



Price
Rs 125

Agent001 Goes Laptop Shopping

Communication Technologies For Businesses



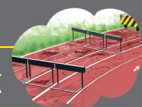
September 2008

digit

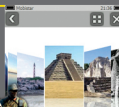
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How GDDR5 And DDR3 Work



Must-have Apps For Windows Mobile



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Revamping The Technical Education System



HOT SHOTS!

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Tested



Over 30
Digital
Cameras
Tested



Editorial

When Two Elephants Fight...

There has been significant growth in the online storage space in the last few years—with email storage going unlimited, multiple file hosting, large sub-hosting sites, etc. A key driver to this revolutionary growth is probably the increase in file sizes of music and video files that are largely being disseminated through the Internet. Look at the popularity of social sites like YouTube and Rediff iShare.

Look at the growing storage in e-mails today. Google's Gmail offers over 7 GB of email storage space, and it's ever increasing! You can also get an additional 10 GB at \$20/year to 400GB at \$500/year if you want.

Last year, Microsoft's Hotmail, which was the last to respond to the e-mail storage space wars, increased to 5 GB. They also offer extra storage at a cost to the consumer. On the lines of Google's online storage, Microsoft offers free storage through its hosting service called Windows Live SkyDrive, a password-protected online file storage with an option for it to be shared with other people. It now offers 5 GB of storage space. Earlier this service was available in Beta with a 1 GB storage cap—only in the US, the UK, and India post the first version that was a 500 MB online storage drive for US and UK only.

Do you see what's happening here? There is yet another Google-Microsoft war brewing. Both giants are expecting users to use more and more of their online storage services. The e-mail part is perceivable. Both Gmail and Hotmail have tens or hundreds millions using the service. Both are available in tonnes of languages, with exceptional features that tend to lure users—geeks, power users and amateurs—to get hooked on.

In my case, I even use Picasa Web albums and have some storage in SkyDrive as well. But are users ever going to choose these free storage options as their main storage mediums? I doubt it. Not because we aren't mature enough to do so, but because we do not trust those who are providing these services.

Both the giants have pulled back services—denying features that were earlier available to users. Google pulled the plug on the DTO/DTR (download-to-own/download-to-rent) portion of Google Video last year, and sent its users a \$2 Google Checkout bonus that can be redeemed at their online stores. Microsoft pulled off the WebDAV functionality from Hotmail that allowed user e-mails to be downloaded locally via desktop e-mail clients.



Sujay Nair Editorial Director

“There is yet another Google-Microsoft war brewing. Both giants are expecting users to use more and more of their online storage services...”

The move to charge users for online storage would take some time to take off. In India it doesn't seem like people would pay for extra storage—and that too online. But you never know, as users become more and more Web-enabled, there is a good opportunity in the online storage market. Another reason is: trusting a free service with your important documents and files. I would rather store it on my own desktop storage—hard drive, DVD, etc. I even store some on my email—as a backup, like sending files to myself, etc. I would probably only use the online storage as a backup of my backup.

However, if companies like Google and Microsoft are at war to establish their supremacy, there is every possibility that the poor user could either be the beneficiary or the loser—more likely the loser. Haven't you heard of the saying, when two elephants fight, it is always the poor ant that gets squashed.

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 Kodak Easyshare C713
 Kodak Easyshare M1033
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 Mustek MDC 530
 Nikon COOLPIX L16
 Nikon COOLPIX L18
 Nikon COOLPIX S210
 Nikon COOLPIX S52

Nikon COOLPIX S520
 Nikon COOLPIX S550
 Olympus FE-330
 Olympus SP-570 UZ
 Olympus Stylus 1010
 Olympus Stylus 1030 SW
 Samsung i8
 Samsung L100
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 Samsung NV24HD
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 TECH-COM DSC-520
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Brother HL-2140
 Brother HL-2150N
 Brother HL-2170W

Canon iP3500
 Canon iP4500
 Canon LBP 2900B
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 Canon Pixma iP2580
 Epson Photo R230
 Epson Photo R290
 Epson Stylus C110
 Epson Stylus T11
 HP 1007
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 HP Photosmart D5368
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 Samsung ML-1640
 Samsung ML-2245
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ASUS M3N-HT Deluxe
 ASUS Xonar U1 Audio Station
 Aten ALTUSCN KE8220
 Billion BiGuard S6000
 Cooler Master Elite 330
 CoolerMaster Hyper 212
 CoolerMaster Real Power M700
 Gigabyte GA-EP43-DS3L
 HTC Touch Diamond
 Nokia 6210 Navigator
 Openmoko Neo
 FreeRunner
 Razer Goliathus Alpha Speed
 Razer Mako 2.1
 Sennheiser PXC 450
 ViewSonic PJ513DB
 ViewSonic VX1962WM

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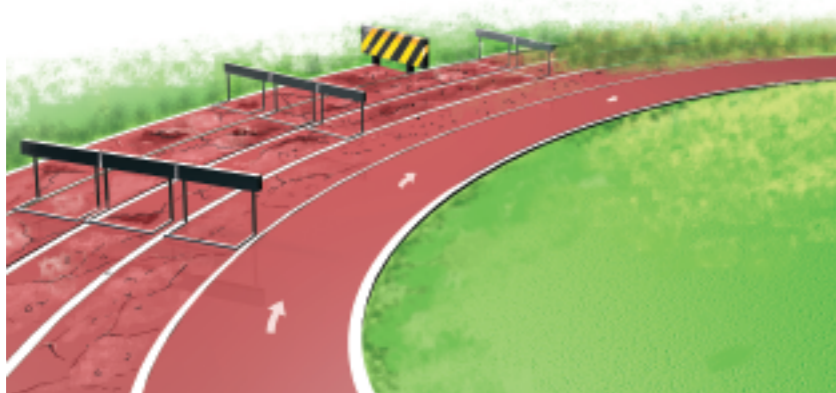
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Insight Life in the fast lane

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Tomorrow An OS You Want!

Rather than sit around waiting to see what a future operating system (OS) will offer, we're preparing our own wish list. Let's just hope that the powers that be are listening...

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Drool Maal



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Laser and inkjet printers tested across two categories to help you find the right solution for your business

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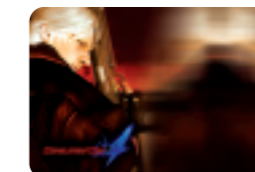
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Cry he will... cry he must!



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Optimized PC.....
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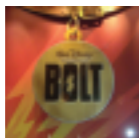
Entertainment

HD
Beverly Hills Chihuahua



While on vacation in Mexico, Chloe, a ritzy Beverly Hills chihuahua, finds herself lost and in need of assistance in order to get back home.

Bolt
Bolt, a German Shepherd, has lived his whole life on the set of his action TV show, where he believes he has superpowers. When separated from



the studio by accident, he meets Mr. Mittens (actually a female cat) and a hamster named Rhino. Along the way, he learns that he doesn't have superpowers and that the show is not realistic.

