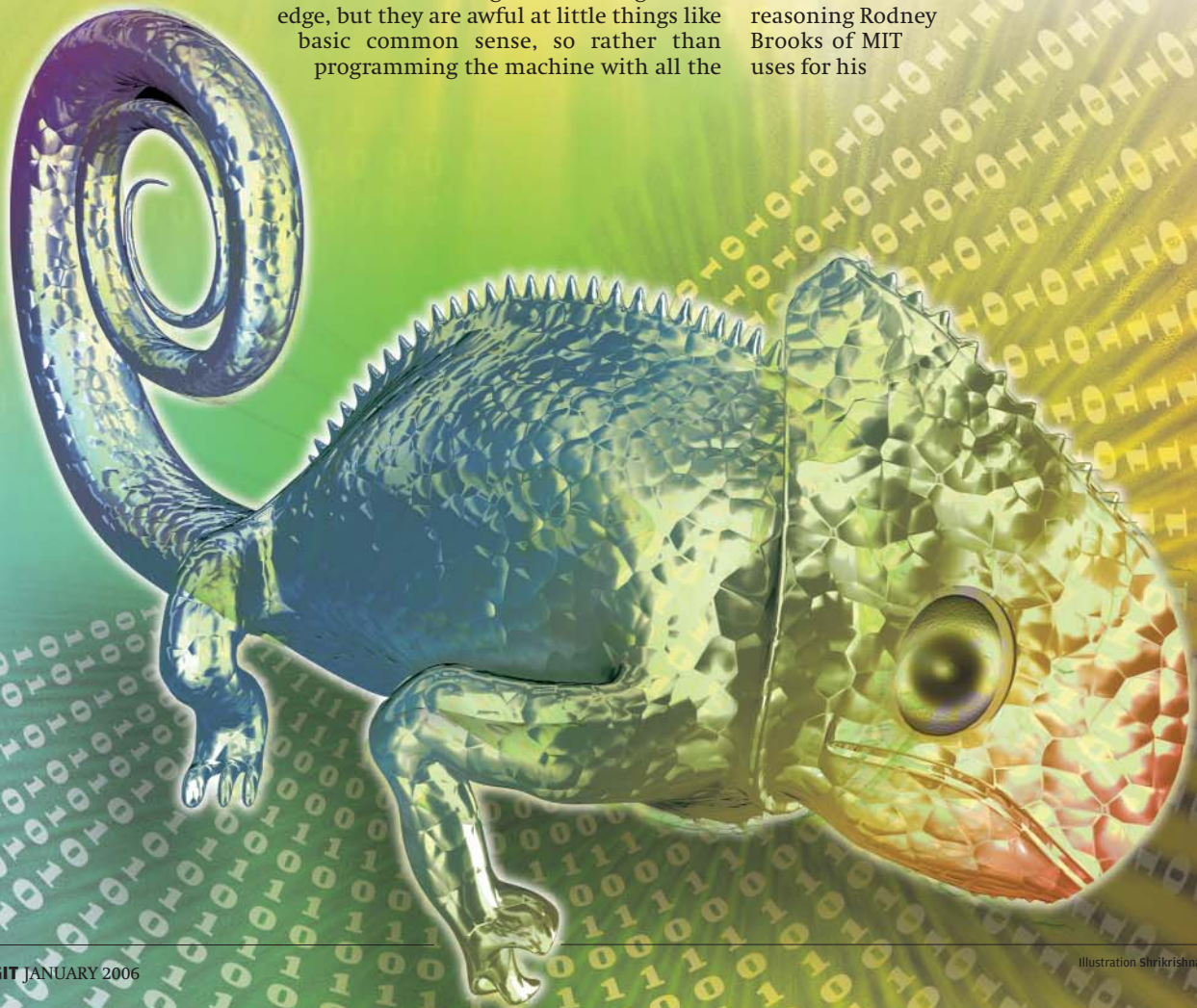


Illustration Shrikishna Pakar

Illustration Shrikishna Pakar

robot Cog. Rather than attempt to teach it everything, Brooks will let Cog find its own way in the world and learn on its own. This way, Cog would be able to respond to unexpected happenings in a more human-like manner—stumbling at first, but slowly learning from its mistakes.

It is difficult to say which approach will finally create the first truly intelligent machine, but the second approach might just win. The software of the future would be able to modify itself to behave the way users want it to. What's more, it would do this and still survive the big bad world it lives in.

## It's Scary Out There

Life was easy for programmers when their end users were just computer professionals. There were less of them, and this meant fewer letters asking for new enhancements. Today, though, the number of users is staggering—including not just professionals but the layperson as well.

Add to this the complexity of today's systems: a company that used to have its employees connected to a single mainframe server, today, has a hornet's nest of desktop PCs and servers throughout its network.

And the cherry on the cake is the resources that need consideration—hardware resources, system load, network bandwidth, security and many more. Software needs to be able to trade off some of these resources in order to meet its goals.

Thus far, software has lived in a Utopia where every situation is planned for and every type of scenario is anticipated. The bitter truth is that programmers can't write applications that will tackle situations they can't foresee, and can't anticipate the new and creative ways in which users can cause software to misbehave.

In the real world, then, we need software that can react to and plan for sudden changes in its environment. Software that can alter itself to meet users' demands better, and can do so even in the face of chaos like failing hardware. The real world needs Adaptive Software.

## Er... What Software?

In 1997, DARPA (Defense Advanced Research Project Agency)—an agency of the United States Department of Defense—defined Self-Adaptive Software as software that “evaluates its own behaviour and changes its behaviour when the evaluation indicates that it is not accomplishing what it is intended to do, or that better functionality or performance is possible”.

In nature's model of Life, the Universe and Everything, creatures have responded to changes in their environment by evolving to suit it; the intention is the same in the case of adaptive software—it alters itself according to its environment. The “environment” for a software application is complex, just like nature. There is hardware to live in, the ‘society’ of the operating system, and other software and humans to interact with. But how does software know what to do to adapt to this environment?

Put simply, Adaptive or Self-Adaptive Software “knows itself.” This means that in addition

**The real world needs Adaptive Software—which can alter itself to meet users' demands better, and can do so even in the face of chaos like failing hardware**

to knowing *what* it has to do, the software also knows its own structure—*how* it does what it does—and the many different ways to achieve its purpose. This way, if it isn't doing its job well, the software will automatically alter itself to do it better.

## What Would You Do?

Let's take a look at how we interact with our environments, and how adaptive software follow the same behaviour in their own environments.

What if you were on your way to the cinema hall and your car broke down? Simple, really. Get out, take a cab, and move to your destination. Today's software is the equivalent of someone who'd sit in the car and cry about being unable to proceed—decidedly unpleasant company. Adaptive software, however, will be able to keep going despite such hardware failures. Like us, it would try to find a different method before giving up altogether. This is called *System Level Adaptivity*.

Suppose, now, that you are back home, still wondering how to go to that movie theatre. In Mumbai, you could take the train, which would be fast, but crowded and smelly. You could also take the bus, but that's just uncomfortable. Taxis are too expensive, and you have the sudden premonition that your car is going to break down.

Now that you've spent so much time mulling over what to do, you realise it's really late and that you should be getting on. The best way, then, is the train. In quite a similar manner, adaptive software looks at the status of the system and decides the best approach out of many possible approaches. This is called *Algorithm Level Adaptivity*.

Now picture yourself budgeting for that shiny new PC you're going to build. What you could do is find out the exact price of everything right down to the xx99.95 plus taxes. Accurate down to the last paisa, no doubt, but it would take you ages to figure out what you need.

What you could do instead is quickly just find out the approximate prices of everything and be on your way. You've traded in accuracy for time. Adaptive software will be able to decide how to make its calculations depending on how much accuracy is really needed for a purpose. If it isn't a big concern, it would use a less accurate method to save time and system resources. This is called *Application Level Adaptivity*.

The best adaptive software will be adaptable at all these three levels.

## So How Do They Work?

It's all very well to talk about what adaptive software is capable of, but we now need more than just science fiction. We need to know just how this “revolution” proposes to deliver what it promises.

We expect software to behave like humans; the first step, then, is to have them thinking like humans. One of the ways in which adaptive software works is much like how we work. Instead of just running into a task, it plans its approach, executes it and then evaluates it. If the evaluation shows any negative results, it re-plans the



approach and repeats.

Such software could also work like a factory, with inputs and outputs, and a monitor that manages the factory. In case the output is not the best, the input can be tweaked to make it so.

### Send In The Agents

Today's software works by reacting to users. To get an application to work just the way you want it, you need to give it specific instructions. The average human, however, is quite averse to such activity. When we give instructions to other humans, we hardly spell out a detailed plan of action to follow. Instead, we tell them what would make us happiest, and then leave them to their devices. And while they set out to get us what we want, they do so independently.

The key to adaptive software is the *agent*—a piece of software designed to help you meet your goals. Just like human agents, all they need is an idea of your *preferences* rather than your concrete goal. They will then act autonomously on your behalf and interact with other agents for an output that best suits your preferences. In addition, they keep an eye out for what's going on in their environment, and can take the initiative to correct the consequences of, say, a network failure.

One thing that might concern us, then, is how to prevent this agent from running wild and wreaking havoc—we need to know that the agent is doing what we want, and not just what *it* thinks we want. The answer sounds quite simple—teach it! Once we've told the agent our preferences, we need to let it have a few practice

**The key to adaptive software is the agent—a piece of software designed to help you meet your goals**

runs to see how it's doing, and tell it where it's going wrong. To do this, we apply a technique called *Reinforcement Learning*.

### Teach Me, Master

Reinforcement Learning (RL) relies on the concept of *rewards* to tell agents whether they have hit upon an optimal solution or not. The goal of the agent, like all of us, is to maximise the rewards of performing a task.

To understand RL, let us build ourselves a city, and throw in an automated bus system. Passengers would approach a bus-stand, press a button, and soon a bus would be on its way to pick them up.

Let us look at just one of these buses. This bus now has to pick up various passengers across the city and drop them to their destinations. Only once the bus is empty can it turn back and go the other way. What is the best way to go about it? Nobody really knows yet. What we need to do is establish a *policy* that will define the best way for the bus to fulfil all its duties.

To define our policy, we now need to decide *why* the “best” way would be the best. For this case, let's say that our criteria are fuel efficiency (because we are all environmentally) and ensuring that a maximum number of passengers reach their destinations without spending too much time waiting for the bus. Now let's set up a reward system. Let's say that the bus gets -5 for running empty (wasting valuable fuel), -1 for each bus-stop with a waiting passenger, and +5 for each passenger who reaches his destination.

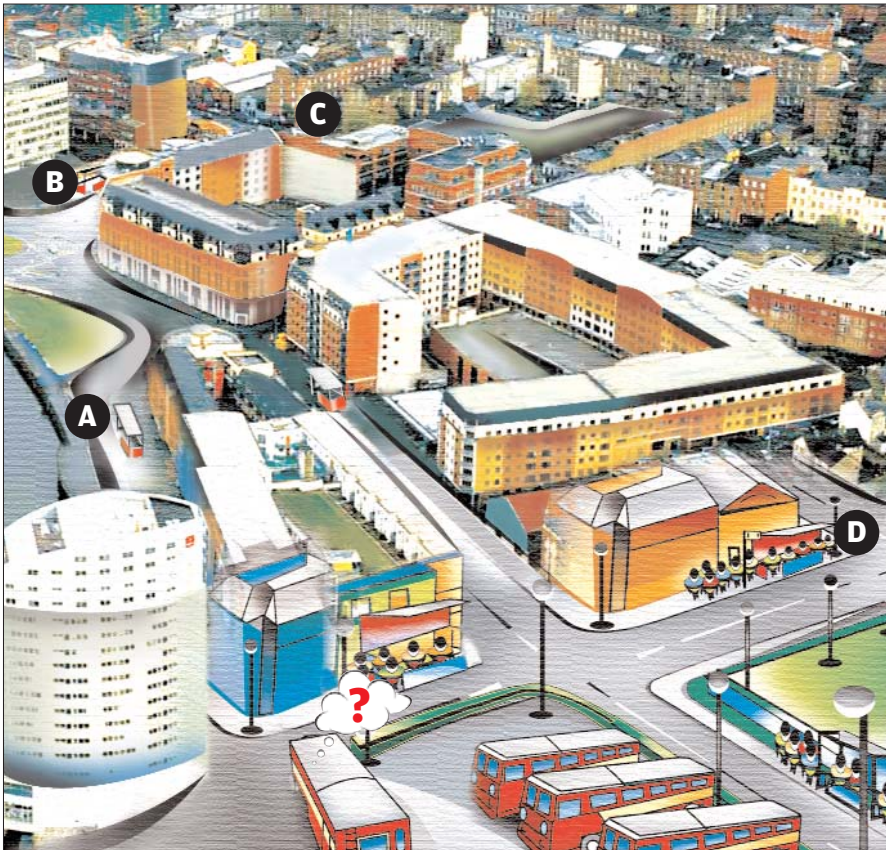
Now, writing software to prepare for each scenario possible above is a mammoth task for programmers. And even after that, if the environment changes—the aging bus might get slower—the programmers need to be called in again. And after that, if we were to set up another futuristic city with this same system, we'd have to turn to the programmers again.

RL is the answer to this problem because it *trains* the system to do its job rather than have it pre-programmed. This means that if any part of the environment changes, the system will be re-trained all on its own without programmer intervention.

But before we send our software agent to train itself, we need to equip it with some vital information. Firstly, it needs to know the *reward function*—how rewards are calculated—so that it can decide which course of action would get it the maximum reward.

Still, merely knowing the immediate rewards of an action is not enough. The agent also needs to know the long-term rewards of a series of actions. Consider this: suppose there are passengers at bus-stops A, B and C and each of them wants to go to bus-stop D.

The agent might just calculate that there are high rewards in taking A to D. But then, it would have to return for B. The logical choice, we can



The bus's dilemma: which way is the most rewarding?



## The Viable Systems Model

The Viable Systems Model specifies a generalised model for agent-based systems. It breaks down self-adaptive software into six major systems:

**System One (S1) - Operations:** The dirty workers—one or more S1s perform the basic operations of the application.

**System Two (S2) - Co-ordination:** The foremen—S2s co-ordinate the activities of the S1s.

**System Three - Control:** The

management guys—resource planning and strategic planning.

**System Three\* - Audit:** The inspector—monitoring the progress of the S1s and seeing whether all is going according to plan.

**System Four (S4) - Intelligence:** The navigator—surveys the environment and plans the way ahead.

**System Five (S5) - Policy:** The Big Boss—defines the purpose of the entire system, based on the 'world view' provided by S4.

see, is to pick up all three and then head to D. The long term consequences of the agent's actions are captured in the *utility function*. So the best solution for the agent will involve high immediate *and* long term rewards. In this way, Reinforcement Learning starts with an initial guess at the utility function, and evolves as it explores the system.

And finally, when our agent has explored the system enough and trained itself for the best utility function, it can be deployed into the real network.

What we've described here is a single controlling agent for our system. In a lot of applications, though, we would need to have many agents interacting with each other. The RL algorithm in such cases would need to be modified to incorporate complex theories such as the Game Theory and the Economic Market Theory.

All is not hunky-dory with RL, though. Like any human agent will tell you, you can't always get what you want. This holds good with the software agent as well. Everything cannot be optimised at once, so the software agent will make a few trade-offs, and you will need to tell the software agent how much importance you attach to resources and to results. You also never know what is going to happen—software may not be quick enough to respond to sudden changes in environment, and performance would suffer for a while.

### Is It... Human?

Another way for agents to learn is the *Genetic Algorithm*, that's designed to achieve the same goals as Reinforcement Learning, but uses a different approach. Instead of learning the utility function to satisfy the best policy as time goes on, the Genetic Algorithm learns the best policy itself.

The reason Genetic Algorithms are called so is because of their close resemblance to biological evolution. The Genetic Algorithm creates a pool of possible policies and evaluates each one to see the rewards. By combining successful policies, a new pool of policies is created. This is akin to biological reproduction and the process of natural selection—by combining the best of the gene pool, a newer, stronger gene pool is created, and the rest just die. This process continues until the best possible policy is obtained—the software

**To implement adaptive code, we need a Dynamic Language—one that allows software to be changed even at runtime**

version of "Survival of the Fittest."

Deciding between an RL or Genetic Algorithm approach is difficult. Reinforcement Learning would work better in bigger, more complex systems, but Genetic Algorithms would be the preferred choice for a small system with limited scope - the fewer policies it has to sift through, the more efficient it becomes.

### Decisions, Decisions

Thus far, we've talked about agents making decisions—but how do they "decide"? They are, after all, computer programs, and all they know is zero or one—true or false.

The answer is a *Probabilistic Network*, which executes an action based on the information presented to it by the surrounding environment. Decisions are made based on the probability of a favourable outcome from an action, given all that is happening in the surroundings. The term "Network" is misleading—probabilistic networks are a way of depicting probability problems, rather than being actual, physical networks.

We now need to talk about the *Bayesian* or *Belief* network, which makes decisions based on Bayes' Theorem, developed by the Rev Thomas Bayes. The gist of this theorem is that the strength of our belief in a hypothesis, given some additional evidence, depends on the probability of the hypothesis alone, as well as the probability of the evidence assuming the hypothesis itself is true.

By starting on an initial hypothesis, the software goes on to calculate all the possible Bayesian networks that would maximise the probability of the hypothesis being true, finally coming up with a structure that would give the maximum reward.

So we now have an agent using Bayesian networks to predict the utility function that will maximise its rewards. After it has made its initial prediction, it selects the best method to achieve this function and sets about executing this method. The agent will now monitor the rewards of this system and keeps modifying its idea of the utility function to reap greater rewards.

### The Tools Of The Trade

To implement adaptive code, we need a Dynamic Language—one that allows software to be changed even at runtime. Languages like C demand that the programmer have a clear idea of the structure that the program is going to take. Having a design idea for adaptive software *before* getting down to building it, is a horrifying, if not completely impossible task.

What we need to do is write these programs in such a way that its structure can be modified as and when necessary. The two preferred languages that support this are Apple's Dylan and the Common Lisp Object System (CLOS).

Unlike regular programming, AI programming doesn't use the "if-this-then-that" approach. What it relies on is the encoding of information about the "world" it runs in. When an event occurs in the system, the program uses the information it has about the



world to draw its own conclusions about what happens.

Lisp and Dylan have always been favourites for AI programmers because they allow the programmer to add more and more information about the world at runtime, basically, teaching the program new things.

### What Is It Good For?

The goal of developing adaptive software is to make software more like living beings. Just like in living society, software agents will observe, learn from and co-operate with its environment as well as other agents. The possibilities for such software are endless.

The aim, of course, is to finally reach that Holy Grail of computing—a HAL 9000—a computer that could converse with humans as if it were a human itself. It could learn about you and speak to you only about things that you like talking about.

A HAL 9000 built without adaptability would behave the same whether it was interacting with a 40-year-old nuclear physicist or a two-year-old child. An adaptive HAL 9000, however, would discover that the interaction with two-year-old wasn't really working out so well, and would soon alter its approach to get the best results, eventually reaching the level of baby-talk.

Software will also be more resilient. Server software, running on multi-processor systems, would quickly adapt itself if one of those processors failed (providing, of course, that the hardware is built that way), keeping the server alive.

Software could be developed that would monitor your PC's performance, and give up some of its resource-hungry tasks to ensure that it is always responsive to your actions. Adaptive software would also have enough "self-awareness" to detect a malfunctioning algorithm within itself and be able to still run, albeit a little crippled.

Robots today are built for specific tasks—programming them to take on new responsibilities is cumbersome. But with adaptive software, robots can take on new roles easily. Adaptive software can also be used in robot teams, say, a robotic football team where each team member can take on a new role depending on its position on the field.

Gaming AI is at an incredible level today. Your opponents will choose fantastic strategies to get your goose, and you need to push your abilities to the limit to figure out how to beat them. But once you have figured out their shortcomings, the game becomes a snap.

**True intelligence can only emerge if a program goes beyond what the programmer foresaw**

Now imagine this, a game that realises that its old strategies aren't going to work anymore. It's being defeated, and there are no rewards to being defeated, so it sets about figuring how to beat you. It observes you, gets to know you and learns your favourite moves and weaknesses. It then uses this knowledge to hit upon the best way to turn you to dust. No corner would be safe; you would have to give up your standard moves and trade them in for new ways to approach the game every time. The agents in the game would be as dangerous as real human players, perhaps even more so.

### When Will This Happen?

We are already seeing little instances of adaptive software in our lives. Microsoft's Office Assistant is one of the earliest examples of software that tries to anticipate user needs. Today, Google's AdSense program has some semblance of adaptivity—it shows you advertisements it thinks you are most likely to click. Adaptability becomes more difficult to implement as the purpose gets more complex, but the Agents are already among us. You never know where one might pop up.

We should see the first examples of truly adaptive software appearing in places where the efficiency and survival of the system are foremost—server applications that can adapt to the changing load of the system, and are immune to minor hardware failures.

After this, we should see adaptive software extending itself to more complex (read: more fun) applications such as gaming. Game developers are always trying to make more challenging games; soon every computer-generated opponent will be an agent.

Perhaps, most importantly, adaptive software will take us along the road to true AI. A system can exhibit intelligent behaviour even if it's dumb—but true intelligence can only emerge if a program goes beyond what the programmer foresaw.

Intelligent software explores its surroundings, learns from them and thus evolves beyond what it was originally intended for. In other words, it should behave like a living being. Adaptive software aims precisely at that. Think about it: today's programs entirely reflect the intelligence of the programmer, who has to baby-sit the program for its lifetime. Tomorrow's programmers will be able to let their creations loose—to let them go forth, prosper and multiply! ☒

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WISDOM OF THE ORIENT SERIES #25

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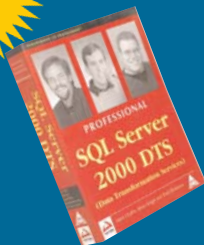
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# Save and restore share names and permissions on a Windows 2000/XP/2003 computer

## LAST MONTH'S CHALLENGE



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By Mark Chaffin, Brian Knight and Todd Robinson, published by Shroff Publishers & Distributors P. Ltd.

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## Slipstream Service Pack 2 Into An Original Office 2003 CD

### A. Creating An Administrative Installation Point

We'll first need to create an Administrative Installation Point so we can slipstream the updates into the Office 2003 CD (you cannot just do a direct copy from CD to hard disk and hope that it will work—it won't!). This only has to be done once, and updates can still be slipstreamed to an existing Administrative Installation Point at a later date.

Insert your Office 2003 CD and run the following command (assuming E: is your CD drive letter):

```
E:\Setup.exe /a
```

This starts the Office 2003 setup, where you can define an Administrative Installation Point for your Office 2003 files. From here, you can fill in the Organization Name and your Product Key (this is also the last time you'll ever need to insert your Office 2003 Product key!).

Set the Install Location to C:\Office2003\ (create the folder beforehand if you haven't done so already).

After clicking 'Next', accept the EULA, and installation will start. Since we executed Setup with the "/a" switch, it will only copy files to the Install Location you specified to create an Administrative Installation Point, not install Office on the system.

Once you're finished, click 'OK'. Your Office 2003 files should all be in the folder specified during setup.

### B. The Slipstreaming Process

Explore your Service Pack 2 CD. If it contains (mainly) six files—namely, mainsp2ff.msp, ohotfix.exe, ohotfix.ini, ohotfixr.dll, owc11sp2ff.msp, and owc102003sp2ff.msp—then simply copy and paste all the files to 'C:\SP2'.

If you have a Service Pack 2 CD with only one file, or if you want to use Service Pack 2 from the December 2005 Digit DVD, then you'll need to extract the files: copy and paste 'office2003SP2-KB887616-FullFile-ENU.exe' from the CD/DVD to 'C:\SP2'. Then, run the following on the above file at a command prompt in the SP2 folder:

```
Office2003SP2-KB887616-FullFile-ENU.exe /Q /C /T:C:\SP2
```

This will extract the Office 2003 SP2 files to 'C:\SP2'.

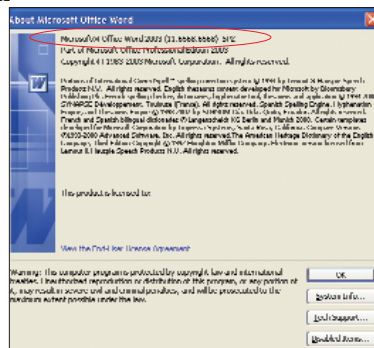
There is another very simple method to extract this file if you have WinRAR: right-click the Office 2003 SP2 file and select "extract files," then select the destination path as 'C:\SP2'.

We've extracted the SP2

file to 'C:\SP2'. We now integrate this extracted file with Office 2003. Run both these commands in a command prompt:

```
msiexec /p C:\SP2\MAINSP2ff.msp /a C:\Office2003\PRO11.msi SHORTFILENAME=TRUE /qb
```

```
msiexec /p C:\SP2\OWC11SP2ff.msp /a C:\Office2003\OWC11.MSI SHORTFILENAME=TRUE /qb
```



(If you have 'STD11.msi' instead of 'PRO11.msi' in the Office2003 folder, edit the msiexec syntax accordingly.)

When this is done, the Service Pack has been slipstreamed into your Office 2003 Administrative Installation Point. You can now delete the 'C:\SP2' folder. When that's done, you have a fully up-to-date Office 2003 distribution. At this stage, you can choose to burn the contents of 'C:\Office2003' to a CD-R. ☑



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# O2 Xda Atom





# Pole Position

**How does ADSL work? What is VDSL? When, and how, will true broadband reach your home? We take a brief look**

**Ram Mohan Rao**

**W**ho needs 5 Mbps? Of course you do, so you can (*illegally!*) download a movie in 20 minutes. But who needs 54 Mbps? You'd need to buy a new hard disk every day if you kept downloading at that speed! But streaming video, teleconferencing and even HDTV become possible at 54 Mbps, which is the theoretical speed offered by VDSL—Very-high-bit-rate DSL. VDSL is the hybrid (fibre-cum-twisted pair copper wire) evolution of DSL (Digital Subscriber Line). OK, it's sort of cheating to call it DSL, but then, much of the last mile is over telephone lines.

If you've lost us, refer *Turbocharging The Telephone*, *Digit* July 2004. There, we talked about DSL and how it works. Back then, DSL wasn't

really available in India except for a few select cities; now, corporations such as BSNL, MTNL, and Airtel offer ADSL (Asynchronous DSL) in several cities. The services are very expensive for those of us who like to download a lot of stuff (and that's most of us!), but it's there. Plans from the companies mentioned above are pretty competitive for casual surfers.

In any case, our purpose here is to talk about what VDSL is and whether it's possible in India. But before that, a recap about how DSL—specifically ADSL—works.

## **ADSL**

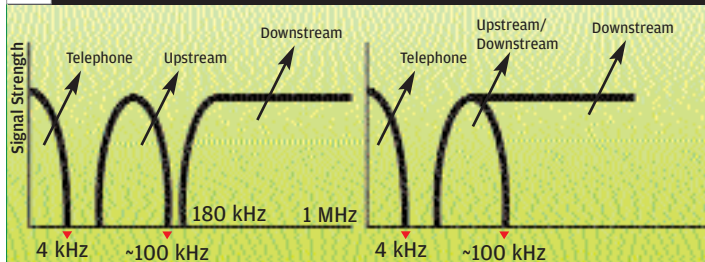
ADSL provides a bandwidth that differs from area to area, and between implementations; a typical figure would be 1.5 Mbps to 8 Mbps over a single copper pair, at distances up to 18,000 feet, and at a wire thickness of 0.5 mm.

You probably know that with ADSL, you can use your phone at the same time that you surf the Net. You're able to do this because the ADSL system divides the frequency spectrum into three parts—one for phone service, one for upstream data and one for downstream data.





## Frequency Splitting In FDM And Echo Cancellation



In FDM (left), the frequency band is split into ranges for telephone service, upstream data, and downstream data, at the frequencies indicated above. In Echo Cancellation (right), the frequency bands for upstream and downstream data overlap

Phone service is at the lower end of the spectrum; data is at the higher end. To implement this frequency splitting, you need to install a splitter along with the DSL modem. Voice can typically be transmitted within the 4 KHz range.

The actual splitting of the frequency range is done using one of two methods—*Frequency Division Multiplexing (FDM)* or *Echo Cancellation*. FDM uses separate frequency bands for the transmitting and receiving channels. In Echo Cancellation, transmission and reception happens on the same frequencies—that is, the bands overlap.

The advantage of FDM is that it is cheaper to implement in the sense that the hardware needs to do less work to separate the transmitted and received signals; the advantage of Echo Cancellation is that it transmits at a relatively lower end of the spectrum, meaning less signal attenuation with distance. See figure *Frequency Splitting In FDM And Echo Cancellation*.

Actually, it's not quite as simple as that. There's modulation involved as well (refer this month's *Fast Track* for more on modulation). Modulation is required because of several factors, including the noise associated with transmitting data over the kinds of frequencies we're talking about. In ADSL, the signal from your home is modulated (most usually) using a technique called *discrete multi-tone (DMT)*, which is also what has been approved by the standards authorities for VDSL.

DMT splits up the spectrum on which the downstream signal travels into 247 channels, each of these 4 KHz wide (and the downstream spectrum into 32 channels). The biggest advantage of splitting up the band into so many channels is the continuous quality check that is possible.

Each of the hundreds of channels is monitored, and if and when it is seen that quality is impaired on a particular channel, the data on that channel can be shifted onto another one. This happens continuously—the system is constantly re-assigning data to channels. What results is the "best" channels at any particular moment being chosen.

After all the data is switched onto the right place, your phone line transmits everything



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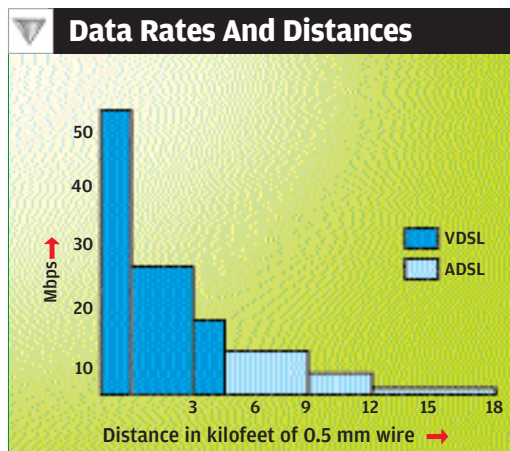
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This graph is an indicative plot of connection speed versus distance from the service provider's CO. Because of the frequencies they use, the situation is quite different for ADSL and VDSL.

together to your service provider's Central Office (CO). At the CO, a *DSL Access Multiplexer* (DSLAM) aggregates all the ADSL lines coming in to it from all over the neighbourhood. Because of the frequency separation, the DSLAM can figure out what's voice and what's data. Voice is redirected to the PSTN (Public Switched Telephone Network), and Internet data is switched to the backbone connected to the ISP.

Now, the problem remains of the signal dropping as distance from the CO increases. See figure *Data Rates And Distances* for how much this drop is, with ADSL compared against VDSL. It's clear that ADSL can carry data reliably over much longer distances.

## VDSL

Now here's the 54 Mbps we were talking about! VDSL offers such fibre-like speeds over copper wiring, but like we mentioned, some of the path from the home to the central office (full form: central telephone switching office) is indeed fibre.

VDSL isn't new. It's been around for a while, but is being rolled out mostly in Japan and Korea. We know it hurts, but all we can do right now is sit and watch providers in these countries battle it out to deliver the fastest speeds to their customers!

As indicators, in Korea, we're looking at 50 Mbps downstream and 11 Mbps upstream being offered. In Japan, it's more like 70 Mbps downstream and 30 Mbps upstream—courtesy VDSL 2 (See *Jargon Buster*). In Japan, NTT charges a premium of just about \$2 (Rs 90) per month over the cost of ADSL service!

So why doesn't everyone just move on to VDSL? The answer lies in what we've been talking about all along: fibre. (For example, markets in the United States have not been too responsive to VDSL.) To understand this, we need to understand what the last-mile problem is all about.

## Fibre For The Last Mile

ISPs (In India, VSNL, Bharti and Reliance Infocomm) are connected to the Internet back-

bone. Telephone service providers (TSPs, such as MTNL) are connected to the ISP, and your home is connected to the TSP's exchange. In some cases, you might directly be connected to the ISP's central office (CO). If you're not connected directly to the ISP's CO, it's copper followed by fibre that carries data to the ISP.

It's the distance between the CO (or telephone exchange) and your home that is called the last mile, and here's where all the issues arise. "The last mile" typically means a couple of kilometres, but could be longer.

ADSL2+ (See *Jargon Buster*), within a mile (1.6 kilometres) of the CO, can deliver about 25 Mbps. That should be enough, one might say, but faster is better, and there's no questioning that. VDSL can reach 100 Mbps within 1,000 feet of the CO, but as the distance from the CO increases to more than a mile, the speed begins to compare with ADSL2+'s 25 Mbps.

Here's where fibre comes in. VDSL deployments use some length of fibre from the CO. How much, depends on the particular deployment. There's Fibre To The Neighbourhood (FTTN), Fibre To The Curb (FTTC), and Fibre To The Basement (FTTB). Of course, there's also Fibre To The Home (FTTH), which means fibre all the way with no telephone lines involved.

All these terms are somewhat self-explanatory, but to elaborate, FTTB is fibre all the way to the basement of a tall building, from where copper takes over to the individual offices in the building. FTTC means fibre would reach your street. And FTTN—the most practical possibility being talked about these days—involves the setting up of optical network units (ONUs) in a neighbourhood to which, on one side, fibre connects to the CO, and on the other side, copper connects to the home or office. The ONU's job is to convert the electronic signals from the copper to light signals, which are transmitted over the fibre.

## Cable vs DSL

**D**SL, of course, isn't the only choice if you're looking at broadband in India—at present, cable is the most visible alternative. Whereas the infrastructure needed for DSL—namely, telephone wiring—already exists, each new cable Internet installation requires cables to be laid.

How do they compare? They're pretty neck-and-neck in terms of how good they are and what they can deliver. Both are capable of very high bandwidths; it's up to the service provider how much he wants to give you at an affordable price! About last-mile connectivity, for cable, it depends on how the equipment in your neighbourhood is wired up; for DSL, it depends on the quality of copper you're connected to. With cable, as the number of users on the network increase, your

speeds will go down; this is currently not the case with ADSL in India, where you're "guaranteed" dedicated bandwidths. Our guess, however, is that as ADSL penetration increases, the issue of sharing bandwidth will arise with ADSL as well, and you might not get dedicated bandwidth.

The situation, according to Sandeep Kolwadkar, deputy general manager (BD) at BSNL, is different for urban and rural areas: technicians in rural areas aren't proficient at setting up good cable networks, and that hampers speeds; in the case of DSL, it is poor copper quality that hampers speeds. Kolwadkar affirms that in urban areas, though, DSL does not suffer from the "poor copper" syndrome, and that connections are stable. That means we've only got to wait for prices to drop!



## Jargon Buster

**ADSL2+** is a standard approved by the ITU (International Telecommunications Union) in January of 2003. It doubles the maximum frequency for downstream data transmission from 1.1 MHz to 2.2 MHz. If you're within 2 km of the CO, downstream data rates can be up to 24 Mbps. There's also an optional mode that doubles upstream bandwidth.

**VDSL 2** was ratified by the ITU in May 2005. The standard delivers up to 100 Mbps both upstream and downstream, and works over copper up to 12,000 feet. VDSL 2 uses about 30 MHz of spectrum, versus 12 MHz in VDSL.

**HDTV** is short for "high-definition television." It's digital TV wherein a wide-screen picture is transmitted with many times more detail than current analogue television. HDTV requires five times the bandwidth of current-generation TV signals.

**Modulation** is the term for making one signal ride on top of another. The first signal we're talking about is the one that is of importance; the second signal is called the carrier. The carrier signal can travel better through the medium than the first signal alone. For example, in radio, we have Frequency Modulation (FM); the carrier signal is of the frequencies you hear about—105 MHz and so on. The actual data signal is used to modify this signal to a small extent, and it is recovered by the receiving equipment.

A **channel** is a frequency band in which a specific signal is transmitted. So when one refers to DMT splitting the spectrum into 247 channels, it's 247 separate frequency bands, and a signal on one band or channel will be independent of, and will not interfere with, a signal on a different band or channel.

The need (or the use) of fibre is what makes VDSL noteworthy as a technology. On the one hand, FTTN deployment may be difficult in some countries or areas; on the other hand, it's the fibre that enables VDSL to provide break-neck speeds over home telephone lines. And along the same lines, when it comes to ADSL2+ vs VDSL, it's a question of how far from the CO the deployment will be—ADSL is suitable for long-reach broadband, and VDSL will be viable if fibre itself is viable.

### The Situation In India

VDSL in India? Far-fetched? We don't even have good ADSL yet! Anyway, we were wondering what the scene is like and what it will be, so we asked someone in the know—Jagbir Singh, group CTO, Infotel, Bharti Tele-Ventures Ltd.

First off, Mr Singh says DSL is the "global trend" and that it will remain the dominant technology for a long time. He also says things are "moving towards DSL, with around 44 million landline connections in the country and both the incumbent operators becoming aggressive." 44 million isn't too large a figure when you compare it with the penetration in the United States or even China. Still, it's there, whereas cable is virtually non-existent in rural India.

Broadband is definitely getting cheaper, with, for example, Airtel offering a wide range of affordable plans. However, Mr Singh says, "What we need today are policies that would replicate the mobile telephony growth success in the Internet arena. Unbundling of the local loop, peering for all at NIXI (National Internet eXchange of India), and Open Sky policy for DTH providers are a couple of steps that would allow better and cost-effective reach for any service provider to its target market segments."

Some explanation is warranted here.

"Unbundling of the local loop" refers to privatisation of the last mile; currently, the government has a stronghold on what happens to the phone line between your home and the telephone exchange. We're not sure how long this will take.

The "Open Sky policy" refers to allowing DTH (Direct To Home) operators to have satellite uplinks from wherever they please; contrast that with the situation now, where they are only allowed to uplink from certain areas. Again, here, we don't know when the government will take positive steps in this direction.

"Peering over the NIXI" is when two ISPs agree to exchange traffic over the NIXI for free. An Internet Exchange, such as the NIXI, is a facility that allows ISPs to "meet" and exchange traffic. The purpose of establishing the NIXI was that Internet traffic that originates in India and has a destination in India should stay within the country; the advantage, of course, would be cost savings because of a reduction in reliance on international bandwidth. It would also increase speeds for obvious reasons—Indian traffic would not unnecessarily be routed all the way to, say, the UK.

We then asked about where the future of broadband in India lies—DSL, fibre, wireless, cable, what? Mr Singh is of the opinion that given the kind of content available and the needs of the Indian market as Bharti sees it, broadband connectivity on copper is "here to stay." Cable, according to Mr Singh, is still a long way from becoming a viable proposition—this, ostensibly because of the relative lack of an existing infrastructure.

Then, of course, we wondered about VDSL. We asked if Fibre To The Neighbourhood was feasible anytime soon. What Mr Singh said was a total surprise: he went beyond VDSL, and said that it was Fibre To The Home (FTTH) that holds the most potential as the technology for broadband services! Imagine an India with fibre running all the way to homes!

Of course, "rolling out FTTH quickly and in a cost-effective manner to cover rural as well as urban areas is a challenge," according to Mr Singh. "Deploying this technology means permissions from every residential block; there are administrative costs involved, and it takes time to carry fibre to every household."

"At present, ADSL delivers the best value proposition, both for service providers as well as customers."

So is it ADSL for now and FTTH for later? That's the way it would seem.

Some, however, are of the opinion that VDSL is the way to go for India. At the Convergence India 2005 International Exhibition and Conference, Moti Shulak, senior director, marketing, Infineon Technologies, spoke about the latest advancements in VDSL technology, and how they "fit perfectly to India's booming market."