Harry Potter and the Half-Blood Prince

As Harry Potter begins his 6th year




at Hogwarts School of Witchcraft and Wizardry, he discovers an old book marked mysteriously "This book is the property of the Half-Blood Prince" and begins to learn more about Lord Voldemort's dark past.

TRAILERS
Australia
Set in northern Australia before World War II, an English aristocrat who inherits a sprawling ranch reluctantly pacts with a stock-man in order to protect her new property from a takeover plot. As the pair drive 2,000 head of cattle over unforgiving landscape, they experience the bombing of Darwin, Australia, by Japanese forces firsthand.

- Max Payne
- Nick and Norah's Infinite Playlist
- W
- What Just Happened

Gaming

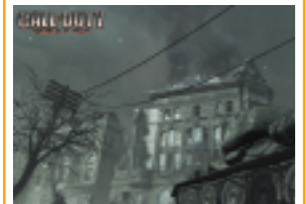
GAMES



Mauj Mobile Jockey
5 Super games: Super Cricket, Milk Riot, Mech A Move, Downtown Pursuit and Alien Conquest. Also including a Phone Tool - SMS Genie: A one stop shop for All SMS needs. No need to waste time remembering Keywords and getting frustrated with wrong responses.

- Blockland v9
- Live For Speed S2 Demo (Patch Z)
- Ninja Loves Pirate
- Pro Cycling Manager 2008 Demo
- Space Siege Demo
- WALL-E Demo

TRAILERS
Call of Duty: World at War Co-op Preview



Call of Duty: World at War completely changes the rules of engagement by redefining WWII gaming and thrusting players into the final tension-filled, unforgiving battles against a new ferocious enemy in the most dangerous and suspenseful action ever seen in WWII.

- Call of Duty: World at War Reveal Trailer
- Flatout Ultimate Carnage Trailer
- S.T.A.L.K.E.R.: Clear Sky - Video "The Zone World"



India's Largest Software Collection
200+ Apps!


Includes: 5 free Mobile games from Mauj, Space Siege Demo, PLUS Adobe Acrobat 9 Pro Extended, Adobe Photoshop, Lightroom 2, Harry Potter and the Half-Blood Prince, Bolt.

Productivity

- CREATE**
- Microsoft Visual J# 2.0 (x64)
 - Microsoft Visual J# 2.0 (x86)
 - Adobe Acrobat 9 Pro Extended
 - Adobe Photoshop Lightroom 2
 - HTMLPad 2008 Pro 9.1.0.98
 - OverSite 2.4.6
 - Rapid CSS Editor 2008 9.1.0.98
 - Sothink SWF Decompiler-Flash Decompiler 4.3 Build 80806
 - SpreadsheetConverter to HTML/JavaScript 4.2.0
 - TOWeb 2.6.2.527
 - WeBuilder 2008 9.1.0.98
 - Coccinella 0.96.8 for Linux
 - Earth3D 1.0.5
 - Exaile 0.2.13 for Ubuntu
 - Flock 1.2.4 for Linux
 - F-Spot 0.4.4
 - KGuiTar 0.5.1
 - Meta Tracker 0.6.6
 - Picasa 2.7 for Linux (DEB)
 - Picasa 2.7 for Linux (RPM)
 - RawTherapee v2.3 for Linux
 - RawTherapee v2.3 for Ubuntu
 - Revelation 0.4.11
 - RSSOwl 2.0 M8a for Linux
 - Sage 3.0.6
 - Ultamatix 1.8.0-3
 - vMovieDB 0.1.5
- LINUX**
- OpenSolaris 2008.05-x86
 - Amarok 2.0 Alpha 2
 - aTunes 1.9.0
 - Audacious: 1.5.1
 - Avidemux 2.4.3 for Linux
 - Banshee 1.2.0
 - blueMarine
 - O9.RC2b.3244 for Linux
 - Clonezilla Live 1.1.0-8

Tools

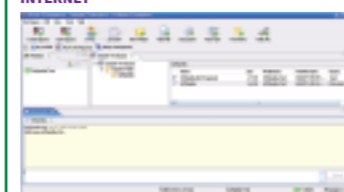
MULTIMEDIA
ABest Mobile Video Converter Free 4.22



ABest Mobile Video Converter Free is an easy-to-use and all-in-one tool for video conversion, splitting and editing. This application is able to extract audio tracks from video as well as to encode video files from one format to another.

- Any FLV Player 2.2.1
- Canorus 0.5
- Helicon Filter Free 4.88
- K-3D 0.78.0
- MediaCoder 0.6.1 Build 4166 Beta
- MPlayer for Windows
- RARPlayer 1.0.0
- SlingPlayer 1.5.1
- A4Desk Music Player 2.03
- AVS Audio Editor 4.1.1.254
- Cinecode 1.2.11
- DivX 6.8.4.5
- DJ Music Mixer 3.8
- e-mix Home Edition 5.0.1.140
- Jaikoz 2.5.1 Build 1048
- MAGIX MP3 Maker deluxe 14 Build 9.03
- Media Center 12.0.529
- MixVibes Pro 7.043
- MP3 Tag Clinic 4.3.7.2
- Pulse Master 5.3
- RawTherapee v2.3 for Windows
- River Past Audio CD Ripper 6.7.12.1748
- River Past Crazi Video for Apple TV 7.7.12.1748
- River Past Crazi Video for PSP 2.7.12.1748
- River Past Ringtone Converter 2.7.12.1748
- Solid AVI/DIVX to DVD Burner 1.2.7
- Sound Editor Deluxe 2008 5.1.1
- Tag and Rename 3.5 Beta 2
- TagTuner 1.9.0.1409
- Total Recorder Editor 11.0.1
- Traktor DJ Studio 3.3.2.060
- Ultrawave Guitar Multi Fx 1.33
- Wave MP3 Editor 15.5
- Winamp 5 Full 5.541 Build 2165

INTERNET



- Collanos Workplace Windows 1.3.0.3
- Evolution for Windows 2.22.2-4
- ADDAX 3.0
- Advanced Net Monitor for Classroom 4.8.1
- AIM 6.8.12.4
- Antispam Marisuite 1.0.6
- Azureus Ultra Accelerator 2.7.1.0
- BearShare 6.2.0.51345
- Check and Get 3.3 Build 484
- ClynTo 1.3
- CoffeeCup Live Chat 6.1
- CommFort 4.00
- Download Accelerator Plus 8.6.7.1
- DownloadStudio 5.0.2.0
- Easy RSS Content Generator 3.1
- Email Director .NET 2.3
- Email Responder 2.1
- GFI MailArchiver for Exchange 6
- HiDownload Pro 7.2
- Internet Download Manager 5.14 Build 3
- mailControl 4.2.5.2572
- mIRC 6.34


- Net Monitor for Employees 2.9.9
- Outlook True Archive 1.0.15
- ParetoLogic Anti-Spyware 5.7.0.10
- PSTSync 2.7.1129
- ScriptFTP 3.0
- SecureFX 6.0.3.311
- SmartFTP 3.0.1021.14
- Spyware Terminator 2.3.0.487
- Supersonic Download Accelerator 2.5.0.0
- Timbuktu Pro 8.6.5 RC 229
- Vuze 3.1.1.1 Beta 22
- Lightsmark 2008 2.0
- PC Network Clone 1.0
- VirtualBox 1.6.4
- AllSync 3.0.49
- Anti Trojan Elite 4.1.1
- Ashampoo Core Tuner 1.00
- Aston2 Menu 1.2.1
- Auslogics Visual Styler 3.1.15.145
- Backup4all 3.11 Build 309
- Beyond Compare 3.0.1 Build 8602 Beta
- BitDefender Total Security 2009 RC
- Diskeeper 2008 Pro Premier
- Driver Genius Professional 2008 8.0.0.316
- EF Commander 6.62
- EVEREST Ultimate Edition 4.50.1469 Beta
- Falco Icon Studio 3.0
- Genie Backup Manager Pro 8.0.340.510
- IconCool Studio 6.00 Build 80730
- Image for Windows 2.15
- Macrium Reflect 4.2.2020.1
- Paragon Total Defrag 2009
- PerfectDisk 2008 Build 61
- Protector Plus 2008 Antivirus 8.0.D01
- SkinStudio 6.2
- The Ultimate Troubleshooter 4.67
- Total Commander 7.04a
- Trojan Remover 6.7.1 Build 2538
- Veeam Backup 2.0
- VideoDesktop Dream Scape 1.7
- Vista Manager 1.5.4

- ESSENTIALS**
- .net Framework 2.0
 - µTorrent 1.7.7
 - Avast Home Edition 4.8
 - Comodo Firewall Pro 3.0.25.378
 - Foxit Reader 2.3
 - Free Download Manager 2.5 build 758
 - Irfan View 4.20
 - Java(TM) 2 Runtime
 - K-Lite Mega Codec Pack 4.1.4
 - Opera 9.51 Build 10081 Final
 - Silverlight
 - Spybot Search and Destroy 1.60
 - VLC Player 0.8.6i
 - WinRAR 3.71


- UPDATES AND ADD-ONS**
- Adobe Shockwave Player 11.0.0.465
 - Avast Antivirus Updates
 - AVG Free Edition 8.0 Build 138a.1332
 - Java Runtime Environment 6 Update 10 RC
 - Kaspersky Antivirus Updates
 - McAfee Antivirus SuperDAT Update
 - Norton Antivirus 2008 Updates
 - WinSCP 4.1.6
 - ArcaMicroScan 2008.07.28
 - eScan Virus Control Edition 9.0.824.205
 - Kaspersky Internet Security 2009 8.0.0.454
 - Microworld Anti Virus & Spyware Toolkit Utility 9.9.9
 - Steganos Privacy Suite 2008 10.0.5.0 Revision 5374

Entertainment

TRAILERS
High School Musical 3: Senior Year




As seniors in high school, Troy and Gabriella struggle with the idea of being separated from one another as college approaches. Along with the rest of the Wildcats, they stage a spring musical to address their experiences, hopes and fears about their future.



Punisher: War Zone
After hunting down and killing hundreds of violent criminals, Frank Castle, aka The Punisher, faces his most deadly foe yet: Jigsaw.

GAMES
ManiaDrive 1.2 for Windows
ManiaDrive is a free clone of Trackmania, the great game from Nadéo studio, and is an arcade car



game on acrobatic tracks, with a quick and nervous gameplay (tracks almost never exceed one minute), and features a network mode, as the original.

- Mauj Mobile Jockey
- Eternal Daughter
- Pingus 0.7.2 for Linux
- Pingus 0.7.2 for Windows
- Room War
- The Breakdown




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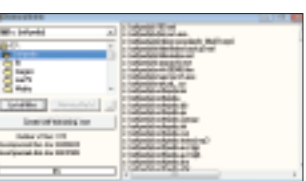
Tools

MULTIMEDIA
AIMP 2.5 Build 276 RC3



Mediaplayer - qualitative and pure playing multimedia of files, including mp3; good features, small size and minimal use of system resources.

- INTERNET**
amsn 0.97.2
- This project is a modified and multilanguage version of Compu's Messenger (CCMSN).It's a Tcl/Tk script as was CCMSN and Tcl/Tk must be installed to run it. This means it is multiplatform and can run on any OS having Tcl/Tk installed (Linux, Windows, Macintosh).
- Architecture Journal Reader 0.9.2 Beta
 - Awasu Personal Edition 2.3.4 Beta
 - eMule 0.49b Final
 - FileZilla 3.1.1 RC1
 - Firefox 3.1 Alpha 1
 - Flock 2.0 Beta 2
 - GrabIt 1.7.2 Build 988 Beta
 - HydrARC 0.3.164
 - IncrediMail 5.85 Build 3718
 - Instantbird 0.1.2
 - K-Meleon 1.5.0
 - Maxthon 2.1.3.2430 Final
 - Microsoft Windows Defender 1.1.1593.0
 - Miranda IM 0.8.0 Test 20
 - Mozilla Thunderbird 3.0 Alpha 1
 - OnLine TV Live 6.3.41
 - RetroShare 0.4.10a
 - SafestMail4Outlook 2.0
 - SeaMonkey 1.1.11.2008070216
 - Sleipnir 2.8.0 Build 2800400
 - VooDoo cIRcle 1.1 Beta 32

- SYSTEM**
Banana Shrink 0.99
- BananaShrink has the ability to create self-extracting compressed files with ease. Banana Shrink is a better solution for any file distribution, avoiding the use any specific file format compression/uncompression utility! BananaShrink uses also a file integrity checking mechanism (CRC).
- 
- Belarc Advisor 7.2.24.7
 - CPU Speed Professional 3.0.2.2
 - Find and Run Robot 2.30.01
 - Fresh Diagnose 7.88
 - GW Core+Proph Mes Icons 1.5
 - MyFolder Free 1.0
 - PrimaryCons Red
 - Shock 4Way 3D 1.29
 - Shutdown Scheduler 6.2.0.80
 - TyphoonZip 1.02 Build 808080954
 - Vnd Hard Disk Scanner And Registry Scanner 2.65.34
 - Vsbenchmark 2007 1.0

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Search

Reclaim disk space after installing Vista SP1

28-03-2008, 03:48 PM
Narangz
Tech in my blood

After installing Windows Vista Service Pack 1 you might have noticed that the free space on the installation drive has reduced significantly. Where has the free space gone? Well the answer to this question is that the RTM files (your old system files) were backed up during installation of SP1 so that the system can be rolled back to prior state if the user decides to uninstall the SP1.