In any case, we can conclude that the broadband situation is not as dismal as it might seem right now! Pricing, however, might make you gloomy again! ■

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# Let Your Computer Chill

**How many of us care about cooling? Meet someone who cares enough to risk running a liquid through his PC cabinet**

**Mithun Kidambi**

**M**ost of us aren't too bothered about the type of cooling equipment installed in our computers. As long as the fan doesn't drone too much and create a ruckus, we're fine with it. Also, overclocking one's computer and playing around with the latest and fastest graphics cards is a very geek thing to do. There are many among us who are happy seeing the screws on the PC cabinet tightly fixed: who'd want to meddle around with the motherboard and increase its working temperatures, bringing it close to levels that could result in a processor burn-out? Well, that's what separates the über-geeks from normal people: the urge to push the limits of their personal computers, to take its hardware to the next level and eke out some extra megahertz!

## The Cool Guy

One such computer hack we came across is Sanjay Rao from Mysore. This third-year engineering student from Shree Jayachamarajendra college of Engineering, Mysore, has taken to developing better cooling methods for his PC with a vengeance. The passion started with a trip to a computer shop that assembled customised computers.

Sanjay says he spoke to the shop owner about the prospect of designing newer cooling systems.

"I partnered with a friend in this venture. I did the designing, while he went about collecting all the information and equipment. Most of our earlier designs were rejected because they were either too big or weren't efficient enough." But those rejections did not deter Sanjay, or Sunny as he prefers to be called.

"I wanted to make my own water block; I spent almost five months on research, but couldn't get satisfactory results," he says. Then, with the help of a friend, Sanjay got a DangerDen TDX





A64 imported from [www.frozenscpu.com](http://www.frozenscpu.com). The thing cost him \$60 (Rs 2,700), including the shipping charges. With a water block in place, Sunny was all geared to rig up his own cooling system.

### What's In A Block?

A water block, the water cooling equivalent of a heat sink, is used on several computer components including the CPU, graphics card, and the chipset on the motherboard. A typical water block consists of two parts. The first is the base, which makes contact with the device being cooled. This is usually made of a highly-conductive metal, such as aluminium or copper, so that heat is dissipated fast. The second part—the top—ensures that the water (or the liquid used for cooling) is contained safely inside the block.

If you want to jazz up your PC, you can use a loop made of a transparent material such as Perspex, or UV-reactive tubes that glow under UV (ultraviolet) light.

The base and top are sealed together to form a block with a channel inside. Each end of the channel has connectors for the inlet and outlet. In most cases, the channel is a spiral or zig-zag in pattern, like in a refrigerator or air-conditioner.

Some channels also have heat sink-styled fins so as to enlarge the surface area available for heat dissipation. Care must be taken, however, so the design of the channel does not impede the flow of the liquid inside it. Most people who opt for water cooling prefer to have the channels made of a transparent material so that the flow of the liquid inside is visible. Guess it adds to the rush of things!

### The Geek Setup

Sanjay's cooling system consisted of the water block and a pump that pumped liquid at a speed of 700 litres per hour. A stroke of genius was in picking up a radiator from a Mitsubishi Lancer. "The radiator was one foot high and 20 cm wide. The dimensions were just right for my design," claims Sanjay. "I also needed a few tubes to create the channels, some coolant, and water. My hunt for the channels was the most exciting part. I was looking for a UV-reactive tube, and these weren't available in India. A little bit of reading up made me realise that these tubes were indeed available here, only they were used for different purposes.

"These tubes were used in motorbikes. Later on, people were amazed as to how I laid my hands on them! The other important components were the coolant and the distilled water. For the coolant, I used a regular engine coolant from



Check out the rig—with the water block, neon lighting and all



Castrol. I did not, however, trust the purity of the distilled water found in garages, so I borrowed two litres of it from my college laboratory. I, then mixed one part of coolant with four parts of distilled water. I connected the rig, screwed in the right parts, and voila—my water cooling setup was ready," he explains.

To test his cooling system, Sanjay did some volt modding—increasing the voltage intake of his motherboard—on his A7N8X Dlx nForce2 Ultra motherboard. The cooling setup enabled him touch a core voltage of 2.05 volts. The resulting heat dissipation was around 146 watts. Compare this to the normal heat dissipation of 65 watts at a core voltage of 1.65 volts, and you know how much cooling the system was doing! Of course, running a motherboard at that voltage for too long meant that you would need to replace it within a few hours, so Sanjay settled down at a core voltage of 1.7 volts, which is still significantly higher than the normal 1.65 volts.

### Let's Talk About The Money

Sanjay's constant experiments have led to motherboard and processor burnouts. Not to say, they've also burnt a hole in his pocket, but this hasn't deterred this Information Science student from experimenting further.

His aim now is to design and build his own water block. "Once my exams are done, I'll get down to developing my own water block and make a Do-It-Yourself kit. I plan to sell these for Rs 4,000. That is significantly lower than what most water cooling systems cost today," he says.

Not for the faint-hearted or even the moderately geeky, water cooling will remain niche because of the level of customisation it requires. However, you do get computers that have a liquid cooling system installed, notably the Apple G5. Remember, you can't just slap a water block on your processor and overclock it! If you're interested in water cooling, make sure you know what you're doing! ☒

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Sanjay Rao, the whiz who did it



# 3ds max 8

Nimish Chandiramani

An ominous silence fell upon the Digit workplace that day. Clearly, we were in the presence of Greatness. A copy of the much worshipped and more coveted 3ds max 8 - one of, if not the greatest legends of 3D software—was amongst us, and I was the Chosen One. In the tradition that all us Ones must follow, I have chronicled my adventures here.

## Day 1: Features Galore

It's finally here! I'm gushing with an enthusiasm that Nature only bestows upon five-year-olds. **Installing 3dsmax 8 from the DVD is extremely simple.** And in no time, I find myself staring at the new version in joy and wonderment. As I survey the user interface, it reaffirms one of the things I have admired in Discreet/Autodesk all these years—no matter which version of 3ds max you've worked on before, migrating to the latest version is no more difficult than installing it; it looks the same! No bothering with new buttons cropping up unexpectedly—just start and begin creating. Ingenious.

## Day 7

I approach the new 'Hair and Fur' plugin with considerable apprehension. Working with hair has always been a recurring nightmare for me; how do I know that this isn't going to be another? I was wrong, diary. **This is the easiest it's ever been to create hair in 3ds max;** I can comb it, cut it, clump it, grow it... and apparently crash it, too. Let me try that again. Ah, it didn't crash this time. A moody plugin, I guess.

## Day 13

Today, I shall finally be able to **properly texture my 3D teddy bear.** Instead of spending long, tedious hours with the UVW mapper ensuring that everything is just so, I can now **use the new Pelt mapping feature.** It's like I ripped my teddy apart, painted on its skin as if it were a flat piece of paper, and then put it back together again. Fantastic! It'll be on to bigger, better animals for me now.

## Day 22

Virtual characters look silly without their clothes, and I must brace myself for the daunting task of modelling the said clothing. But wait, what's this? It appears I can draw pieces of clothing and 'sew' them together! Now that can't be accurate... why, it is!! **All I have to do is draw the pieces**

**of cloth and use the Garment Maker to decide how to sew them up.** Turn to the new Cloth modifier, and voila! A brand new pair of underg... err... trousers for my character. I can now get this cloth to behave as if it were silk or even starched cotton!

## Day 26

Ah, the **varicoloured Character Studio biped...** a fun little guy to start building a human model with, but the poor chap couldn't turn a doorknob until now. I helped him along his way by adding **a new Twist link** to his elbow and now he can rotate his wrist without moving his elbow—much more like us, in the real world.

## Day 28

I was shocked to learn today that the **Mental Ray renderer,** which now **comes bundled with 3ds max,** used to cost more than 3ds max itself at one time! And no wonder, too. I used it to render a scene and it simulated real-life lighting right down to the red glow that my big red beach ball cast on the white floor.

## Day 30

My demo expires today; the good times are over. In a few hours, I shall be greeted with a dreaded "Your trial period is over. You must purchase this software to continue." To paraphrase a favourite character, all I can say is, "they has taken it from us, Precioussss; and we wants it back!" ☒  
nimish\_chandiramani@thinkdigit.com

JULY						
Wk	M	T	W	T	F	S
26	31				1	2
27	3	4	5	6	7	8
28	10	11	12	13	14	15
29	17	18	19	20	21	22
30	24	25	26	27	28	29

AUGUST						
Wk	M	T	W	T	F	S
31		1	2	3	4	5
32	7	8	9	10	11	12
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SEPTEMBER

Wk M

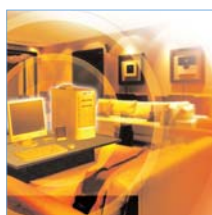
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**58** Home Companions



**97** Processor Purchases



**100** How Inkjet Printing Works

# Digital Tools

Technology For Personal And SoHo Productivity

Smart SoHo

## Pick, Choose, Publish!

**For the publishing needs of your small enterprise, MS Publisher could just be the sweet trade-off between MS Word and 'professional' software**

Nimish Chandiramani

**T**he trials and tribulations of setting up your own enterprise are many. Even after the actual establishment, there remain niggling issues. Information needs to be spread, customers need to be brought in, and you still need to decide

on your corporate identity—visiting cards, letterheads—the list is long.

To get the professional look you desire for your promotional material, you would normally turn to high-end (read expensive) software such as Quark XPress or Adobe InDesign. You would then need to spend long hours learning how to use the software, and some more long hours designing your publication. And if you need quick results, you might even need to hire a professional. Oh, the financial horror!

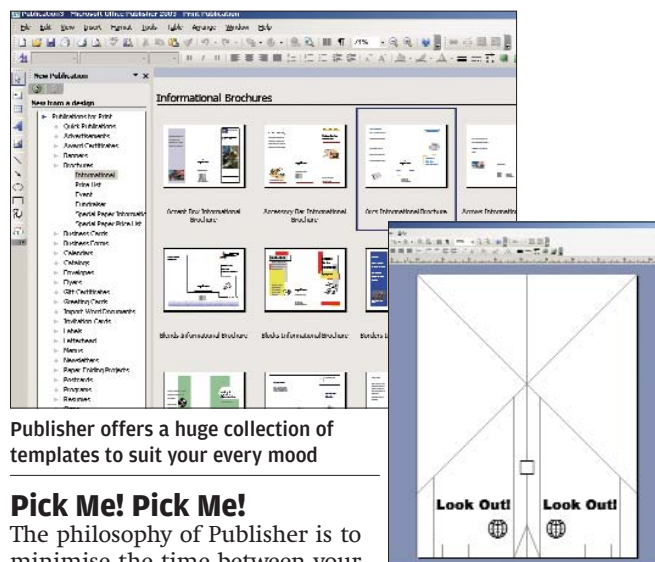
Thrifty businesspeople, though, would use Microsoft Word to publish their material. It's taken for granted that every new PC comes with Word, and it even offers a few respectable features that can help you design your publication. However, as the





name suggests, it is at the end of the day a word processor, and can only do so much before it has you seeking different kind of professional help.

The middle ground, then, would be a package that can create a professional-looking publication swiftly and without added investment. Coming through in this hour of need is Microsoft Publisher 2003, which now comes bundled with your installation of Microsoft Office 2003. It offers a handy collection of tools to get your publication out as quickly and painlessly as possible.

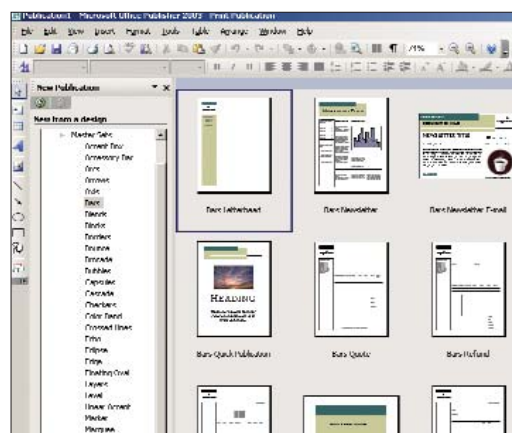


Publisher offers a huge collection of templates to suit your every mood

### Pick Me! Pick Me!

The philosophy of Publisher is to minimise the time between your realising that you need a publication and actually having it in your hand. It offers templates for nearly all the print material you might ever need—letterheads, visiting cards, brochures, catalogues, flyers, advertisements, banners, greeting cards... whew!

For the restaurateur, there are templates for menus, take-out menus, and even wine lists. There are even a few whimsical templates, such as folding instructions for paper airplanes! Not content with print media, Publisher also offers templates for basic Web sites and e-mails. All you need to do is pick one and tweak it to your needs. And, if you aren't happy with the templates Publisher provides download more from Microsoft Office Online.



The Master Sets let you select a common theme for all your documents

## With You All The Way

If you need a common theme to run through all your material, turn to Publisher's Design Sets. Depending on what you're looking for, design sets offer you sets of templates.

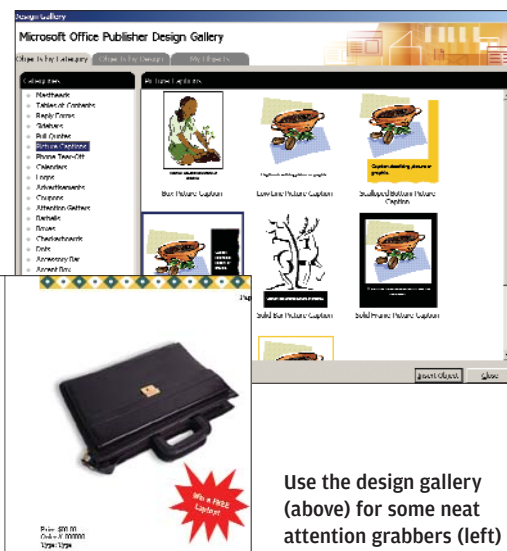
Consider the case of The Little PR Firm. One of their clients needs to organise an event to launch their new product. The Little PR Firm has to set up a Web site and send flyers and invitations for the event. If they're using Publisher, all they need to do is look up the "Special Event" design set—there are template sets for Web sites, brochures and invitations just waiting to be used. One step further is the star of this show—the Master Set that has templates for everything from calendars to purchase orders and invoices.

## Beautifying Your Phonebook

If you use Excel or Access to organise your data, but are bored of plain old tables, Publisher offers some relief. One of Publisher's smartest features is its ability to integrate with data sources such as Access databases and Excel sheets. Use the Mail and Catalog Wizard to pick your data source, and apply a template to present the data. You'll soon see your customer database in your brand new "customer details" publication.

## Look Here!

Another highlight of Publisher's template-driven approach is the Design Gallery. It offers



Use the design gallery (above) for some neat attention grabbers (left)

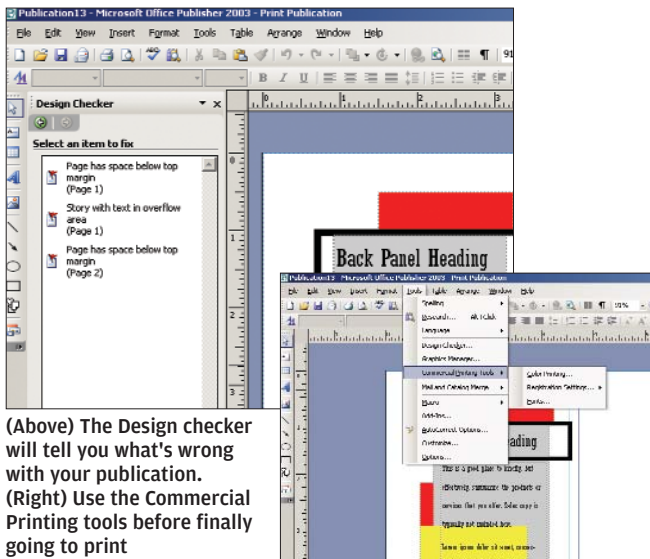


frequently-used items such as feedback forms, coupons and labels that you can insert into your publication. You can also add a healthy dose of zing using accents, pull-quotes (blurbs with interesting quotes), and our favourite, the Attention Grabber—"Unbeatable Prices!"

## To The Presses!

After designing your publication, Publisher helps ensure that all is hunky-dory when you finally go to print. The first is the Design Checker that checks for data that's outside the page, hidden or overflowing text, even pictures that have been distorted upon resizing. Once Design Checker deems your publication safe for printing, use the Commercial Printing Tools to adjust

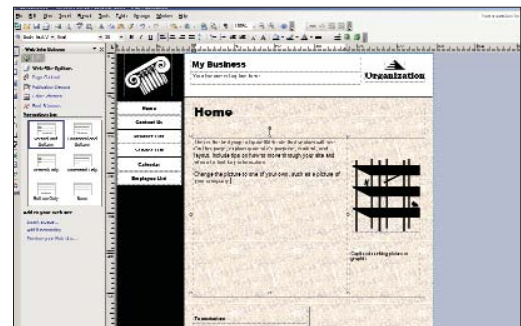




your colours. Also embed the fonts you use, this way, even if your printer doesn't have these fonts on the PC, your publication won't be affected.

## Beyond Print

Establishing a presence in print is not really enough for today's businesses—the word must be spread, and the Internet is just the way to do that. Publisher also offers a number of templates for a basic Web site that would tell your customers about you. The best way is the Easy Website Builder, which lets you specify exactly what your site will contain.



Creating a Web site is a snap with the Easy Website Creator in Publisher

Publisher also offers HTML templates for e-mail messages, be it to inform your audience of an upcoming event, a new addition to your product or services list, or just general correspondence.

## So Is It For Me?

Despite all its advantages, using Publisher isn't entirely a bed of roses. While it's all very well to lay out a few pages of text, the autoflow feature is rather eccentric. If your publication is more than a few pages long, it will be an uphill task! You cannot directly manipulate the HTML code in your Web page. Publisher isn't capable of much beyond what you can do using its wizards. It is best for its wide choice of templates that make your publication process quick and easy, but it won't make professionals happy just yet. ☒

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# HOME COMPANIONS





**There are several advantages of a branded PC over an assembled one. However, with so many brands out there, and so many different needs, it can be hard to choose. But we're here to help!**

Jayesh Limaye

**W**hat better way to start off the year than by getting yourself a new PC? We've done all the hard work for you! What follows is a comparison test to help you choose from amongst many of the branded models available.

As you probably know, the first thing you've got to decide on when getting a new PC is whether

it's going to be Intel-based or AMD-based. Last year saw some heady battles between the two, and AMD leads as of right now. This translates into a big change in the PC market: a few years ago, thinking about an AMD system for your home was sort of a weird idea. You had to have "Intel Inside"! Nothing could be further from the truth today, and sporting the AMD 64 sticker on your PC bonnet is the in thing.

The Indian PC market is quite different from those abroad. Here, assembled PCs in the desktop segment still have a stronghold on the consumer's psyche, given the price difference vis-à-vis branded PCs. Branded PCs are now trying to break out of the "expensive" mould. While some brands such as HP, HCL and Acer have been around in the country for quite some time, there are several new entrants, such as Krypton.

Here's where our comparison tests come in. We've compared some of the biggest brands in the country head-to-head—this comparison therefore gives us an opportunity to tell you about what best PC brands are available in the Indian market.

We won't say our comparison tests are the be-all and end-all of the matter, but they will definitely give you a fair idea of price to performance ratios and more. As always, we advise you to use this comparison just as a guide when making your purchase decision.

We can hear you saying, "Why not assembled?" While assembled PCs may be cheaper, there are issues such as customer support and pirated software. These are usually not talked about when you make your purchase. With a branded PC, on the other hand, you're assured of legal software with warranties, and generally, of good service. Of course, you've got to read the fine print!

We divided the PCs we received for our tests into three segments—those below Rs 25,000, those above that cut-off, and Media Center PCs. We advise you not to decide right at this point how much you want to spend—first take a look at what's on offer!

Imaging Pradip Ingale  
Photograph Jiten Gandhi

## The Value PCs

Rs 25,000 is not just a nice, round figure—it's also a good cut-off point to segregate PCs, going by current prices. This segment is primarily targeted at beginning home users, work-at-home individuals, students, etc.

We should emphasise here that based on what we've seen in this test, a sub-25K PC is not to be dismissed as a "cheap PC"—several models that fell in this category offer you very decent features indeed!

In this segment are featured seven PCs: the Compaq Presario SR1502IL, Compaq Presario SR1008IL, Datamini Festiva MG Value, HCL Ezeebee PI 873, HCL Ezeebee 4981, Zenith Premium 7D, and the LG XT1-VH1SHP1.

## Features

Of the seven PCs mentioned above, two were AMD-based, and five were Intel-based. It was good to see a branded PC in this segment—the HCL EzeeBee PI 873—featuring the powerful AMD Athlon64 processor. But this wasn't the only PC in this segment with a powerful processor: the Zenith Premium 7D sported a 3.0 GHz Intel Pentium 4 with HyperThreading Technology, which is something we didn't expect in this, the value category. These are high-end processors, and

these two PCs therefore bring powerful number-crunching capabilities at an affordable price.

We also saw some of the best hard drives being featured on some of these PCs. While most sported the older and slower IDE interface, the HCL PCs came equipped with the faster SATA drives. In terms of drive capacities too, HCL lead the pack with 74 GB and 80 GB drives, whereas the others stopped at 40 GB—which these days is considered the bare minimum (read "almost inadequate").



Compaq Presario SG1008IL

In the memory department, once again, only the HCL PCs came with as much as 512 MB of RAM. The Compaq, LG and Zenith PCs came with just 128 MB of RAM, and since this was shared by the onboard graphics, heavy performance penalties were obvious: we could actually see these PCs crawl-

ing compared to others with larger memories.

The HCL and Zenith PCs came with Combo drives, while the rest came with plain CD-ROM drives. We should mention that the Datamini PC came with the sloppiest CD-ROM drive we've ever seen—it had a hard time reading even its own driver CD, and we had to connect our own optical drive to install the OS, drivers and benchmark applications! The Compaq SR1502IL and the Zenith PCs had optical drives more or less similar to that of the Datamini.

As we'd expected, none of the PCs in this segment featured a separate graphics card, going for onboard solutions instead. Of these, the Intel GMA 900 is the most feature-rich, and is DirectX 9 compliant—which means that it is ready, out-of-the-box, for the next version of Windows—Vista. It is also good for moderate gaming, and is markedly faster than the other onboard solutions in this category such as the SiS 330 Mirage and Intel Extreme Graphics. Of the seven PCs in this category, the HCL Ezeebee 4981, Zenith Premium 7D, and the Datamini Festiva MG Value featured Intel GMA 900.

Micro ATX cabinets were the choice of most brands, while the Datamini provided an ATX cabinet—albeit of an inferior build

## How We Tested

As in all our tests, the home PCs reviewed here were rigorously benchmarked and tested. We chose the benchmarks and tests considering they needed to be run on a range of computers, from the least powerful to the most powerful. Windows XP Pro with SP1 was freshly loaded, along with DirectX 9.0c, and the drivers from the driver CDs provided with the PC (or from the manufacturer's Web site, if a driver CD was not provided) were loaded. This was done even on the Media Centre PCs, because the Windows XP Media Center 2005 OS that ships with these PCs is not available off-the-shelf—and the version that came on the CDs provided comes with SP2, on which one of our benchmarks doesn't run.

The tests and benchmarks consisted of the following.

**FarCry:** This is a Direct3D game that accurately measures the Direct3D gaming subsystem. We chose *FarCry* because it uses a fairly modern graphics engine and reflects how future games will play on the system.

**Call of Duty:** This OpenGL game is used to test the strength of the OpenGL graphics subsystem. We chose *Call of Duty* because it runs easily even on motherboards with onboard graphics.

**PC Mark 2004 (PCMark04):** This is an industry-standard benchmark that measures the CPU, memory, graphics and hard disk performance of the system, and hence is a good system-wide benchmark.

**SiSoft Sandra 2005 SR3:** This consists of benchmark modules that measure CPU, filesystem and memory performance.

**Ziff-Davis Business Winstone 2004:** This benchmark suite runs various applications such as WinZip, Excel 2002, PowerPoint 2002, etc., to measure the real-world performance of a system. It returns a score that is comparable with any system that runs this test suite.

**Dr. DivX 1.06:** This is a video encoding application used to encode DivX files. We encoded a 100 MB MPEG2 file to DivX and noted the time taken to encode.

**DBPowerAmp:** This is an audio conversion tool used to encode audio files. We converted a 200 MB WAV file to a VBR MP3 file at the highest possible quality, and noted the time taken to encode.

**DisplayMate:** We used DisplayMate Video Edition to evaluate the quality of the monitor by gauging the sharpness and clarity of the display.

**Nero CD-DVD Speed:** We used this application bundled with Nero Burning ROM to create a 700 MB test data CD, and then used the CD to test the average speed of the optical drive and also its access time.

**Speaker Test:** Various types of audio files were played on the speakers that came with the PCs (if any did), and we noted the quality of the audio.

In addition to these tests and benchmarks, features such as the number and type of optical and hard drives, monitor type and size, mouse and keyboard type, ports, cabinet type, front connector options such as USB and card readers, airflow considerations, and bundled accessories such as speakers and gamepads were taken into account before we decided on each PC's overall score.



quality. All the brands deserve credit for taking airflow into consideration in the design of the cabinet.

On the upgradeability front, the Compaq Presario SR1502IL and the HCL EzeeBee PI 873 came with AGP 8x graphics slots, while the Datamini and the HCL EzeeBee 4981 came with PCIe x16 slots. The others didn't have graphics slots for upgradeability. The Zenith PC, with just 128 MB of RAM, fortunately had four memory slots (out of which three were free), and hence provides good memory upgrade options. The Zenith also featured four unused SATA ports.

The best OS we saw in this category was RedHat Linux Workstation—with the HCL PCs—whereas the Compaq PCs came with FreeDOS, which is as good as not providing an OS at all. The package contents of the Compaq PCs, too, were minimal—but remember that this is the value category!

## Performance

What we saw in the features was reflected in our performance tests. The HCL PI 873 and the Zenith Premium 7D, with their considerably more powerful processors, raced ahead with the highest points in the CPU tests of SiSoft Sandra and PCMark04. They also logged better scores in video as well as audio encoding, again because of their processors. It's clear that these two PCs are the best number-crunchers amongst the value-category PCs, and are the best suited of the lot for computation-intensive tasks.

In the SiSoft Sandra memory test, the LG and the Zenith failed, and the (inadequate) 128 MB of shared memory seems to have been the cause. Note here that the Zenith PC came equipped with one of the most powerful processors in this category; it was held down only because of the low amount of memory. The HCL EzeeBee PCs came with memory modules in dual-channel configuration and hence scored good points, exhibiting a healthy memory bandwidth, which is necessary for handling applications such as multimedia and image editors, database applications such as Oracle, and so forth.

The Compaq Presario SR1502IL scored the lowest in the Nero CD-

DVD speed test, and this can be blamed on the poor-quality CD-ROM drive. The Zenith and Datamini also logged very slow speeds in this test. You'll have to seriously consider upgrading your optical drive if you decide to get one of these three PCs. The Compaq Presario SG1008IL, with its better optical drive, scored the best in this test.

We could not install some games on the computers with 128 MB of RAM, because that's below the games' minimum system requirements. These PCs,



HCL EzeeBee 4981

therefore, failed our gaming tests. The HCL PCs, with 512 MB of RAM, performed well in these tests due to better graphics and more RAM. As noted earlier, these make good PCs for moderate gaming.

All the PCs in this segment, of course, came with CRT monitors. When we compared the monitors, there wasn't much variation, except that two PCs—the Compaq Presario SG1008IL and the HCL EzeeBee 4981—came with 17-inch monitors. These larger monitors were, of course, easier on the eyes.

The Zenith and the Compaq Presario SR1502IL did not bundle speakers with their PCs; all the others did. The ones on the HCL PCs sounded better than those on the others—not that the speakers were really good, they were just comparatively better.

The Zenith PC—even with its low 128 MB of RAM—was the top scorer in PCMark04, which is a synthetic benchmark used to evaluate the overall performance of a PC. The Business Winstone 2004 benchmark is a real-world benchmark; here, the HCL EzeeBee PI 873 scored 24.1, which was the best in its class. This means it can run day-to-day applications such as office software and business applications better than the other PCs in this category.



## Conclusion

The PCs in this segment were not as lacklustre as we'd expected them to be—for example, like we said, we never expected to see an Athlon64 or a Pentium 4 with HT, or for that matter 512 MB of RAM, in a PC in this category. Essentially, this points to the fact that good PCs have gotten cheap.

The Compaq Presario SR1502IL is priced the lowest at Rs 17,990, and the SG1008IL—also from Compaq—is priced at Rs 19,990; Compaq is trying to make headway into the value-category market in a big way. The LG XT1 retails at Rs 25,000, which is too high for a PC with its specifications.

In the tests, the HCL PCs were always ahead of the rest, with their superior specifications, features and package bundle. In fact, they also bundled a 100-hour internet package as well as games and other software. The Datamini was not far behind, though, when we took overall points into consideration.

The HCL EzeeBee PI 873 merits special mention. It was the second-best PC in this category, featuring the powerful Athlon64 3000+ along with 512 MB of RAM. It was amongst the favourites, and was left behind only because of marginally lower scores.

We decided that the HCL EzeeBee 4381 would be the Digit Best Buy Gold winner.

## PCs ABOVE Rs 25K

The PCs in this, the second category, had considerably more fire-power than the Value PCs, and came with better components; we cannot, however, call them "high-end" by any standards. Seven PCs comprised this category: the Acer Aspire SA80, Acer Aspire ASP V4324, Compaq Presario SR1630IL, Datamini Festiva MG, Datamini Festiva MG Premium, LG XD8-L92ARP1, and the Krypton Voyager 9.



Krypton Voyager 9

Scoreboard	Value PCs		
BRAND	Compaq Presario SG1008IL	Compaq Presario SR1502IL	Datamini Festiva MG Value Series
Features	18.52	18.52	21.48
<b>CPU</b>			
Brand And Model	Intel Pentium IV	AMD Sempron 3000+	Intel Celeron D
Clock Speed (GHz)	2.4	1.8	2.7
HDD Interface / Size (GB) / rpm	IDE / 40 / 5400	IDE / 40 / 5400	IDE / 37 / 7200
ODD Type	CD-ROM	CD-ROM	CD-ROM
RAM Amount (MB) / Type / Speed (MHz)	128 / DDR / 333	128 / DDR / 400	256 / DDR / 400
Graphics Processor	Intel Extreme Graphics	SiS 330 Mirage	Intel GMA 900
<b>Motherboard</b>			
Chipset	Intel 845GEV	SiS 760GX	Intel 915GL
CPU Interface	Socket 478	Socket 754	LGA 775
PCIe / AGP Slot	None	AGP 8x	PCIe x16
Keyboard Shortcut Keys (Y/N) / Ergonomics (So5)	6 / 3.5	6 / 2.5	4 / 3.5
Mouse Interface, Technology	PS2, Corded ball	PS2, Corded ball	PS2, Wired Optical
Monitor Type / Size (Diagonal Inches)	CRT / 17	CRT / 15	CRT / 15
Number Of 5.25-inch Bays	2	2	4
SMPS Power Rating (W)	300	250	300
Front Connectors	None	None	2 USB and Audio
Modem / Speakers Type	4 / 2	6 / None	4 / 2
LAN Type	10 / 100	10 / 100	10 / 100
Quality Of Buttons: Keyboard / Mouse / Cabinet (So5)	3.5 / 3 / 3.5	2.5 / 3 / 3	3 / 3 / 3.5
Number Of Memory / PCI / Graphics Slots	2 / 3 / None	2 / 3 / AGP 8x	2 / 2 / PCIe
<b>Package Contents</b>			
Operating System CD	FreeDOS	FreeDOS	None
Anti-Virus Package	NIS 2005	NIS 2005	None
Games / Educational Software / Other Software	HP Utilities CD	HP utilities CD	None
Recovery / Driver CD	6 / 4	6 / 4	6 / 4
Miscellaneous (Headphones, Web cams, Gamepad, etc)	None	None	Headphones
Number Of Years For Warranty	1	1	1
<b>Performance</b>	<b>18.94</b>	<b>16.61</b>	<b>22.99</b>
<b>Sisoft Sandra 2005</b>			
CPU Dhrystones / Whetstones	6408 / 3252	8132 / 3739	7472 / 3503
CPU Multimedia Integer (iter per sec/FP iter per sec)	14980 / 18764	17266 / 18613	15544 / 18370
<b>Hard Disk Drive</b>			
Drive Index (MBps) / Access Time (ms)	38 / 8	39 / 8	26 / 7
Sequential / Random Read (MBps)	42 / 32	43 / 32	27 / 22
Sequential / Random Write (MBps)	43 / 32	43 / 33	30 / 25
Memory ALU To RAM / FPU To RAM (MBps)	2220 / 2263	2660 / 2674	2731 / 2763
<b>Nero CD-DVD Speed</b>			
Average Read Speed (x) / Access Time (ms)	36.76 / 81	16.84 / 452	16.37 / 91
<b>Gaming</b>			
Call of Duty 800 x 600 / 1024 x 768 (FPS)	Failed / Failed	Failed / Failed	29.7 / 23.7
FarCry 640 x 480 / 1024 x 768 (FPS)	Failed / Failed	Failed / Failed	21.08 / 17.95
Business Winstone 2004	12.5	Failed	15.3
PCMark04 Marks	2605	2690	3075
CPU / Memory	3166 / 2649	3314 / 3054	3674 / 3291
Graphics / HDD	555 / 2405	524 / 2414	870 / 3092
Audio Encoding (DBPowerAmp) (sec)	65	66	67
Video Encoding (Dr. Divx) (sec)	184	183	179
<b>Monitor DisplaymateTest</b>			
Horizontal / Vertical Bar Resolution (So5)	3 / 4	3 / 3	3 / 4
Fine Focus / Fine Res. / Diagonal Res. Matrix (So5)	2.5 / 2.5 / 2	2 / 2.5 / 2	3 / 3 / 3.5
Speakers Special Audio / Movie Files Test (So5)	1.5 / 1.5	1.5 / 1.5	1.75 / 1.75
<b>Price (Rupees)</b>	<b>19,990</b>	<b>17,990</b>	<b>23,350</b>
<b>Price Index</b>	<b>14.40</b>	<b>16.00</b>	<b>12.33</b>
<b>Overall Score (Out Of 100)</b>	<b>51.86</b>	<b>51.13</b>	<b>56.80</b>
	 <p>+ Low price - Low amount of RAM</p>	 <p>+ Low price - Low amount of RAM</p>	 <p>+ Great performance - None</p>



HCL Ezeebec 4981	HCL Ezeebec PI 873	LG XT1-VH15HP1	Zenith Premium 7D
23.20	22.64	19.68	19.12
Intel Pentium IV	AMD Athlon64 3000+	Intel Celeron D	Intel Pentium IV with HT
2.6	2.0	2.4	3.0
SATA / 80 / 7200	SATA / 74 / 7200	IDE / 40 / 5400	IDE / 37 / 5400
Combo	Combo	CD-ROM	CD-ROM
512 / DDR / 400	512 / DDR / 400	128 / DDR / 333	128 / DDR / 400
Intel GMA 900	VIA / S3 Unichrome Pro	Intel Extreme Graphics	Intel GMA 900
Intel 915GL	VIA K8M800	Intel 845GV	Intel 915GL
LGA775	Socket 754	Socket 478	LGA 775
PCIe x16	AGP 8x	None	None
4 / 2.5	4/2.5	6 / 3.5	4 / 3
PS2, Wired Optical	PS2, Wired Optical	PS2, Wired Ball	PS2, Wired Optical
CRT / 17	CRT / 15	CRT / 15	CRT / 15
2	2	2	2
250	250	250	250
2 USB and Audio	2 USB and Audio	2 USB and Audio	None
4 / 2	4 / 2	6 / 2	6 / None
10 / 100	10 / 100	10 / 100	10 / 100
2.5 / 3 / 3	2.5 / 3 / 3	3.5 / 3.5 / 3.5	3 / 2.5 / 3
2 / 2 / PCIe and G.E.A.R.	2 / 3 / AGP	2 / 3 / None	4 / 2 / None
RedHat Workstation	RedHat Workstation	Linux	None
None	None	None	None
SuperVoice, 1000 Golden Games	1000 golden games	Norton Internet Security 2004	None
6 / 4	6 / 4	6 / 4	6 / 4
None	None	None	2 SATA Cables
1	1	1	1
27.99	23.11	16.26	20.35
7209 / 3379	8924 / 4108	6537 / 3062	8767 / 6312
18752 / 13307	19042 / 20499	13569 / 16033	21572 / 28584
49 / 7	52 / 6	42 / 9	52 / 6
55 / 40	58 / 43	48 / 34	58 / 42
55 / 39	58 / 42	47 / 33	57 / 42
3284 / 3287	2527 / 2528	Failed / Failed	Failed / Failed
31.99 / 94	32.09 / 89	20.46 / 85	14.48 / 87
45.8 / 38.5	Failed / Failed	Failed / Failed	Failed / Failed
29.91 / 26.39	30.43 / 37.58	Failed / Failed	Failed / Failed
20.7	24.1	11.5	12.9
3198	2968	2539	3773
3657 / 3807	3687 / 3175	3131 / 2561	4568 / 3601
982 / 4244	606 / 4520	551 / 2529	760 / 3504
65	58	78	60
172	169	214	154
3 / 4	3 / 4	3 / 3	3 / 3
3 / 3 / 2.5	2 / 2.5 / 2	1.5 / 1.5 / 1.5	2 / 2 / 2.5
2.5 / 2.5	2.5 / 2.5	1.5 / 1.5	0 / 0
24,990	21,990	25,000	23,000
11.52	13.09	11.51	12.51
62.71	58.84	47.46	51.99
 <ul style="list-style-type: none"> <li>+ Great performance</li> <li>- None</li> </ul>	 <ul style="list-style-type: none"> <li>+ Powerful processor, 512 MB of RAM</li> <li>- Low on graphics</li> </ul>	 <ul style="list-style-type: none"> <li>+ None in particular</li> <li>- Expensive</li> </ul>	 <ul style="list-style-type: none"> <li>+ Powerful processor</li> <li>- Low amount of RAM</li> </ul>

## ? Jargon Buster

**DDR RAM:** Double Data Rate RAM is a type of memory that handles data at twice the speed of the old SDRAM. DDR RAM typically operates at 266 MHz, 333 MHz and 400 MHz effective speeds, while the actual speeds are 133, 166 and 200 MHz respectively.

**DDR2 RAM:** Double Data Rate 2 RAM is a memory type based on chips designed to run at speeds higher than that of DDR RAM, such as 533 MHz and 667 MHz. Very few motherboards right now support DDR2 RAM.

**Dual-channel:** When two RAM modules are plugged into two slots marked for two different memory channels, then theoretically, the data flows at twice the normal rate through the RAM. This is known as dual-channel memory configuration.

**IDE:** IDE stands for Integrated Drive Electronics, and is a standard interface for hard drives, optical drives and other physical storage devices. It is also known as ATA, which stands for Advanced Technology Attachment, or Parallel ATA. The various types are ATA33, ATA66, ATA100 and ATA133, based on the

transfer speed. It uses a 40-pin connector cable that may consist of 40 or 80 conductors.

**PCI:** Peripheral Component Interconnect is a standard used on all current-generation motherboards and expansion cards used to connect two devices. The data transfer rate of a PCI bus can be up to 133 MBps.

**PCIe:** Peripheral Component Interconnect Express is a new PCI standard that transfers data at speeds equivalent to AGP 16x, which is roughly 4.3 GBps.

**SATA:** Also abbreviated as S-ATA, short for Serial ATA, is an interface for physical storage devices such as hard drives. It is a serial link and consists of a single cable with a minimum of four wires creating a point-to-point connection between devices. The transfer rates for SATA begin at 150 MBps; for SATA II, this figure is 300 MBps.

**Time-shifting:** Time-shifting is a feature of PVR software that allows you to pause, replay or skip a portion of a live TV programme. With the time-shift feature, you have total control over how you watch television.

## Features

Almost all the PCs here featured the Intel Pentium IV processor, but only the Datamini Festiva MG Premium sported the even more powerful Pentium IV with Hyper-Threading Technology—this puts it in a league of its own. The Acer Aspire ASP V4324 sported the AMD Athlon64 3200+, and the Krypton had a 3500+, both of which are very powerful processors.

The Datamini Festiva MG came with a CD-RW drive, and the Krypton was the lone PC with a DVD-Writer. All the others came with Combo drives. This is unfortunate, because the prices of DVD-Writers have plummeted to a level where you can get one in lieu of a Combo drive for just a few hundred rupees extra.

SATA hard drives were common in this category; the exception was the Acer Aspire SA80, which featured a slower IDE hard drive. Hard drive capacities in this category didn't see much variation; they were all either 74 or 80 GB. All the PCs had 256 MB of RAM—except for the Krypton with 512 MB—which can be considered just about OK for this price range. The funny thing is, the HCL PCs in the *value* category came with a healthy 512 MB of RAM, and we were left wondering why none of the manufacturers except Krypton could provide the same in this, the more expensive category.

The Acer ASP V4324 was the

lone PC with a GeForce4 MX 440 64 MB AGP graphics card. The others were content with onboard graphics solutions, which included the nVidia 6100, Intel GMA 900 and the SiS 330 Mirage.

PCs with the Intel GMA 900 and nVidia 6100 have the advantage of being Vista-ready, because of DirectX 9 compliance. The nVidia 6100 is also the only onboard graphics chipset that supports Shader Model 3.0. With the exception of the Compaq Presario SR1630IL, all the PCs at least provided an option to upgrade the graphics subsystem with the addition of an AGP or a PCIe graphics card.

The displays in this category were either LCDs or 17-inch CRT monitors. The Acer SA80 came with a 15-inch LCD, and the Datamini Festiva MG Premium came with a 15.4-inch widescreen LCD.

Most of the cabinets we saw were Micro ATX, with the excep-



Compaq Presario SR1630IL

tion of the two Datamini PCs, which came with ATX cabinets—thus providing four 5.25 inch bays for upgrades. The build quality of these cabinets, unfortunately, was sub-par. Air ventilation seems to have been taken into account in the design of all the cabinets, with the exception of the Krypton and the LG XD8—whose cabinets were too sleek to allow for good ventilation. The Krypton cabinet featured an eye-catching multi-coloured LED.

With the exception of the Compaq PC, all the cabinets had the USB and audio connectors on the front, enabling easier accessibility. The Acer Aspire SA80 went one step further, integrating a multi-card reader capable of reading SM/XD, SD/MMC, CF and MS/MS Pro cards. This feature is useful for those who own digital cameras or any other device that uses removable Flash cards, such as mobile phones and PDAs.

The Acer Aspire SA80 came with a wonderful package consisting of 11 CDs and DVDs: there were movies, encyclopaedias, utility software, and more. Sadly, there were no speakers bundled; Acer seems to have thought the speakers on the LCD display would do.

Most of the PCs here came with FreeDOS or with no OS at all. The exception was the Acer Aspire SA80 and the LG XD8, which had Linux installed. The Datamini Festiva MG Premium came with 5.1 speakers. The Acer Aspire ASP V4324 came with Creative 2.1 speakers and a force-feedback gamepad.

## Performance

The Krypton Voyager 9, with its AMD Athlon64 3500+, was the top scorer, with the highest points in the CPU test module of SiSoft Sandra. In the real world, this means that the V4324's 64-bit processor can rip through complex computations faster than can other processors in this category.

In terms of memory module configuration, the manufacturers have done customers a disservice: for better memory bandwidth, a dual-channel configuration is recommended, with a pair of matching modules in the memory slots. All the manufacturers except Krypton left one of the two memory slots free, and if you want to upgrade to dual-channel, you'll have to procure a matching memory module from the manufacturer.



Since all the memory modules were in single-channel configuration, scores in the memory benchmarks were expectedly low—with the Acer Aspire SA80 scoring the lowest.

The DVD-RW drive on the Krypton was the fastest in this category, but the others weren't too bad.

In the gaming benchmarks—*Call of Duty* and *FarCry*—the Krypton Voyager 9, with the nVidia 6100, emerged the fastest, outperforming all the other graphics solutions and giving amazing frame rates. The Acer ASP V4324 with the GeForce4 MX 440 was second-best.

The Acer ASP V4324 and the Krypton were the fastest in our audio encoding test, and the Krypton was the fastest at video encoding. The Datamini Festiva MG Premium also exhibited top-notch performance in PCMark04, proving it had a well oiled sub-system. We therefore expected it to be the PC with the best overall performance. The Krypton scored 26.6 in Business Winstone 2004, which was the highest, and which means it's better suited than the others for office and business applications.

As we expected, the Creative 2.1 speakers, known for their better acoustics, produced great sound. But the 5.1 speakers accompanying the Datamini Festiva MG Premium sounded even better, and seemed to provide a more immersive experience.

## Conclusion

The choice of better-quality components is one of the reasons for the markedly better performance (and somewhat higher prices) of the PCs in this segment, as compared to those in the Value segment.

The LG XD8 was the most expensive, being unreasonably priced at Rs 40,000. The Krypton Voyager 9 was the last PC we'd received for the test, and had we received it a few hours later, it might not have made it to the tests at all. Frankly, we'd expected an ordinary PC from Krypton, but we found a surprise package: this PC, powered by the Athlon64 3500+ and with 512 MB of RAM and a DVD-RW drive, was the best performing PC in this category. Had it been priced a bit lower, it would surely have won Gold.

**BEST BUY**  
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JANUARY 2006



Acer ASP V4324

The Acer Aspire ASP V4324 at Rs 25,999 was the least expensive of the lot, while also being a good performer! Features, too, were top-notch; we therefore adjudge it, without reservation, the winner of the Digit Best Buy Gold in this category.

## MEDIA CENTER PCS

You can do regular tasks on a Media Center PC (MCPC), but that's not what you'd be buying one for! A MCPC is meant to be the media hub of your living room, enabling you to listen to music, watch movies, pause live TV and replay it—and also get some work done! For all this, you'll need good horsepower, which, unfortunately, some MCPCs lack. But MCPCs have been in the market for quite some time now, and since we're comparing home PCs, we decided we had to include these in our comparison.

This segment was relatively unpopulated, with only four PCs qualifying as MCPCs. Remember that you'll only see branded PCs in the MCPC segment, since the components are chosen carefully to work in tandem with the OS. Assembling a PC to make it qualify as an MCPC would be impossible, because not all components conforming to the Windows XP Media Center Edition standard are available off-the-shelf—nor is the OS itself. This fact—that the hardware is so niche—also makes Media Center PCs much costlier than their home desktop counterparts.

We should mention here that the HCL PC, strictly speaking, didn't conform to the Windows XP Media Center Edition standard. It didn't come with a TV-Tuner at all. The Acer, too, didn't ship with one, but they did send it in as an "optional component."

Some of the old brands are here, and one new entrant in

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## Scoreboard

## PCs Above Rs 25K

BRAND	Acer Aspire ASP V4324	Acer Aspire SA80	Compaq Presario SR1630IL
Features	22.64	24.76	21.80
<b>CPU</b>			
Brand And Model	AMD Athlon64 3200+	Intel Pentium IV	Intel Pentium IV
Clock Speed (GHz)	2.2	3.0	3.0
HDD Interface / Size (GB) / RPM	IDE / 74 / 7200	IDE / 74 / 7200	SATA / 74 / 7200
ODD Type	Combo	Combo	Combo
RAM Amount (MB) / Type / Speed (MHz)	256 / DDR / 400	256 / DDR / 400	256 / DDR2 / 400
Graphics Processor	nVidia GeForce4 MX 440	SiS 330 Mirage	Intel GMA 900
<b>Motherboard</b>			
Chipset	VIA K8M800	SiS 661GX	Intel 915GV
CPU Interface	Socket 754	LGA 775	LGA 775
PCIe / AGP slot	AGP 8x	AGP 8x	None
Keyboard Shortcut Keys (Y/N) / Ergonomics (So5)	4 / 2.5	4 / 2.5	4 / 3
Mouse Interface, Technology	USB, Wired Optical	USB, Corded Optical	PS2, Corded Optical
Monitor Type / Size (Diagonal Inches)	CRT / 17	LCD / 15	CRT / 17
No. of 5.25-inch bays	2	2	3
SMPS Power rating (W)	250	250	250
Front Connectors	2 USB and Audio	2 USB and Audio, SM / XD, SD / MMC, CF, MS / MS Pro	None
Modem / Speakers Type	4 / 2.1	4 / None	4 / 2
LAN Type	10 / 100	10 / 100	10 / 100
Quality of Buttons: Keyboard / Mouse / Cabinet (So5)	2.5 / 3.5 / 3	2.5 / 3.5 / 3	3.25 / 3.25 / 3
Number of Memory / PCI / Graphics slots	2/3/AGP 8x	2 / 3 / AGP 8x	2 / 3 / None
<b>Package Contents</b>			
Operating System CD	None	Linpus Linux	FreeDOS
Anti-Virus package	None	Norton AntiVirus 2005	NIS 2005
Games / Educational Software / Other Software	None	11 CDs / DVDs, NTI CDMaker Pro, PowerDVD, SunJVM, AspireTV	HP Utilities CD
Recovery / Driver CD	4 / 6	6 / 4	6 / 4
Miscellaneous (Headphones, Web cams, Gamepad, etc.)	Force Feedback Gamepad	None	None
Number Of Years For Warranty	1	1	1
<b>Performance</b>	<b>30.28</b>	<b>25.48</b>	<b>27.78</b>
<b>Sisoft Sandra 2005</b>			
CPU Dhrystones / Whetstones	9815 / 4507	8302 / 3889	8315 / 3894
CPU Multimedia Integer (iter per sec / FP iter per sec)	20934 / 22536	17262 / 20397	17282 / 20426
<b>Hard Disk Drive</b>			
Drive Index (MB/s) / Access Time (ms)	51 / 6	51 / 6	53 / 6
Sequential / Random Read (MBps)	57 / 42	57 / 43	59 / 43
Sequential / Random Write (MBps)	57 / 42	56 / 43	59 / 44
Memory ALU To RAM / FPU To RAM (MBps)	2761 / 2763	1376 / 1378	2658 / 2659
<b>Nero CD-DVD Speed</b>			
Average Read Speed (x) / Access time (ms)	33.16 / 96	33.23 / 95	37.02 / 86
<b>Gaming</b>			
Call of Duty 800 x 600 / 1024 x 768 (fps)	47.1 / 36.1	21.1 / 13.1	36.4 / 32.1
Far Cry 640 x 480 / 1024 x 768 (fps)	53.28 / 30.71	17.44 / 9.76	29.15 / 24.24
Business Winstone 2004	22.6	20.6	20.6
PCMark04 Marks	3585	3165	3482
CPU / Memory	4056 / 3460	3976 / 2288	4110 / 3401
Graphics / HDD	1114 / 3935	821 / 4472	914 / 4577
Audio Encoding (DBPowerAmp) (sec)	52	59	57
Video Encoding (Dr.Divx) (sec)	157	172	157
<b>Monitor Displaymate Test</b>			
Horizontal / Vertical Bar Resolution (So5)	3 / 4	4 / 4	3 / 4
Fine Focus / Fine Res. / Diagonal Res. Matrix (So5)	3 / 3 / 4	4 / 4 / 3.75	2.5 / 3 / 3.5
Speakers Special Audio / Movie Files Test (So5)	3.5 / 3.5	1.5 / 1.5	1.5 / 1.5
<b>Price (Rupees)</b>	<b>25,999</b>	<b>33,999</b>	<b>29,990</b>
<b>Price Index</b>	<b>12.00</b>	<b>9.18</b>	<b>10.40</b>
<b>Overall Score (Out Of 100)</b>	<b>64.92</b>	<b>59.41</b>	<b>59.98</b>



+ Great performance and price  
- None



+ Great package bundle, LCD  
- Low on graphics



+ Reasonably priced  
- None



Datamini Festiva MG 22.12	Datamini Festiva MG Premium 23.04	Krypton Voyager 9 21.80	LG XD8-L92ARP1 21.68
Intel Pentium IV 2.6 SATA / 74 / 7200 CD-RW 256 / DDR / 400 Intel GMA 900	Intel Pentium IV with HT 3.0 SATA / 74 / 7200 Combo 256 / DDR / 333 Intel GMA 900	AMD Athlon64 3500+ 2.2 SATA / 74 / 7200 DVD-RW 512 / DDR / 400 nVidia GeForce 6100	Intel Pentium IV 3.0 SATA / 80 / 7200 Combo 256 / DDR / 333 Intel GMA 900
Intel 915GL LGA 775 PCIe x16 4 / 3.5 PS2, Wired Optical CRT / 17 4 300 2 USB and Audio	Intel 915GL LGA 775 PCIe x16 4 / 3.5 PS2, Wired Optical LCD / 15.4 Wide 4 300 2 USB and Audio	nVidia C51G Socket 939 PCIe x16 4 / 3 PS2, Wired optical CRT / 17 0 200 2 USB and Audio	Intel 910GL LGA 775 AGR (Accelerated Graphics Riser) 4 / 2.5 PS2, Wired optical CRT / 17 2 220 2 USB and Audio
4 / 2 10 / 100 3 / 3 / 3.5 2 / 2 / PCIe	4 / 5.1 10 / 100 3 / 3 / 3.5 2 / 2 / PCIe	4 / None 10 / 100 3 / 3 / 3 4 / 2 / PCIe	6 / 2 10 / 100 3 / 3.5 / 2.5 2 / 2 / AGR
None None Nero Burning ROM 6, CyberLink PowerDVD 6 / 4 Headphones 1	None None Nero Burning ROM 6, CyberLink PowerDVD 6 / 4 None 1	None None Nero Burning ROM 6, CyberLink PowerDVD 6 / 4 None 1	Osiooux Linux 1.0 None Nero Burning ROM 6, CyberLink PowerDVD 6 / 4 None 1
26.30	29.45	32.66	25.70
7449 / 3506 15472 / 18374	8969 / 6511 22092 / 29303	9864 / 4493 20685 / 22569	8295 / 3888 17237 / 20372
51 / 6 57 / 42 56 / 43 2768 / 2771	51 / 6 57 / 42 57 / 43 2317 / 2318	53 / 6 59 / 43 59 / 43 4365 / 4373	49 / 6 55 / 41 54 / 39 2095 / 2093
30.1 / 98	31.51 / 98	37.67 / 102	33.22 / 96
35.6 / 31.6 24.35 / 21.89 19.4 3218 3748 / 3382 926 / 4317 64 172	37.2 / 31 28.93 / 23.84 20.7 3945 4699 / 3272 920 / 4134 58 150	78.8 / 53.2 86.85 / 47.87 26.6 3721 4103 / 4390 1528 / 4187 52 148	35.9 / 26.9 26.16 / 21.45 19.4 3344 4073 / 2944 838 / 4424 58 165
3 / 4 3 / 3 / 3.5 1.75 / 1.75 31,700 9.84 58.26	4 / 4 3 / 3 / 3.5 3.75 / 3.75 35,850 8.70 61.19	3.5 / 4 3 / 3 / 3 0 / 0 33,800 9.23 63.69	3 / 3 2.5 / 2.5 / 2 1.5 / 1.5 40,000 7.80 55.18
			
+ None in particular - Lacklustre package bundle	+ Good performance - Expensive	+ Great performance - None	+ None in particular - Expensive

## Digital Tools | Test Centre

this segment is Sahara. The PCs featured here are the Acer Aspire E500, HCL Beanstalk 4958, HP Pavilion m7280in, and the Sahara R3.

### Features

As we mentioned earlier, the choicest components went into the making of these Media Center PCs. The core component of a Media Center PC is the TV-Tuner card—but there was none in the Acer and HCL PCs! We asked the companies for the TV-Tuners. Acer was quick to respond by sending us the TV-Tuner. Although the Sahara R3 came with a TV-Tuner and a remote, they forgot to send an IR receiver, so the remote turned out to be of no use!

The HP Pavilion m7280in came with a Conexant CX23416 TV-Tuner, as did the Acer Aspire E500. The Sahara R3 featured an even more exotic ATi Rio 550 TV-Tuner. All these feature hardware MPEG encoders that offload the CPU and take it upon themselves to encode video to MPEG during video capture.

The functions of an MCPC call for high CPU power, and all these did come equipped with high-end



HCL Beanstalk 4958

CPUs. The first three were powered by the Intel Pentium 4 with HyperThreading Technology, while the Sahara R3 was powered by the AMD Athlon64 3500+, the most powerful processor in this test—which was also featured on the Krypton Voyager 9 in the previous category.

We witnessed many firsts in this category. For the first time in this entire shootout, we saw a SATA II drive—with the Acer E500. The HP m7280in had a 160 GB hard drive, which means ample space for capturing content and also for other functions such as time-shift.

Also, for the first, we saw a PC come with a LightScribe DVD-

### What's So Special About Windows Media Center Edition 2005?

Almost every computer shipped these days has Windows XP installed as the default operating system. Windows XP has several different editions—five, to be precise. These are Windows XP Professional, Windows XP Home Edition, Windows XP Tablet Edition, Windows XP x64 and Windows XP Media Center Edition 2005.

Of these, Windows XP Media Center Edition 2005 is the one that most people generally do not know much about. Here's a brief explanation of what's in Media Center Edition 2005.

What needs to come across at the outset is that Windows XP Media Center Edition 2005 is heavily oriented towards the multimedia or entertainment aspect of using a PC. Media Center PCs aim to be the entertainment hub of a digital home, and Windows XP MCE aims to enable just that. The pretty interface is extremely user-friendly, and lets you do stuff at the touch of a button. And beneath this cool surface runs a robust and well-oiled NT kernel.

Networking support is very good in Windows XP MCE, as with Windows XP Pro. However, there's some stuff available in Windows XP MCE that is not available in the regular Windows XP:

**DVD Recording:** Windows XP MCE allows you to record DVDs in a format that is compatible with consumer DVD Players.

**TV-Functionality:** MCE supports dual TV-Tuners, which means you can record programmes using one tuner while watching TV using the other. This includes both cable and satellite transmissions.

**Media Center Extenders:** These are networking devices that let you connect your Media Center box to other devices, such as a display, over a wired or wireless network. This gives you with the ability to do things like watch HDTV even if your MCPC is in another room.

**My Videos:** This offers an alternate view of your 'My Videos' folder in Windows XP, organising files and folders by date or by name, and displaying a thumbnail image for each clip. My Videos supports common video types including standard .avi, .mpg, and .wmv files.

**The Remote Control:** This piece of hardware is standard with Windows XP MCE. You can do just about everything on MCPC using the remote without once having to get up from your couch.

### Scoreboard

#### BRAND

#### Features

#### CPU

Brand And Model  
Clock Speed (GHz)  
HDD Interface / Size (GB) / rpm  
ODD Type  
RAM Amount (MB) / Type / Speed (MHz)  
Graphics Processor  
Motherboard  
Chipset  
CPU Interface  
PCIe / AGP slot  
Keyboard Shortcut Keys (Y/N) / Ergonomics (So5)  
Mouse Interface, Technology  
Monitor Type / Size (Diagonal Inches)  
Number of 5.25-inch bays  
SMPS Power rating (W)  
Front Connectors

#### Modem/Speakers Type

#### LAN Type

Quality of Buttons: Keyboard / Mouse / Cabinet (So5)  
Number of Memory / PCI / Graphics slots

#### Package Contents

Operating System CD  
Anti-Virus Package  
Games / Educational Software / Other Software

#### Recovery / Driver CD

Miscellaneous (Headphones, Web cams, Gamepad, etc.)

#### Number Of Years Of Warranty

#### Performance

#### SiSoft Sandra 2005

CPU Dhrystones / Whetstones  
CPU Multimedia (integer iter per sec / FP iter per sec)

#### Hard Disk Drive

Drive Index (MBps) / Access Time (ms)  
Sequential / Random Read (MBps)  
Sequential / Random Write (MBps)  
Memory ALU to RAM / FPU to RAM (MBps)

#### Nero CD-DVD Speed

Average Read Speed (x) / Access Time (ms)

#### Gaming

Call of Duty 800 x 600 / 1024 x 768 (fps)  
Far Cry 640 x 480 / 1024 x 768 (fps)

#### Business Winstone 2004

#### PCMark04 Marks

CPU / Memory  
Graphics / HDD  
Audio Encoding (DBPowerAmp) (sec)  
Video Encoding (Dr. Divx) (sec)

#### Monitor DisplayMate Test

Horizontal / Vertical Bar Resolution (So5)  
Fine Focus / Fine Res. / Diagonal Res. Matrix (So5)  
Speakers Special Audio / Movie Files Test (So5)

#### Price (Rupees)

#### Price Index

#### Overall Score (Out Of 100)



## Media Center PCs

Acer Aspire E500 28.82	HCL Beanstalk 4958 28.35	HP Pavilion Media Center PC m7280in 21.40	Sahara R3 29.48
Intel Pentium IV With HT 3.0	Intel Pentium IV With HT 3.0	Intel Pentium IV With HT 3.2	AMD Athlon64 3500+
SATA II / 80 / 7200	SATA / 80 / 7200	SATA / 160 / 7200	SATA / 80 / 7200
Combo	DVD-RW	LightScribe DVD Writer	DVD-RW
256 / DDR2 / 400	512 / DDR2 / 400	512 / DDR2 / 400	512 / DDR / 400
ATi Radeon Xpress 200	Intel GMA 900	ATI Radeon X300 SE	ATi Radeon Xpress 200
ATi Radeon Xpress 200 LGA 775	Intel 915G LGA 775	Intel 915P LGA 775	ATi Radeon Xpress 200 Socket 939
PCIe x16	PCIe x16	PCIe x16	PCIe x16
4 / 2.5	4 / 3.5	4 / 3.5	4 / 3.5
USB, Corded Optical	USB, Wireless Optical	USB, Wireless Optical	PS2, Corded Optical
LCD / 15	LCD / 15	LCD / 15	LCD / 17
2	2	2	2
300	300	300	300
2 USB, Audio, FireWire, Multi-card Reader	None	2 USB, Audio In/Out, FireWire, S-Video And Composite In, Personal Media Drive Bay For USB 2.0, Multi-Card Reader	2 USB and Audio
4 / None	4 / 2.1	4 / 2.1	4 / 2
Gigabit	10 / 100	10 / 100	10 / 100
3.25 / 3.5 / 2.5	3.5 / 2 / 3	4 / 3.5 / 4	3.5 / 3.5 / 3
2 / 2 / PCIe	4 / 2 / PCIe	4 / 3 / PCIe	4 / 3 / PCIe
Windows XP MCE 2005	Windows XP MCE 2005	Windows XP MCE 2005	Windows XP MCE 2005
Norton AntiVirus 2005	Unistal-Kaspersky	Norton Internet Security 2005	None
NTI CD / DVD Maker 7	Many Microsoft Games and 1000 Golden Games CD pack	Encyclopaedia Britannica 2005 DVD, Sonic MyDVD Plus, MS Works, WinDVD	Nero Burning ROM 6, CyberLink Suite, TUL i-TV
4 / 4	4 / 4	4 / 4	4 / 4
Remote Control, Conexant TV-Tuner	Remote Control, Headphones, 128 MB USB Drive	Remote Control, Conexant TV-Tuner, 3 LightScribe CDs	Remote Control, ATi Rio 550 TV-Tuner
1	1	3	1
<b>28.10</b>	<b>31.14</b>	<b>34.10</b>	<b>28.31</b>
9012 / 6525	8787 / 6366	9351 / 6675	9816 / 4478
21120 / 28342	21563 / 28574	22987 / 30467	20869 / 22460
51 / 6	47 / 7	49 / 6	43 / 9
57 / 42	53 / 38	54 / 40	56 / 37
57 / 43	53 / 37	54 / 40	23 / 23
2325 / 2324	4630 / 4658	4942 / 4941	2710 / 2714
32.12 / 97	28.91 / 108	32.09 / 114	37.37 / 106
28.4 / 22.5	50.4 / 41.6	64.6 / 47.5	29.2 / 23.2
44.21 / 28.12	34.33 / 30.1	102.77 / 48.83	45.82 / 30
21.5	21.1	23.6	24.1
3825	3745	4436	3543
4701 / 2245	4661 / 4640	4957 / 4960	4063 / 3340
945 / 4012	1091 / 4437	1418 / 4810	1040 / 3663
58	57	57	53
151	145	131	156
4 / 4	4 / 4	4 / 4	4 / 4
3.25 / 3.25 / 3.25	4.5 / 3.5 / 3.5	4 / 4 / 3.5	4.5 / 4.5 / 3.5
1.5 / 1.5	3.5 / 3.5	2.5 / 2.5	2.5 / 2.5
<b>45,999</b>	<b>48,990</b>	<b>64,990</b>	<b>51,519</b>
8.00	7.51	5.66	7.14
<b>64.92</b>	<b>67.00</b>	<b>71.13</b>	<b>64.93</b>
 <ul style="list-style-type: none"> <li>+ Gigabit LAN</li> <li>- Low memory and hard drive capacity</li> </ul>	 <ul style="list-style-type: none"> <li>+ Good package bundle</li> <li>- No bundled TV-Tuner</li> </ul>	 <ul style="list-style-type: none"> <li>+ Great performance and package</li> <li>- Expensive</li> </ul>	 <ul style="list-style-type: none"> <li>+ Reasonably low price; 17-inch LCD</li> <li>- None</li> </ul>

RW drive—this was with the HP m7280in. A LightScribe drive can burn labels onto compatible media: you burn a CD/DVD, then flip it and burn the label! Also, the HP and HCL PCs came with wireless keyboards and mice.

The HP came with an ATi X300 SE with 128 MB of DDR RAM, which allows you to enjoy a fair amount of gaming. The Sahara R3 featured the ATi Radeon Xpress 200 graphics chip, which happens to be DirectX 9 compliant. These two MCPCs also featured TV-Out.

The Acer and HP featured multi-card readers on the front, in addition to the USB and audio connectors. The Acer needs the front USB ports since it has only two USB ports at the back, and these are used up by the mouse and keyboard.

The HP cabinet was unique: it had front connectors for S-Video and Composite In, and a removable drive bay to plug in an external hard drive. On the top was a small compartment for storing optical media.

The Acer E500 decided to do away with the stock heat sink of the Pentium 4, and came with a custom heat sink-fan assembly, in which the fan blows hot air sideways, directed towards the rear exhaust grille of the cabinet.

Being Media Center PCs, all the four came with remotes. The remote that came with the Sahara R3 was the sleekest, though it featured fewer function keys.

The HCL Beanstalk came with a decent speaker set—a 2.1 set from Altec Lansing. It came with a good software bundle, consisting of four Microsoft games and a 1,000-game CD pack.

## Performance

The Sahara R3, equipped with the most powerful processor in this test (the Athlon64 3500+), scored very high in SiSoft Sandra's CPU arithmetic test. The other PCs scored better in the multimedia benchmark.

The HCL and HP PCs featured memory in dual-channel configuration, which boosted their memory bandwidth to almost double the regular bandwidth. This reflected in the memory benchmarks. Demanding applications such as video capture and gaming can benefit from this.

Armed with the ATi Radeon X300 SE, the HP scored the highest in the gaming tests, leaving the others behind by a huge margin.



HP Pavilion m7280in

The HP m7280in will therefore afford a good level of gaming.

PCMark04 again saw the HP m7280in score the best, proving that it is capable of good overall performance. In the Business Winstone 2004 benchmark, the Sahara R3 and the HP m7280in were neck and neck, posting equally good scores. These PCs are therefore not just for multimedia applications—they handle office and business applications just as well.

In the LCD display tests, the Sahara R3 scored very high in the sharpness and focus departments, but we must mention that the quality of the LCD on the Sahara R3 is not too good: it shows a colour tinge when viewed at a vertical angle, which wasn't the case with the others.

When it came to speaker quality, the Acer with its Altec Lansing speakers won hands down.



## Conclusion

There were only four contenders in this category, and this was no major shootout. But these MCPCs did sport better features than the PCs in the earlier categories.

The main contributing factors towards the cost of these PCs are the operating system and components such as TV-Tuners with hardware MPEG encoders. The HP m7280in is priced at Rs 64,990, which makes it the most expensive PC in this entire test; the Acer E500 at Rs 45,999 is the lowest-priced in the MCPC category.

The HCL Beanstalk 4958 emerged the second-best, despite it not having come with a TV-Tuner card. It scored well in the gaming tests, and also exhibited higher memory bandwidth due to its dual-channel configuration.

Taking into account the three-year on-site warranty (unlike the one year provided by the others), and also the better features and performance, we awarded the Digit Best Buy Gold to the HP Pavilion m7280in.

## Summing It All Up

We were disappointed at the lack of PCs targeted at gamers: most manufacturers preferred onboard graphics rather than an AGP or a PCIe graphics card, which is an absolute necessity for any decent gaming capability. The exceptions were the HP Media Center n7280in and the Acer Aspire V4324, but even these came only with entry-level graphics cards. Similarly, we felt that in the sub-25K category, the manufacturers could have easily provided CD-Writers rather than CD-ROM drives.

The Media Center market is still at a nascent stage in India, and most PC users in this country are only just waking up to the fact that such PCs exist. They haven't gotten very popular so far because of their high prices, which in turn are largely due to the fact that the XP Media Center Edition OS is tightly integrated with such PCs, and you cannot get the OS off-the-shelf—even if the components are available from abroad. This picture is sure to have changed when we test PCs the next time round; prices of MCPCs are sure to plummet. And, of course, we expect the PCs that were priced above Rs 25K to move into the sub-25K bracket. ☐

jayesh\_limaye@thinkdigit.com

Contact Sheet		Branded PCs		
Brand	Company	Phone	E-mail	Web Site
Acer	Acer India (Pvt) Ltd	080-25219520	ailenquiries@acer.co.in	www.acer.co.in
Compaq	HP India Sales Pvt Ltd	0124-2566111	incontact@hp.com	www.hp.com
Datamini	GES Technologies Ltd	022-28290296	sayeed@ges.co.in	www.ges.co.in
HCL	HCL Infosystems Ltd	0120-2520977	wecare4u@hcl.in	www.hcl.in
HP	HP India Sales Pvt Ltd	0124-2566111	incontact@hp.com	www.hp.com
Krypton	Priya Ltd	022-56663100	prom_bom@priyagroup.com	www.priyagroup.com
LG	LG Electronics India Pvt Ltd	0120-2560900	salvi@lgezbuy.com	www.lgezbuy.com
Sahara	Sahara Computers and Electronics Ltd	0120-5397777	info@saharacomputers.co.in	www.saharacomputers.co.in
Zenith	Zenith Computers Ltd	022-28377300	info@zenith-india.com	www.zenith-india.com



# Organising A Photo Collection

Photos make for great reminiscing and viewing, don't they? I had been on a well-deserved breather. Once I returned, I found I had more than a hundred images of the glorious time I spent. And that meant sorting, arranging and popping them into albums. This time, I decided to see how much of a difference technology would make when it came to creating and sharing my photo album.

**Jyotsna Rege** (jyotsna\_rege@thinkdigit.com)



**You can arrange your photos in an album...**



**... Or you can scan and upload them**

1

I collected my photos from the photo studio. At home, when I tried to sort them, it sure wasn't easy. Did I take the boat ride first or the trek? Both were at the same location. And so I went about trying to arrange the pictures chronologically according to the venues and activities.

**Time taken: 35 minutes for 60-odd photos**

I had to get the photos scanned. Taking advantage of the office scanner, I copied them onto my PC. It was fairly easy. After this, it was a matter of some reorganising on my PC. This did take some effort though.

**Time taken: Almost an hour  
Cost: Having used office equipment, nothing**

2

I moved on to placing all the snaps inside the photo album. Wait a minute! I realised I first needed an album. I spent the better part of the morning finding a suitable album.

**Time taken: 2 hours  
Cost: Rs 150 for the album**

My second task—of searching for an online photo album—was truly delightful. There were many options to choose from, but I finally settled on Yahoo! Photos which I found relatively user-friendly.

**Time taken: 20 minutes**

3

Inserting photos in an album is faster when you have some people helping you. In my case, it was even better as the duo helping me were the ones who took the same trip. Well, we took an hour to complete the job, but the presence of friends helped me relive the trip!

**Time taken: 1 hour**

All I had to do was upload the photos from my PC onto the album. The online album also had a feature wherein I could upload as many photos as I wanted with a single click! I could post comments about the pictures, and even invite others to do the same. Soon I had the album created and arranged.

**Time taken: 10 minutes**

4

Finally, they were all in. And did it feel good! I finally had an answer to all the queries of "Are the snaps out yet?" I could now say, "Yes, they are. And no, I am not bringing them over. If you want to see them, come on over."

Voila! My album was ready for viewing. I informed friends and family via e-mail, and they could visit the site at their convenience. This way, no-one could complain about not being able to access my pictures.

**Total Time Taken: 3 hours, 35 minutes  
Total Cost: Rs 150**



**Total Time Taken: 1 hour, 26 minutes  
Total Cost: Rs 0**



AND  
THE  
WINNER  
IS...

Frankly, the old way is just not "the way" anymore. While it did offer me the luxury of poring through the album, it took a lot of time to fill in the photos. The album now lies among my already huge collection of photo albums. I will also need to preserve them, which is another task altogether. On the other

hand, uploading pictures online was quicker. It's just the scanning that took some time. But hey, they're now online—for posterity! Plus, I could also post notes along with my photos. Having all my trip photographs online meant no repeated trips to the cupboard. The Tech Way is a sure winner!

# Codec Headache

If you've ever wanted to pull your hair out when a DVD Movie refuses to play, or a video you downloaded plays more like an MP3 than a video, you have a tech nightmare on your hands. Here's how you can fix it

Robert Sovereign-Smith

How many times have you tried to play a video file in Windows Media Player and got a message that informs you of a missing codec? Sometimes, even this doesn't happen, and the file refuses to play, or just plays audio with no video, or vice-versa.

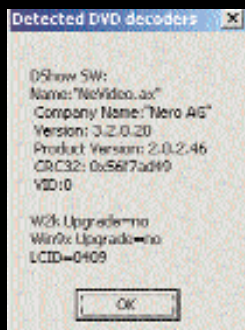
A codec (code-decode) is nothing more than a set of instructions given to a software media player so it can understand the file it's reading. If you try and play a file that's encoded and compressed with a certain algorithm, you need the same algorithm's decoding capabilities in your computer's software library. That's why you need to have codecs installed on your computer.

## The DVD Codec

Many users, despite having DVD-ROM drives, don't prepare their systems for DVD movies. They don't install all the software that comes with their drives.

Software such as PowerDVD install MPEG-2 codecs, thus enabling your computer to play DVD movies. If the MPEG-2 codec isn't installed, you're never going to be able to play movie DVDs. This can cause confusion: regular data DVDs, such as the *Digit* DVD, will play fine.

In order to make sure that you have an MPEG-2 DVD codec installed, go to Start > Run, type in "DVDUPGRD /DETECT" (without the quotes) and press [Enter]. You should see something like the visual



Use "DVDUPGRD /DETECT" to check for DVD decoders

shown alongside.

If there is a codec installed, then you should try and play the DVD movie with the program that installed it. If there's no codec installed, you need to install

one. These codecs are installed along with any software DVD movie player, such as PowerDVD.

## Other Video Codecs

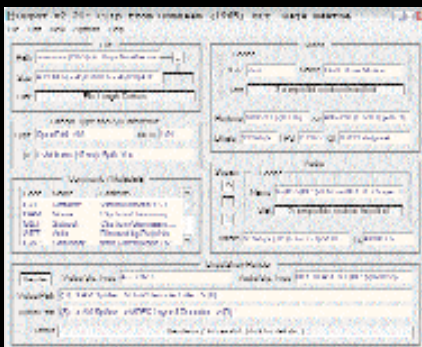
Most of the movies you download from the Net (legally or illegally) are compressed DVD rips. Just as people started making MP3s from audio CDs, people now make AVI files from DVDs using a particular codec for compression in file size. Some of the more popular codecs are the DivX and Xvid codecs, which are freely available.

You'll often find that the same movie could be over 2 GB in size or just a few hundred MB. This happens because of the quality settings chosen when compressing the original DVD movie.

Unfortunately, just as with DVD movies, AVI files encoded and compressed with a codec need the same codec to be installed on your system.

Since there are hundreds of codecs available, just relying on your media player to figure out which one is needed, really isn't a good solution. Windows Media Player, for instance, will often just not identify the required codec properly, and will try to connect to the Net and then give you an error message. There are two possible solutions for this problem:

1. You can install codec packs that contain all the popular codecs used to encode the majority of files on the Web. These packs, such as Kazaa Lite Mega Codec Pack, should solve almost all the



Just open a file in GSpot to see what codecs were used to encode it



Use GSpot Codec information Appliance to check whether your system has any problems of missing codecs

codec problems you may encounter with your system.

However, they also install a lot of unnecessary codecs which you may never use. For those who are paranoid about keeping their registry as clean as ever, manually choosing which codecs you want while installing the pack is, perhaps, a good way to go.

2. If you really want to get to the heart of the matter and find out which file was encoded with which codec, a third-party tool such as GSpot Codec Information Appliance will help you with all the information you need. All you have to do is go to [www.headbands.com/gspot](http://www.headbands.com/gspot), download the installer and install it.

Now, if a file refuses to play, you can run GSpot, choose to open the file and press 'Render'. GSpot will attempt to play the file, and simultaneously match the codecs used with its own database of codecs. When a problem occurs, or some codec does not work as it's supposed to (corrupt codec files), GSpot will tell you exactly what the problem is.

Though there are a few problems with audio streams in video files, these generally get sorted out upon installing a codec pack. The same principles as with video codecs apply.

The lack of uniformity in compression algorithms has brought us to a stage where we have millions of video files available on the Internet, but unfortunately, too many different ways of encoding them. We hope you're now better armed to deal with these problems in the future. ■

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## Sony VRD-VC20 DVDirect

Sony has recently introduced the world's first hybrid DVD recorder, capable of burning DVDs with or without a PC—the Sony VRD-VC20 DVDirect. It works as an external 16x DVD burner when connected to the PC, and supports all the common formats.



The real advantage of the DVDirect is that it connects to various video sources such as VCRs, analogue and digital video cameras. DVDirect synchronises with a connected DV Camcorder. Recording and pausing can be controlled with the camera buttons. Also, if your video camera's batteries die out, the recording is paused and you can resume recording after charging! There is no video output on the device, and the video camera needs to have a video display if you want to monitor what you're recording.

Company **Rashi Peripherals Pvt Ltd**

Price **Rs 19,990**

Phone **022-28221013**

E-mail **navinderc@rptechindia.com**

Web site **www.sony.com**

Rating 

## MSI MegaView 588

### Let's Entertain!

The MSI MegaView 588 is a great personal entertainer. The 3.5-inch, wide view angle QVGA LCD provides vivid video playback. It supports WMV, WMA, MPEG-4, DivX, WAV, MP3, JPEG and GIF. MSI has also provided a transcoding utility to convert videos into formats playable on the player.

The device sports a 20 GB hard disk, a recorder function that allows you to record videos in MPEG-4, a microphone to record short memos, and an FM tuner. It is also equipped with USB 2.0 On-The-Go, and an SD/MMC card reader.



The Li-Ion rechargeable battery lasted us 3.5 hours with video and six hours with audio playback. The audio quality of the earphones is acceptable, and sound from the inbuilt speaker is exceptionally clear.

Company **Micro-Star International**

Price **Rs 24,500**

Phone **011-51758808**

Web site **www.msi-india.com**

Rating 

# New & Notable

## Yes MMP8 Portable DVD Player

### Watch All You Want!

The Yes MMP8 is a portable DVD player with a difference—it features a slate form factor and is disc-based. There is no internal memory to store media. Measuring 22 x 15.3 x 2.6 cm and weighing close to 700 grams without the battery, the device is a bit bulky—but makes up on features and performance.