If you have no plans to un-install the SP1 then you can reclaim the space by removing the backed up files. To get back your free space you need to run 'Vsp1cln.exe' (without quotes).

Here's how you can do that:

1. Press [Windows Logo] key + R on your keyboard or click 'Run' on the Start menu.
2. Now type Vsp1cln.exe in the run dialog box & click OK.
3. Enter the Administrator credentials & click Continue on UAC prompt.
4. In the Command Prompt window, press 'Y' on the keyboard and press Enter/Return key.

5. Windows will now cleanup the disk.

Optional switches you may use with Vsp1cln.exe (Without Quotes):

1. "/? or /h"- Displays this list of Vsp1cln.exe commands.
2. "/o:[Offline_Windows_directory_path]"- Indicates that the archived RTM files that need to be removed are in an offline image.
3. "/quiet"- Runs in quiet mode. No console output is provided. If this option is not used, you will be prompted with a confirmation message.
4. "/verbose"- Provides additional diagnostics output.

I reclaimed approximately 1 GB of disk space after running the clean up tool.

WARNING- You cannot un-install/remove Windows Vista Service Pack 1 after running this tool.

Join Date: May 2005
Location: Paradise
Posts: 993

Age Old Hacks

The age old protocols used by the Internet are coming back to haunt it. A new security hole as big as the DNS problem was demonstrated by Alex Pilosov and Tony Kapela. The loophole was in the routing protocol BGP (Border Gateway Protocol)



IE8's Porn Mode

Internet Explorer 8 has a 'inprivate' mode that allows users to surf the Web without leaving any traces. This means that no temporary files, cookies, cache or history data will be stored. This feature is infamous now as being a 'porn mode'.



Enter



We met up Mr. Sunil Chandna, CEO, Stellar Information Systems Ltd during his short stay in Mumbai to talk about some of Stellar's latest products.

Tell us about your latest data recovery products and your target audience.

Our services mostly focus on larger businesses and companies, but we have released Black Cat, which is system backup software along with an antivirus for a typical home user. We also recently released Phoenix Photo Recovery which allows users to recover photos of all kinds of image formats, including proprietary ones.

We have data recovery products for all kinds of needs, but we also have some unique ones like Disk Wipe which can be permanently erase data off the disk so it can't be recovered.

Do you provide any kind of services or are you limited to just data recovery software?

We have services where companies can approach us to recover data from all kinds of drives. We recover data of all kinds of file formats and databases. We have centres spread all across the country for this purpose. We have a Class 100 clean room in Gurgaon, with a refreshed database of drives of all sizes and formats at our disposal. We have a skilled team at work at each one of our centres and you can get with touch with us through phone lines or the Internet.

Are these services available for the end user consumer?

Data recovery requires a lot of work and can take any amount of time depending on the complexity of the problem. The rates for these services although aren't always feasible for home users.

Is the antivirus developed in-house, and are there any plans for firewalls an such?

As of now, we have no such plans to do so. Our current product Black Cat comes with an antivirus component bundled along which by K7.

TECH ON THE MOVE

Now, A Motion-powered Phone Charger



A company called M2E Power has succeeded in developing technology that will charge electronic gadgets with human motion. The company says that six hours of cumulative motion can add 30 to 60 minutes of talk time to a cell phone.

The charger can be placed inside a purse or backpack and the device will charge in the background. A fully charged device-store can recharge a phone at a speed comparable to an AC outlet.

The device consists of a lithium-ion battery and a series of coils and magnets. An electromagnetic field forms around the coils to generate electricity when the device is in motion.

An AC wall socket can charge the charger unit as well. M2E Power is having discussions with cell phone manufacturers to build the

generator directly into a phone.

However, the company says that it will take at least two years before a self-powered cell phone is available in the market. Also planned are devices for hybrid and electric cars.

FUTURE SCAN

Intel's Vision Of Things To Come

Humans please step aside. The future is going to be controlled by robots, rapidly accelerating technology and gadgets that morph into what you want them to be. Also on Intel's drawing boards are the latest developments in wire-free power transmission. So coming soon, you are going to have

a Wireless Resonant Energy Link (WREL). This is technology that transmits power without cords. This means that simply being in the vicinity of a transmitter will charge your laptop or mobile phone. Intel is working on transmitting power wirelessly without losing too much during transmission. Within a range of two meters, they can successfully transfer power with upto 75 per cent efficiency.

Intel has unveiled its vision of future technologies at this year's Intel Developer Forum (IDF) held in San Francisco. The company demonstrated several technologies that it says would be part of an evolution that would bridge the gap between humans and machines by 2050. Intel disclosed a wireless power source for recharging devices and robot prototypes. These prototypes could one day lead to more human-like versions of the machines.

In fact, the giant chip-maker expects machines to overtake humans in reasoning ability in the near future. Intel says that the rate of technology advancement is accelerating at an "exponential" rate.

WREL consists of a source antenna and a device antenna. The source antenna draws power from a regular electricity outlet. The



Security Watch

Code Piggybacks On .xls Files

Problem

In the middle of August, Microsoft released a security bulletin patching an important problem in Microsoft Excel. The problem affects MS Excel 2000, MS Excel XP, MS Excel 2003 on PCs and Excel 2004 for Mac machines.

The vulnerability does not effect MS Excel 2007.

The problem can occur from .xls files downloaded from Web sites or from e-mail attachments. A maliciously written Excel document can corrupt the memory used for the Excel workspace, and execute code remotely on the computer. This problem is even more acute when opening Excel documents as a system administrator.

This problem is flagged as being critical for MS Excel 2000. Systems that work with Excel files are at risk, but servers with access to the Internet are more vulnerable. Any malicious activity using this method relies on some kind of action from the user, either opening the file voluntarily or being misled to do so. Any attacker would have the same amount of control over the system as the user.

Solution

Microsoft has released a patch covering this security hole which is available at <http://tinyurl.com/5j4ay7>. Before installing the update it is essential that all the service packs for the relevant windows OS is installed. It is always safer to work without administrative privileges while working with downloaded documents.

electromagnetic field so generated is picked up by the device antenna, which in turn powers up the gadget to be charged.

Apart from laptops and mobiles, this technology can also be used to power refrigerators, lamps and televisions.

Researchers are also looking into the uses of micro-robots that can be used to build shape-shifting devices. Developed by researchers at Carnegie Mellon University, these robots can be designed to form large-scale machines. They can be programmed from many different devices. The chipmaker also demonstrated its work on the next generation of robots.

Intel displayed technology that gives robots the sense of touch.

The second robot demonstrated technology that enabled it to recognise faces as well as interpret and execute generic commands with state-of-the-art motion planning, manipulations, perception and artificial intelligence.

AN OPEN SOURCE TRACKER

Lost Your Laptop? Here's Help

Computer scientists at the University of Washington have developed the first free, open source laptop tracking system. What's more, users themselves without the need to call on any external corporate body can install the system.