The MMP8 supports a variety of media formats, from standard DVD, VCD and MP3 to picture CD and even MPEG4 and DivX. Yes, that's right—you can also view DivX movies burnt onto CD or DVD. CD-RW and DVD-RW discs are also supported. Where performance is concerned, we found no issues—the MMP8 played all the media formats we tried out.

The glossy black front fascia sports a decent-sized 7-inch screen. The controls are located on both sides as well as on the top edge, and the optical drive can be accessed from the rear. The included rechargeable lithium battery pack affixes to the rear right.

Audio output is through an integrated speaker and through the bundled earphones. A unique feature is the availability of a USB port and a Flash card slot. The MMP8 can play supported media formats—including audio, video and images—straight off any USB device such as USB drives, digital cameras, MP3 players and digital



camcorders, and also off MMC, SD and Memory sticks. You can also connect the player to your TV and use the bundled wireless slim remote.

SPDIF digital output is also provided, so you can enjoy 5.1 surround sound on an existing external Dolby Digital or DTS amplifier. Apart from a standard power adaptor that powers the player and charges the battery, you get a car charger for when you take the device with you on a road trip.

The player displays an Explorer-like interface to list the music and video tracks on a disc. Menu navigation is easy enough, and the remote allows you to specify settings such as the TV system (PAL/NTSC), TV type (4:3/16:9), password, and more.

The bundled 4200 mAh battery lasted about 3.5 hours with DivX playback—enough for even a long movie. Apart from being somewhat bulky and carrying a slightly high price tag, this is a decent product to consider if you don't want to miss out on your entertainment on a vacation.

Company **Thakral Computers Pvt Ltd**

Price **Rs 15,990**

Phone **0 98101 38708**

E-mail **info@iloveyes.net**

Web site **www.iloveyes.net**

Rating 

## Asus W1S00

The Asus W1S00 laptop is the first laptop featuring a TV-Tuner to have arrived at our Test Centre. Specifications include an Intel Pentium M 1700 MHz processor, 512 MB of RAM, a 60 GB hard drive, and a Combo drive. The vibrant 15.4-inch 16:9 wide screen has a WXGA+ resolution of 1680 x 1050 and good viewing angles. The 64 MB ATi Mobility Radeon 9700 graphics card makes for a good gaming laptop.

Almost all the connections are on the left - USB 2.0, LAN, phone jack, PCMCIA, FireWire, and the input to the TV-Tuner. There's also a multi-card reader that reads SD/MMC/MS/MS Pro cards, as well as Wi-Fi and IR. The remote control is tucked inside the PCMCIA slot, where its Li-Ion battery charges; it can be pulled out when needed. The remote works with the bundled Asus Mobile Theatre, a

media centre application.

The sound system consists of two speakers and a subwoofer hidden on the bottom surface. The bundled

earphones help realise the 4.1 sound mode, and the sound quality is commendably good for a laptop. However, the W1S00 is below par when it comes to office applications, and battery life is a relatively low 85 minutes.

Company **ASUS Tek Computer Inc.**

Price **Rs 1,25,000 + taxes**

Phone **022-56290787**

E-mail **info\_india@asus.com.tw**

Web site **www.asus.com.tw**

Rating 

## Logitech G15 Keyboard

### Play Away!

Logitech's G15 keyboard is targeted at gamers. It's wider than most other keyboards, and the wrist rest offers good support. There are two USB ports on the front, and it has a controllable blue backlight.

The G15 has 18 programmable keys, each of which have three modes. The accompanying macro profiling application lets you assign a particular combination of keys to a single such key. These keys can really help RTS and MMORPG players. Recording macros is simple, and Logitech has provided profiles for most new games.

Of particular interest is the new LCD display, which isn't just a display—it's a platform Logitech is trying to push. If game developers take to it, game statistics such as ammo and life will be displayed on the screen. For now, Logitech has included an LCD clock, a performance monitor and a media display (for WinAmp, iTunes and WMP info) for the LCD.

At Rs 5,000, this keyboard is worth the money if you're an avid MMORPG or RTS gamer.



Company **Logitech Electronic India Pvt Ltd**

Price **Rs 4,995**

Phone **022-26571160**

E-mail **response@logitech.com**

Web site **www.logitech.com**

Rating 

## Logitech G5 Laser Mouse

### Game for more?

Part of the gaming series from Logitech, the G5 is a corded laser mouse sporting Logitech's new colour combination—a mixture of brick-red, silver and smoke black. The rugged feel and rough texture makes for perfect grip. The mouse is designed to neatly fit into the palm of a right-hander, with a nice groove on the left for the thumb—but we do think it may be a little too big for those with smaller palms.

The G5 is very light, and speaking of weight, it comes with eight little weights—of 4.5 gm and 1.7 gm—which you can add to a small removable tray at the base to attain the right weight for your gaming comfort!

Installing drivers for the mouse is not essential, as almost all the buttons function as they should even without driver installation. If you install the drivers, a lot of features can be controlled via the Logitech SetPoint utility that comes with the drivers.

Apart from the usual buttons, the scroll wheel can also be used as a button—you could, for instance, use the button to enable page zooming, and then move the scroll up or

down to zoom in or out respectively. There's also a button just above the thumb groove—we wish there were two! Two buttons would not only enhance Web site navigation, but could also be configured for various gaming actions.



The mouse sensitivity can be increased or decreased on the fly using two tiny buttons just below the scroll. Higher sensitivity suits fast FPS games such as *Unreal Tournament*, and decreasing the sensitivity while using a sniper will bag more 'head shots.' The sensitivity presets are 400 dpi, 800 dpi, and a max of 2,000 dpi. But using the SetPoint utility that the driver installs, you can change the sensitivity settings. You can add two user-defined sensitivity levels in between 400 to 800 dpi and 800 to 2,000 dpi.

The G5 scores high for the level of customisation it provides, but at the end of the day, it is an expensive mouse.

Company **Logitech Electronic India Pvt Ltd**

Price **Rs 4,450**

Phone **022-26571160**

E-mail **response@logitech.com**

Web site **www.logitech.com**

Rating 



**XFX XGear PC Wireless Controller**

We managed to lay our hands on XFX's soon-to-be-launched XGear PC Wireless controller, so we could give you a sneak preview!

This ergonomically designed wireless gadget fits the hands perfectly, and the scratch-free rubber handles make for easy grip. The controller feels nicely balanced in your hands while playing—a welcome feature in those tricky situations when you're fighting to save your life. The RF receiver plugs into a USB port, and the controller can be used within a distance of 30 feet from your PC.

Two reflex motors in the controller translate signals from games into actual vibrations to simulate impact. A switch at the bottom lets you choose between low and high intensity levels for the vibrations.

A macro button on the controller lets you assign

up to a 30-step button sequence to four different buttons. This is useful when you want to execute complex manoeuvres in strategy or third-person shooter games with the help of a single button press. Other special functions of the controller include a turbo button for rapid firing, and assignment of keyboard or mouse keys to the controller using the driver.

The wireless controller uses 4 AA batteries, and goes into sleep mode to conserve power when no key is pressed for five minutes. This is a must-have accessory for serious gamers—watch out for the launch!

Web site [www.xfxforce.com](http://www.xfxforce.com)

**Nokia N70****Multimedia To The Max!**

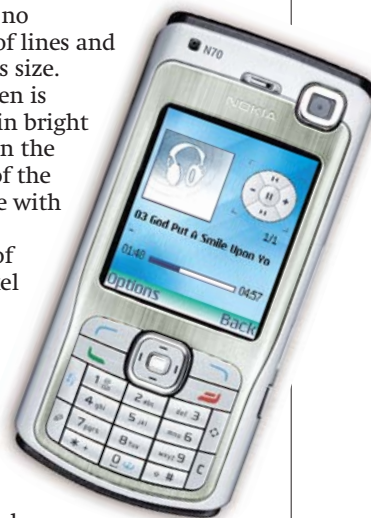
The classy N70 is the latest phone from Nokia.

Weighing 126 grams, the N70 is no featherweight; however, clever use of lines and curves helps in masking the phone's size.

The 176 x 208, 262 K colour screen is gorgeous and remains legible even in bright outdoor settings. The large screen on the N70, however, has limited the size of the keypad, which was our biggest gripe with this phone.

The N70 has an extensive list of features that includes a 2-megapixel camera for stills and video, a 0.3-megapixel camera for videoconferencing, a music player capable of playing most audio formats, and FM radio. Audio playback was great, and the FM reception splendid. The camera does a good job in most lighting conditions; however, you'll need to be extra careful about camera shake with this phone.

The battery lasts around two and a half days with normal use. Bundled with the phone are a 64 MB RS-MMC card and a hands-free earpiece. The phone retails at Rs 27,919.



Company **Nokia India Pvt Ltd**

Price **Rs 27,919**

Phone **0124-5199000**

E-mail [natesh.bv@nokia.com](mailto:natesh.bv@nokia.com)

Web site [www.nokia.co.in](http://www.nokia.co.in)

Rating 

**Lenovo ThinkPad Z60t****The Fast And The Strong**

The first ThinkPads to feature widescreen LCDs, the Z series from Lenovo moves away from their strictly business styling for notebooks. The Z60t is a thin and light model in the range, and weighs a little less than 2 kg. Featuring a 14-inch widescreen LCD, the Z60t comes with an option of covers—black or titanium. The titanium special-edition cover provides added durability and a scratch-resistant finish.

Powered by an Intel Pentium M 760J processor running at 2 GHz on a 915GM chipset and complemented by 512MB of DDR2 memory, the Z60t runs most standard applications with ease.

An 80 GB 5400 rpm SATA hard drive provides ample storage space. Other features include an integrated DVD-RAM drive, keyboard light and SD card reader. Connectivity options include gigabit LAN, a 56K modem, Wi-Fi, Infrared and Bluetooth. Available ports include 3 x USB, FireWire, PC card slot, VGA, S-Video and audio jacks.

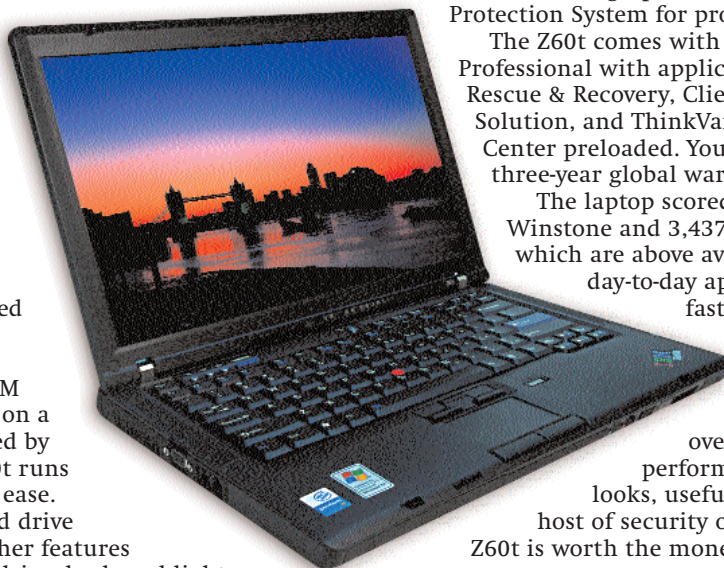
The full-sized keyboard features new multimedia keys, along with touchpad and pointing stick options for pointer control. Security and protection features include

a biometric fingerprint reader and Active Protection System for protecting data.

The Z60t comes with Windows XP Professional with applications such as Rescue & Recovery, Client Security Solution, and ThinkVantage Productivity Center preloaded. You also receive a three-year global warranty.

The laptop scored 21.3 in Business Winstone and 3,437 in PCMark 2004, which are above average; this means day-to-day applications will run faster. Battery life is over two hours with DVD playback.

This laptop is, overall, a very decent performer: with great looks, useful features and a host of security options, the Lenovo Z60t is worth the money.



Company **Lenovo (India) Pvt Ltd**

Price **Rs 94,900**

Phone **1600 4254240**

E-mail [buy@in.lenovo.com](mailto:buy@in.lenovo.com)

Web site [www.lenovo.com/in](http://www.lenovo.com/in)

Rating 

## Motherboards

### Mercury PI915GVM

- ⊕ Supports PCIE, DDR/DDR II RAM, 6-channel audio
- ⊖ Only 2 PCI slots. No SATA.

Contact Kobian ECS India Pvt Ltd  
Phone 022-23020767 / 774  
E-mail mumbai@kobian.com  
Price Rs 4,750



### MSI RS480M2-IL

- ⊕ + PCIE based, 6 channel audio, supports 4 GB RAM, socket 939, Firewire port
- ⊖ No Gigabit

Contact Tirupati Enterprises  
Phone 033-22251192  
E-mail mail@tirupati.net  
Price Rs 4,950



## Graphics cards (High End)

### XFX GeForce 7800 GTX 256 MB

- ⊕ Extreme performance, great price, exotic features
  - ⊖ None
- Contact Rashi Peripherals  
Phone 022-28221013  
E-mail navinderc@rptechindia.com  
Price Rs 32,950



## Hard drive based MP3 Player

### Samsung YH-J70

- ⊕ Good audio quality, video playback
- ⊖ Average bundled earphones

Contact Samsung India Electronics Ltd.  
Phone 011-51511234  
E-mail subrotah.b@samsung.com  
Price Rs 22,900

## PVR Software

### WinDVR 3.0

- ⊕ Ease of use, Pause TV, Zoom-in on TV, Tiled Preview of channels, DV-to-MPEG, Good picture clarity
- ⊖ None

Contact www.intervideo.com

## Cell Phones

### Sony Ericsson W800i

- ⊕ Feature rich and fast phone
- ⊖ Can do with a better colour co-ordination

Contact Sony-Ericsson India  
Phone 124-2560808  
E-mail dhiraj.soni@sonyericsson.com  
Price Rs 25,000



## Linux

### Xandros Desktop OS 3

- ⊕ Simple to use
  - ⊖ Paid
- Contact G.T. Enterprise  
Phone 080-2669 5890/91/92/93/94  
E-mail gtdrom@vsnl.com  
Price Rs 3,914



### SuSe 9.3 Linux Professional

- ⊕ Up-to-date software bundling
- ⊖ None

Contact G.T. Enterprise  
Phone 080-2669 5890/91/92/93/94  
E-mail gtdrom@vsnl.com  
Price Rs 4,398



# The A-List



The best products tested so far in different hardware and software categories

## 5.1 Speakers

### Artis X10 Mini

- ⊕ Compact, sturdy, clear sound
- ⊖ Slightly weak bass

Contact Kunhar Peripherals Pvt Ltd  
Phone 022-56345758  
E-mail salesbom@kunhar.com  
Price Rs 14,000

## Graphics Cards (Mid Range)

### XFx GeForce 6600GT 256 MB

- ⊕ Great performance, good features
- ⊖ High price

Contact Rashi Peripherals  
Phone 022-28221013  
E-mail navinderc@rptechindia.com  
Price Rs 13,999



## Flash based MP3 Player

### Samsung YP-T8

- ⊕ Feature packed, video playback
- ⊖ Average bundled earphones

Contact Samsung India Electronics Ltd.  
Phone 011-51511234  
E-mail subrotah.b@samsung.com  
Price Rs 14,900



### YES YMP-910

- ⊕ Excellent audio performance, extra features
- ⊖ Average quality earphones

Contact Thakral Computers  
Phone 022-24914090  
E-mail prashantgoel88@gmail.com  
Price Rs 7,640

## CRT Monitors (17-inch)

### Acer AC715

- ⊕ High resolution of 1600 x 1200 @ 75 Hz, good reproduction of finer details
- ⊖ None

Contact Acer India Pvt.Ltd.  
Phone 080-5219520  
E-mail rajesh.aiyar@acer.co.in  
Price Rs 6,995

## CRT Monitors (19-inch)

### Samsung SyncMaster 997DF

- ⊕ Good colour reproduction, compact
- ⊖ None

Contact Samsung Electronics India  
Phone 011-51511234  
E-mail marketing@samsungindia.com  
Price Rs 13,999



## LCD Monitors (15-inch)

### Acer AL1512

- ⊕ Very competitively priced, good contrast ratio
- ⊖ No vertical swivel

Contact Acer India Pvt. Ltd  
Phone 080- 5219520-23  
E-mail rajesh.aiyar@acer.co.in  
Price Rs Rs 9,999

## LCD Monitors (17-inch)

### Acer AL714sm

- ⊕ Light, good greyscale reproduction
- ⊖ None

Contact Acer India Pvt Ltd  
Phone : 080-5219520 / 23  
E-mail rajesh.aiyar@acer.co.in  
Price Rs 14,999





**Digital cameras (Entry level)****Canon PowerShot A400**

- ⊕ Class leading performance and decent feature set
  - ⊖ A bit expensive in its class
- Contact Macro Foto  
Phone 022-22618639  
email macrofotoone@yahoo.com  
Price Rs.8,995

**Digital cameras (Mid Range)****Sony Cyber-Shot DSC-W5**

- ⊕ Reproduces some great photographs, good features to close the list
- ⊖ Relatively expensive in its class

Contact Sony India Pvt. Ltd.  
Phone 011-55006600  
E-mail mktginfo@ap.sony.com  
Price Rs.18,990

**Home Inkjet Printers****Pixma iP1000**

- ⊕ Economical; decent photo printing.
  - ⊖ No output tray; no PictBridge
- Contact Canon India Ltd  
Phone 0124-5160000  
E-mail www.canon.co.in  
Price Rs 3,195

**Office/ Photo Inkjet Printers****Canon Pixma iP 3000**

- ⊕ Fast, excellent photo and text printing
- ⊖ No LCD

Contact Canon India Ltd.  
Phone 0124-5160000  
Web site www.canon.co.in  
Price Rs 7,495

**Colour Laser Printer****Epson AcuLaser C1100**

- ⊕ Duplex printing, network ready, excellent performance
- ⊖ High Cost per page

Contact Epson India Ltd  
Phone 080-3051 5000  
E-mail aculaser@eid.epson.co.in  
Price Rs 36,500

**Mono Laser MFDs****Canon MF 3110**

- ⊕ High speed, low price
- ⊖ No fax

Contact Canon India Ltd.  
Phone 0124-5160000  
Web site www.canon.co.in  
Price Rs 19,995

**PCs above Rs 25K****Acer Aspire ASP V4324**

- ⊕ Good performance and package contents, low price
- ⊖ None

Contact Acer India (Pvt) Ltd.  
Phone 080-25219520  
Website www.acer.co.in  
Price Rs.25,999

**Media Center PCs****HP Pavilion m7280in**

- ⊕ Great design, features and performance
- ⊖ Expensive

Contact HP India Sales Pvt. Ltd  
Phone 0124-2566111  
E-mail www.hp.com  
Price Rs.64,990

**Digital cameras (Mid Range)****HP PhotoSmart 945**

- ⊕ 8X optical zoom, big lens results in some great photographs
- ⊖ Not quite pocketable

Contact J.J Mehta and sons  
Phone 022-24326865  
E-mail sales@jjmehta.com  
Price Rs Rs.16,500

**Digital cameras (High End)****Sony CyberShot DSC-P200**

- ⊕ Compact, 7 Mega Pixel performance oriented camera
- ⊖ None

Contact Sony India Pvt. Ltd  
Phone : 011-55006600  
E-mail mktginfo@ap.sony.com  
Price Rs.20,990

**Mono Laser Printers****Canon LBP 2900**

- ⊕ Great Performance, price
- ⊖ Lacks Duplex printing and network capabilities.

Contact Canon India Ltd.  
Phone 0124-5160000  
Web site www.canon.co.in  
Price Rs 9,995

**Brother MFC-8440**

- ⊕ Good print and scan quality, Sheetfed & CIS scanner
- ⊖ Low scan speed

Contact Brother International.  
Phone 022-25797470  
Web site www.brother.co.in  
Price Rs 35,000

**Value PCs****HCL Ezeebiee 4981**

- ⊕ Great performance and upgradable
- ⊖ None

Contact HCL Infosystems Ltd.  
Phone 0120-2520977  
Website www.hcl.in  
Price Rs.24,990

**Lifestyle Ultra Portable Laptop****Sony VAIO VGN-S46GP/S**

- ⊕ Good looks, Great performance, excellent LCD display
- ⊖ None

Contact Sony India Pvt Ltd  
Phone 011-55006600  
E-mail mktginfo@ap.sony.com  
Price Rs 99,990

**Lifestyle Workhorse Laptop****Acer Ferrari 4002**

- ⊕ Great looks and flaunt value, great performance
- ⊖ None

Contact Acer India (Pvt)Ltd  
Phone 080-25219520  
E-mail ailenquiries@acer.co.in  
Price Rs 99,999



# India.gov.in

Exclusively catering to the public, those with civic sense will be pleased with India.gov.in

Jyotsna Rege

As the national portal of India, the [www.india.gov.in](http://www.india.gov.in) claims to be “developed with an objective to enable a single window access to information and services being provided by various Indian Government entities.”

Indeed, we can say that the statement is justified. For the fairly simple objective that the site has, it packs a whole lot of data. Of the few sites that provide information on the Indian government, we found this site to be the most comprehensive despite its fairly recent launch.

## All About India

As part of the national e-governance plan, the site is designed by the National Informatics Centre (NIC). Its Web pages have a pristine, well-segregated look and appear multi-hued at first glance. Popular customary icons and colourful images of the Indian culture are placed on the top bar. Designed for use by both nationals and visitors, the site provides the latest updates on the activities and legislations of the Indian government.

The prominent sections ‘Business’, ‘Overseas’, ‘Citizens’, ‘Government’, ‘Know India’, and ‘Sectors’ are very comprehensive.

Under ‘Citizens’, there are eight links—Health, Education, Employment, Housing, Law & Order, Travel & Tourism, Banking & Insurance, and Taxes. Now, if you just click Health, five other links pop up—Schemes & Programmes, Alternative Systems of Medicine, Hospitals & Medical Institutions, Government & Health, and Acts, Laws & Policies—well, you get the idea.

Right in the middle of the home page, is a section called ‘Spotlight’ featuring the Special Economic Zones Act 2005. This section is regularly updated and focuses on the most topical issues. Moreover, at the bottom of the Web site are links pertaining to Maps, Web Directories, Greetings and other miscellaneous items. Currently, the Web site is also displaying a banner regarding the *Pravasi Bhartiya Divas* that will be held in January 2006. The site also offers Web casts of the live proceedings of Rajya Sabha.

## Useful In Its Entirety

The site has put together extremely useful, interesting and varied content. The Maps section displays demographic and sectoral maps besides containing national and state maps. Users can get themselves registered on the site. And every time a user logs into the site, say, if he or she is a resident of



The ‘How Do I?’ page is a great repository of information and answers for everything India related

Bhopal, then the user can access all possible data there is on Madhya Pradesh. This section has been customised based on the user profile saved with India.gov.in. State and national directories are also available which have a search base with numbers and names and again, they all are up and running. If you have a registered phone number, it's bound to be present here!

At the extreme right side of the page is a section called ‘How do I?’. Here, a multitude of things, from obtaining various certificates to determining the status of stolen vehicles has been explained verbatim. Although the link is divided into seven subheadings and has all possible information a citizen of India would require. Imagine being able to check the status of the speed post mail you sent! Well, you can do that here.

The Web site has its shortcomings—the login box is visible only after navigating to the right of the page. You will practically stumble across it rather than spot it when scanning the page. Although the site boasts of various links, very few of them are actually available.

All said and done, these flaws are quite trivial compared to what the site offers. Information can be accessed without losing one's way and one can access other features easily without having to divert to the home page, courtesy a tool bar on the right side of every page. Besides, the number of links India.gov.in provides to other Web sites is exhaustive. All in all, the site collates all that is necessary and does so with ease. ■



The home page: perhaps a little too much clutter and colour, but comprehensive nonetheless


jyotsna\_rege@thinkdigit.com



## Advanced Features In Word 2002

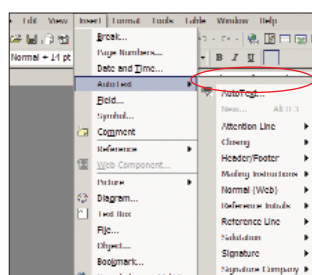
Most or all of us use Word, but not many of us bother with its advanced features. These features aren't "hidden" in any way—they're right there in the menus; it's just that we don't bother to experiment! Here are some features all of us can find use for at some time or the other.

### AutoText

 AutoText offers a way to store and quickly insert text, graphics, fields, tables, bookmarks and other items that you use frequently. Word comes with a number of inbuilt AutoText entries divided into different categories. For example, if you're working on a letter, Word can offer letter-specific AutoText entries, such as salutations and closings.

You can also, of course, create your own AutoText entries. It's as easy as **Insert > AutoText > AutoText**. Here, you'll find the field where you can enter your own AutoText. This is useful if you often use the same large or complex item and don't want to have to reinsert or retype it, or if you want to store text that contains a particular style or format. For example, if you send customers a monthly report that always includes the same lengthy disclaimer, you can create an AutoText entry for the disclaimer.

When you create an AutoText entry, it's automatically linked to the paragraph style of the text or graphic you used to create the entry. This style is what Word uses to determine which submenu the new AutoText entry appears in on



Click **Insert > AutoText**. The little bar in red above can be dragged

# Tips & Tricks

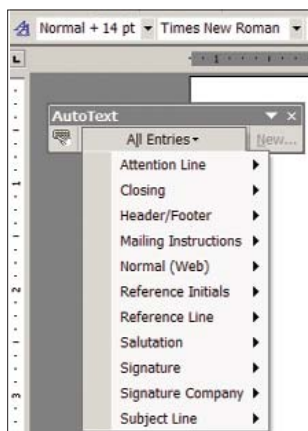
SECRETS THAT KEEP YOU AHEAD IN THE RACE

### GENERAL TIPS

Advanced Features In Word 2002 83  
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### 30 MINUTES EXPERT


Use Sticky Notes With Windows 85  
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Create Your Own Today Screen 88  
Themes For Pocket PC



The AutoText toolbar lists out AutoText in various styles

the AutoText submenu in the Insert menu. For example, if your report's disclaimer has the Normal style, Word links the AutoText entry to the Normal style. When you later want to insert the entry, you will find the entry on the Normal submenu (**Insert > AutoText**). In Word 2002, when you click **Insert > AutoText**, you'll see "Drag to make this menu float." Drag that item, and you will see the submenu.

### AutoCorrect

 AutoCorrect automatically corrects text errors such as incorrect capitalisation and typos. You can also use AutoCorrect in


create an AutoCorrect entry that contains a field, symbol, paragraph mark, imported graphic, or an object other than text. Word preserves the entry's original formatting. Select the text or graphic you want to store as an AutoCorrect entry.

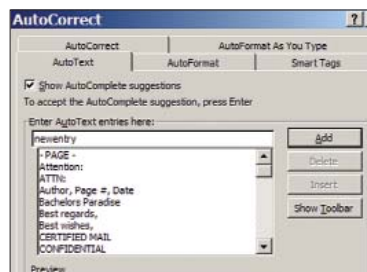
On the Tools menu, click 'AutoCorrect Options' and go to the AutoCorrect tab (make sure the 'Replace text as you type' checkbox is selected.)

In the 'Replace' box, type in what you want to replace—that is, the abbreviation or word that Word replaces automatically as you type. In the 'With' box, type in (or paste) what you want to replace that text with. If this contains formatting, the 'Plain Text' and 'Formatted Text' options will appear.

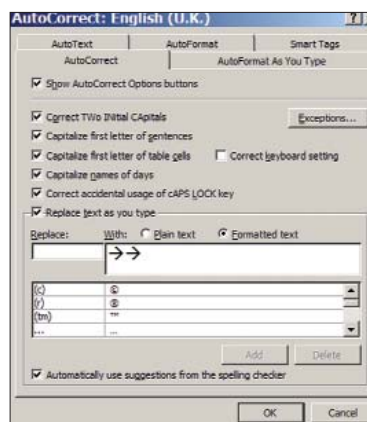
To save the entry without its original formatting, click 'Plain text', and to save the entry with its original formatting, click 'Formatted text'. Click 'Add'. When you're ready to automatically insert the AutoCorrect entry, type the entry name followed by a space or punctuation. You can store your own symbols as AutoCorrect entries. Go to **Insert > Symbol**. Click the symbol you want, and click 'AutoCorrect'. Store the AutoCorrect entry as usual.

### Choosing Between AutoText And AutoCorrect

 AutoText and AutoCorrect use different methods to insert entries automatically. After setting up an AutoText entry and turning on AutoComplete, you can choose whether or not to insert the entry into your document. By



How often have you corrected typos by backspacing and then retyping? Avoid all the hassle with AutoCorrect




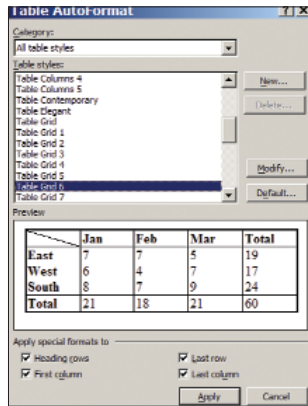
In AutoCorrect, you can choose between formatted and unformatted text. You'll want to choose the former in most cases

much the same way that you use AutoText, to store text or graphics you plan to reuse. If you create an AutoCorrect entry that contains text only, Word stores the entry without formatting. If you

contrast, when you use AutoCorrect to automatically correct text as you type, Word will always insert the text. If you decide you don't want the AutoCorrect entry, you must undo the insertion.

## AutoFormat A Table

 You can quickly format a table by using the Table AutoFormat command. The Table AutoFormat command will automatically resize your table to fit the largest entry and apply predefined borders and



Use TableAutoFormat to format a table using one of many styles


shading. To format a table by using Table AutoFormat, place the insertion point in the table to be formatted. Choose **Table > Table AutoFormat**. Select one of the predefined formats. Observe the preview window. As you select different formats, a representation of the format is displayed in the Preview area. Click 'OK' to apply the format to the table containing the insertion point.

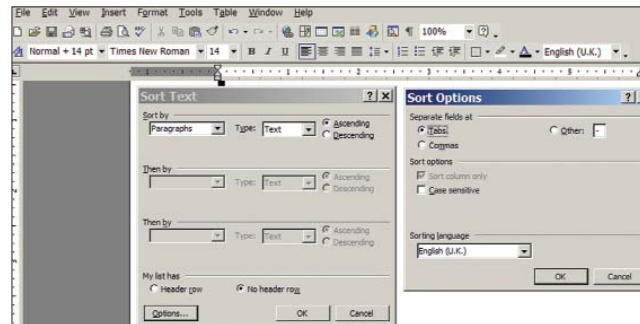
## Bet You Didn't Know

### Multiple Selection

With Word 2002, users can now use a feature that's been in Excel for a long time: multiple selection. This allows you to select multiple areas of text in a document simultaneously, so that you can then apply styles and formatting all at once. This feature is typically enabled by selecting some text and then using [Ctrl] to select other blocks of text, which is similar to the way you'd select multiple icons in Windows Explorer. One useful feature of multiple selection is that you can do searches within the area that are highlighted, excluding the unselected portions of the document.

## Sorting Data In A Table


 To sort data in a table, first make sure the header row is unique looking from the rest of the data (bold, italicised or larger). Put the mouse anywhere in the table. Choose **Table > Sort**. In the



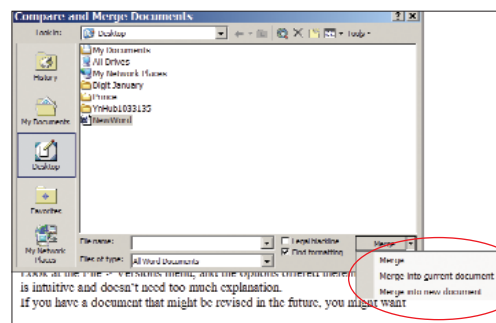
Did you know you could automatically sort data in a Word? After selecting to sort data, you're presented with various Sort Options

'Sort By' drop-down list box, select the field name by which you want to sort. In the 'Type' drop-down list box, select 'Text', 'Number' or 'Date' according to the contents of the column selected in the 'Sort By' box. Select 'Ascending' or 'Descending' and click OK.

## Comparing Documents

 Comparing documents is useful to view changes to a document that was not revised by using change tracking. Go to **Tools > Compare and Merge Documents**. Open the document you want to compare the current document with. Click the arrow next to 'Merge', and then do one of the following:

1. To display the results of the comparison in the original document, click 'Merge'.



When you want to merge documents, you're presented with a menu under 'Merge'. Try out all three of them!



2. To display results in the currently open document, click 'Merge into current document'.


3. To display the results in a new document, click 'Merge into new document'.


When you compare documents, Word marks text


window by opening that version from **File > Versions**. You can also open, print, and delete earlier versions.


## Reviewing Comments


  View the comments of a single reviewer: Click **Show > Reviewers** on the Reviewing toolbar, and select the Reviewer the comments from whom you want to see.


 Locate a specific comment: Click 'Go To' on the Edit menu. In the 'Go to what' box, click 'Comment'. In the 'Enter reviewer's name' box, click the reviewer's name. Click 'Next' until you find the comment you want.

 Review one change at a time: Click 'Next Change' or 'Previous Change' on the Reviewing toolbar.

 Accept the change: Click 'Accept Change' on the Reviewing toolbar.


 Reject the change: Click 'Reject Change' on the Reviewing toolbar.

 Accept all changes in one pass: In the drop-down next to 'Accept Change', select 'Accept all changes in document'.

 Reject all changes in one pass: In the drop-down next to 'Reject Change', select 'Reject all changes in document'.

(In the above two drop-downs, there are other options you can explore and experiment with.)

## What Is A Table Of Contents?

 A table of contents is a list of headings in a document that you can insert in a specific location. You can use a table of contents to get an overview of the topics discussed in a document or to quickly navigate to a topic.

You can create a table of contents for a document that you plan to print as well as view in Word. For example, when you display the document in print layout view, the table of contents includes page numbers along with the headings. When you switch to Web Layout view, the headings are displayed as hyperlinks so that you can jump directly to a topic.





# Use Sticky Notes With Windows

Need to use virtual Post-its on your Desktop? All you need is Notepad!

Anup Nair

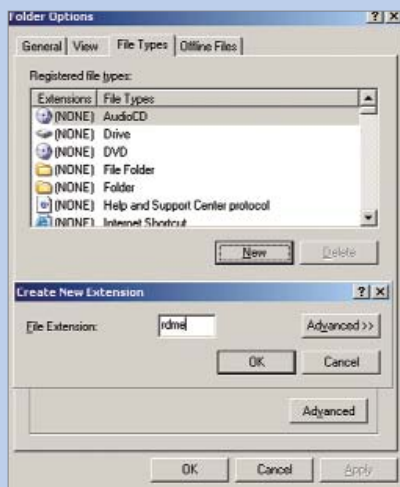
There are a few small, handy things which, unfortunately, aren't part of Windows. One such is Sticky Notes—the virtual equivalent of writing down tasks on paper and sticking it somewhere around you as reminders. Adding such a feature to the OS is very easy—all you need to do is download and install a free tool! But what we'll try here is to avoid installation of any third-party software, and use some parts of the OS (here, Windows XP) to add a 'Remind Me' program. Of course, you can call it whatever you want.

## STEP 1 What Do You Need?

You just need Windows XP, though this trick can also be done on other Windows versions with a slight change in approach. The idea here is to use Windows' long file names to our advantage.

## STEP 2 Creating Your Own File Type

Since we're going to create a reminder note tool, it would be nice if we had a different file type. Open any explorer window, say 'My Computer'. Click on 'Tools' > 'Folder options'. Choose the 'File types' tab and hit the 'New' button to create a file extension. Type in 'rdme' (short for "Remind Me", of course) in the



Use Folder Options to create a file type—an extension for "Remind Me"

'Create new extension' window, and hit [Enter].

## STEP 3 Assigning An Action And An Application

In the same 'Folder options' menu, with 'RDME' selected, click 'Advanced'. This will open the 'Edit File Type' window; click the 'New' button to assign an action and an application for the tool we are creating. Under 'Action', type in "open", and under 'Application used to perform action', type in "notepad.exe" and then click 'OK' to close the window.

## STEP 4 Selecting An Icon

The 'Edit File Type' window is already open; click 'Change Icon' and choose any of the icons that you feel resembles a sticky note. For this example, we chose the 28th icon on the 3rd row,



Select an icon that resembles sticky notes

which looks like a few papers pinned at the top left corner.

Once you've chosen the icon, type in "Remind Me" in the text box just before the 'Change Icon' button. Click 'OK' and close all open windows one after the other.

## STEP 5 Creating The Required Registry Values

Open the Registry Editor. Collapse HKEY\_CLASSES\_ROOT and right-click on 'rdme'. Select New > Key and type in "ShellNew". Let 'ShellNew' be selected on the left pane; on the right pane, right-click to select New > String Value and type in "NullFile". Exit the Registry Editor. Right-clicking on free space anywhere in Explorer or on the desktop will show up 'Remind Me' under 'New'.

## STEP 6 Using "Remind Me"

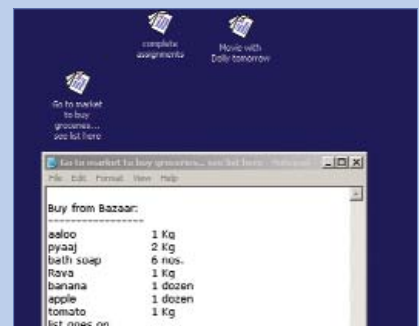
Let's consider that your mom is after you to go to the market, and you assure her you'll go a little later. So, you right-click on the desktop and choose 'Remind Me' under 'New'. This creates the icon we chose on the desktop, allowing you to type in something—you type in "Go to market to buy groceries... see list." You can type the list of



You can now choose 'Remind Me' under 'New' to add reminder notes!

groceries in the Notepad window that opens on double-clicking the reminder note.

In the above, we have actually created a Notepad file to open for a user-created extension (.rdme), and then we gave an icon to our so called app—and also listed it in the registry




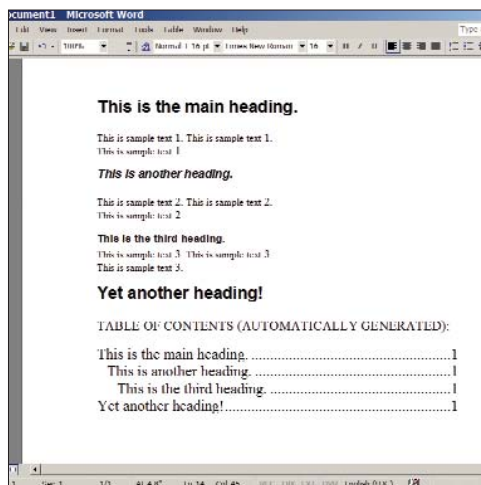
A few 'Remind Me' notes stuck on the desktop reminding you of things to do. Clicking 'Go to market' shows the grocery list you entered earlier in Notepad

so we can access it with a right-click. The short reminder note you type in is actually a file name— thanks to Windows for allowing long file names! Who needs third-party software for something so simple! ☑

anup\_nair@thinkdigit.com

## Create A Table Of Contents

 In your document, apply inbuilt heading styles (Heading 1 through Heading 9) to the headings you want




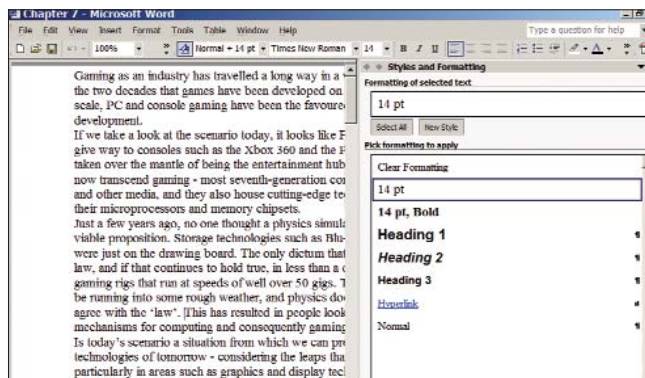
After creating a document using various heading styles, Word can automatically generate a TOC. The format will depend on the type of headings you used

to include in your table of contents. Click where you want to insert the table of contents. On the Insert menu, click **Reference > Index and Tables**, and then click the 'Table of Contents' tab. Do one of the following:

1. To use one of the available designs, click a design in the Formats box.
2. To specify a custom table of contents layout, click 'Options' and choose the options you want.