The system has been called Adeona, after the Roman goddess of safe returns.

On the cards is a version of the tracking system for

the iPhone. The developers of Adeona say that the danger with commercial laptop tracking systems is that it is not possible to know if someone at the tracking company wouldn't exploit the company's possession of personal information.

Information about data residing on the laptop is also vulnerable to exploitation. Further, courts can also call upon such data in a subpoena.

A user has to install a piece of free software on the laptop. The credential key that the software provides can reside on a thumb drive. The key is required to track the laptop if it's stolen.

The software uses several different methods for laptop tracking.

It can broadcast the IP address where the computer is used. It directs the inbuilt camera (present in a few laptops) to take pictures every half a minute of the person using the stolen device.

DELL INTRODUCES NEW LINE

Cheaper Laptops For India And China

Dell's market strategy was focussed on selling products of the same quality worldwide. In a major divergence from this long standing strategy, Dell introduced two notebooks and two desktops manufactured and priced for developing economies like India, China and Brazil. The devices are targeted specifically at small businessmen, and hope to exploit a rapidly

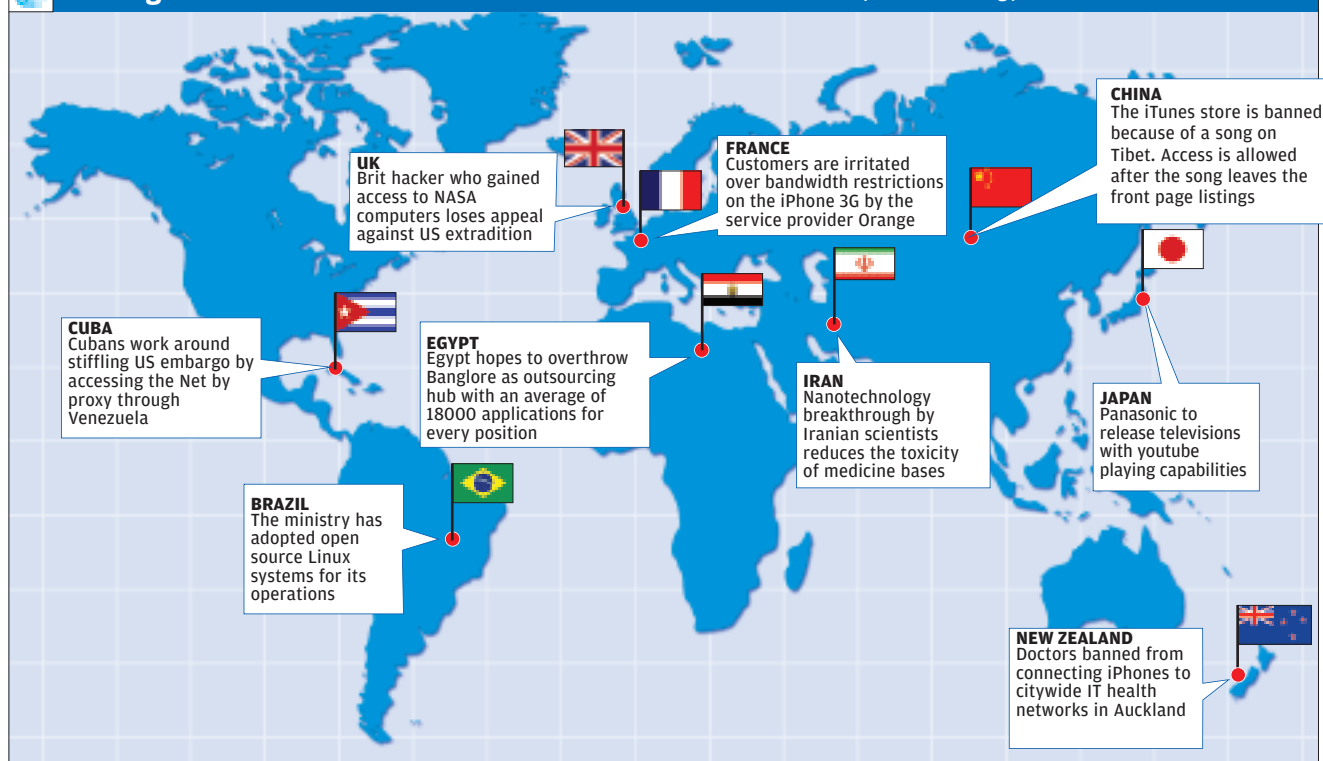


expanding Asian, African and Latin-American market.

This follows the strategies of Dell's chief competitors, Lenovo, Hewlett-Packard and Acer—all of whom have similar strategies for harvesting profits out of the same market space.

Dell posted huge profits in the first quarter of this year, with five times as much as the profits coming from the BRIC nations (Brazil, Russia, India and China) than in its home country, the United States. Dell's biggest strength that worked well in the Trans-Atlantic Nations, turned out to be its biggest weakness in the developing economies. Their direct model of sales had customers order their computers over the phone and the Internet, but this business model turned out to be unsuitable for the vast rural markets waiting to expand in China and India. Retailers in China are already stocking Dell machines, which is not done anywhere else in the world as yet. There are 2,700 Dell outlets shared between the Suning and Gome retailers. This option seems to be feasible for countries like India too.

The new Vostro notebooks are being sold for Rs 20,750 and the new desktop PCs are being sold for

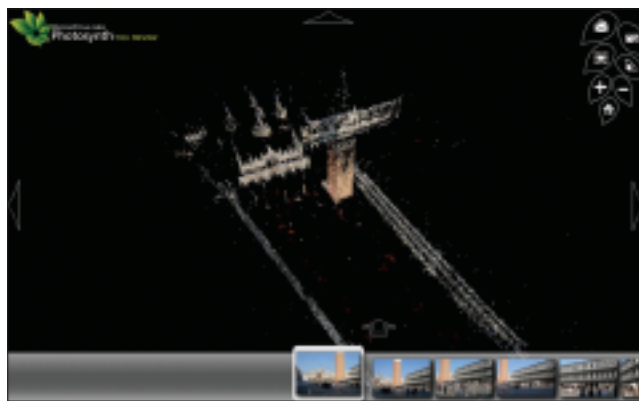


Rs 19,230. According to Dell, there are more cheaper models in the offing. However, in China, Lenovo is selling basic PCs in the same market for as low as Rs 9,650. These machines are not available in India.

3D PHOTO BROWSING

Microsoft Unveils Photosynth

Microsoft's livelabs were working on the Photosynth software from 2006. The Photosynth software pools together photos into synths that generates 3D panoramas of the same subject. During the preview phase, synths of the NASA shuttle Endeavor and the Piazza building at Rome could be viewed. On August 20, Photosynth was released for the common public, which allows users



to upload photos and create their own synths.

To use the Photosynth service, it is necessary to download an installation file from the Web site (www.photosynth.com). The installation has two components, a browser for viewing synths and a software for creating the synths.

The software works by identifying common elements in a bunch of photos, and creating a virtual three dimensional view of the subject, and placing the photos in the appropri-

ate positions depending on the angle at which the subject was photographed.

The 3D content that is generated is made up of dots, and looks highly pixelated, and rather grainy but still manages to give a clear picture of the subject. The more number of photographs a user takes of a subject, and in various angles, the more accurate will be the 3D generation.

The browser arranges all the photos of a subject in a 3D space and allows users to browse through them from their individual

points-of-view. The software works for buildings, works of sculpture, landscapes, small objects and even people's rooms. The service is proving popular with many synths containing upwards of a hundred and fifty photographs already up.

The software allows any user to theoretically create a complete 3D virtual imprint of anything. Currently, there is a 20 GB upload limit for any user, and the service is free of charge.

Once in a 3D environment, you can glide around the environment in different directions, smoothly zoom in or zoom out of the images, observe how the photos were clicked relative to one another, and if there is a large cluster of photographs from a lot of different angles, navigate the 3D scene smoothly with seeing very little of the 'generated' and grainy 3D content.



Photograph Achishek Mishra

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

Beat That!

Digit Caption

On-demand computing

Last Month's Winner!

No Winner!

(Doesn't anyone like books anymore?)

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net access to the internet

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

Puzzles For Programmers and Pros
by Dennis E. Shasha

Published by
WILEY-INDIA

TRADITIONS MEETS TECH

Pune To Have Animation Gurukul

Saurabh Gadgil, a jeweller from Pune seems to be attracted to technology, and comes up with ingenious ways to show it. First came the setting up a jewellery store in Sunnyvale for the benefit of all the Indians living in Silicon Valley. His other brilliant idea was to set up the Seamless Education Academy or SeamEdu which will continue the *guru-shishya parampara* by teaching subjects like Animation, Broadcast Journalism and gaming in a gurukul type environment.

The students will live communally, and leading experts from all around the world will be giving lectures to the students. The purpose

of such a system of education is to ensure that each student gets the highest quality of education at the individual level. The courses will be designed according to the international standards of the industry. The school will be operational from September 30, and the school has acquired two major studios in Pune.

Anand Khandekar, the chairman of the gaming and animation wing of the MCCIA (Maharatta Chamber of Commerce, Industry and Agriculture) will be one of the members on the board of the school. The school is also looking to tie up with international universities, but won't be government funded and will run as a private limited company. SeamEdu hopes to capitalise on the fast growing gaming, animation and broadcast markets in the sub-continent and hopes to enrol 2,000 students by next year. While there are no specific figures

available, the *gurudakshina* is bound to be pretty hefty.

ADAG LUNCHES BIG TV

HDTV In India By Year End?

Anil Dirubha Ambani Group's Reliance Communications launched Big TV Direct to

Home television on August 15. There are now three major players in India's DTH market: Zee's Dish TV, Tata's Tata Sky and Anil Ambani's Big TV.

By all appearances, Big TV seems to have a competitive edge, with movie quality broadcasts using the MPEG-4 technology, whereas both Tata sky and Dish TV are still using the MPEG-2 formats. While both Tata sky and Dish TV have 6





STAT ATTACK

Apache is the **most used** web server at **48.4%** of all Web servers.

In 2007, the **speed** of Cable Broadband increased by **27%**

50% of all mobile phones **stolen** are made by **Nokia**

30% of Internet users in Finland used the **Net** for formal education

In 2007, Korea had the **highest share (94%)** of households with access to the Net

62% of UK citizens have access to **digital television**

exclusive movie channels each, Big TV has a whopping 32 exclusive movie channels, but this feature will not be as big an incentive as it appears, because the users have to pay for everything that they watch. The picture-in-picture view (PiP) or multichannel views in Big TV is 12, whereas in the other two, there's an upper limit at 8. The audio broadcasted across all Big TV channels is CD quality. Unlike Dish TV and Tata Sky, Big TV will be broadcasting all the sports channels available in the subcontinent. Moreover, the DTH service will have the backing of Adlabs.

Big TV matches or better the competition in other small features as well. There are over 200 channels available with the subscription, 120 movies, and a promise of a new movies every fifteen days.

The best offer in terms of pleasing the customers is that any one of the available regional sections are completely free.

The launch offer for the service is Rs 1,490, which includes 10 audio channels, 20 movie channels free for 3 months, and one regional pack.

There are various subscription schemes ranging from Rs 100 to Rs 475.

The biggest advantage is of course the DVD quality images being broadcast. If everything goes well, Reliance plans to put up eight to ten HDTV (High Definition Television) channels by the end of the year.

BIG BLUE BUMPS FLASH MEMORY

IBM Tests 4 Terabyte Solid State Array

IBM tested an array of 120 Fusion-IO supplied SSD (Steady State Disks) with a total capacity of 4.1 terabytes. IBM is preparing these arrays for use in industrial computation, which will tentatively be ready in a year's time. The system has achieved a high data read/write rate with a response time of less than 1 millisecond. IBM has achieved a data transfer rate of over 1 million IOPS (Input/Output per second). Intel retails its X25E 3.8 TB SSD array which achieves a data transfer rate of 4.2 million IOPS.

Solid State drives have been around for some time now in hand-held devices like MP3 players and PDAs, but their application for industrial or personal computing purposes have been limited.

This is mostly because the traditional hard drives used to cost about one

fourth of the steady state drives per unit of memory.

There are however many advantages of the steady state drives, which have no moving parts like a read/write head or a platter.

This means steady state drives can start up much faster than traditional hard drives, with no RAM or flash requirements and faster access to the data.

There are a lot of limitations of a SSD drive though, apart from the cost. SSDs are highly susceptible to data loss, which can be caused by power failure, magnetic fields or stray electrostatic charges, all of which are common occurrences wherever SSDs are likely to be used.

IBM is working on these aspects of solid state storage, and are increasing the performances to make the solid state storage solutions reliable over long periods of time.

As the higher IOPS speeds are likely to be used in places that have to access large databases, the reliability of the SSDs is critical. IBM is testing the feasibility of such operations.

UNIQUE WEDLOCKS

Matrimonial Sites Go Niche

For a long time, Bharatmatrimony.com and Shaadi.com were the leading matrimo-

Buzzword of the MONTH

Shiretoko

The Shiretoko is an early alpha version of the next Mozilla Firefox release. It is also known as the Gecko 1.9.1 Alpha, because it is based on Mozilla's Gecko layout engine. This version is available for Linux, Mac and Windows systems for testing purposes only, and everyone who uses it is expected to run into bugs and report it to bugzilla. Once installed, Shiretoko looks exactly like

the Firefox browser, only there is a blue world icon without a fox flying around it. There are some improvements in the interface, and more control over themes and plugins, but no drastic and apparent advancement. Although shiretoko automatically installs all the firefox add-ons, some don't install at all, run sluggishly or crash the browser outright which seems to be the only major problem with Shiretoko.