## Apply A Different Style

 To apply a paragraph style, click the paragraph or select the group of paragraphs you want to change. Or to apply a character style, click the word



You can easily apply different styles to your document in one pass using the Styles and Formatting task pane

or select the words you want to change.


On the Format menu, click 'Styles And Formatting...' This will open the Styles and Formatting pane to

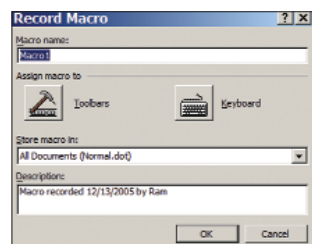
the right. Click the style you want to apply.

If the style you want is not listed, select another group of styles in the 'Show' box. A paragraph mark appears to the right of each paragraph style. A bold, underlined letter 'a' appears to the right of

character styles. A table icon appears to the right of each Table style.

## Recording A Macro

 Macros are a string of commands that are recorded in order so as to execute them with one keystroke. Many times when users become more



Try out the macro feature and see how much time it saves you!



## Bet You Didn't Know

### The Format Painter

The Format Painter lets you copy text formats from one location to another. You've probably often seen the Format Painter icon on the toolbar, but never used it! Using it is convenient if you want the same format(s) applied to text in different locations. The Format Painter copies all text formats, including the font, font size, colour, and character effects. The Format Painter saves time and helps create consistent formatting throughout a document. It can also be used to copy paragraph formats, such as alignment settings.

So how do you use it? First, click on the text with the format(s) you wish to copy. Click the Format Painter once if you want to copy formats to one other location, or double-click it if you want to copy to multiple locations. Now select the text at the new location(s) that you want to format. If you double-clicked earlier, the Format Painter will remain active, allowing you to select text at multiple locations. Remember (if you double-clicked) to click the Format Painter button again when you're done to turn it off.

experienced, they want to speed up tasks that they do on a regular basis. By creating a macro, the user can become much more productive, because multiple commands can be executed with one keystroke. Let's look at the process of creating a simple macro in Word that will check the spelling, save the document, and then go into print preview—all with just one keystroke.


Open any document. Click on **Tools > Macro > Record New Macro**. The Macro dialog box opens. In the top of the dialog box is a field that reads 'Macro Name'. Type in the name of your new macro. Next, click on the Keyboard button in the 'Record Macro' dialog box. The 'Customize Keyboard' dialog box opens. Now, click in the area inside the 'Customize Keyboard' dialog box that reads 'Press New Shortcut Key'. The insertion point is placed into that text field. This area is where you assign a keystroke command to your macro.


Press [Alt] + [1]. The command should appear inside the 'Press New Shortcut Key' area, and under it will appear a message indicating if that particular keystroke command is already used. If it is not being used, it should read "Currently Assigned to:


[unassigned]". If it is unassigned, you're OK; if not, change the keystroke to another containing [Alt] + [another number]. Click 'Assign'. The Macro is assigned that particular keystroke.


Click 'Close'. The 'Macro Record' toolbar appears. It doesn't consist of much; you can (without customisation) only pause/continue or stop recording. Now, while the Macro is getting recorded, check spelling in the document until the spell check is finished. Next, save your document. Then, click **File > Print Preview**. Click the Stop button on the 'Macro Record' toolbar. Your macro has been recorded. Now you can test the macro by executing the keystroke assigned by you.


## Tab Stop Selection Buttons

 Left Tab—Use this selection to set a left-aligned tab stop.

 Center Tab—Use this selection to set a centered tab (to centre a heading, for example).


 Right Tab—Use this selection to set a right-aligned tab.


 Decimal Tab—Use this selection to set a decimal-aligned tab.

 Bar Tab—This is not a tab stop per se. In paragraphs where a bar tab is




set, a vertical line is inserted. This feature is used in legal documents.

 **First Line Indent**—You can use this selection to set the indent for the first line of a paragraph. Instead of using the **Format > Paragraph** dialog box, position (click) this selection on the ruler bar where you want the indent to be.

 **Hanging Indent**—You can use this selection to set the indent for second and subsequent lines of a paragraph. Instead of using the **Paragraph** dialog box, position (click) this selection on the ruler bar where you want the hanging indent to be.

### Setting Tab Stops

 By default, left-aligned tab stops are set every half-inch across the page. To set your own tab stops, you can use the **Tabs** selection on the **Format** menu; or you can make tab setting changes directly on the **Ruler Bar**. The tab stops you set yourself will be displayed on the **Ruler Bar** using a separate symbol for each type of tab setting; default tab stops are not displayed.

To set tab stops directly on the **Ruler Bar**, do the following:

Position the insertion point—or select a section of text—where you want the change in tab stops to occur: to change the tab stops for a single paragraph, click somewhere within a paragraph to be changed. To change the tab stops for several existing paragraphs, select (highlight) the paragraphs. This could be the entire document. To change the tab stops for a new paragraph, click at the beginning of a new, blank line (this could be at the beginning of a new document). The new line spacing will continue to each new paragraph when you tap the **[Enter]** key.


If the type of tab you want to use is not already selected, click the tab button at the left end of the **Ruler Bar** and make a selection. Descriptions of tab stop

selection buttons are provided in the next tip.

On the **Ruler Bar**, click at the point where you want to place a tab stop.


Keep clicking until you have positioned all desired tabs.

### Using the Tabs Dialog Box

 You can also select the tab alignments and position tabs using the **Tabs** option on the **Format** Menu or in the **Paragraph** dialog box. Using this method also allows you to include a leader (such as a dot leader) to a tab stop.

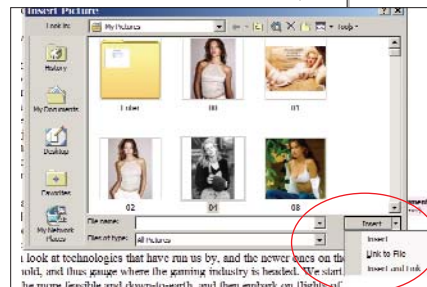
Make desired changes in the **Tabs** dialog box, clicking the 'Set' button to set each tab stop. If you want to delete a tab, click that tab setting in the tab listing and then click the 'Clear' button. To clear all tab stops, click the 'Clear All' button. When finished, click 'OK'.

### Add a Watermark

 Watermarks add an overall graphic dimension to a newsletter, flyer or letter on a special topic. The watermark is printed in the centre of the page; you can select the size you want. Change its colour in a paint program before you insert it as a background picture. Open a new document, and from the toolbar, select **Format > Background > Printed Watermark**. You will have an option to place either a **Picture Watermark** or a **Text Watermark**.

For a **Text Watermark**, type in the text, its font, size and colour. Explore the 'Layout' and 'Transparency' options. Click 'Apply' and then 'OK'.


For a **Picture Watermark**,



When you choose to insert a watermark, you're given three options. Explore these

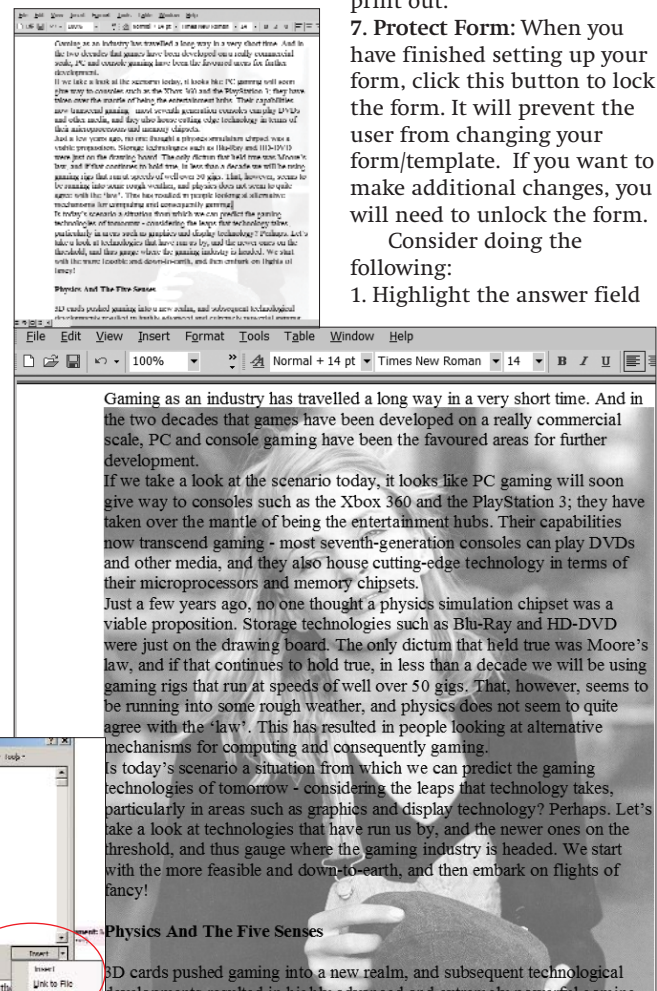
you will be able to first select any picture you have available, and then select its size and whether it will appear "washed out" or have more colour. Click **Apply** and then **OK**.

### Creating Forms

 You can use the **Forms** toolbar to create documents for onscreen tests, activities, reports and multiple choice quizzes. Forms allow a user to tab through the fields and make changes/additions.

Select **View > Toolbars** and check the **Forms** toolbar to select it. This will bring up the **Forms** toolbar. You'll see several buttons:

1. **Text Form field**: To add text within the document, for fill-in-the-blank forms. The surrounding text will adjust to the length of the answer.
2. **Check box form field**:



Above: A document with a "washed-out" watermark.

Below: A document with a watermark that has not been washed out. In most cases, you'll want the former

Users can tab through and press **[Enter]** to insert a checkmark.

3. **Drop-Down form field**: To specify choices for the user to select. The person using the form will need to use the **[Down Arrow]** and **[Enter]** keys to review and make the selection.

4. **Form Field Options**: Click here to create the choices. Your first choice will show in the box. (You will have to lock the form first in order to see your choice in a pull-down menu.)

5. **The two table tools** help you to easily create a table to tab through. This is especially handy when creating reports and other classroom forms.

When your information

and fields are entered, use 6. **Form Field Shading**: When this is selected, it shades text fields so that the user can see them. The shading does not print out.

7. **Protect Form**: When you have finished setting up your form, click this button to lock the form. It will prevent the user from changing your form/template. If you want to make additional changes, you will need to unlock the form.

Consider doing the following:

1. Highlight the answer field



# Create Your Own Today Screen Themes For Pocket PC

It's child's play to create a custom theme for your Windows Mobile device... there's a free tool that helps you do this!

Deepak Dhingra

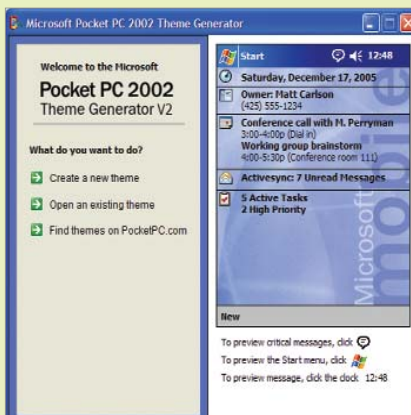
A custom Today Screen can completely change the look of your Pocket PC or Windows Mobile device—you can use your favourite background image, and customise the colours of the menus, text, navigation bars, and notifications bubbles. You can download thousands of themes free from various Web sites. One such is [www.pocketpcthemes.com](http://www.pocketpcthemes.com).

Alternatively, you can use a free tool called Microsoft Pocket PC 2002 Theme Generator V2 to create personalised themes. You can also use the tool to edit and personalise other themes you've downloaded on your desktop PC. The tool can be downloaded from [www.microsoft.com/windowsmobile/downloads/themegenerator.msp](http://www.microsoft.com/windowsmobile/downloads/themegenerator.msp).

So how do you create your own theme using this neat software?

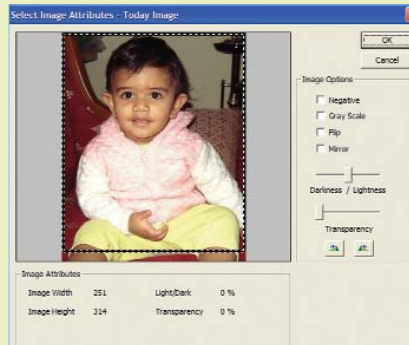
## 1 Get started

Download and install the Theme Generator tool from the link mentioned above. Click **Start > Programs > Theme Generator** to launch the software.



This free tool lets you create your own Today Screen themes

**2 Choose your background**  
Click 'Create a new theme'. Then, click 'Browse' to choose a background image for the Today



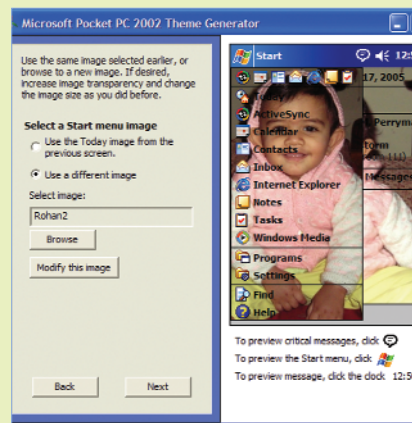
Change the attributes for the Today Screen background image

Screen. After you've selected the image, click 'Modify this image' to change the image attributes. You can choose from different effects such as negative, greyscale, flip, and mirror. You can also set image brightness and transparency levels from this window.

If the aspect ratio of the image you chose is different from what is required, you can click and drag on the rectangular frame on the image preview to choose the desired portion of the image. After you've done this, click 'Next' to continue.

## 3 Choose An Image For The Start Menu

Here, you have the option of using the same image you chose in the previous step, or you can use a different image. If you choose a different image, you can again set



Choose a Start Menu image

the image attributes by clicking 'Modify this image'. Remember to choose the appropriate portion of the image by dragging on the frame in the preview. Click 'Next' to continue.

## 4 Choose Colours

The next screen lets you specify custom colours for various screen elements such as Today text, navigation bar, command bar, navigation tray, message, and more. Click on the drop-down to choose the specific element, then click on the colour



Customise the colours for your Today Screen

options below to bring up the colour palette. You can now choose the desired colours. Click 'Next' after you're done.

## 5 Save It

Provide a name for the theme you just created, and choose the desired location on your hard disk where you want it saved. Click 'Finish' to generate and save the newly-created theme. This file can be transferred later to your mobile device using ActiveSync. Using the Explore tool, just copy it to the Windows folder of your Pocket PC. Then go to the Today Screen settings and select the new theme to activate it! Now you can proudly display your new creation! ☑

[deepak\\_dhingra@thinkdigit.com](mailto:deepak_dhingra@thinkdigit.com)



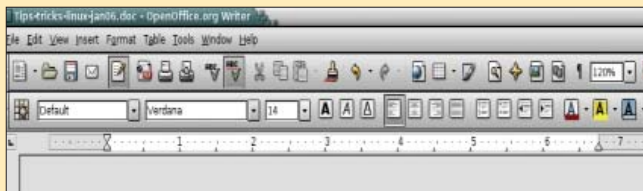
# OpenOffice.org 2.0 Writer

Few of us realise we can use something other than Microsoft Office for daily home and office use. The good thing is, OpenOffice.org is very similar to Microsoft Office



OpenOffice.org is an office package by Sun Microsystems. The package was initially introduced for \*nix OSes and Sun OS machines, and was later compiled for Windows. It's free, and is probably the best alternative to MS Office. You can get the latest OpenOffice.org package for free from <http://download.openoffice.org/2.0.0/index.html>.

The switch from Microsoft Office to OpenOffice.org, while saving a lot of money, is also easy: the user interface of OOo (OpenOffice.org) is very similar to that of Microsoft Office. Take a look at a snapshot of the Toolbar (below), and you'll see that the two packages are very similar. Most (but not all) editing, formatting, and other such options are located under the same menus as those of Microsoft Office.



OpenOffice.org 2.0 Writer looks very similar to Microsoft. The only thing is, some menu items are in different locations

Here, we introduce you to OpenOffice.org Writer running on a Linux (Ubuntu 5.10) machine. Note that the following basic tips are also applicable to OpenOffice2 Writer installed on a Windows machine.

## Count The Words

Unlike in the earlier version, Word count is easily accessible in OpenOffice.org2 Writer. Just click **Tools > Word Count**. More comprehensive details of a document are available under **File > Properties > Statistics Tab**.

This tab displays details such as the number of paragraphs, lines, characters, graphics, etc.

## Check Spelling

OOo doesn't have a grammar check feature. But it does have a spell check feature, which sports an auto-complete feature that will intuitively auto-complete the word you are typing and display the auto-completed portion with a grey highlight. Hitting [Enter] will save you the time of typing in the entire word. If you've written a few pages, it keeps a tab on the oft-repeated words, and adds it to the auto-complete list.

## Save In MS Word Format

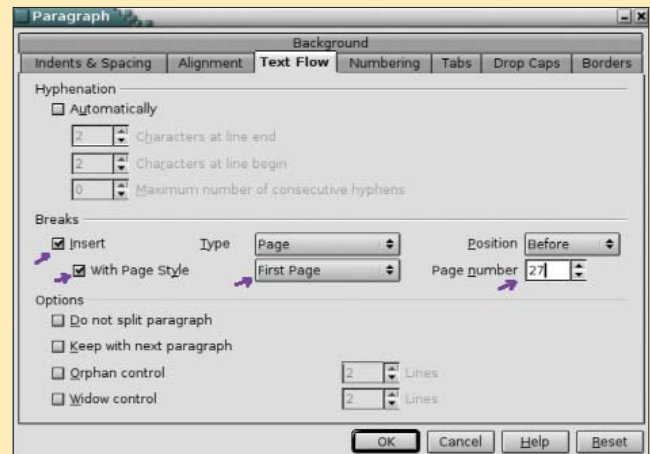
You can save an OOo Writer file in MS Word format. The default format is, however, .SXW. If you've already saved the file as an SXW, and if you're

same box. A little yellow rectangle appears at the end of the cursor position, indicating a Note; move the mouse pointer over it to display the remark.

and then type in a page number. Click 'OK'.

## Track Time Spent

There's a feature in Writer that comes in



The Paragraph dialog box has all you need for formatting paragraphs

## Changing Page Numbering

Some writers split their chapters into separate documents, in which case page numbering becomes a daunting task. Writer allows you to append page numbers greater than 1 to a the first page of a document.

Let's use page numbers on the footer. Insert a footer using **Insert > Footer > Default**, and then add a page number to it by going to **Insert > Field > Page Number**. Now, to start the page with a number greater than 1, move the cursor out of the footer to any paragraph on the first page, then click **Format > Paragraph**. This will open the 'Paragraph' dialog box.

On the 'Text Flow' tab, select 'Insert' under the 'Breaks' section, and also enable 'With Page Style'. This will activate the drop-down menu from where you need to choose 'First Page' (see screenshot below),

handy when you want to know how much time you've spent writing an article. Go to **File > Properties**, and choose the 'General' tab. Make sure, however, that you have saved the document before you proceed with checking the time—the time duration is recorded only for saved files.

## Create A Template

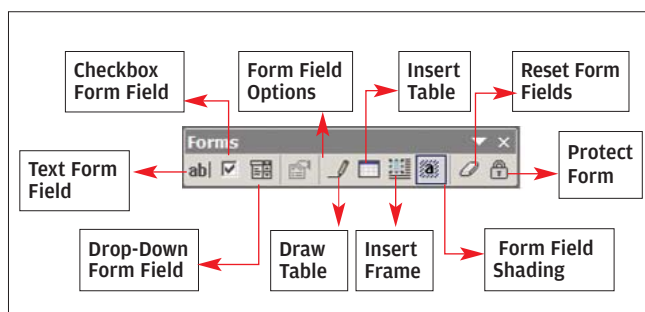
If you need text files to have specific line spacings, margins, borders, etc. then you should create a user-defined template. Open a new document and do the necessary page setup. Now click **File > Templates > Save...**; this will open the Templates dialog box. Type in a name for your template under 'New Template' and choose 'My Template' from 'Categories'. Click 'OK'.

To use the template thus created, go to **File > New > Templates and Documents**; a dialog box opens. Choose 'Templates' from the left pane; select 'My Templates' from the centre pane to display a list of user-defined templates. ☑

wondering if the text formatting may become corrupt when converting to the MS Word format, don't worry: you have another option - PDF. To export your document as a PDF file, use **File > Export as PDF**. You'll also find, under **File > Export**, the output choice between PDF and xHTML.

## Adding Comments

To add a Comment, click **Insert > Note...** This will open a dialog box where you can type in your remarks. You can also author the comment in the



The Forms toolbar with its various elements

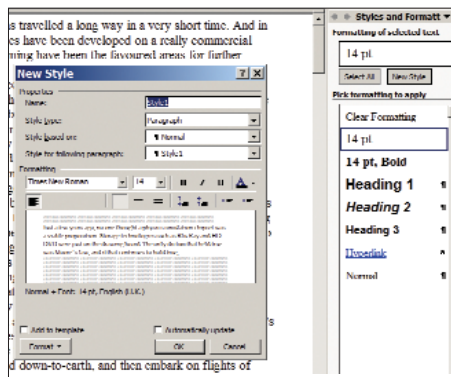
and change its font, size and colour so the answer field is easily differentiated from the question.

2. Add multiple spaces between questions to make them easier to read and complete.

### Creating a Style

You can define a specific style and then use it to format text throughout your document. In this example, we'll create a 'bold and centred' style. To create this style, double-click a word. Click on 'Bold' in the toolbar. From the menu, select **Format > Paragraph**, or right-click and select 'Paragraph'. Select 'Centered' for the alignment and 1.5 lines for the spacing. Click OK. With your word still selected, from the menu, select **Format > Styles and Formatting**. 'Styles and Formatting' appears in the Task Pane. Click the 'New Style' button.

In the 'Name:' box, type in, say, "Centred Heading". Note the formatting characteristics. Click OK. Your new style, "Centred Heading", will now be listed in the list of styles displayed in the



Word allows you to create your own styles, based on its predefined styles. Just select 'New Style' from the Styles and Formatting task pane

task pane.

To apply your new style to other text, highlight a line, for example, and in the Styles and Formatting Task Pane, double-click 'Centred Heading'.

### Customise Your Toolbars

Right-click on the Standard toolbar (which, we assume, you've kept visible) and click 'Customize'. You'll see three tabs—'Toolbars', 'Commands', and 'Options'. Under 'Commands', you'll see—probably for the first time—all the commands Word is capable of! Each of these commands can be placed on a toolbar of your choice.

To navigate to a command, go to a Category (the list on the left). The commands under that category will be visible. You can simply click on a command and drag and drop it onto a toolbar of your choice. So, for example, if you want to add 'Next Misspelling' to the 'Extended Formatting' toolbar, first check 'Extended Formatting' in the Toolbars tab. Then, if

'Next Misspelling' is not already there on that toolbar, go to the Commands tab, navigate to 'Next Misspelling', and drag and drop it onto the 'Extended Formatting' toolbar.

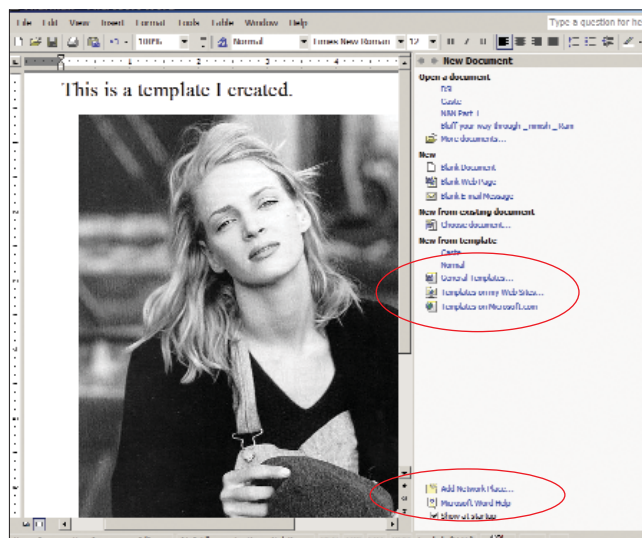
Of course, you can drag and drop any command at all

onto any toolbar at all. You can create new toolbars and give them names, too!

### Create Your Own Custom Word Templates

Why use the same kind of blank document every time you open Word? You might want to use a different font every time, and you probably reformat the

Under the 'Create New' section, click 'Template', and click 'OK'. Now comes the fun part: in the new template, add any text and graphics you want to appear in all new documents that you base on the template, and delete any items you don't want to appear. Also make the changes you want to the margin settings, page size



One of the most useful of Word's advanced features is the ability to create templates. Here we've created a template with a heading and a picture. To open a document using the new template, click **File > New**, which opens the New Document task pane. You'll need to use 'New from Template'. Also, you might want to keep 'Show at Startup' checked

document every time. Similarly, you might want a signature with every file, including, possibly, a picture. You can create a template of your favourite font styles and sizes and use it whenever you want—it's as easy as creating a new document. Then, each time you open a document, what you'll need to do is click **File > New**, and in the task pane that opens up, go to "New from Template"—and select your template.

To create a custom template, click **View > 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, click the 'Blank Document' once to select it. This will be the base for your new template.

and orientation, styles, and other formats. Finally, click **File > Save**, and give your template a name.

### Align Shapes Using Gridlines

Did you know that Word features a drawing grid you can use to align drawing objects, such as AutoShapes? By default, gridlines are not visible. To make them visible, on the View menu, point to Toolbars and click Drawing. On the Drawing toolbar, click **Draw > Grid**. Select the Display gridlines on screen checkbox. Choose the options you want and click OK.

You're now ready to add shapes to your document. To see all the shapes available, such as telephones, click 'AutoShapes' on the Drawing toolbar and then click 'More AutoShapes'. Then make your selections from the Insert Clip Art task pane. ☑



# Q&A

Your Questions, Our Answers

## TV To VCD

**Q** I bought a Techcom Super TV SSD-TV-670 PCI TV-Tuner card. My problem is that I am unable to write the files onto CD properly in VCD mode. What mode should I use to get the best out of my TV-Tuner card, and what are the best PVR software and video and audio editing software available?

Sagnik Bose

**A** There's no difference between a regular video file and one you've captured using your card. If you're able to capture video without any problems, you should be able to write the files to CD in VCD mode. You will need to purchase and install a CD-burning software (such as Nero Burning ROM) to do this.

After you start Nero, select the CD format as 'Video CD', select 'PAL', and click OK. Now simply drag and drop the file you captured using your TV-Tuner card into the Nero window. If the file format is not conformant with VCD standards, Nero will prompt you to re-encode the file so it becomes compliant with VCD 2.0 standards. Opt to re-encode the file. This process takes some time, but it produces VCDs that can be played on any VCD player.

Some of the better PVR software are InterVideo WinDVR from [www.intervideo.com](http://www.intervideo.com), Cyberlink PowerVCR from [www.cyberlink.com](http://www.cyberlink.com), SageTV from [www.sage.tv](http://www.sage.tv) and ChrisTV from [www.chris-tv.com](http://www.chris-tv.com).

Adobe Premiere InterVideo WinProducer and Ulead VideoStudio are some of the many video editing software, and Sony Sound Forge 8.0, Adobe Audition, Cool Edit Pro and GoldWave are some of the good audio editing software available.

## An Autopatcher Accident

**Q** I am using Windows XP with SP2. I've installed Autopatcher XP, which was provided with the last issue of *Digit*. From the time that I've installed it, I'm not getting the usual welcome screen, and during shutdown I see a different interface. When I press [Ctrl] + [Alt] + [Del], a window opens, describing something about shutdown, logging off, etc. I want all these set to the defaults.

Vinayak Vijayan

**A** This happens because you accidentally checked the box next to 'Disable welcome screen, force classic logon'. To restore the usual welcome screen, start the Group Policy Editor by clicking Start > Run and entering "gpedit.msc". Here, navigate to 'Computer Configuration', expand 'Administrative Templates' and click on 'Logon'. In the right pane, double-click 'Always use classic logon' and set it to 'Not configured'. Exit the Group Policy Editor.



Disable Classic Logon using the Group Policy Editor

## 845: 266, 333?

**Q** I have an Intel 845GL motherboard with 128 MB of DDR 266 MHz RAM installed. I've heard that the 845GL can also support DDR 333 MHz RAM with a BIOS upgrade. Is that true?

Manmohan Behera

**A** The Intel 845 series of motherboards supports DDR 200 and 266 MHz RAM, and does not support DDR 333 MHz RAM even with a BIOS upgrade. You may still be able to use a DDR 333 MHz module on this motherboard, but it will run at a clock speed of DDR 266 MHz.

## Download The Drivers!

**Q** I recently purchased a Nokia 6225 CDMA cell phone with a data cable (DKU 5). I installed PC Suite from Nokia to facilitate data transfer. My problem is, I'm not able to transfer data from my PC to the phone. Do I need to install additional software?

Kavoor Branch

**A** In order to connect the Nokia 6225 phone with the DKU-5 to a PC, you'll need to download and install the drivers for the DKU-5 cable from [www.nokia.com](http://www.nokia.com). These drivers must be installed before you connect the phone to the PC. It's only after installing these drivers that Windows will be able to successfully install and configure the cable. Also, download the latest version of Nokia PC Suite from the same Web site.

## A 16-Bit Issue

**Q** I have a few educational CDs from which I'm not able to install the software. When I insert the CDs, I get a message that says, "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."

Balaji Vedachalam

**A** This message appears in XP when an MS-DOS or 16-bit application is run. You're probably subsequently prompted to either quit or ignore the error message, and choosing either of these options quits the installation.

The reason for this error could be one or more of the following files being missing or damaged: config.nt, autoexec.nt and/or command.com. To resolve this issue, insert your Windows XP CD in your drive, and open a command prompt. At the prompt, type in the following commands, pressing [Enter] after each command (assuming X is your CD-ROM drive letter).

```
expand X:\i386\config.nt_
\systemroot%\system32\config.nt
expand X:\i386\autoexec.nt_
\systemroot%\system32\autoexec.nt
expand X:\i386\command.co_ \system-
root%\system32\command.com
exit
```

Try running the installation to see if the problem is resolved. If it persists:

**1** In Notepad, type in the following:

dos=high, umb

device=%systemroot%\system32\

himem.sys

files=40

**2** Click File > Save As. In the file name dialog box, type in "%systemroot%\system32\config.nt" and click 'Save'.

**3** Click File > New. Type the following entries in this new text document:

@echo off

lh %systemroot%\system32\mscdexnt.exe

lh %systemroot%\system32\redir

lh %systemroot%\system32\dosx

SET BLASTER=A220 I5 D1 P330 T3

**4** Click File > Save As, and in the file name dialog box, type in "%systemroot%\system32\autoexec.nt" and click 'Save'.

If the problem is still not resolved, then do the following:

**1** Go to Start > Run, type in

"%systemroot%\repair" and hit [Enter].

**2** We're concerned with two files in this folder: 'Autoexec.nt' and 'Config.nt'. Right-click on the Autoexec.nt file and select 'Copy'.

**3** Go to Start > Run, type in

"%systemroot%\system32" and hit [Enter].

**4** Right-click anywhere in the folder and select 'Paste'.

**5** Right-click on the Autoexec.nt file just copied and choose 'Properties'.

**6** Select 'Read-only' and click OK.

**7** Repeat the above steps for 'Config.nt'.

## Activate, Reinstall, Activate, ...

**Q** Whenever my computer got corrupt beyond repair, I would reinstall the OS. I have a registered version of Windows XP. Once reinstallation is complete, the system asks me to activate Windows. This has become a nuisance because beyond 30 days, it just stops working. Is there anything I can do?

Dr K A Rasheed

**A** Every single-user licensed edition of Windows XP needs to be activated within 30 days of installation, failing which you will not be able to log into Windows without activation. Re-activation may be necessary when either you re-install Windows or when there are major changes to your computer hardware. Activating Windows XP is very easy, and there are more than one ways to do it. We'll explain two of these.

### A. Activating over the Internet:

**1** Click on Start, point to All Programs > Accessories > System Tools, and click 'Activate Windows'.

**2** Click 'Yes, let's activate Windows over the Internet now'.

**3** Click 'Read the Windows Product Activation Privacy Statement', then click 'Back', and then click 'Next'.

**4** Click 'No, I don't want to register now; let's just activate Windows' (if you just want to activate Windows) and click 'Next'. The wizard will now establish a connection with the activation server, which will process the activation request.

**5** When the activation process is complete, you'll see a message: "You have successfully activated your copy of Windows". Click OK.

### B. Activating over the Phone:

This method is useful if you do not have an Internet connection. You'll need to call a Microsoft customer service representative over the phone. The

first step is the same as in the previous method.

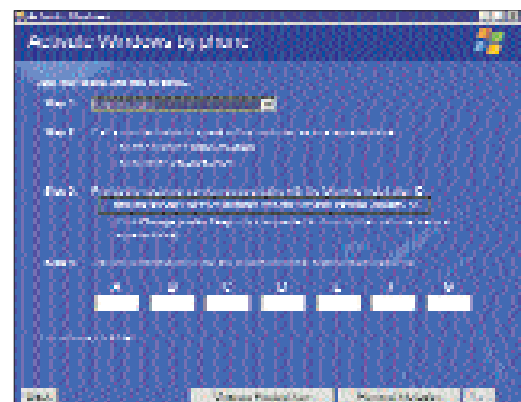
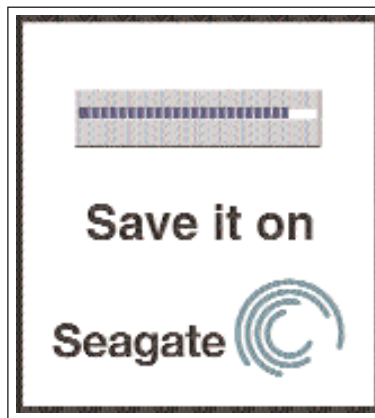
**1** Click 'Yes, I want to telephone a customer service representative to activate Windows now'.

**2** Repeat the third step from (A) above.

**3** Follow the steps in the 'Activate Windows by phone' dialog box, and click 'Next'.

**4** Call the toll-free number for your country from the list.

**5** An installation ID number will be displayed on the screen, and you need to provide this to the customer service representative, who will return a confirmation ID to you. If you are re-activating, you will have to



Enter the customer ID to activate Windows XP



# Use XP's Computer Management Tool

Windows XP allows you to control several aspects of the system from one location

Anup Nair

Windows XP provides certain powerful tools not seen in its earlier versions. One of them is Computer Management Tool. In this How TO, we introduce you to and walk you through much of what you can do with the Computer Management tool.

The tool makes administration of the computer easy—you get all the services, applications, disk tools, and user and group administration under one umbrella. There are three main sections under Computer Management: System Tools, Storage, and Services & Applications.

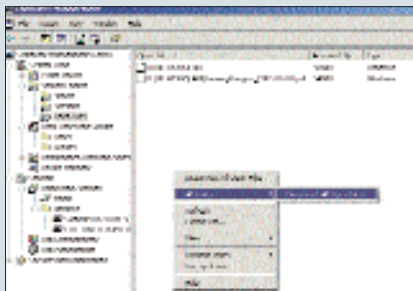
We will look at those areas that we can use in our day-to-day work.

## 1 How To Access Computer Management

Right-click on My Computer and choose 'Manage'. This will open a new window titled 'Computer Management'. The left pane displays the sections, as we've mentioned, in a tree format. Clicking on each feature will show the corresponding details in the right pane.

## 2 Using System Tools

The System Tools section has everything to do with monitoring your system, right from users and groups to shared folders and the device manager. 'Shared Folders' displays Shares, Sessions and Open Files. Selecting 'Shares' will display your network shared folders and also the Windows-created share folder for remote access by the Administrator. To disable sharing of any folder listed here, open the folder location and right-click it, select 'Sharing and Security' and uncheck 'Share this folder'.



Opening 'Files' under 'System Tools' in Computer Management allows the administrator to disconnect file transfers initiated by an unknown user

'Sessions' displays the users connected to your machine; it also displays information such as the type of user (whether guest or administrator), computer name, number of files opened, connected time, and idle time. If you see unexpected user(s) connected to your computer, you can check under 'Open Files' to know exactly what folder and file is in use by that user. In 'Open Files', you (as Administrator) can remove access to any files that are in use, while 'Sessions' allows you to disconnect the other user altogether.

'Local Users and Groups' displays system users and user groups on your machine. You can use it to add users and specific groups. The user accounts can be effectively controlled from here—you can disable an account, set/reset passwords, and also force a user to change his password at login. This tool is handy for a machine that is used by more than one person.

## 3 The Storage Section

This section contains the two most important tools—Disk Defragmenter and Disk Management.

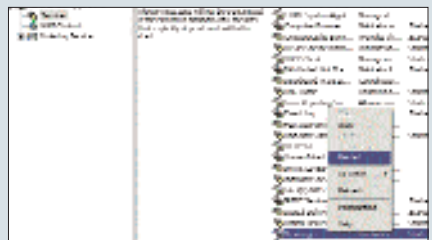
To use the Disk Defragmenter, choose Disk Defragmenter from the console tree and select a drive from those listed on the right pane. Clicking 'Analyse' will give you an idea whether or not to proceed with the defragmentation process. In the dialog box that appears, click on 'Defragment' to start the process (Refer *How Disk Defragmentation Works*, Digit December 2005). This process will take some time depending on the system and the size of the partition being defragmented.

Creating partitions and formatting them has become remarkably easy with the inclusion of Disk Manager. It displays all the drives, even CD/DVD ROMs and writers. This tool is designed to help a user create a partition on a hard disk without having to run any commands or use a start-up disk. Since Windows XP is already installed, your hard disk would already have one partition. If the entire hard disk space is used as a single partition, then the tool is helpless, as you are not permitted to split, delete or format a partition that contains the Windows OS. Those who have used only a portion of the disk for the XP installation can use this tool to create more partitions (FAT32 or NTFS) on their drive, and assign different drive letters and volume labels to them.

To create a partition, right-click on the unpartitioned space and select 'New Partition'. Thereafter, choose the type of partition (primary, extended or logical) you want to create. In the following screen, give the size of the partition in MB, a Volume Label, and the type of file system FAT32 or NTFS). You can choose 'Quick Format' to save time. As opposed to 'Format', 'Quick Format' doesn't scan the disk for bad sectors. If you want to check the disk for bad sectors after installation is complete, open a command prompt and type in "chkdsk /R" to start the checkdisk utility.

## 4 Services And Applications

Services are processes run by an OS; some services are necessary for the functioning of the system, and some are optional. The 'Services and Applications' section lists all the services and applications in Windows XP, and also tells you the status of the service/process. The section also gives a description of each of the listed services. Any service can be stopped, started or restarted. For example, the Messenger—which can be used to send messages to a workgroup/computer/domain in a network—is normally in the 'Stopped' state;



You can start, restart, stop, pause and resume a service by right-clicking on a service and choosing an appropriate action

you can start this service if you want to allow network users to send and receive messages. This can be done by right-clicking on the service name and then selecting the appropriate option out of 'Stop', 'Start', 'Restart', 'Pause' and 'Resume'.

We've covered the basic tools that help you 'govern' your computer. Computer Management also includes Event Logging, which keeps a record of all software and user activity. This function is meant for administrators, especially those who deal with server-client machines. ■

anup\_nair@thinkdigit.com

## Video On Linux

**Q** I have an Intel Pentium IV 1.80 GHz with 128 MB of RAM and a 40 GB Maxtor hard disk. I have two OSes installed on my PC—Windows XP Professional SP2 and Fedora Core Linux 2. I downloaded the Mplayer.tar file from [www.mplayerhq.hu](http://www.mplayerhq.hu) and tried to install it on Linux, but am unable to do so. How do I play video files in Fedora?

Krishna Gaire

**A** Here's how to install MPlayer on Linux: download the MPlayer code tarball from [www.mplayerhq.hu/homepage/design7/dload.html](http://www.mplayerhq.hu/homepage/design7/dload.html) to a temporary folder. Open the command window by typing "Konsole" in the Run dialog box. Uncompress the tar.bz2 file by typing in the following commands:

```
su
(Enter the root password when prompted)
```

```
tar -jxvf (Filename).tar.bz2
```

Change to the temporary folder where you just extracted the files, and enter the following commands.

```
./configure --enable-gui
make
make install
```

Without the `--enable-gui` switch, you will get a command line player. For GUI mode, you will need to download MPlayer skins from the MPlayer download page, and extract them to `/usr/local/share/mplayer/Skin`.

For DVD playback, download and extract the Subtitle Pack to the above location. MPlayer lacks DVD menus, and you'll have to manually choose title numbers, chapters and audio streams. Xine multimedia player from <http://xinehq.de> and Ogle from [www.dtek.chalmers.se/groups/dvd](http://www.dtek.chalmers.se/groups/dvd) are good alternatives for MPlayer, and have a much better GUI and features.

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cite the reason for re-installing Windows. Once you type in the confirmation ID, activation will be complete.

If you do not wish to re-activate XP, there is a way to back up the activation and restore it when you re-install XP. Follow these steps:

**1** Navigate to the `%windir%\System32` folder and locate the 'wpa.dbf' and 'wpa.bak' files, and copy them to a safe location.

**2** When you re-install XP, boot into Safe Mode by pressing [F8] at boot time.

**3** Navigate to the `%windir%\System32` folder and rename the files 'wpa.dbf' and 'wpa.bak' to 'wpaold.dbf' and 'wpaold.bak' respectively. Copy the 'wpa.dbf' and 'wpa.bak' files from the previous Windows installation to this location. Windows XP will be activated when you reboot.

Note that this procedure will not work if you've made significant changes to the computer hardware, or if you're trying to install XP on another computer.

## All Topsy-Turvy!

**Q** I have a Pentium IV 2.8 GHz on a motherboard with onboard Intel Extreme Graphics. A few days ago, my niece accidentally pressed some keys, and now the display is upside down! What can I do to set it straight?

Amit Shah

**A** The display got inverted because your niece accidentally pressed the hotkey combination that inverts the Intel Extreme Graphics adapter's display. To set it straight again, press [Ctrl] + [Alt] + [Up]. To disable rotation, right click the Intel Extreme Graphics icon on the taskbar, select 'Graphics Options', and then 'Graphics Properties'. Click on the 'Rotation' tab and remove the checkmark from the 'Enable rotation' box.

Alternatively, this can be accessed from Display Properties > Settings > Advanced > Intel Extreme Graphics > Graphics Properties.



## Spanning A Backup

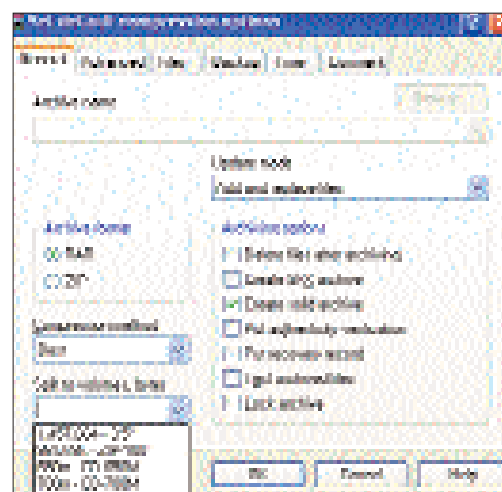
**Q** I took a backup of my C drive, and the size is 9.72 GB. I have a DVD-Writer, and the space available on a DVD is 4.72 GB. I would like to copy my backup file to DVDs.

Glenn Phillips

**A** Most file archiving utilities are capable of spanning archives across volumes of specified sizes. WinRAR and WinZip are two such. Let's use WinRAR: install it from [www.rarsoft.com](http://www.rarsoft.com). Open Windows Explorer and right-click on the backup file you created. Click 'Add to archive...'. Choose a name for the archive and set the compression parameters according to what you want. Let the archive type remain as RAR, and select 'Create SFX archive' if you wish to create a self-extracting archive, using which you'll be able to extract the archive even without installing WinRAR. In the 'Split

## Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to [sos@jasubhai.com](mailto:sos@jasubhai.com), and we might 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!



Use WinRAR to span an archive across DVDs

to volumes, bytes' dialog box, set the volume size to 4,500,000,000 and click OK. Volumes of 4291 MB each will be created, and you can write these to individual DVDs. ■



# Processor Purchases

This month, Agent001 tells you how to choose the right processor!

Every month my mailbox gets flooded with all sorts of queries—about the best motherboards, cell phones and even peripherals. Of late, processors seem to be the hot topic, and everyone is eager to know what's happening with dual-core processors.

The Intel vs AMD debate continues, and people only want to know which processors from their favourite company are a good buy. While most think Intel is reliable, runs cold, and has good resale value, others prefer AMD for what they consider superior gaming performance and overclocking abilities.

All this made me realise there's a lot of misinformation floating about in the markets, and even dealers do not seem to know any better.

This time round my task was, therefore, not just to find the cheapest deal in town, but also to put the mess of rumours around the whole processor debate to rest.

As usual, I decided to take a trip to Mumbai's Lamington Road to find out what dealers were saying. Although I have also received complaints about not visiting other cities, I don't think the need arises, as the answers you get from different vendors across cities are almost identical—albeit in a different language!

## The Questions

My first stop was this swanky new shop, proudly proclaiming to be an AMD dealer—someone had finally mustered enough courage to do it! I asked for an AMD solution and was offered three choices: Sempron, Athlon 64 and Athlon 64 X2.

I was told they have a good scheme wherein a combo of a Sempron 2500+ and a motherboard would cost me around Rs 5,000. Initially I thought the scheme was for clearing the older stock of Socket 462 Semprons, but to my surprise it was the new Socket 754 series.

This is great for people building entry level PCs—a complete PC could be assembled for just Rs 16K. The AMD Sempron 2500+ seems to be very popular right now, and is the most widely available—higher-clocked Semprons are a rarity.

Similarly, the shop also had schemes on Athlon64 processors. A combo of a 754 pin 2800+ Athlon 64 and a motherboard was retailing for Rs 7,500; without the offer, the CPU would cost Rs 5,000. The dealer also told me that 939-pin Athlon 64 CPUs were in now, as they supported dual-channel memory.

A 939-pin Athlon64 3000+ retails for around Rs 6,700, whereas an Athlon64 3,200+ costs around Rs 8,700. Though these guys had heard of the dual-core Athlon64 X2 processors, they hadn't started stocking it yet, due to lack

**Heating in AMD processors is no longer an issue; in fact, the latest Venice core Athlon 64 processors run cooler than their Intel counterparts**

of demand.

Since he was an AMD-specific retailer, I asked him about the reliability and resale value of AMD processors. According to him, AMD processors are as reliable as Intel processors, and he hasn't come across a single problem. He said the resale value for AMD processors was still a problem, but only because of misconceptions and lack of information. "Heating in AMD processors is no longer an issue; in fact, the latest Venice core Athlon 64 processors run cooler than their Intel counterparts," he proclaimed. I was impressed—finally, a dealer that does his homework!

Intel processors, on the other hand, are omnipresent, and you should be able to walk into any shop and get one. That's exactly what I did: I walked into another shop that seemed as swanky as the AMD retailer's, just to try and keep things fair. I asked for a Celeron processor and was promptly advised to buy a 2.6 GHz Pentium IV processor, as the price difference isn't much—the Pentium IV 2.6 GHz costs around Rs 5,200, while the 2.6 GHz Celeron retails for Rs 3,650.

"The older processors have 478 pins, and should plug into an existing motherboard if you're upgrading. The newer processors are based on the LGA 775 socket, and are pinless. The 64-bit Intel Pentium IV processors (which fall in the 6XX family, and have model numbers such as 670, 672, etc.) have all the latest features such as HT, 64-bit capability, power-saving SpeedStep technology etc.," I was told.

The dealer conveniently forgot to mention that 478-pin processors have been discontinued. "Really?" was his unconvincing reply when I informed him about this.

Across the market, I found that the Pentium IV 2.8 GHz costs about Rs 5,700, the 3 GHz Rs 8,100, and the 3.2 GHz Rs 10,500. When I asked around for the Pentium D dual-core processor, I was told it's currently sold as a combo—an i945 motherboard and a Pentium D processor together cost about Rs 18,000.

At the end of the day, I reached the conclusion that for the average user who wants gaming and various regular desktop applications, the following processors are good buys.

**For AMD fans:** Socket 939 AMD Athlon 64 3000+

**For Intel lovers:** 3 GHz Pentium IV 630

For those on a tight budget, a Sempron solution is ideal—it's fast, cheap and reliable. Those who swear by Intel should opt for the Pentium IV 2.6 GHz over a Celeron processor. ☐

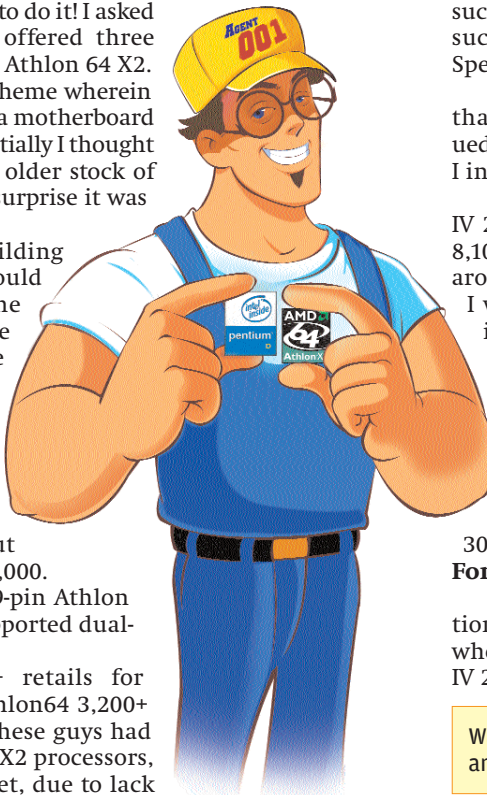



Illustration Pradip Ingale

Want more of Agent 001? Turn over to read his answers to your buying questions

**Workstation: Assembled Or Branded?**

**Q** I want to assemble a high-end system for mechanical design, for which I've allocated around Rs 2 lakh. I plan to run Idea and Catia on the system. I'm thinking of going in for a dual-core Intel solution with an nVidia Quadro 4500 Fx card. Please suggest a good processor, mainboard, and graphics card with at least 256 MB of memory. Also please suggest a vendor from whom I can purchase these components.

**Manpreet Singh Rehsi**


 We generally work with consumer-oriented products, and our opinion on workstation and server-related products is limited. Even then, I'd say that instead of assembling a workstation, it would be advisable to opt for a preconfigured workstation from a good brand such as IBM, HP, Dell, etc. Unlike with a desktop, there are simply too many considerations with a workstation or server to go about assembling one.

Dell has workstations that are configured to run mechanical design applications such as Catia and Idea. Dell's Web site ([www.dell.com](http://www.dell.com)) gives a thorough run-down on how to choose a workstation with respect to the application one plans to run. HP and IBM, too, have products in this range that you should check out. Also, opt for an AMD Opteron-based system over Intel—they are said to deliver better performance than Intel processor-based systems.

**Graphics For Games**

**Q** I have an old Pentium IV machine with an AGP slot on the motherboard. I want to play newer games such as *Terminator 3*, *Delta Force Xtreme*, etc. The current graphics card doesn't help much, and I would like to upgrade it. I have a modest budget of around Rs 5,000. Also, will my current 256 MB of main memory with Windows XP as my OS be enough for such games?


**Ankit Tyagi**

 Before you purchase a graphics card, check what type of AGP slot your motherboard has. The older type of AGP slots are not compatible with the newer AGP cards—there is a voltage difference. I'd suggest any card based on the 6200 chipset from nVidia. XFX has a 256 MB card that retails for around Rs 5,000. Alternatively, you can also look for a 6600 chipset-based card, which generally retails for Rs 7,000 but which delivers much better performance than 6200-based cards. I'd recommend 512 MB of system memory, and that should be your other upgrade if you want to play high-end games.

**Gaming PC Or Gaming Console?**

**Q** I'm planning to get myself a new PC mostly for gaming purposes. However, with the launch of the Microsoft Xbox 360 and with the Sony PS3 to be launched, I am confused as to whether I should opt for a PC or a game console. Also, when will these consoles be launched in India?

**Arka Bose**

 First, I don't think the Xbox 360 will come to India soon, due to the low broadband

**I don't think the Xbox 360 will come to India until the broadband infrastructure improves significantly**


penetration here. The major revenue generator for Microsoft via the Xbox 360 is its online service, Xbox Live, which needs a high-speed broadband connection. Until the broadband infrastructure improves significantly, don't expect the Xbox 360 to hit Indian shores.

Similarly, the PS3 is slated to launch in the latter half of 2006, and is less likely to come to India immediately. The atrocious pricing of game titles leads to rampant piracy in India, and that doesn't help either. Moreover, in India, the social acceptance of consoles is very low, and selling them doesn't sound like good business to most dealers. I'd suggest you stick with a PC with good graphics and processing power.

**A Question Of Formats**

**Q** I want to buy a DVD-Writer that supports almost all available formats. I don't want to get stuck with a drive that fails to read a particular format. I've budgeted Rs 3,000; can you suggest a good model from a reputed brand?

**Prateek Katiyar**


 It is difficult to single out a DVD-Writer that will have absolutely no compatibility issues with recording media. No matter what drive you buy, you're bound to encounter compatibility issues sooner or later.

However, from experience, we know Lite-On drives perform better than other brands when it comes to compatibility. I'd suggest you opt for the Lite-On 1693S, which retails for around Rs 4,000. If you're unable to get it, settle for the Lite-On 1673S.

**A Modest Mobile**

**Q** I am planning to buy a cell phone, and my budget is a modest Rs 15,000. The phone should play MP3/MPEG4/AAC/WMA, and should have expandable memory (up to 2 GB would be preferred) and USB mass storage support. I can do without a camera.

**Krushil**

 Sony Ericsson's K750i has almost everything you want. I can't think of a cell phone under Rs 15,000 that supports 2 GB of memory; the K750i has support for memory cards up to 1 GB. The K750i, however, will set you back by about Rs 17,000. If you are a Nokia fan, the 6230i is the phone to go for: it supports nearly everything you asked for, and has many more features. Moreover, it retails at Rs 14,000.

**Mobiles Revisited**

**Q** I want to buy a new mobile handset. I've short-listed a few models: the Nokia 6600, Nokia 3230, Sony Ericsson K750i and the Samsung X600. My main considerations are a brilliant display and good image capture. My budget is Rs 16,000.

**Aroop Patel**

 With your considerations in mind, I'd suggest the K750i. Apart from what you have asked for, the K750i also has features such as a good media player, FM, Bluetooth, etc. Nokia's 3230 is also a good handset if you are a Nokia fan. The Samsung X600 and the Nokia 6600 are too dated, and shouldn't be at the top of your list. ☐

**Ask Away!**

Want a tech product, but don't know how to go about buying it? E-mail [agent001@thinkdigit.com](mailto:agent001@thinkdigit.com) with your complete contact details, and he might answer them here! Please note that Agent001 only answers purchase-related questions in this space.





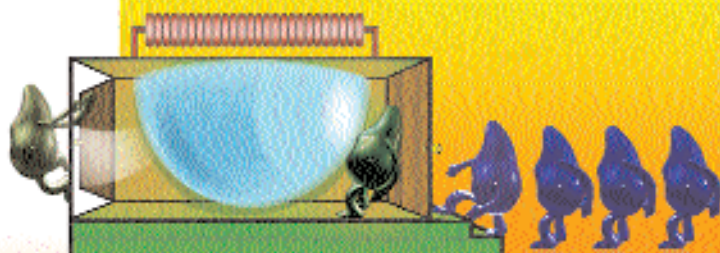
## Bubble Jet Printing

The bubble jet printer makes use of a small ink-vapour bubble inside the ink chamber

# How Inkjet

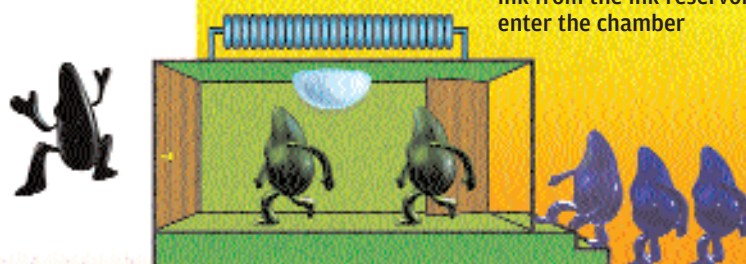


When the printer has something to print, it sends a signal to a heating element, which starts to get hotter. The vapour bubble expands from this heat, pushing the ink towards the nozzle



When the bubble gets big enough, the ink is finally pushed out of the nozzle onto the paper

When the heating element cools down, the bubble becomes smaller, allowing ink from the ink reservoir to enter the chamber



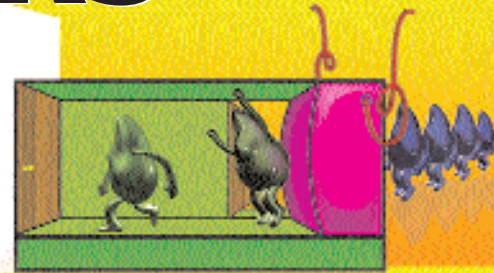




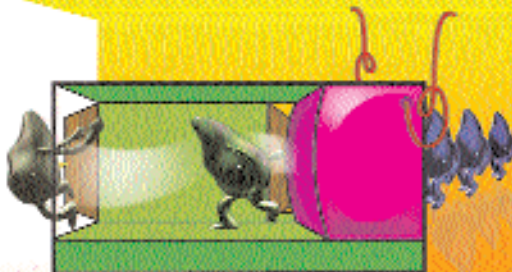
## Piezoelectric Printing

The **piezoelectric printer** works using the property of some materials that makes them expand or contract if an electric current is passed through them

# Printing Works

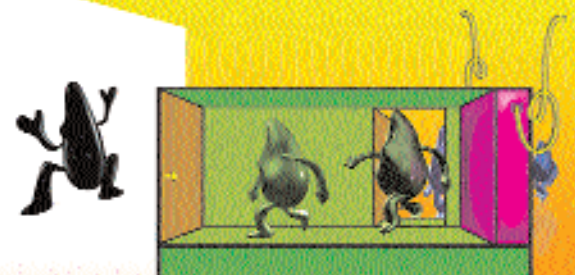


When there's something to be printed, the printer sends an electrical signal to the piezoelectric crystal, which starts expanding, pushing ink towards the nozzle



When the crystal has expanded to its fullest, it pushes the ink out of the nozzle onto the paper

When the electrical signal stops, the crystal returns to its normal size, and more ink can now come into the chamber







**108** Blogs Mean Business



**110** Online Degree Acceptance

# Digital Business

How Technology Can Help Your Organisation

## Case Study

# Wired Hospitality

**Innovative use of software can help deliver better service, maintain quality levels, and more**

**Renuka Rane**

**L**ocated close to Mumbai airport, The Orchid is Asia's first certified eco-friendly five-star hotel. Popularly called an "Ecotel," a term used for environmentally-conscious hotels, The Orchid has received numerous awards for being a pioneer amongst such hotels. It has used technology extensively to further its commitment to the environment, and also to keep a track of all activities on the premises.

The Orchid uses 43 software to maintain extensive digital records and manage processes such as property management, material management, accounts, inventory, and more.

## Ideal Material Management

Since it opened in 1997, The Orchid has been using the ShawMan Material Management Software (MMS), a comprehensive program that manages the inflow and outflow of goods, generates regular consumption reports and thereby facilitates supply chain management.

Shailesh Bhagwat, EDP (Electronic Data Processing) manager, of the hotel says, "Whenever there is a requirement for a product—be it a bar of soap or a sofa set—the concerned department makes an entry in the ShawMan MMS. This requisition is authorised on the software by several personnel before it reaches the purchase department."

The Orchid has made innovative use of the ShawMan MMS by assigning ratings to its retailers based on the reports generated by the



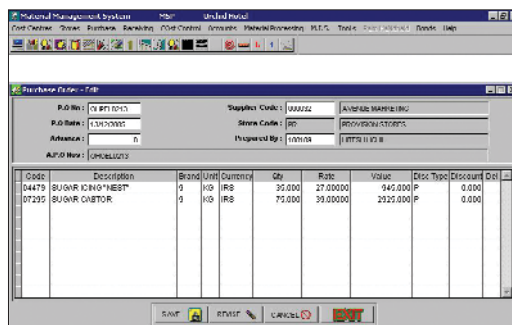


software. When goods supplied meet the hotel's standards, suppliers are assigned ratings based on parameters such as rate, quality etc. All these are recorded in ShawMan. The MIS (management information system) reports that ShawMan MMS generates gives a complete picture of stock received and dispensed, and helps the administration team decide on the best suppliers. These results are on our database, suppliers have to maintain the same quality at our other outlets.

The software, according to Bhagwat, simplifies things: "Though the process seems long-drawn, it actually takes just a few minutes and at the same time generates a higher degree of accountability."

## Efficiency And Cost Control

There's more to the ShawMan MMS than its ability to maintain records and rate suppliers. When The Orchid issues tenders and invites quotations for items, details such as the lists of goods, quality, rate and product codes, are maintained in the software. ShawMan MMS thus keeps track of the movement of materials between vendors and stores, and helps get quality goods at best prices—an example of how centralised software can aid a business.



ShawMan MMS ensures error-free inventory control

The Orchid has instated annual rewards for the best suppliers, who win the hotel's patronage. Being an ISO certified organisation, The Orchid also sends personnel to suppliers' warehouses and thus ensures that standards are maintained. These results are maintained in the ShawMan MMS.

Recipient of The Orchid's "best supplier" rating since 2002, Fruit Supplies, in Khar, Mumbai, has been supplying goods to the hotel since its inception. Proprietor Vilas Shinde says, "We have to follow strict standards for deliveries. The Orchid also sends personnel to survey our godown, ensure timely delivery and good quality. The ratings have given us an incentive to work harder."

Inventory control is another area where ShawMan MMS is a big help: if a hundred bottles of wine have been supplied, using the software, one can keep track of each and every bottle, leaving no scope for pilferage. Moreover, ShawMan has been tweaked so that requisitions are accepted only if they have been budgeted for.

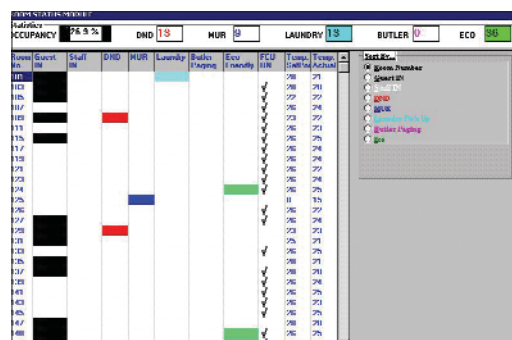
## Ecology And Technology

The other critical software the hotel uses is Orchid Honour, which was developed in-house to meet its specific needs as an Ecotel hotel. Based on Visual Basic, the Orchid Honour software helps the administration see all occupancy-related figures



Having a centralised software generates higher degree of accountability"

**Shailesh Bhagwat**  
EDP Manager  
The Orchid



The Orchid Honour provides detailed data on occupancy

and this information is used by the hotel to serve customers better.

The screen is akin to a spreadsheet, and shows all statistics about the 245 rooms in the hotel—from indicating which rooms are occupied to whether there's a 'Guest In' or 'Staff In'. This data appears automatically thanks to the key card every guest has to insert in a slot at the doorway of the room. Other details of guests' requests for services become visible on the Orchid Honour screen.

This is possible courtesy the bedside Pamba panel in each room, a microprocessor-based room control system. The Pamba panel has switches that let the guest control appliances in the room, and call the butler. A unique feature here is the 'Eco' button; pressing this increases the temperature of the room by a mere 2° C, thus helping save electricity. Bhagwat adds, "In air-conditioned rooms, one gets accustomed to the interiors after a while and a slight rise in temperature is not perceptible". Even the information of how many guests have pressed the button, shows up in Orchid Honour. Guests are informed about the "Eco" feature of the panel, and those who press the button get a certificate of appreciation.

If there's a guest complaint, it appears highlighted in green on the Orchid Honour screen. If it's not resolved within a specified duration, the complaint gets marked red, and the matter proceeds to the seniors. The software has a paging interface wherein any complaint is also sent as a beep to the pager of the duty manager on the floor. The hotel is now trying to expand the software's reach to mobiles so that SMSes can be sent to the concerned personnel.

The software also records all pertinent data about guests—including demographic details, number of visits, duration of stay, food preferences, and so on. Equipped with this information generated by Orchid Honour, the hotel is able to offer loyalty programmes to guests.

## Tech All The Way

At The Orchid, technology has revolutionised the way information is managed. It has streamlined activities and reduced the probability of human error, at the same time increased productivity and quality levels, and reduced costs. Some aspects—such as the 'Eco' feature in rooms—are unique to the hotel. But given the benefits and the ease of use of software such as the ShawMan MMS, any three, four or five-star hotel would do well to move towards centralised control. ☐

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# Blogs Mean Business

**Corporate blogging can be innovatively used to boost business and improve communication**

Mithun Kidambi

**B**log, one of the fastest growing applications on the Internet, is increasingly making its presence felt in the corporate world. Generally viewed as an online journal that records anything and everything that people think—be it about their new car or someone else's, blogs have moved on to become one of the most potent marketing, PR and CRM tools a company can have.

It is easy to customise a blog and companies worldwide are quickly picking up the trend. Besides using the blog to promote themselves, corporate offices use it to maintain a certain level of transparency within their ranks. Companies can also exploit blogs to engender strong relationships with their customers and the media.

Here, we attempt to answer some basic questions: What are the uses of a blog? Why is it smart business to have a corporate blog? Who in the company must be allowed to blog? What are the rules that must be followed while maintaining a corporate blog? What sort of companies would gain the most if they set up a blog?

## Let's Get Started!

A blog is very similar to a Web page that can be updated using a simple WYSIWYG (what you see/what you get) interface. Most major Internet companies and portals host a blog service such as Google's Blogspot and MSN's MSN Spaces, that have tens of millions of registered users.

Various methods can be applied if you want to set up a corporate blog. Blogging tools can be found on the Internet, and a few can be downloaded for free. The article in this section last month (*Digit*, December 2005) spoke about setting up a wiki at work.

All wikis come loaded with a blogging application, so you don't need to set up a separate blog if you've already have a wiki installed. Most content management systems today come with a blogging application that can be installed. So don't bother downloading a blogging application if your company's Web site has a one installed.

A few firms also opt to let their employees and management post their blogs on independent service providers such as Xanga and Blogspot. However, if the corporate blog you plan to set up aims





to improve the branding of your company or advertise its products, then it would be ideal to have a blogging application installed on your Web site.

### Put Blogging To Good Use

Ideally, blogs should be more than just an extension of the marketing and advertising arm of the company. It's unreasonable to expect people to repeatedly visit your blog if it's used to promote the company or its services. Corporate offices can use blogs to regularly post company news. Macromedia (radio.weblogs.com) used blogging to their advantage when business slackened.

Macromedia's blog acted as a forum for managers to discuss new product launches, to place products before developers and users and obtain feedback. It enabled a one-to-one correspondence between consumers and project leaders. The blog also gave links to the best Flash examples, interesting tips on using the software, and instances of the most irritating bugs in the software.

The result of the interaction on blogs is that it reduces the feeling of an "Us vs Them" that most consumers have towards any corporate entity. Additionally, a blog builds up a certain level of communication within the company. IBM, for instance, has an internal podcasting system, which puts up audio files on the Web that can be downloaded and played as a radio broadcast. Employees use these podcasts to air their views on an open platform, and IBM claims to have acquired a few good product ideas through this service.

While company Web sites provide detailed technical specifications about their products, a blog might offer new information due to its interactive nature. A blog can cover smaller issues that people are eager to discuss, possibly creating a loyal fan base in the process.

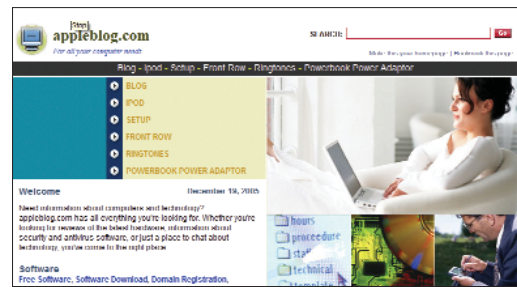
Another good example is Apple, which set up a blog (appleblog.com) to explain the intricacies of their new photo-editing suite, Aperture. The blog was a personal interaction between the project lead, Joe Smith, and users who were eager to know what Apple offered and how the software differed from that of its competitors.

Corporate blogging could also act as a recruitment tool. For instance, a blog that details the work lives of employees or projects the company is undertaking may attract individuals who are considering working with the company. A company could put up details of its management style, focus and future prospects. This could aid prospective employees make a decision.

### What Do I Post Online?

So how does one determine whether a corporate business blog is well-written? The best blogs are lively, relevant, straightforward, informal yet precise. The content should be well presented. Moreover, people who are in a position to answer queries posted by viewers must update the corpo-

**Corporate blogging can be an effective recruitment tool as blogs detailing work lives of employees may attract candidates**



Appleblog.com explains the features of its new products

rate blog. Regular updates prevent boredom and complaints. It helps if the blog also gives readers insight into the interest areas of the author.

However, the author must bear in mind that information given on the blog should be consistent with the official line of the company. Of course, sensitive company details are not to be divulged. Some companies such as Microsoft and HP let employees blog without too many restrictions. Others, such as Macromedia and Apple have blogs maintained by project leaders and business heads. Microsoft now has a blog (blogs.msdn.com) that's updated regularly by a senior level manager in the consumer relations department. This blog aims to keep a dialogue on between the company and the consumer.

Nowadays, it has become rather necessary for the CEO to maintain a blog if he is unable to have a one-to-one interaction with all employees of the company on a weekly basis. CEOs such as Mark Cuban of the Dallas Mavericks, an NBA team, use blogs to expand on the news stories published in the papers about his company. Others like Rajesh Jain of Netcore Solutions use them (emergic.org) to focus on trends in the Indian IT industry.

### All The Bare Facts

With all that a blog can do, it's easy to overlook the constraints that a corporate blog might face. Blogs, by their very definition, bring publishing power down to an individual. A blog is supposed to be a freewheeling discussion between the blogger and the reader. However, official policies of the company may be otherwise.

Few companies would relax their stringent media policies and allow open dialogue between employees and outsiders. No company can be comfortable with the idea of sensitive information being given to the public for ready consumption. This, in turn, makes the whole idea of a blog ineffective. Despite there being blog tools which have embedded levels of permission and accessibility, corporate offices are apprehensive of the security these offer.

Software companies, media firms and other organisations would do well to set up their own blog. It's in such a scenario that enterprises can benefit as they can formulate their code of conduct and media policies keeping in mind the emerging trend of blogging. After all, blogs are an open forum to discuss the company's ideas with the consumers. As long as technical rigours are worked out, corporate blogs can prove to be a very effective means of communication to the advantage of the company. ☐

mithun\_kidambi@thinkdigit.com

### Ten Cardinal Rules of Corporate Blogging

1. Be authentic
2. Be an unmatched resource
3. Once you start, don't stop
4. Keep it relevant
5. Measure your effectiveness
6. Monitor other blogs
7. Trust your employees
8. Use blogs for knowledge management
9. Use wikis for employee and customer collaboration
10. Develop an organisational content strategy

(Source: MarketingProfs.com)





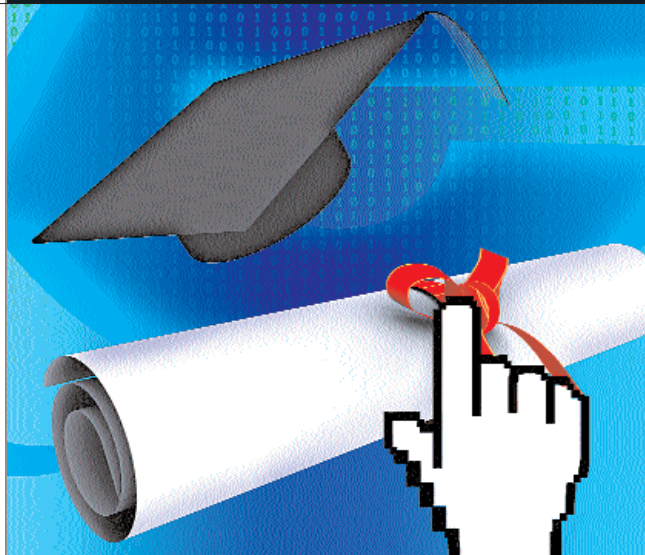
**Kaizad Pardiwalla**  
Vice President  
OgilvyOne Worldwide

I think the concept of online education is fantastic. It's a great method to open up education and eliminates the need for people to relocate for their studies and thus brings a whole world of opportunities into the convenience of one's home.

We strongly support and encourage online education in our organisation. A number of employees are currently enrolled in online programmes and we also have many e-learning courses on our intranet.

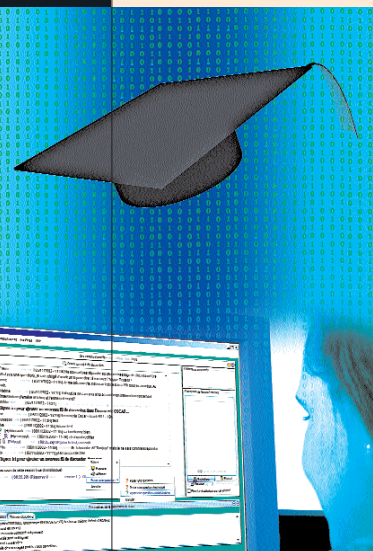
I think that online degrees would be relevant in fields like management, financial services, and as refresher courses for working executives who would not have the time to go to a traditional institute.

As an employer, I would not differentiate between candidates who hold online degrees and those who attended traditional brick-and-mortar institutes. What would matter to me is the person's attitude, experience and capabilities.



# ONLINE DEGREE

Do online degrees merit similar status as traditional on-campus programmes?  
Digit gets the employers' and placement consultants' take



**Gul Raj Bhatia**  
Country Manager, Marketing  
Imaging and Printing Group,  
Hewlett-Packard Sales

Online degrees are catching on fast abroad, but are yet to take off in India. I feel that online courses are excellent for offbeat or niche areas of study where fewer students enrol. In a traditional institute, courses are held provided there's a minimum batch size—there is no such restriction online. It's still time before professional qualifications obtained online find acceptance, but supplementary and post-graduate degrees are gaining ground.

For employers, judging the quality of an online programme would be easier in fields like IT, Math etc. where the stress is on mathematical and analytical abilities. For subjective fields like Management or Arts, it would be difficult to pin it down and one would then need to look at the quality of teaching; and this is where I think that having a traditional degree might be more desirable. All things remaining constant, prospective employers wouldn't have issues with a candidate with an online degree—the potential and promise the candidate shows would take precedence.



**Saurabh Kanwar**  
National Head, Marketing  
Radio City

The basic concept of online education has been around for a long time, in the form of distance education. The former is a more convenient way to deliver the same knowledge. Distance education is suitable only for some degrees. For instance, it's fine with technical education as opposed to an MBA, which requires a face-to-face interaction and team work as part of the learning process.

Personally, without sounding like a luddite, I'd like to sample the actual knowledge dissemination process for online education, before passing judgement. What a student gains from any education depends very strongly on the quality of the pedagogy, as well as the motivation of the student. That would apply to online education too, and perhaps more so, with the reduced face-to-face interaction and supervision, and the need for a self-driven schedule at times.

As technology and bandwidth progress, we have access to richer and better content on the Web. That will surely have a positive impact on online education in the future.



**S C Bhatia**  
Chief Executive,  
Datamatics Staffing  
Services

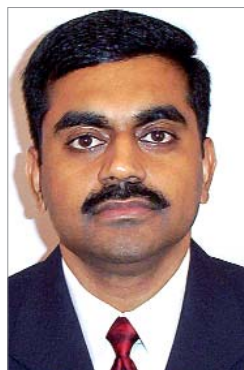
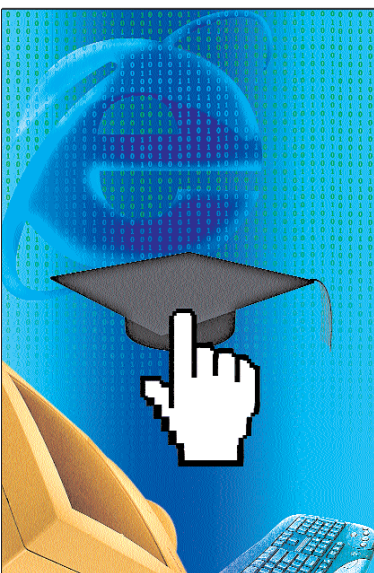
**B**ig names like Harvard University offer online degree programmes, reaching out to students who seek the backing of the brand, but cannot afford the high cost of relocating and the tuition fees of such elite institutions.

The value of an online degree from a reputed college might not compare much with the traditional programme of the institute, but since these institutions can still be selective about their admissions, the brand value would still hold strong.

A concern for students taking online courses is that they aren't in personal contact with their teachers and peers. Thus, they would miss out on learning in person. Moreover, they must look at the selectivity of an institute for an online programme—if the criteria are lax and a large number of students selected, then the brand value of the course is somewhat diluted.

It is still premature to say how online degree holders will fare when compared with their traditional counterparts, but we should see online degrees gaining massive popularity by around 2010.

# ACCEPTANCE



**Ajay Mallapurkar**  
Center Head,  
Ma Foi Management  
Consultants

**T**he bitter truth that candidates with MBAs must deal with today is that they fall in one of only two categories—those who are from a top-rung institute and those who are not. The latter category are practically on a level playing field in the job market. A candidate's resume would reflect his qualification and experience—after that, the interviewer may or may not find out whether the course was done online or not depending on the direction the interview takes. If the candidate's profile speaks for him, the topic may not even come up. What matters is the individual's profile and work experience.

We have a good number of candidates in our database who hold online degrees. I have personally interviewed some of them who hold e-MBAs; I feel that for MBA degrees, at least, an online course lacks the academic rigor and depth that a traditional degree programme offers.

When recommending a candidate to a company, I would focus on the candidate's experience rather than worry about whether the qualification was obtained online or not.



**Deepank Jain**  
Staffing Manager,  
Intel India

**I**n India, online degrees are still picking up momentum. The relevance of an online degree would also depend on the field—skills that are required in the technology industry, for example, would require a lot of hands-on training and lab work and an online programme cannot offer the same.

An online degree would be useful in general, non-technical fields like management. At the ground level, though, I don't think that an online degree is a substitute for a degree obtained at traditional institution. Online degrees would help people build high-level skills in their current professions. Students could enrol for online degree programmes as a source of continuous development to enhance specific skills.

At Intel, we are still evaluating the relevance and applicability of such degrees to job profiles in our company. Currently, we look for skills that are highly technical and are supplemented by practical experience.