Cuil.com

What is Cuil?

Cuil is a search engine that claims to have a database of Web sites three times larger than Google, and ten times larger than MSN. Cuil is Irish for 'wisdom' or strangely enough, 'hazel' and is pronounced as 'cool'. Cuil uses relevance and content to sort the search results instead of popularity metrics, a large component of which is based on the number of inbound links.

Why the hype?

Cuil has positioned itself strongly against Google, attacking the search giant at where it is weakest—the issue of privacy. Cuil does not keep track of the searches made by people, or record their IP addresses. This plays in with the fear that Google is slowly becoming big brother. Cuil claims to analyse the Web, not its users along with the contradictory claims of "size matters" and "organisation is fundamental". Cuil has no evidence to support its claim of a larger search index.

Where does Cuil stand?

The search index is not really a big factor in determining the overall performance of the search engine. Google has recently claimed to have crawled over a trillion Web pages, although they have not been indexed yet. Moreover, Cuil's column view, and much longer site summaries are nowhere close to the minimalist, clean and simple approach of Google.

Who is in charge?

Not surprisingly, Cuil is managed by many ex-employees of Google. Anna Patterson, Russel Power and Louis Monier are all part of the Cuil team and ex-Google employees. The CEO is Tom Castello—Anna's husband.

How is the response?

Not too good. Cuil takes twice as long to show up less than half as many hits as Google. Moreover, there are many complaints of pornography showing up!



nial sites in India. A niche market for individuals with singular needs was not recognised. While these Web sites had broad categories according to religion or mother tongue, other distinctions were ignored.

While it was possible to look for matches of a particular profession or how fat their pay check was, there were no matrimonial Web sites that only catered to people with a particular need. SimplyMarry.com was a step towards this direction, recognising the fact that marriages in metropolitan areas were different, and the country's first metromonial site was born. This was a step in the direction of things to come.

Now there is a whole ring of super-specialised matrimonial sites, BPOshaadi.com recognises the needs of individuals working in call centres and plays matchmaker for them.

This is godsend for those people, especially

women who work night shifts as this ensures that their partners also have the same shift timings. The work habits are not a problem to the in-laws, and this ensures that both the people in the marriage are living similar lifestyles.

There is also BPOdating.com, which caters to BPO employees who are on the look out for partners, but don't want to marry. Soon to come is Phirvivah.com for people into their second marriages, as widows, spinsters and divorcees will understand each other's problems better and relate to the emotional needs. Mangliks.com is a site that lists only mangliks, which has a huge market as 40 per cent of Indians are Mangliks.

Thirtyplussaadi.com is for people between thirty to seventy, and there is a section of featured brides and grooms waiting for marriage.

SpecialShaadi.com is for people with special

needs or abilities, which is proving to be a big help to the parents of such people.

Now there is a space for profiles to be put up which would not be possible on any other matrimonial site.

If you are looking for a match in a person who works for the government, or for matchmaking between government employees, there is GovtShaadi.com.

While the marriages are not as voluminous as the other matrimonial sites, these Web sites have brought together a few couples, and judging from their testimonials, they seem to be really happy with the portals for bringing them together.

All these matrimonial sites also make money from wedding planners, catering, transportation, venues, music, lights and photographers, by charging them a commission for advertising their services, as a convenience, to the users of the sites. ■



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Digital Passion

Fuelling The Pursuit Of Technology Knowledge

Insight

Life In The Fast Lane

Michael Browne

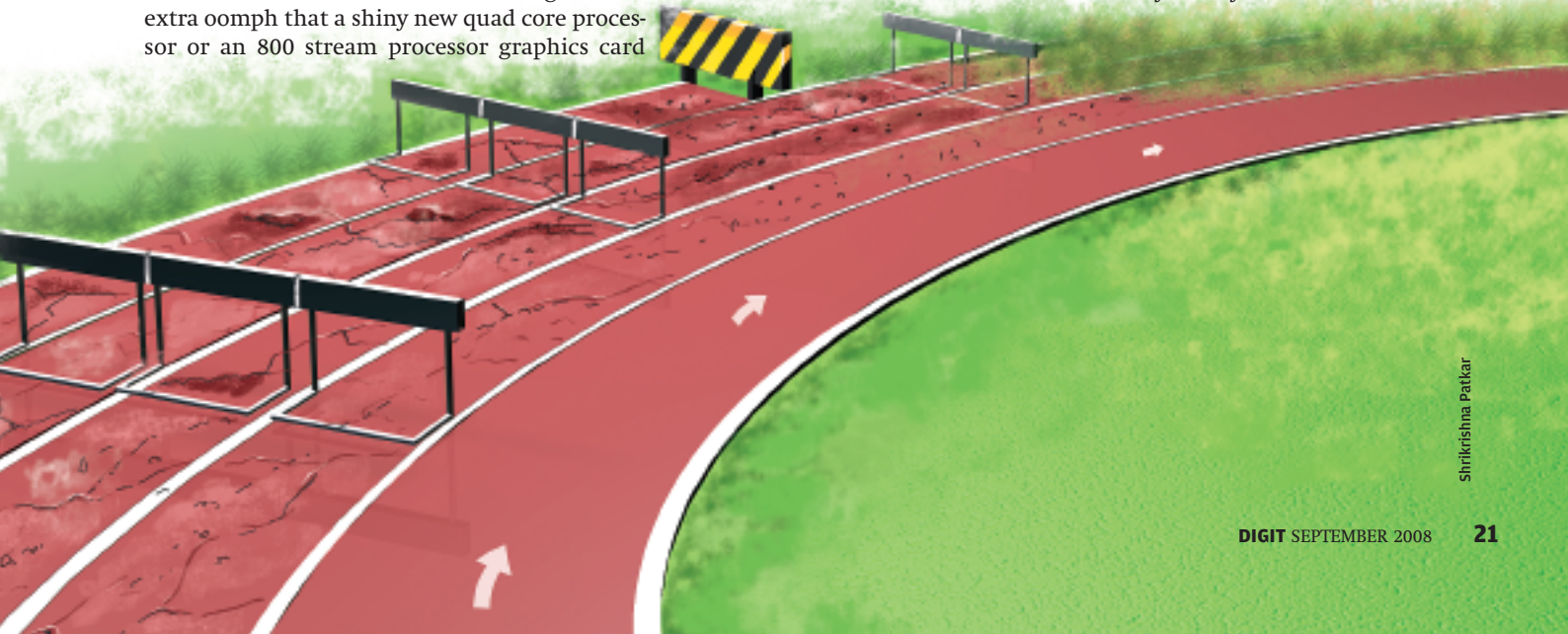
We've come a long way—from monochrome displays and complex command line syntaxes to the (then) revolutionary and simplified Start menu and Windows Explorer courtesy Windows 95, to MS Vista's 3D Aero interface. As the adage goes—technology changes everything. Today, news updates are an RSS feed away, and you can say goodbye to daily logins at www.cnn.com. Stock, weather, travel, and even calendar related data is all available as an active task pane on your desktop and the computer has become even more newbie friendly with utilities built into the latest OSes and applications. This so called *interactive* experience is taken to the next level with content like 3D games, and Blu-Ray movies—the new generation of entertainment. The animation and graphics industry, the world of cinema and content encoding and security and encryption domain all cry out for the next generation of computing hardware to accelerate productivity, reduce latency times, and satisfy our computing demands. The latest hardware available is quickly brought to its knees with taxing applications as developers code their socks off to take advantage of the extra oomph that a shiny new quad core processor or an 800 stream processor graphics card