*As told to nimish\_chandiramani@thinkdigit.com*





**118** Capture, Control, Create



**124** NFS Most Wanted



**148** Britney Rulez!

# Digital Leisure

Technology Beyond Work

Touched By Tech

## Blog For A Cause

**Blogs can go much beyond being online diaries. Here's a blogging contest that aims to promote cancer awareness**

Renuka Rane

A wonderful example of how useful the Internet can be, a blog has it all—from being an online confessional diary to becoming a platform to rave and rant, and critique and praise any and every subject under the sun. And if bloggers were to utilise some of their free Web hosting space to promote a worthy cause, it just could help someone in need.

Espousing a social cause on a blog allows a blogger to do just that: a blogging contest in aid of cancer awareness has been launched in Chennai. To participate, bloggers need to put up content on their blogs

supporting the 'Can Conquer Cancer' initiative. You can find the contest at <http://connexion-online.biz/conxw/ican/>.

### What It's About

The contest was started by Muralikrishnan R, CEO of Quicksilver, a placement agency. The idea of a blog contest to promote awareness came to him after the tsunami of 2004. He says about it, "The blogging circuit came alive like never before to mobilise resources for the tsunami-hit regions and get help. I realised that blogs can make a real difference in spreading awareness and help dispel myths—in fact, the use of a blog can achieve much more than an e-mail or Web site based campaign."

An avid blogger himself, Muralikrishnan also manages the promotional work of Connex-

ions, a popular departmental store in Chennai. Connexions, which is a major sponsor of the blogging contest, recently joined hands with the Rotary Club of Chennai Metro to promote the "Can Conquer Cancer" programme.

Murali further adds, "We believe that there's an upside to any challenge, so when it comes to spreading awareness about cancer, we wanted to get everyone involved. Essentially, we want to spread the message that cancer can be conquered, and get everybody to do their bit."

"Our efforts aim at infusing a positive attitude among bloggers and readers and providing hope to those battling the disease".

### Can Conquer Cancer

The contest, which began on 28 November 2005, is still on. As the





Connexions site states, "Blog a smile, Blog a while, Blog whatever you feel like, but just remember your writing could help someone conquer cancer. Lend a healing touch to your imagination and watch how far your keyboard strokes can go towards motivation and support."

The theme of the contest is "Can Conquer Cancer." Entries can be in prose or verse and must be 500 words in length. The content must be motivational. It can be a personal or a second-hand experience, and has to be original work. Even photo-blogging, provided the photograph is original, is permitted.

With only one entry per blogger, the contest is open to bloggers worldwide. However, blogs have to be in English. Participants are required to include any of the "i-CAN" banners available on the Connexions site to show their support to the initiative.

Entries will be judged for originality, content, style of language and the message they portray. A seven-member panel of judges including four bloggers and three non-bloggers will

Log on to [Connexionsonline.com](http://Connexionsonline.com) to participate in the 'Can Conquer Cancer' blogging contest

review and rate contest entries. And five winning blogs are slated to receive various prizes including a USB 128 MB podcast device, 350 MB of hosting space, T-shirts, music CDs, dinner coupons, and more.

Moreover, all entrants will have their blogs featured on the popular online portal—Sulekha.com. While contestants retain the intellectual property of their posts, Connexions will use the entries as a hyperlink,



**Blogs can make a real difference in spreading awareness and help dispel myths**  
Muralikrishnan R  
[Connexions.com](http://Connexions.com)

feature them, or just display them on the Connexions or any other partner sites.

## The Response

The Connexions site recorded over 40,000 hits within the first week of the contest being announced. Some entries are poignant—more so the ones that include reminiscences of the experience of cancer patients the participants personally knew. Other entrants have composed inspirational poems, narrated incidents, and even drawn sketches, all revolving around the theme of combating cancer.

Smitha N, a blogger based in the UK, says, "I have lived through the life of someone who faced the Big C, and I saw her emerge though pain in such a gallant, beautiful and smiling way. So, I can empathise with and feel the importance of this initiative. More importantly, I learnt that the big C is not that big after all. That was the moment I decided to celebrate life. I am sure this initiative will bring a few smiles to those diagnosed with cancer, and pass the message that they 'can'—and emerge unscathed!"

Another participant, Prabhu Karthik, a software professional, posted, on his blog, a first-person account of family members and close friends suffering from cancer.

Karthik says, "I believe blogs provide a platform to write about certain events that spur you to write about them in the first place. The reason I decided to enter the competition was not for the prizes, but the fact that I would get a chance to create awareness about cancer. There's a possibility that an online search on cancer-related issues could lead to my blog. And if users read my posting on cancer and are benefited by it, in terms of information, I would consider my work done."

Muralikrishnan mentions that in the future, Connexions will try to promote other issues such as AIDS awareness and child abuse through more blogging contests. In this way, such contests would give bloggers an insight into the pain and suffering of fellow humans, and help prevent and curtail that by creating awareness. ☒

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# All Part Of The Game

**1** OK, so Google is popular enough to have become a verb. But of all online searches conducted, how many actually use Google?

a) 36 per cent      c) 76 per cent  
b) 48 per cent      d) 92 per cent



**2** Which browser has *not* been in the news recently for vulnerabilities?

a) Opera      c) Internet Explorer  
b) Netscape      d) Firefox

**3** Which popular game console has, or will have, in-built parental controls?

a) The Xbox 360  
b) The Quantum Fireball  
c) The Nintendo Revolution  
d) The Sony PlayStation 3

**4** In which country has the launch of the Xbox 360 been reported as "lacklustre"?

a) The US      c) Japan  
b) The UK      d) South Korea

**5** Maxell plans to ship its first holographic storage system in late 2006. What will be the capacity of a single disk?

a) 1,600 GB      c) 16 GB  
b) 160 GB      d) 1.6 GB

**6** Alexa, a search company, is opening up its index to anyone who wants it—for money, of course. Alexa has about five billion documents in its index—about 100 terabytes of data. Who owns Alexa?

a) Amazon      b) Microsoft  
c) Intel      d) Apple

**7** A new top-level domain (TLD) has recently been the subject of a controversy—namely, whether to approve it or not. The TLD will cater to pornographic sites. What is it called?

a) .sex      c) .smut  
b) .xxx      d) .porn

**8** What does the term "Googlewhacking" refer to?

a) Formulating a search query that brings up just one result  
b) The act of putting up blog posts that portray Google negatively  
c) The act of pitting Google against other search engines  
d) Getting a job at Google's HQ

**9** What is Symantec soon expected to do with its popular products such as Norton AntiVirus?

a) Make them available for free  
b) Increase prices while improving features and scan times  
c) Make the products available as online services

d) Merge them with McAfee's product lines

**10** From which of the following acts or supposed facts does the term "booting" originate?

a) Early computers had to be kicked to make them start  
b) One can lift oneself up by pulling on one's own bootstraps  
c) The sector on a hard disk that stores data related to starting up is called the boot sector  
d) Boots, the pharmaceutical company, had a patent on the software that started up some early computers

The 'Stoned' or 'New Zealand' virus was a classic computer virus, which when it struck, the computer displayed the message "Legalise Marijuana".

**Did You Know?**

'Tux' is the name of the official Linux mascot.

## Answers

1. d) 48 per cent	8. a) Formulating a search query that brings up just one result or mechanisms
2. b) Netscape	9. c) Make them available as online services
3. d) The Sony PlayStation 3	10. b) One can lift oneself up by pulling on one's own bootstraps
4. c) Japan	11. b) .xxx
5. a) 1,600 GB	12. a) Amazon
6. a) Amazon	13. a) 1,600 GB
7. b) .xxx	14. a) 1,600 GB

Got an interesting question? Send it in with the answer to [tq@thinkdigit.com](mailto:tq@thinkdigit.com) Mark "TQ" in the subject area.

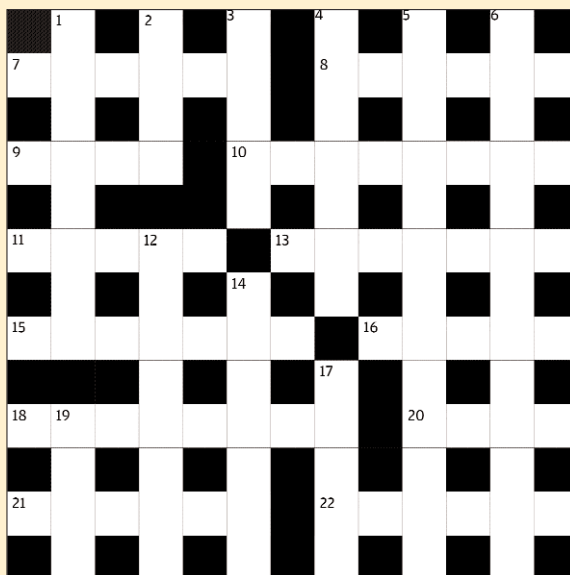
## Crossword

### ACROSS

- Search \_\_\_\_\_ provides Web site access (6)
- Computer programme that interacts with a particular device/software (6)
- Windows NT Server (abbr) (4)
- Portable disk with removable cartridges (3,5)
- End a program (5)
- Carry out a function (7)
- Information Services Electronic Archiving (abbr) (7)
- Unit of length (5)
- File transfer from server to desktop (8)
- Computer-aided software engineering (abbr) (4)
- One millionth of a meter (6)
- Synchronous DSP specification language (abbr) (6)

### DOWN

- Set up computers for use (8)
- Wall-security measure (4)
- Get hold of illegal software (5)
- Plug or circuit board (7)
- Power source for electronic devices (5,4,4)
- SM in 'SMB protocol' (6,7)
- Input devices that reads images converting it to digital signals (8)
- An e-mail \_\_\_\_\_ (7)



- Automated Data Reports Submission System (abbr) (5)
- Leave out part of text (4)

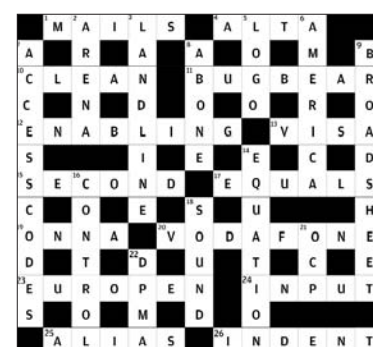
Send in your answers to the crossword with complete contact details to [TQ@thinkdigit.com](mailto:TQ@thinkdigit.com) on or before January 15. One lucky participant will win **Writing Effective Use Cases**

by Alistair Cockburn  
published by Pearson Education



**Win!**

## December 2005 Solution



**Shailesh Patel** of Bhopal wins the prize for the December 2005 crossword

Crossword by Nitta Jaggi

# Capture, Control, Create

If you have a TV-Tuner, you need PVR software. Here's a little comparison of some of the better ones out there

Anup Nair

More and more people are using their PCs as TVs, and software is being developed by the dozen to help you get the best from your TV-Tuner card. With Media Center PCs becoming more popular, TV-Tuner software are also being better designed; however, Personal Video Recorder (PVR) software hasn't entirely lost out on presence. These software tune in to TV channels, and capture screenshots and video in a compressed format. Some can pause a TV show.

The interface apart, the thin line that separates PVR software from Media Center software is the latter's additional functionality that integrates DVD, radio, picture and music playback capabilities using a remote control, while retaining the capabilities of PVR software.

The major parameters that we based our comparison of PVR software on were ease of use, features and performance. We took a detailed look at six software in all—ChrisTV, iuVCR, NeoTV, PowerVCR II 3.0, WinDVR, and WinVDR.

ChrisTV

ChrisTV is a unique contender in the category of PVR software—unique because the interface is so dull! But make no mistake—all the functionality is there: everything you need is a right-click away.

Ease Of Use

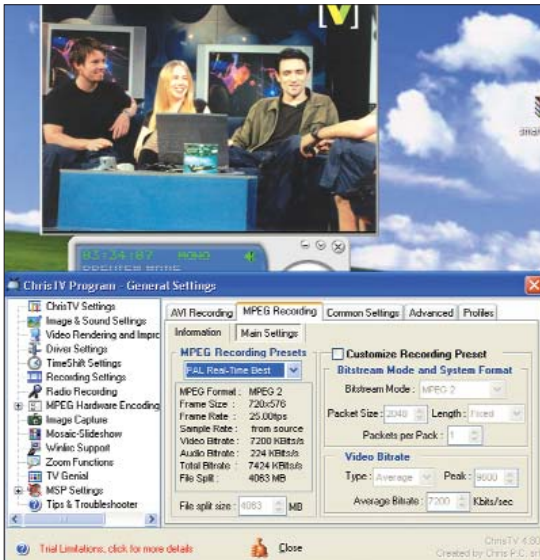
Installation is wizard-based, at the end of which you're prompted to configure the settings. The process also includes setting up a video capture device. This is an important step; make sure you select your TV-Tuner card, since your graphics card can also serve as an input source for PVR software.

The interface is compact and the colour combination dull, like we said. It looks like a failed attempt at aping the Mac OS user interface! The buttons on the panel make all the important functions accessible. Advanced settings become accessible with a right-click. Clicking the "gear" icon button opens the 'General Settings' menu. This menu is at the heart of ChrisTV's configuration.

Imaging Vikram Kathare







The video record settings in the 'General Settings' dialog box have tabs and sub-tabs for finer record settings

## Features And Performance

ChrisTV probably has almost all the features you'd look for in a PVR software. It has the time-shift feature by which you can pause a telecast, forward through ads, and create your own TV replay. This feature has three modes of operation: software DV encoder, software MPEG encoder and hardware MPEG encoder. (The time-shift feature works only with Windows XP, Windows Media Center Edition or higher.)

Recordings can be stored as MPEG, AVI, XviD, and more; recording is supported with many codecs to choose from. The channel preview and the recorded video quality are satisfactory, whereas the snapshots (which can be taken in the JPEG and BMP formats) give remarkably better results.

Another prominent feature is the scheduler. ChrisTV allows a user to schedule recordings for the entire week. Just select the day of the week and set a timed recording for that day—it's that easy!

Link: [www.chris-tv.com](http://www.chris-tv.com)

## How We Tested

The broad parameters considered for testing Personal Video Recorder software were ease of use, features and performance. Our purpose here is to identify and recommend one software that will serve your requirements on all counts.

**Our Test Machine:** We tested the PVR software on a Pentium IV 3.4 GHz dual-core CPU with 1 GB of DDR 2 RAM and a LifeView FlyTV Prime 30 TV-Tuner card. A VCD player connected to the Composite input of the TV-Tuner card served as the input signal for testing purposes.

**The Test:** Software should be easy to use and configure. Keeping this in mind, we looked for a clean interface and easy-to-use methods for configuring and setting up the software.

Apart from the standard features, we also looked for the ability to zoom in while watching TV, pause, and tile displays (showing more than one channel on a single screen). Such features earned a software extra points.

Of course, we didn't want software which had great features and which was really easy to use, while not being able to capture video properly. Therefore, we gave as much weightage to the quality of video capture as to the features and ease of use.

## iuVCR

iuVCR features a simple interface, beneath which lies a variety of features and options. This software also features radio tuning (if your tuner card supports it).



The configuration settings of iuVCR are classified under the Video and Audio tabs

## Ease Of Use

Installation is, again, wizard-based. The interface design is so sober, it looks like software from the Windows 95 era. The configuration options are classified under the 'Video' and 'Audio' tabs. An 'Info' tab shows the important settings for recording and compression. It also displays other technical information, such as file size and frame rate in fps along with a graph. Overall, the interface may be confusing at first glance, but you'll find it is very organised once you've understood the classification of the settings.

## Features And Performance

Basic features include TV channel tuning, TV and video capture, and compression of captured content to various formats including DivX. You may need to install a codec pack on your Windows machine before you can choose from various compression formats for your capture. (We installed K-lite Mega Codec pack.)

Capture/Recording can be controlled by limiting it within a time frame, or by punching in the maximum file size. Moreover, captured files can either be saved in a particular folder in a partition or in different locations across hard disk partitions.

This software offered scheduled and timer recording. With timer recording you can set the software to record for, say, the next one hour; with scheduled recording, you can instruct the software to record from, say, 5 pm to 7 pm for any specific channel or input!

The schedule feature wasn't very impressive, though—it restarted the iuVCR software at the scheduled start time, and it often recorded from the wrong input. Overall, iuVCR is just about OK.

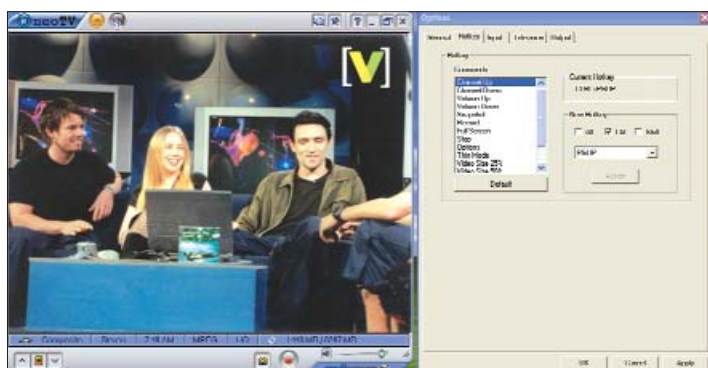
Link: [www.iulabs.com/iuvcr/index.shtml](http://www.iulabs.com/iuvcr/index.shtml)

## NeoTV

NeoTV needs to be tweaked by the developers; there is plenty of room for improvement in video recording as well as the user interface.

## Ease Of Use

When NeoTV is run for the first time at the end of the easy installation process, it requests



A user-customisable hotkey is available under NeoTV's configuration settings

you to set up audio/video sources and channels. You are taken to the 'Configuration Options' dialog box. After you're done with setting up the software, the rather ordinary blue user interface shows up. Moving the mouse pointer over the buttons reveals their functions. There aren't too many options on the panel for setting up the software, which makes NeoTV good for first-time users.

### Features And Performance

A unique feature in NeoTV is the reconfigurable Hotkey option. User-defined keys can be set; this helps you easily remember the keys you set for various functions such as record, stop, next channel, previous channel, etc.

NeoTV can handle recording of telecasts in MPEG, VCD and DVD formats, and snapshots are saved as BMP files. The quality of snapshots is really good, but we couldn't judge the quality of video capture—the saved file turned out to be corrupt. Our repeated attempts to capture video in different formats were in vain. Given the fact that we weren't even able to capture video, we can't recommend NeoTV.

Link: [www.mediostream.com/products/index\\_neotv.html](http://www.mediostream.com/products/index_neotv.html)

### PowerVCR II 3.0

CyberLink's PowerVCR II is the most commonly bundled software with most TV-Tuner cards. With the advent of Media Center PCs, CyberLink now supplies PowerCinema. Nevertheless, PowerVCR II still has the punch to be amongst the most-sought-after PVR software.

### Ease Of Use

The procedure for installing PowerVCR II 3.0 was somewhat lengthy—it installs the Intel Indeo codec pack right in the middle of installation. The option to not install Indeo wasn't offered.

Those who have used CyberLink products earlier will know the characteristic interface scheme—it resembles an actual DVD player with knobs and buttons. A similar scheme is used here, more like a blend of a set-top box and a DVD player. The preview screen looks like a flat plasma TV.

A side panel bar is provided to directly access certain features such as the recording scheduler and the DV Tape Transcoder. Overall, the interface and the software are elegantly and professionally designed.

The software starts with a hunt for channels and stops at the very first signal it detects; detection is so fast, you'll notice it only if you disconnect the TV cable and connect only the composite input. This is of immense help, because you don't have to dig around in the configuration settings to set an input mode for the software—the available signal is quickly detected.

### Features And Performance

Despite the professional look of the software, PowerVCR seemed to be lacking on the features front. Its closest contender is WinDVR, which impressed us with its performance and features; read on to see whether PowerVCR can keep its winner tag from a couple of years ago.

The snapshot feature took images only in BMP format, and although the clarity of the images was commendable, it would have been nice to have an option for JPEG.

The 'Instant TV Replay' feature allows you to pause a live telecast while it (the ongoing telecast) is being recorded to disk. You can, therefore, replay and even forward ads at will. The file converter helps convert a captured file from MPEG to other formats such as AVI.



The interface of PowerVCR is very similar to that of PowerDVD. Most features are accessible on the panels

If you want to record everything on your camcorder to DVD, you can use the 'DV Tape Transcoder' feature, which converts your DV files to MPEG. Creating a DVD from this is accomplished via the 'Direct burn to DVD' feature.

The TV channel preview quality was very good; in fact, PowerVCR and WinDVR were the only two PVR software that showcased grain-less picture reproduction. Video captures are stored by default in the MPEG format. The quality of the capture was also very good—we didn't see any jerks, nor did we notice any pixelation.

All in all, PowerVCR might well be the best PVR software out there—which is also probably reason for it being bundled with most TV-Tuner cards!

Link: [www.cyberlink.com/multi/download/trials\\_2\\_ENU.html](http://www.cyberlink.com/multi/download/trials_2_ENU.html)

### WinDVR Version 3

Two years ago, we did a similar comparison. WinDVR finished as the challenger to PowerVCR. Now we're back to our testing desk, looking for something new in WinDVR!



## Ease Of Use

A wizard guides you through the installation process. The UI might seem cluttered at first, but the functions of the buttons soon become clearer. You shouldn't have a hard time configuring the software to tune in to TV channels and other inputs such as Composite. The configuration options are well-defined.

## Features And Performance

WinDVR is a promising piece of software, considering its feature set. First, the live TV preview was outstanding. The preview didn't show up any pixel grains. Colour reproduction did seem a little dull, but that can be corrected from the colour settings in the configuration options.

WinDVR helps you take a closer look at a channel telecast by a nifty implementation of the zoom feature. This helps you to magnify a selected area with negligible distortion.

If you want to see what's going on on, well, 16 channels simultaneously, then multi-channel preview is what you are looking for. Yes, WinDVR allows you to watch 16 channels at the same time! The quality of channel preview as well as that of video recording were superior as compared to almost all the other software; only PowerVCR was close to the quality of WinDVR.

Because the feature list thus far was impressive, we were a little surprised to see that the recording feature was left uncontrolled—that is, there was no time limiter or disk space limiter option. This means that recording will continue until it's manually stopped—or until the disk space is exhausted!

Other features include DV-to-MPEG conversion and burn-to-disc; these can be used together to record from a camcorder to a disc. Barring the cost of this package, it has all the features and quality to beat the top-rated PowerVCR II.

Link: [www.intervideo.com/jsp/WinDVR\\_Profile.jsp](http://www.intervideo.com/jsp/WinDVR_Profile.jsp)

## WinVDR

No, that wasn't a typo—this is WinVDR we're talking about, not WinDVR. But the similarity in the names doesn't reflect in the quality of WinVDR. We don't really recommend this software.

## Ease Of Use

WinVDR's interface is so mediocre, it should probably be distributed for free! The designers don't seem to have put much thought into designing the user interface. All the configuration options are listed under the 'Options' menu. And almost all the options begin with the letter 'S'; you'll have to strain your eyes to find the option you're looking for. A separate playlist window is provided to list and also play back captured videos.



In WinDVR, a floating vertical snapshot bar lists all the images taken using the snapshot feature



All the configuration options for WinVDR are available under the 'Options' menu

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JANUARY 2006

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\*Linux: Contact for availability.

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## Scoreboard

## PVR Software

	PVCR II ver 3.0	WinDVR	NeoTV	ChrisTV	WinVDR	iuVCR
Video Recording	MPEG 1/2, DV-to-MPEG	MPEG 1/2, VCD, DVD, DV-to-MPEG	MPEG 1/2, VCD, DVD	MPEG 1/2, AVI, DivX, XviD	MPEG 1/2, AVI, MP4, VCD, DVD, WMV, MOV	AVI, DivX, XviD
TV Image Snapshot						
BMP/JPEG	4/6	4/4	4/6	4/4	6/6	4/4
Live Pause/Replay	4	4	6	4	4	6
Multi-Channel Preview	4	4	6	4	6	6
Zoom Live TV	6	4	6	4	6	6
Timer Control						
For Recording	4	6	4	4	4	4
To Turn Off PVR	6	4	6	6	6	6
Scheduled Recording	4	4	6	4	6	4
Miscellaneous	Direct burn to DVD	Parental control, burn to disc	Configurable hotkey	Scheduler can be set according to the days of the week	NA	NA
Rating (Out Of 5)						
Ease Of Use	3.75	3.5	2.75	2.75	2.75	2.75
Live TV Preview	3.5	3.5	3	2.75	2.75	2.75
Video Capture	3.5	3.5	0	2.5	2.25	2.5
Snapshots	3	3	3	3	0	2.25
Features	3	3.75	2.25	3.5	2.5	2.5
Overall	67	69	44	58	41	51
Cost	\$49.95 (Rs 2,260)	\$79.95 (Rs 3,620)	\$30.00 (Rs 1,360)	\$49.95 (Rs 2,260)	\$39.00 (Rs 1,770)	\$26.95 (Rs 1,220)

### Features And Performance

The first impression that WinVDR makes with respect to features is the list of video capture formats it supports: AVI, DIVX, MPEG, VCD,DVD, WMV, MP4, MOV... the list is never-ending!

WinVDR does include necessary features such as the time-limiter to control unattended video recording, and live TV pausing. Now, despite supporting so many video formats, there is no Snapshot feature. This is one of the many reasons that WinVDR lost out in this comparison test.

The other is the poor capture quality, with lots of pixel-grains, especially in the brighter sections of the captured clip. The preview is much better, though.

[Link: artech365.com/winvdr/index.htm](http://artech365.com/winvdr/index.htm)

### Summing It Up

NeoTV and WinVDR lacked some features, and the video capture of the latter product was just about satisfactory. iuVCR had good features but lacked slightly on the quality front.

We decided that the winner had to be either PowerVCR or WinDVR. Since the highlight of the comparison was the features of the software, WinDVR leads the comparison table, along with ChrisTV. But ChrisTV did not offer the clarity we were looking for. The performance department—that is, the quality of image and video capture—belonged to PowerVCR and WinDVR.

It wasn't easy to choose between PowerVCR and WinDVR, but after much deliberation, we decided that WinDVR was the winner by a very small margin. ☒

[anup\\_nair@thinkdigit.com](mailto:anup_nair@thinkdigit.com)

1/2 pg H AD



# NEED FOR SPEED Most Wanted

**The streets are a free-for-all now. The recipe for the day is tune, race, irritate the police, RUN!**

For two releases now, EA banished us from respectable society and sent us to the dark, dingy world of illegal street racing. While we did enjoy the night-time races in our mean machines, one thing still rankled. You see, the Dark Side isn't much fun without a good old-fashioned war with the goody-

goodies, and this left an unnamed emptiness inside. We yearned for the days of yore when cops from all over would stumble over themselves trying to capture us.

With *Need for Speed: Most Wanted*, EA brings some more sweetness and light into our lives. The racing is still dead fast—and just as illegal, but now we have our friendly Boys in Blue to remind us, should that slip our minds.

## The Script

The Career Mode reveals the plot (if you can really call it that) of NFSMW's story—you are a nameless street racer with a fine steed, looking for a race in the small town of Rockport. You bump into an degenerate named Razor, who is at the bottom of the Blacklist—a ranking of the best and most wanted racers in town. He gives you the race you seek, but sabotages your car, steals it, and hands you over to the cops on a silver platter. You get out of jail and

find Razor has been using your car to get to the top of the Blacklist. You need revenge. To reach Razor, you must work your way up the Blacklist by defeating each racer on it.

The story is told in stylised full-motion video cutscenes, and the acting is awful. So awful, in fact, it's actually hilarious—one wonders if EA did this on purpose. Helping you on your journey is Mia Townsend, played by Josie Maran, though you don't really know why she's helping you. Apart from the cutscenes she keeps sending you tips and news via text and voice messages. You are also helped by a mysterious guy named Rog, who also keeps sending you text and voice-mail messages telling you what's going on in the racing world.

Making your way up the Blacklist isn't as easy as it sounds. These are elite racers, and you need to make yourself worthy before you take them on. You must win races and build a reputation among racers and the police as a wild menace to society. Naturally, as you move along, this is to become tougher, but not gradually like one would expect—your opponents seem to get a sudden revelation somewhere around the middle, and now the slightest error can leave you coughing up dust.

The story itself is quite cheesy, but grips you enough to make you want to see it through to the end. Do you get your car back? Do you get the girl? What will Razor resort to? Find out in the next chilling episode!

## Enter The Cops...

... who are the real stars of the show this time. Every race carries with it the possibility of their suddenly turning up and adding some fun to the party. Looking for a chase? The Career Mode even lets you jump right into pursuits to get yourself better known in lawful circles. As usual, you can listen in on the police radio



Ah... beautiful, unsuspecting Rockport



Ha! Those cops won't find me in this stadium!



Sometimes you just need faith...



One with the road





band, and this is when you let yourself be blown away by the AI—they sound like real cops having real conversations! They discuss how they're going to try to take you down, and are always chattering about your position. You start off at heat level 1, when you are just a naughty child to the cops. At this point, they're quite dumb and are as easily evaded as a short-sighted aunt. Bug them even more and you reach heat level 2. Then things finally start to get interesting—more cars will be on your tail now, and you will have to thunder through roadblocks to avoid getting busted. By heat level 5 you are being chased around by what seems to be every car on the planet, a helicopter, police Corvettes, and you've got to deal with spike-strips.

## Sights And Sounds

*NFS: Most Wanted* is a brilliantly orchestrated assault on your senses. The environment and lighting is wonderful. Road reflections are incredible—you have the dry, diffused reflection of sunlight or a slicker, more glossy reflection when it's raining. Lighting is more realistic now, thanks to the new Overlighting effect—now, if you get out of a long tunnel, the sun actually blinds you for a split second while it simulates the effect of your eyes getting used to the light. If you reach a high enough speed, you can watch the environment start to blur around you, and pump some nitro into the engine to watch the world fleet by in an incoherent haze.

Of course, we mustn't forget the most important part of the game—the cars. The car models in *NFSMW* are sleek, shiny, and quite close to the real thing. There is a prolific selection of cars ranging from the humble (read: hopelessly weak) Chevrolet Cobalt to the awesome Lamborghini Murcielago. The engines sound awesome, and with a good set of speakers, you can almost feel the machine throbbing around you.

In keeping with the whole 'underground' theme, the soundtrack (delivered through EA's 'Trax' system) is a hip-hop/rock combination which we didn't like at all, but which suits the bling-filled attitude EA is trying to incorporate. Thankfully, this Trax pestilence can be traded in for regular music.

## The Heart And Soul

At the core of it, after all, *NFSMW* is about racing, and you get plenty of it. To challenge each Blacklist racer, you need to win a number of races, and the challenge itself is usually two races. On top of that, there is the Free Roam mode, which has you zooming all over town avoiding cops. To start a new race, you have to

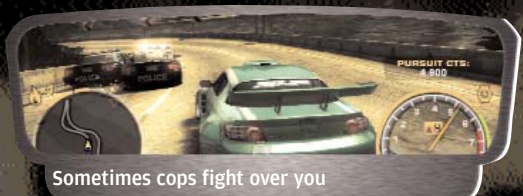
be out of the ever-watching eye of the fuzz, and as your heat level rises, this gets more difficult and hence frustrating.

The racing experience itself is unadulterated fun. The cars feel rock solid and are a joy for the compulsive powerslider. Little details like the shudder of a collision and the jump of gearshifts have been given due attention and do not disappoint. Freaks for realism will need to look elsewhere—this game is all about the adrenaline rush of full-throttle racing. Even car damage is practically non-existent—the most you'll ever see is a shattered windshield. This is not so for the police cars though, and you can have your fun watching turn into scrap metal.

Like so many other game developers, EA too has discovered the attractiveness of Bullet Time. Called the SpeedBreaker, this lets you stop time and try out new and dangerous manoeuvres like dodging the police by moving underneath trucks. If you are being excessively harassed by the Law, the game offers you Pursuit Breakers—structures across the city which you can destroy to keep them busy; the game camera switches to 'game moment cam' to show you just how much destruction you are leaving behind. This makes the game just that much more fun.

Even if the repetitiveness of racing about town and the eons it takes to finally complete the game are a pain, *NFS: Most Wanted* is a neatly packaged, well-styled bundle of fun. From hysterically bad acting to the pure thrill of racing, it is sure to be another winner. ☑

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thinkdigit.com



Sometimes cops fight over you



Busted! We... uh... do this on purpose. To show you.



...and sometimes you need a ramp



We are brave



The gorgeous Gallardo



We try a "2Fast2Furious"



Better in Red





# WAR IS HELL!

**You're in the Army now: Playing World War II shooters was never this much fun!**

To be honest, I wasn't very excited about being assigned this game to review. I'm not the type who likes WW II shooters! I opened the impressive-looking packaging and pulled out the game box, only to scream in dismay when I saw there were six CDs! "That's 14 times I need to open/close my optical drive!", I moaned—after installing the sixth CD it asks for CD 1 again. Seriously, a DVD would have been nice. (Note to self: please inform all game companies to only send DVDs for review!) I used an AMD Athlon64 3200+, 1 GB DDR 400 MHz RAM, a GeForce 6600 256 MB card and an 80 GB SATA hard drive, and it still took ages to install. "This better be a good game," I muttered.

To my surprise, I started off as a Russian in the game—now that was new to me. The AI is so good that even at the normal difficulty level, the game requires a very different approach from most of the other first person shooters. If you run around trying to blow people away, be prepared to start from the last save point a few hundred times! The enemy AI is good, and depicts the actions of humans well: most FPS games have monsters that charge at you like there's no tomorrow; in *Call Of Duty 2* (COD2), enemy (German) snipers will try and blow you to kingdom come from within hiding, and most foot soldiers prefer to hurl grenades rather than try and move up to attack you! Basically, the AI knows how to protect itself, and killing your enemies is not as easy as point and shoot.

Despite not having played the original game, it took me just five minutes to get used to the nuances of this series: every now and then I'd just fall flat on my face, deadlier than a doornail, wondering what hit me—then I saw the grenade alert indicator! Overall, the learning curve is pretty flat.

I'd turned up the visual detail to maximum in order to enjoy the game to its fullest, but found that it can get a little sluggish and start framing on my configuration. A resolution of 1024 x 768, with 4x AA, trilinear filtering, and with everything else left to the default seemed to work—so that's what I used.

## The Missions

Like I mentioned earlier, I started off with team mates who said "Come on comrade, kill the Nazis," then came team mates who said "A'ight mate, let's send these Nazi blokes back to Berlin," to becoming a US corporal... well, you get the drift. Whether as a Russian, British or US soldier, I sure did kill a lot of Nazis. Which made me scratch my head and think, "Does anyone in Germany actually buy this game?"

The missions take you through the streets of Stalingrad, fighting off hordes of attacking Germans, on to the African Sahara, grinding the Desert Fox's (Field Marshall Rommel's) armoured forces into the dust, and finally on to the American attack of Europe. During the 10 missions, you crawl through pipes to get behind enemy lines, drive a tank and destroy some Panzers, and finally hold out on European soil till your reinforcements arrive.



1  
Apart from shooting, you have simple tasks to complete...



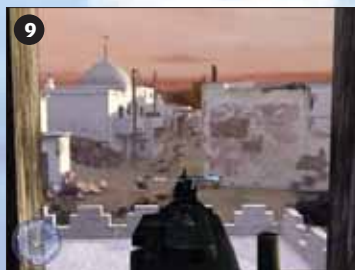
2  
...like blowing up this building with the explosives you planted earlier



5  
Each new campaign starts with some authentic WW II TV footage



6  
At some points, AI is stupid: they just kept coming down in a line and dying!



9  
Then at dawn you have Germans attacking like Japanese Kamikazes



10  
Then you defend a British base from marauding Germans in the desert



13  
My first landing on a beach and I'm promptly knocked out by a shell!



14  
Now that's a bug: a dead Jerry doing a balancing act on a cliff!



17  
Friends or foes, they're all dead—war really is hell!



18  
Here comes the cavalry: the USAF saves my miserable behind again!

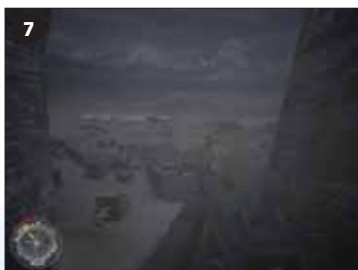
# CALL OF DUTY 2



**3**  
You also blow up tanks—under heavy German fire, of course



**4**  
You find out what's happening by reading your diary before a mission



**7**  
The British campaign starts off in the desert, at night—beautiful setting



**8**  
You invade 'Jerry' bunkers to find some secret documents



**11**  
My 'mates', seen here, help me through a series of sticky situations



**12**  
I get to shoot German fighters out of the sky—fun, but too short-lived



**15**  
The US tank-busters come to my rescue very often in the game



**16**  
Some great scenery when I wandered off, but it didn't get me to the next level



**19**  
Then it's attacking another beach—beautiful scenery again



**20**  
I blow up a few tanks and the Allies beat the Axis to win WW II—yippie!

## The Game

The game has a very realistic WW II feel to it, and looking up at the sky you'll often see fighters engaged in the classic dogfights of WW II fame. There's always smoke on the horizon and shelling in the distance. The reality extends to even gun models and the shape of vehicles and grenades. The houses and streets are authentic looking, and your gun isn't a spanking new factory-issued rifle—it has the notches and scratches that come with the rigours of regular use.

Each mission starts with an actual WW II video clip, informing you of news of the war. Then there's a view of your diary, which should tell you where you're going and why. All this combines to make an amazingly authentic setting.

The graphics are pretty good, but after having played *Quake 4*, *DOOM 3* and *Half-Life 2*, look a little amateurish. The game also has a few bugs and limitations that can be annoying—it refused to go to the next level a couple of times, even though I had completed all my tasks; people were sometimes standing or lying dead in mid-air; and the closed map design style meant you could be standing on a boundary, blocked by something you should easily be able to jump over or crawl under.

Speaking of crawling, increasing the difficulty level should see you doing a lot of that! The game is hard enough in normal mode to keep you occupied for days; any harder and you'll be playing for months!

As I said before, the AI is very good, not just for the enemy, but for your allies as well. If you're going to be playing *COD 2*, try and remember that you're a soldier in WW II, and part of a squad, so going off solo to scalp as many German kills as possible will see you stuck at one level forever. You have your orders, and you have to fulfil them before you advance!

Overall, playing this game changed my opinion about war shooters, thanks to its realistic feel, great sound and good AI—8 on 10 from this reviewer! ☑

robert\_smith@thinkdigit.com

Publisher: Activision

Minimum System Configuration: Pentium IV 1.4 GHz or AMD Athlon 1700+, 256 MB RAM, 64 MB DirectX 9.0c compatible card

Price: Rs 1,299

Distributed in India by World Wide CD ROMs

Tel: 022 - 56973894



## What's New For 2006

FROM A MAJOR Windows upgrade to powerful Web services to high-definition DVD, there's a lot to look forward to in the coming year. Here's a partial list—just two items—from the link mentioned below. Be sure to check out the page!

The approaching new year looks to be full of change for the way you work and play with technology. Among the exciting developments heralded for 2006: Advanced Web apps and tools will further blur the line between the desktop and the Internet. The next generation of DVD will arrive at long last, ushering in high-definition recording. Wide-screen LCD monitors will continue to become less expensive and more attractive, while new technologies will begin to boost display quality dramatically. And Microsoft will finally ship its long-awaited Windows Vista operating system.

But the road to these anticipated developments won't be without its share of jolting bumps and potholes. A standards battle is raging between next-generation DVD camps. Vista will require a pretty beefed-up system to run properly. And most of the new monitor models will

be priced (at least initially) beyond the means of all but the most well-heeled users. Treat this article as your one-stop guide to some of the hottest new technologies, so you can decide whether they'll be right for your tech needs in 2006.

**Vista View:** Microsoft's next major operating system looks a lot different from the Windows you're used to seeing. But the parts of it you can't see might be even more important. It has been just over ten years since Microsoft launched Windows 95 to great fanfare and hype (and the Rolling Stones' song "Start Me Up"). Now, as Microsoft prepares its next major operating system launch, scheduled roughly for the end of 2006, an appropriate theme song might be "Security" by blues siren Etta James. ...

Security isn't the only focal point of Windows Vista. Also included are additional gaming features, a stronger desktop search function, a reworking of the graphical user interface, compatibility with high-definition TV, and other multimedia tie-ins. What's more, Vista is the first mainstream operating system from Microsoft built to handle 64-bit applications. The new OS should combine with the latest CPUs to improve gaming, system performance, and security.

**The Web's New Generation:** Soon you'll enjoy amazing, lightweight Web sites that respond like desktop apps.

For most people, "going online" involves launching a browser and surfing to different Web sites. But recent advances in how Internet data interacts with the desktop have already begun to change our idea of "going online" radically, and the metamorphosis will continue in 2006.

As with any revolutionary technology, the advance has garnered a slew of names. Some call it Web 2.0. Others call it "Open API," alluding to the sharing of key programming code known as the application program interface. And many are calling it Ajax (for Asynchronous JavaScript and XML), after the coding technology that is changing the way browsers interact with Web data. But regardless of the name used, 2006 will see an outpouring of new Web applications that take advantage of it.

For the complete column, visit  
[www.pcworld.com/reviews/article/0,aid,122928,pg,4,00.asp](http://www.pcworld.com/reviews/article/0,aid,122928,pg,4,00.asp)

## The Gift Of A Domain

MATT LAKE FINDS the perfect gift for a friend in the form of a nice, juicy presence on the Web...

When that huge box of chocolates arrived by courier, I knew I was in trouble. The large gold box told me right away it was Godiva. And the sender's address on the mailing label told me it was a gift from somebody I'd forgotten...

Just as the suitable reciprocal gift anxiety began setting in, an answer came to me: How about a domain? A nice, juicy presence on the Web for showcasing close-up photography of chocolates, cocoa-

related prose, and poetry—or anything else she felt like. And so I was off to the virtual market to make the purchase.

A day earlier, I read an opt-in e-mail newsletter from Dotster, one of the stable of registrars I rely on to

hold my collection of domains. The newsletter suggested giving a domain for the holidays, which I considered a dumb idea designed to squeeze one more domain registration from a desperate gift-giver. But that was before the chocolate. Now, I realized it was a brilliant idea designed to squeeze one more domain registration from a desperate gift-giver.

But what could I buy? The obvious back-slapping saucy joke domain, .xxx had already been deep-sixed from the agenda at a recent ICANN meeting. A nice .eu domain, also recently in the news, had a sophisticated, Continental sound to it, but not exactly a good match for this particular friend.

It would have to be a good old-fashioned dot-com domain. So I turned to the usual suspects. The company that had started me down this road, Dotster, had just announced a seasonal price drop of .com, .net, .org, .info, .us, and .biz domains from \$15 to \$6.99, good until the end of December. That's enough to bring out the bargain hunter in anybody.

Seven bucks in exchange for a box of Godiva seemed like a deal good enough to eat. But by the time I priced up the bargain hosting that plan Dotster offers (a good deal with free scripts for blogs, galleries and forums, 500MB of storage and 25GB transfer), I was way over the budget at \$71.40 for the year.

So I hopped over to one of the mainstays of all-in-one hosting: DirectNIC that offered a \$15 package with registration, ad-supported hosting, and e-mail forwarding. Was this gift worth giving? It had domain registration, a Web site and e-mail addresses. Still, I didn't have the time or the inspiration to slap a Web site or page on the site.

Then I remembered an opt-in mailing that GoDaddy had sent out last week. Recently, GoDaddy added a little sweetener to its ridiculously cheap domain registration package. For nine bucks, you get a domain, a solid POP and Web e-mailbox with a capacity of 25MB. The real kicker was the five-page starter Web site that came with its standard domain registrations. ...

Next followed twenty minutes on PayPal and the deed was done. I set up everything in my friend's name, except for keeping the primary e-mail address as my own to prevent a stray message from the company from spoiling her surprise.

For the complete column, visit  
[http://reviews.cnet.com/4520-6028\\_7-6401346.html](http://reviews.cnet.com/4520-6028_7-6401346.html)



# Why Google Will Falter In 2006

GOOGLE-BASHING IS IN. So are predictions for 2006. Here's a piece that says we won't think of Google as an "invincible behemoth." There are other tech predictions for the new year. Don't miss the full article—there are several hyperlinks you might want to explore.

Google will stumble in 2006.

I knew that would get your attention. Anything and everything Google is at the height of fashion right now. Every move that the company makes—like the advertising deal an obsessed press says it will announce with Time Warner's (Research) AOL unit tomorrow—gets a lot of attention in the press.

But what goes up must come down—especially in technology, the most volatile industry the world has ever seen. Yes, I love Google, but my first prediction is that a year from now we won't think that the search company is the invincible behemoth that we do now.

One reason for this a new concept known as "community-powered search." Yahoo is forging an early lead over Google in this fast-evolving technology with its acquisition last week of del.icio.us for a rumored \$35 million (the actual amount was undisclosed). Del.icio.us operates on principles similar to the popular MySpace. ...

Soon we will see a new form of results, like "What Others Liked," on all search engines. It's how Amazon tells its customers what others have bought, except that these search results involve information. In many cases, community-powered searches will let members find what they're

looking for more quickly than they would on a purely computerized type of web search, which Google does so superbly. Yahoo was already introducing community-based searches with My Web 2.0. Of course, Google is surely working on its own alternatives.

My second prediction is that Amazon will re-emerge as one of the web's most powerful properties, and provide increased competition for Google in 2006. Amazon has done a nice job grabbing more and more commerce dollars, but it has bigger ambitions, and a savvy tech strategy. ...

My third prediction is that telcos will become more powerful Internet service providers. ...

My fourth prediction is that Apple is likely to introduce a cell phone next year. ...

Here are the rest of my tech predictions for 2006:

TV viewing on cell phones will become routine.

AMD keeps kicking Intel's butt. AMD CEO Hector Ruiz told me this week that the company will announce its next big fabrication plant by next summer, earlier than most had expected. Another giant state-of-the-art factory (it only has one now) could help AMD better compete with Intel.

Microsoft's big software launches next year—the Vista OS and the next version of Office—won't generate much excitement.

Cisco may be the big-company investment of the year. This company's stock has flat-lined for 18 months, but every single trend that matters involves more bits flowing through more Internet-protocol pipes. As video online—the most data-intensive web application of all—becomes more pervasive, bit traffic will grow.

For the complete column, visit [http://money.cnn.com/2005/12/19/technology/google\\_fortune/](http://money.cnn.com/2005/12/19/technology/google_fortune/)



# Wikipedia Will Fail Within Five Years

WIKIPEDIA IS A hot topic of discussion right now, as we've indicated in our story in the *Enter* section of this issue. Here's Eric Goldman's take on the debate. (Goldman's research focuses on Internet law, technology and marketing practices. Recent articles of his have addressed warez trading, spam, search engine keywords and virtual worlds.)

This isn't just one article—the page mentions a wager Goldman had with one Mike Godwin, and includes Godwin's response. There are also pertinent comments by readers of Goldman's blog. Join the discussion!



Over the weekend I had dinner with Mike Godwin, one of the most significant influencers of the development of Cyberlaw and a longtime friend. Mike and I were discussing Wikipedia, the community-edited and -maintained encyclopedia. I like Wikipedia a lot and use it pretty frequently. However, as recent events have indicated, Wikipedia is far from perfect.

In particular, I remarked to Mike that Wikipedia inevitably will be overtaken by the gamers and the marketers to the point where it will lose all credibility. There are so many examples of community-driven communication tools that ultimately were taken over—USENET and the Open Directory Project are two that come top-of-mind—that I didn't imagine that my statement would be controversial or debatable. Instead, I was surprised when Mike disagreed with my assertion. Mike's view is that Wikipedia has shown remarkable resilience to attacks to date, and this is evidence that the system is more stable than I think it is.

Here's my thinking. As Wikipedia grows in traffic, outlinks from Wikipedia become more valuable—because of direct referrals and, perhaps more importantly, the PageRank that will flow from the link. Therefore, marketers will inevitably try to stuff links into Wikipedia. Because there are no barriers to editing Wikipedia, this is trivially easy for marketers to do. Eventually, marketers will build scripts to edit Wikipedia pages to insert links and conduct automated attacks on Wikipedia.

So long as the marketers' scripted/repeated activity is trivial in quantity, the self-policing community of Wikipedia will patiently delete those attacks—just like we delete spam from our in-boxes today. But over time, as the attacks become more determined and more automated, the Wikipedia community will become less enthusiastic about undoing the marketers' changes. At this point, one of two things will happen:

**Wikipedia will have to change its open access nature.**

Instead, Wikipedia will have to lock down lots of pages from being edited at all. Or Wikipedia will have to install some reputational management system to limit who has the right to post or edit content.

**Alternatively, Wikipedia community members progressively will do less spam clean-up.** This will lead to a gradual but ultimately irreversible downward spiral as more pages are taken over by marketers, decreasing the database's credibility. ...

Mike and I made a (wagerless) bet that on December 2, 2010, we will see where Wikipedia stands and decide the winner. If you have your own prediction on the fate of Wikipedia, please leave a comment.

To join the discussion, go to [http://blog.ericgoldman.org/archives/2005/12/wikipedia\\_will.htm](http://blog.ericgoldman.org/archives/2005/12/wikipedia_will.htm)



### Sex For An Xbox 360?

Two Boston women allegedly offered sex in exchange for an Xbox 360 in an ad on [www.craigslist.org](http://www.craigslist.org). The posting has since been removed. But, all people seemed to want to know was, "There are women who want an Xbox?"



### P2P-ing Pilot Predicament

Security codes to restricted areas for 16 Japanese airports were leaked on to the Internet because a 29-year-old Boeing 767 JAL co-pilot's home computer had the P2P software Winny installed! The co-pilot's computer had been infected by a virus.



# Escape

## THE PC CRITICS

# My PC Loves This Movie!

Imagine if your PC could analyse a movie and tell you it was great, and a must-watch. Or how about a book? Yes, software developers sure do work on weird things. In this case, the software isn't really meant for you, but rather, movie producers and book publishers.

With box offices raking in less than before, this software could be a godsend for big-budget producers and directors.

Professor Ramesh Sharda of Oklahoma State University, the developer of the software, told Reuters, "We are trying to forecast the success of a movie based on things that are decided before a movie has been made."

So basically, the idea is to input some details of the movie, such as its rating by critics, the other films

releasing at the same time, strength of the cast, genre, special effects, whether it is a sequel, and the number of theatres it plans to open in. The software then computes the success or failure rate.

The rating ranges from a "flop," for a movie that will

gross less than \$1 million, to a "blockbuster," for movies that *should* earn in excess of \$200 million.

Sharda uses a neural network to analyse the possible outcomes of the input data. And the results aren't very far off the mark! Since the inception of the idea, Sharda has analysed 800 films that released, and his results were spot on—37 times out of a 100. The remainder of the results were just one category higher or lower in terms of expected grosses at the box office.

However, the point to ponder is whether film makers really need to start looking at software to decide whether to make a film or not! If this trend catches on, we'll never see any movies that break

the mould, or never see any newcomers as actors! Can we really afford to leave the creativity to a few PCs?

Very soon, India could start seeing movies that only star known names, and newcomers will be left out. Perhaps the majority would love that, but what about encouraging new talent, taking those risks, and making movies that are good, rather than movies that will sell?

If that's not enough, [www.lulu.com](http://www.lulu.com), a publishing Web site, claims to have developed a way for software to analyse the *New York Times* bestseller list over the last 50 years and then decide whether an upcoming book has a good title!

Drop us a line and voice your opinions—tell us whether you feel it's a good idea to let such software decide the movies we see or the books we read.

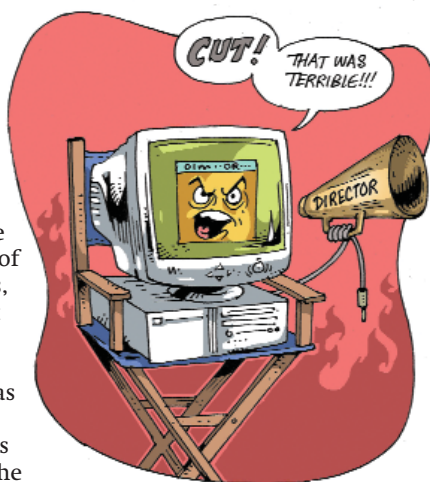


Illustration: Harsho Mohan Chatteraj

Win!

## My Desktop

Think you have the most beautiful, most innovative desktop around? E-mail us with subject **'My Desktop'** and your postal address to [mydesktop@thinkdigit.com](mailto:mydesktop@thinkdigit.com), and *Digit* will publish the most eye-catching of them each month.

Next month's winner will receive a copy of

### Security in Computing

By Charles P. Pfleeger and

Shari Lawrence Pfleeger

Published by JPearson

Education, Delhi



The winner of this month is Aditya Bharadwaj  
Aurangabad - 431003, Maharashtra

## SMILING SOFTWARE

# What Was Mona Lisa Smiling About?

Scientists at the University of Amsterdam in The Netherlands and the University of Illinois at Urbana-Champaign claim to have developed an emotion recognition software that



This month's winner is  
**Chayan Vinayak Goswami**  
Bikaner  
Rajasthan

He wins  
**Professional  
Java  
Programming**  
by Brett Spell  
Published by  
Shroff Publishers and  
Distributors Pvt Ltd., Bandra  
(W), Mumbai



### WIN!

Send in your entry and you could win an exciting gift just by sharing an amusing picture with a tech angle to it. The picture should be shot by you, and should not have been published anywhere earlier. E-mail your picture with the subject 'DigiPick' and your postal address **on or before 15th of this month** to [digipick@thinkdigit.com](mailto:digipick@thinkdigit.com). One prize-winning picture will be published each month.



human user interacting with a computer—better known as Human Computer Interaction (HCI). Sebe used a computer to create a 3D digital image of the Mona Lisa, and then compared it to his database of pictures of women in different emotional states.

has analysed the Mona Lisa and found that she was “83 percent happy, 9 percent disgusted, 6 percent fearful, and 2 percent angry.”

This result was obtained by Dr Nicu Sebe, a professor at the University of Amsterdam. Sebe used an emotion recognition software that was developed under professor Thomas Huang of the Image Formation and Processing Faculty at the University of Illinois at Urbana-Champaign.

The software was originally developed to recognise expressions of a

The software looks at the eyes and lips, the curvature of the smile, and many other aspects of an image to arrive at a percentage for six emotions—anger, disgust, fear, happiness, sadness and surprise.

According to the computer's findings, Mona Lisa has no surprise or sadness registered on her face—which seems logical; since she was posing for a portrait, surprise is not an option, and since she was smiling, we could rule out sadness as well!

What's more interesting than using the

software to figure what people were thinking in old portraits is to use it on digital images of today.

Since men are often confused about what women are “really” thinking, and vice versa, reading someone's mind could be as easy as snapping away with your digital camera.

There's also talk of using the software to run real-time scans at airports and other high security areas to analyse what people are really thinking.

This way, even if you were nervous or scared, but smiling (as terrorists might do at check-in), you could fool the human staff, but the computer wouldn't let you off the hook that easily!

Of course, this technology can be extended to read other signs such as body language. So the next time you walk into a corporate office for an interview, look around for cameras—they could be informing your would-be employers about what you're thinking and even your current emotional state. All this without meeting you face to face!

## People Who Changed Computing

### Gaming Pioneer

Nolan Bushnell is widely considered the father of electronic gaming. Bushnell had an eventful childhood—he nearly burnt down his family's garage with a



Nolan Bushnell

homemade liquid-fuel rocket mounted on a roller skate! At age 15, when his father died, he took over

their concrete business.

Bushnell attended the University of Utah where he studied computer graphics, managed an amusement park and also played tournament chess on the side. Bushnell believed that computer games were a means of education as they fostered curiosity and creativity in individuals. He went on to invent his first computerised video game, *Computer Space*, in 1970.

In 1972, Bushnell along with his business partner Ted Dabney founded Atari Corporation. The same year, Bushnell invented *Pong*, a video version of ping-pong. *Pong* was the first commercially successful video game and is believed to have started the video game era. In 1975, Bushnell made an agreement with Sears to sell a home video game version of *Pong*.

In 1976, he sold Atari to Time Warner for \$28 million (Rs 26 crore back then). In 1977, he also started another company, Chuck E. Cheese pizza restaurants, where kids could eat and also play electronic games.

Bushnell has founded 20 companies till date. He now envisions Internet-based games that can accommodate thousands of persons per team. He also lectures in the US, motivating others with his views on entrepreneurship and innovation.



# Bluff

YOUR WAY THROUGH

## Digital Video

You've suddenly found yourself in a café in the Art District and have no clue how you got there—it happens to the best of us. You are bored for company and are wondering how to break into the group of digital video (DV) geeks in the corner.

"CMOS or CCD?" one of them asks after you exchange names. CCDs are Charge Coupled Devices, used for image sensing. The best digital cameras use 3-CCD arrangements to get top-quality video, and cost you half a kingdom. And CMOS (Complimentary Metal Oxide Semiconductor) is a cheaper but slightly lower-quality approach to image sensing, but it's getting better.

Just say, "Oh CCD, no doubt. No compromises on quality", this will have them swooning at your discerning eye and bottomless wallet (Ahem!).

Regular video is interlaced—the image is divided into two sets of lines that are displayed alternately to fool the human eye into believing it's seeing a high-quality image. Progressive Scanned video displays all these lines in sequence, storing five times as much information in the frame. The result is High Definition Video (HDV), where faster movements appear much crisper than in interlaced video.

Video usually runs at 24 frames per second (fps). Saying "I'm shooting my next with a 24P camera" means that your video will run at 24 fps and is progressively scanned, and roughly translates to "I'm a George Lucas in the making!"

DV25 is the standard compression format for DV; an hour of DV25 video takes up about 13 GB of space and is the best possible quality outside of raw, uncompressed video. MPEG-2 is another compression format that started out as a format for distribution, but is now used in recording as well.

"Real Men don't compress," you scoff, leaving them burling something about more video on the same tape while you beckon a cab to take you home.

## Happy New Year!

Passion and fun, spunk and luck, laughter and sorrow, excitement and disappointment—our team's melting pot of emotions has this and more!

The month started in the worst way possible: in the first week itself we were shocked to find out that a dear ex-colleague of ours, Marshall Mascharenas, formerly the Art Director of *Digit*, succumbed to cancer. He was a dedicated and talented soul, and our entire team's hearts and wishes go out to his wife and daughter. He will be sorely missed!

There were also changes in the team—Mithun left to pursue his calling in creative copywriting, while, our self-confessed book-addict Renuka is off to study literature. Of the new joiners, we have Jyotsna on the copy desk. Articulate and a pro at English, Jyotsna surely must have been the winner of the spelling bee! Another newcomer, tech-whiz Nimish has fit in so perfectly with our team, that we all insisted he should bring along a clone of his—the more the merrier! And yes, Prakash from Bangalore has joined us on the CD/DVD front.

As for the goings-on in the team, the

test centre seems to have come to where we sit: there's non-stop gaming here these days, mostly courtesy Raaabo. A true-blue gamer, anytime you hear jets whizzing past or firearms going off non-stop accompanied by loud screams, it's only Raaabo at his FPS on a cataclysmic mission with a mad glint in his eyes.

And talking about gaming, the layout and design artists at *Digit* cannot help but pay daily obeisance to *Zuma Devi*—the stone frog idol in the insanely addictive *Zuma Deluxe* game.

And yes, it's the time for New Year resolutions. A few guys here—Ram and Vijay included—are trying to kick the nicotine addiction (as they do every year). Shival says he will not shout for "high-resolution images" anymore. We in turn are trying not to call Brother Zivalal "Zony Ericsson". Needless to say, these resolutions will barely last for a day!

And editor Deepak plans to increase his tech quotient. Honestly, we all do. For technology can be overwhelming for the best of us. And as we continue to navigate through its waters—2006 will be the year!

## DIGIT DIARY

### PARENT COMPANIES?

## My Dad's Surname Is .com!

A Web hosting company by the name of Weblinkhosting.com has applied for the right to legally adopt a child. This means that the child will be parented by the company, and not by an individual.

Weblinkhosting wants to adopt a child and raise it in its data centre, where the child will be cared for by various employees and provided with food, clothes and shelter.

Since every employee will be like a parent, the child will receive more love than in any normal house!

The company hopes that the child will grow in a conducive environment and learn all there is to know about Web hosting and become a Linux guru.

Though viewed as a publicity stunt by the media, the fact is that, thus far, there have been no impediments in the application procedure, which has taken almost six months.

Though Weblinkhosting hasn't decided on the nationality or the age of the child yet, it plans to do so soon. As for the sex of the child, that will be decided

by the flip of a coin!

We hope this doesn't become a trend, because of all the social repercussions: imagine companies building recruits by hiring toddlers, training them and then absorbing them into the workforce!

Though this sounds like a good idea, it might not be really fair to a child, who deserves the freedom of choice, once of age.

Children adopted by companies will differ from us, simply because we have the freedom of choice when it comes to deciding our own careers.

Whereas, the child who may be adopted by Weblinkhosting might not have that choice because of the "brainwashing" he or she will be subjected to while growing up.

What if the child really wanted to become a hairdresser or a doctor? Is it fair to manipulate a child in such a way?

### STEALTHTEXT

## Self Destructing SMSes?

With all the leaks and scandals regarding mobile content that we have seen

# whatweretheythinking.com

[www.pixelscapes.com/spatulacity/button.htm](http://www.pixelscapes.com/spatulacity/button.htm)

Ever wondered during your net wanderings as to where it all stopped? Pixelscapes.com/spatulacity/button.htm could, very well, be the answer. The site features this humungous red-coloured button labelled 'Push'. And trust us, you will not need anymore. For you will not receive more.

At first, we tried to "push" the Really Big Button (RBB) and then tried to resist doing so. This is one button that actually does not take you anywhere. What the button does, we are destined to never know. Try clicking, it's completely futile. We can't blame the makers, for they've put up this warning: "The Really Big Button

That Doesn't Do Anything".

The Web site is fairly easy to navigate (it has to be! It's just one page after all). What really baked our noodle was how does a Web site, created in 1994, still have people flocking to it and actually paying homage?

In fact, several visitors have attempted to immortalise the RBB by hailing it as the new age peace mantra or written off about their

frustrated attempts. Read the postings and you'll know what we are talking about. And you can check the RBB guestbook and sign it if you'd like. Who knows, even you might be converted! Still, reviews we can comprehend. Poetry, we cannot.

"On a page far away  
Stood the Really Big Button  
An emblem of suffering and shame."  
And all this for naught.



The Really Big Button that does nothing

thus far, both internationally and here in India as well, it's a relief to hear that such scandals might soon not occur. Not that people will stop being amorous or stupid, but simply by providing the sender of information with the controls!

Staelium UK has developed StealthText, an SMS delivery system that allows the sender to send messages that will be deleted from the receiver's phone 40 seconds after it has been read.

The catch here is that both the sender and the receiver need to have WAP access and WAP-enabled phones. However, only the sender of such messages needs to download a StealthText applet.

When a StealthText SMS is sent, the receiver gets a notification type of message that displays the sender's name and a link to the actual message.

Now, if the receiver goes to that link, via WAP, the message is flagged as read and it simply cannot be

accessed from the server 40 seconds later. For people who are concerned about the legal and security aspects of this sort of system, the good news is that the e-paper trail will still exist, and can be made available to the authorities on demand.

Although the SMS is no longer viewable by the receiver after 40 seconds, it is archived on the server.

Staelium claims that this service will be a boon for celebrities who are afraid of being blackmailed later, or businessmen who urgently need to send confidential information to colleagues.

The company also plans to introduce the same technology for e-mail, voice, picture and MMS messages. Perhaps now we will be able to go for more than a few months without a new MMS scandal taking place—provided we get to see this technology, and people consciously use it! ■

Compiled by Jyotsna Rege,  
Nimish Chandiramani, Ram  
Mohan Rao, Renuka Rane and  
Robert-Sovereign Smith

## Blog WATCH

**Berners-Lee, the man behind the Web has started to blog. Poke fun at the Star Parivaar awards. Read about some interesting keyboards, and how Christmas shopping is an unavoidable part of this jolly season. Blogwatch as varied as it can be**

**Leon Kilat-The Cybercafe Experiments**  
<http://max.limpag.com/>

### Lee tries out blogging

(Via del.icio.us) The man who wove the World Wide Web, as Time puts it in a 1999 article, has started blogging to try publishing content using blog tools. Tim Berners-Lee said he never felt the "urge to blog with blogging tools" because he has largely been updating websites using Amaya and Nvu (an excellent open source WYSIWYG editor).

Lee said in his blog: "we have blogs and wikis, and the fact that they are so popular makes me feel I wasn't crazy to think people needed a creative space."

**Ramanand**  
<http://quatrainman.blogspot.com/>

### The JaDe Project - 7, Category: Awards

There are awards and there are self-thumping awards, but none like the *Star Parivaar* Awards. I mean, what the heck? Take a look at last year's award winners here, but more importantly, at the categories: A Best collection of *Pati, Patni, Naya Sadasya, Khalnayak, Devar/ani, Jethani, Yogya Bahu, Saas/Sasur*. All these are merrily laughable, but I draw the line at *Best Saut*.

These awards are supposed to be for the entire Star Plus channels, but by having Saut-ern categories, aren't they constraining the competition? A giant K-ego massage at best. We haven't even hit "Best JoDi"—I would have voted for Amitabh and Computer-ji.

**Dave Roberts**  
<http://www.findinglisp.com/blog/>

### More Interesting Keyboards

The other day I posted about Das Keyboard being an interesting twist on keyboards, being unlabeled. At Interop this week, I happened to run into a company called Zeomi, who makes a keyboard with an added tab key. Basically, they put a duplicate tab key under the arrow keys, over by the keypad. They say that if you do lots of data entry into either spreadsheets or forms where tab is used to move among fields, this can really speed things up, presumably because you can be flipping through papers with your left hand while your right hand does everything on the numeric keypad. I did find it humorous that they're trying to patent this.

**Jon Choo**  
<http://jonchoo.blogspot.com/>

### Christmas Shopping

I always hate it when shops lie—advertise something on offer to court you in, then trying to persuade you to get something else because there are none in stock! HMV has been doing it lately and yesterday I forced myself through Oxford Street (I hate that part of Central London) visiting two of their larger stores—and none had the package I wanted!

Eventually I had to get it at GAME. The situation is similar to UK's Xbox 360 pre-order debacle, create a hype but be unable to fulfil it.



## Finally GOOGLE got a competitor.....!!!

**gagan007**

Analogue Novice  
Hi,

chk out this link  
<http://beta.previewseek.com/>

Superb Search Engine!Perhaps going forward we will be using this more than Google ??

Also preview seek is more intelligent than google! You type 'Mercury' in google and it will also show you results of Planet mercury even if you are looking for info on the element called Mercury. Where as in PreviewSeek first you get different categories of mercury (Planet, Element and what not!) and from there you can proceed only into that category. Even a search for DSC 80, a sony digi cam gave astonishing result sets with also categories on left side to preview its reviews or to buy it.

Good luck PreviewSeek, check it out at [beta.previewseek.com](http://beta.previewseek.com) . Note that it is still in beta!

No source, just got a mail.

\*\*\*\*\*

**linfi**

Digitized!

Location: Navi Mumbai

not a bad one. gud luck to PreviewSeek and thanks gagan for the info.

\*\*\*\*\*

**Febians**

Analogue Novice

Location: Bombalore:)

"Categoric" / "Clustered" search engines are not new....

[www.lycos.com](http://www.lycos.com)  
[www.vivismo.com](http://www.vivismo.com)  
[www.ask.com](http://www.ask.com)  
[www.teoma.com](http://www.teoma.com)

will all give u the categories for "Mercury"

\*\*\*\*\*

**~Phenom~**

Warmed-Up Nerd

Location: CYBERYARD

wow,

its great.

I m really impressed by the search results.

\*\*\*\*\*

**Vrnoormd**

Analogue Novice

Location: Vellore

Good one, Little Slow than Google

## Digit Helped Me Buy

When I bought my first PC two years ago, I had no one to guide me. I was confused between branded and assembled PCs. I also didn't know what configuration to buy. I couldn't pinpoint what my needs were, I didn't know about support by the dealer and manufacturers, driver availability, and last but not least, the warranty.

And then arrived the December 2005 issue with your Buyers Guide. It provided me with all the useful information, especially important for those who will buy PCs or hardware for the first time. Such articles train us to tackle dealers and makes us aware of the market scenario. Your effort is indeed praiseworthy.

**Parag Kalra**  
Nagpur

Dear Parag,  
Thanks so much for your appreciation. It has always been our goal to give our readers the complete picture and scale up their knowledge on not just the latest technology but also contemporary market trends.

—Associate Editor

## Our Youngest-Ever Reader?

In last month's issue, you said Amritanshu was possibly the youngest reader of *Digit*. I'd like to tell you that I've been reading *Digit* since I was in the 5th standard! And for the last five years, there isn't an issue that has bored me. I anxiously wait for your every copy—but I receive my copy late!

**Anay Somvanshi**  
via e-mail

Dear Anay,  
I am indeed surprised to know that you picked your first copy of *Digit* at that young age—you're a prime example of India's great IT potential! It is kids like you who build their IT quotient early enough to gear up for bigger challenges later.

— Associate Editor

## All Thanks To Digit

I thank the *Digit* team for helping me win the Microsoft Innovative Teacher Leadership Award (ITLA) 2005. I am a government teacher, and with your help I've remained updated and experimented with my computer, which led me to win the MS ITLA 2005 award and a chance to visit Seoul (South Korea). 10 teachers from all over India were selected to attend the Asia Pacific

Regional Innovative Teachers Summit in Seoul. They all use IT in their profession for better teaching and learning Process. I have created a Web forum for teachers—<http://itla2005.bravehost.com>.

**Gopal Veernala**  
Andhra Pradesh

## Excellent DVD Offer!

Thank you very much for the December special issue. Your additional DVDs offer for Rs 50 is fantastic. I am sure even if you had charged more, lots of people would have taken you up on your offer. I am not into computers, but I use them in my everyday work and I subscribe to *Digit* to keep myself updated on products and happenings in the industry. It provides me with all the necessary details while not being overly technical, so as a layman I can understand the content.

**Kiran Bhat**  
via e-mail

Dear Kiran,  
Thanks for acknowledging our efforts in reaching out the *Terminator 2* + Discovery documentary DVD and Microsoft game CD at a nominal price to our subscribers. If you calculate the original market price of these two, it turns out to be more than 15 times of what we've asked for. And as our CEO stated in his letter to all subscribers, the Rs 50 was only sought to cover the additional cost of procurement and shipping.

—Associate Editor

## Digitised At 11!

I've been a regular reader of *Digit* since I was 11. I eagerly wait for each month's copy. Your e-books, movie trailers and wallpapers are my favourite. I have built up my own library using your material.

The December issue was great. Collecting so much information in just one month should be very difficult—hats off to your team!

I am also looking for the full version of *Doom 3* and *Virtual DJ*. Please see if you can provide it. And tell me how I can get to know the results of the Digit Contest Carnival.

**Tanul Saxena**  
Kota

Dear Tanul,  
This month we seem to be getting more and more letters from our young readers. It seems last month's letter has inspired a lot of you to write back to us. As always, it's a pleasure to hear from all of you!



### Write to the Editor

E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul, Navi Mumbai 400 706

Digit will publish the best letters on these pages. Letters may be edited for clarity. **You must include your complete address in all communication.**

For subscription queries, call the Help Desk at 022-27629191/9200, Fax 022-27629224, or send an e-mail to help@jasubhai.com

## Inbox

Regarding full versions of games, well, we cannot pass on illegal copies of games! The results of the Digit Contest Carnival are regularly updated at [zdnetindia.com/dcnew](http://zdnetindia.com/dcnew).

—Associate Editor

### Digit Patron—Double The Value!

First up, you deserve my thanks - in fact, a thousand thanks! I am a computer teacher, and I'm a regular bus-stand reader of *Digit*. When I first saw a mention of "Digit Patron" in the magazine, I thought it was only for subscribers—but, of course, I was mistaken. I got my gift a few days ago—the "Photoshop 100%" edition. It was amazing! Digit Patron is an amazing and useful program—it doubles *Digit*'s value!

I have a few suggestions for forthcoming issues:

It is time to introduce another issue of "Photoshop 100%". We now have Photoshop 9, with lots of new features, meaning new possibilities for graphics.

I suggest you include some free demo filters in the CD/DVD, and also some useful Photoshop templates and other resources.

Everyone likes Mini CDs—they are easy to handle. I know the capacity is low, but I'd suggest you try a Mini CD at least in the Anniversary Edition. You can include PDF files on that CD.

Since you include a lot of PDF files, I'd request you to include some general-knowledge related papers. It will be of great help to children and students.

**Manoj A P**  
Malappuram

Dear Manoj,

Thanks for your kind words about the Digit Patron programme. And keep the suggestions coming—we may or may not be able to implement all the suggestions we receive from our readers, but we're always listening!

—Associate Editor

### No Extreme Pack?!

I received the December issue, but not the full "extreme" pack. You've sent us subscribers a letter explaining why, but I don't agree with you.

Your magazine has ads from so many companies—including international giants such as Samsung, Seiko, HP, and more—and I'm sure you get a lot of money from them. It should be very easy for you to pass on the benefits at least to regular subscribers like me.

I was shocked to find that even the

calendar wasn't there—which even small local firms give away for free!

I request you to kindly consider my viewpoint again, and see to it that subscribers are sent the items free, as should have been done. However, if that is not possible, the least you can do is send the calendar with the next issue.

**M Yasin Ganaie**  
via e-mail

### Why The Rs 50?

We subscribers were waiting for your special CDs, and received your letter asking for more money, in the second half of the month. It is not good practice or fair business to ask for money after you have agreed upon certain conditions.

In your special issue, you have added a lot of ads and ad-oriented articles—at the expense of regular tech features. You added free CDs to boost your sales. Also, you want to beat your competitor, who comes up with three CDs and three DVDs, on their ground. Why are you doing this at our expense? Your competitor delivered additional CDs at no extra cost. And you are asking for Rs 50 to meet your additional expenses.

Anyway, it was very disappointing to read your letter. I am declining your offer. I will go to the bookstall and get a copy.

**Vincent Abraham**  
via e-mail

Dear Yasin and Vincent,

We simply could not afford to send subscribers the extras that came with the December issue. Subscribers received all the regular content, including the special issue magazine at the reduced price they paid when they subscribed.

You get the magazine at a significantly lower cost—especially after the price hike. We have subscribers like you who subscribed when it was one magazine and two CDs. Today, for the same price, despite inflation and rising costs, we provide them with one magazine, one DVD, one CD, and a useful 200-page Fast Track book.

In addition, we must stress that we made no money at all from the extra Rs 50—it only covered royalties and courier charges.

While we can look at the situation from your viewpoint, I request you to look at it from ours.

—Associate Editor

### The Gimp Rules!

This is my first letter to you, though I should have thanked you a long time ago! I have learnt a lot about technology, computing, gadgets and more from *Digit*, and it's due to *Digit* that I'm interested in learning more.

Two months ago, the Fast track series on essential Windows tools covered Photobie, Paintbox, and Picasa, which was great. But I was disappointed to not find the most powerful open source image editing software—The Gimp. This is the only free software that can pose a challenge to and compete with Adobe Photoshop. Its interface is cluttered for beginners, but once you play around you're comfortable.

Gimp 2.2.8 is very stable. I have used it for image editing, colorization, etc. and it has never disappointed me. The Gimp Web site has numerous colourful, illustrated tutorials and user manuals—all you need is a little time and attention to master it. Please include a review of and a tutorial on The Gimp in a forthcoming issue—because *Digit* can bring credibility and interest to the least-known program! Might I also request you to include the installer (along with GTK+) on the CD/DVD?

Photobie is a nice program, but the icons are sluggish, and there are no tool tips for many icons. I'd suggest the author make it open source so it gets developed in no time! By doing so, its creator will soon get famous—the way people remember Ton Roosendal of Blender 3D (a very feature rich 3D animation tool), Peter Mattis and Spencer Kimball of Gimp, Irfan Skiljan of Irfan View, and many others.

**Jagadish Bhargava**  
Bangalore

Dear Jagadish,

You must have missed it—we did carry a tutorial on The Gimp in our Q&A section of the last issue (December 2005), taking into consideration the usefulness of the software. And as for giving out the installer, well, we can certainly consider your request.

—Associate Editor

LETTER  
OF THE  
MONTH



# Tabloid TECH

People And Events That Grabbed Headlines—For Better Or For Worse

## All For Love

**T**echnically, he's a burglar. But his intentions were so benign, you've got to love him! A man in Beijing repeatedly burgled a neighbour's house to repair her computer. The report on the Web site of China's official news agency, Xinhua, said the man also flicked her MP3 player so he could try and repair it.

Police caught him walking out of the neighbour's house

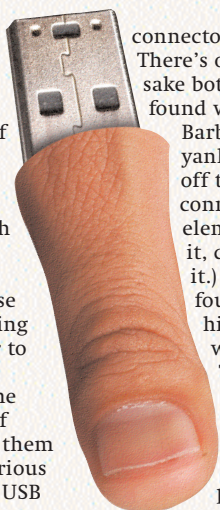
with a key to her door, a bra, two photographs and her MP3 player, which he said he was taking to fix.

It was apparently a combination of a crush and a tech-oriented mind. When hauled to court, the man said he was too shy to tell the neighbour about his crush. Of course, he could have simply sent over a technician to her place, but that wouldn't have been as romantic, would it?

## Now, A Real "Thumb" Drive!

**C**heck out <http://gadgets.foosfor.se/the-top-10-weirdest-usb-drives-ever/> for pics of the "Top 10 weirdest USB drives ever." We're tending to get jaded these days, with all the news about weird eBay auctions and so forth, but these pics are certain to bring a smile and a snigger to your face!

The page ranks the USB drives in order of weirdness. Several of them look like pieces of various kinds of food, with a USB



connector sticking out. There's one shaped like a sake bottle. What the site found weirdest was the Barbie drive—you yank the doll's head off to expose the USB connector. (Has an element of sadism to it, come to think of it.) But what we found the most hilarious was what we call the Actual Thumb Drive—it's a thumb with the connector sticking out! Check out the pics!

## Britney Rulez!

**M**ore Britney! We might seem to be overdoing it, but hey, we're just reporting here—and if the world is overdoing Britney, we can't do much about it!

Despite having had a baby—in fact, *because* she had one—Britney Spears is once again the most-searched-for item on the Internet. She didn't release an album of new material in 2005, but the new mother was #1 on Yahoo's annual list of the most searched for. She's topped the list for three of the past four years, having lost out to "American Idol" in 2004.

If you're wondering why Britney keeps popping up, don't ask us—we're as clueless as you are. If you can tell us, though, do write in!



## Church Bids On "Sex.eu"

**N**o, this isn't about a church full of perverts. The Dutch Full Gospel Church that bid on "sex.eu" wanted to put up a Web site that would "explain how wonderful sex is when practised in the manner God intended," according to Chris Vermeulen of the church.

The church, Volle Evangelie Gemeente Rehoboth in Eersel, was seconds too late. Divine intervention? It offered several hundred euros for the domain name. And if it had won the bid, it could have meant less people accessing European smut.

The registration period for domain names with the new European Internet extension ".eu" began on December 7. "Sex.eu" was, of course, the most sought-after. There were only 232 applications for the name, which is surprising considering the humongous number of searches that are conducted on the word "sex." The first bidder was Sweden's Yellow Register On Line AB.

So now we're going to get just another Swedish porn site. And no way of knowing how wonderful sex is when practised in the manner God intended.

### 3-Easy-Steps to Freebies!

- 1 Log on to [www.thinkdigit.com/digitpatron](http://www.thinkdigit.com/digitpatron) to register.
- 2 Enter this 16-digit code and score points (you will find your code at this place every issue)
- 3 Your points get added every month and can be redeemed for exciting gifts!