Desktop memory has taken one more step forward, even as video memory gets its much awaited shot in the arm. The next generation is here. We answer the *what* and the *why*.

provide. So the cycle of hardware development continues. The main drivers behind this development are games, 3D modelling and animation, and multimedia and interactive content in general.

Memory is one of the performance enhancing components that enjoy a relatively longer market life, as two or three processor generations may be based around a single memory standard. For example DDR2 has been around since Pentium days. There are two types of memory in a computing system—main memory (RAM) and video memory (VRAM), which is present on graphics cards.

The acronym RAM is currently synonymous with DDR2, but this wasn't the case always. DDR RAM was its predecessor, and DDR RAM itself preceded by SD RAM. Now facing retirement, DDR2 should soon be put to pasture by one of our limelight hogs—DDR3. DDR3 is already available for purchase, but it's very costly at the moment, owing to very low market acceptance. Then there is the cost of a new motherboard to consider, and DDR3-based boards aren't cheap. Other than the odd enthusiast, DDR3 at the moment is a largely unadopted technology, but that *will* change. Industry experts believe DDR3 to become a norm sometime early next year—when manu-



Shrikishna Patkar

facturers of this new technology will do sufficient volumes to drastically reduce prices, and faster DDR3 memory modules appear—which will increase the (current) nominal performance advantage that DDR3 has over DDR2. Intel's upcoming Nehalem and their X58 chipsets will be DDR3 only. AMD's Sandtiger, the successor to their Phenom processor range, may also go the DDR3 way, but that largely depends on Intel—the market leader. Intel made DDR2 the success it was, and it seems they're going to lay it to rest soon as well.

The other newcomer we're spotlighting is an exciting new VRAM standard—GDDR5, and the successor for the ageing GDDR3, which has been around since GeForce 6800 Ultra / Radeon X800XT days. But wait! Where's GDDR4? Defunct, largely, thanks to the industry having taken a jump from GDDR3 to GDDR5. GDDR4 with its high latencies and comparable-to-GDDR3-speeds is largely a no-go, and other than the odd acceptance by AMD/ATi on their X1950XTX and HD3870, has been largely left alone. Both NVIDIA and ATI have tried all the tricks to up memory bandwidth, which include bumping up clock speeds and/or increasing the bus width. GDDR3 has hit the MHz threshold at 2.4 GHz, and developing wider-than-256-bit memory is very costly. Enter GDDR5—a new standard that vendors like Qimonda (formerly Infineon) and Samsung claim can easily hit speeds of 5 GHz, while consuming less power—no more than 1.5v at whatever speed. Add to that extra features geared towards reliability and you've got a sure shot recipe for a successor.

DDR3: In Pursuit Of 8 Lane Expressways

DDR3 is being offered in the same 240 pin configuration that DDR2 is available with, but the two are incompatible and the physical notches on the modules' PCBs have different positions to avoid mistakenly slotting of the modules in incorrect slots. The first thing that's radically different about DDR3 is the improved clock speeds—to the tune of 2000 MHz whereas the fastest DDR2 modules could do no more than 1200 MHz. Its early days and the speeds of DDR3 could go as high as 2400 MHz—an exciting prospect. Unfortunately latency (wasted clock cycles) also increases with higher clocks, and DDR3 has much higher latencies than DDR2 which somewhat nullifies the clock advantage. The increase in clock frequency is possible because DDR3 has double the prefetch rate than DDR2. The DDR3 core is capable of prefetching 8 bits in a clock, while DDR2 could only manage 4 bits per clock. Doubling the prefetch is possible by doubling the number of internal banks between the DRAM core and the I/O buffer. This speeds up things and further reduces latency due to paral-

DDR2 VS DDR3

	DDR2 SDRAM	DDR3 SDRAM
Data transfer rate	400-800 Mbit/s	800-1600 Mbit/s
Voltage	1.8 V \pm 0.1 V	1.5 V \pm 0.075 V
Banks	4/8	8
Prefetch	4 bits	8 bits
Burst Length	BL=4,8	BL=4,8
Topology	Conventional T	Fly-by
CAS Latency	3-5	6-10
Chips packaging	60 BGA for x4/x8	78 BGA for x4/x8
	84 BGA for x16	96 BGA for x16
Chips capacity	256 Mbit-4 Gbit	512 Mbit-8 Gbit

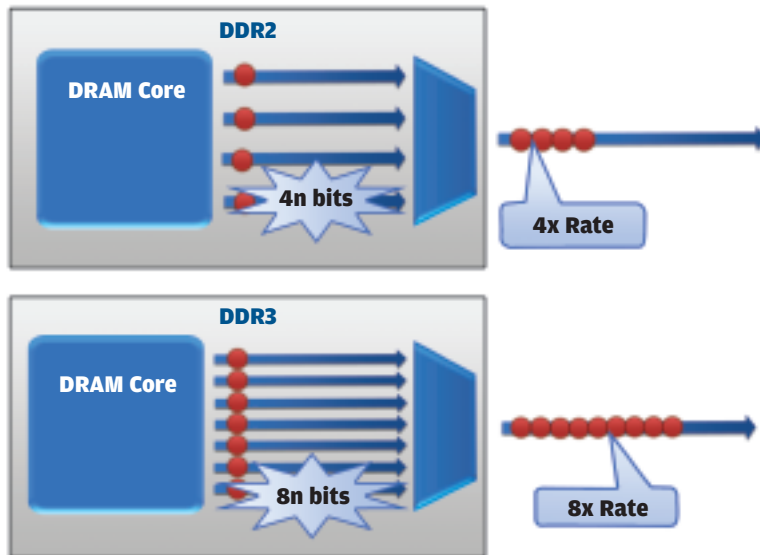
lelism. While the advantages of DDR3 may not be apparent at 1066 MHz (the current maximum official frequency for DDR2), at speeds of 1333 MHz and above, the newcomer should start baring its teeth.

From the table above we see that DDR3 has an improvement in clock speeds, data throughput and power consumption, which (clock to clock) should reduce proportionately due to lower operating voltages. The BGA packaging remains unchanged although DDR3 chips have a higher pin count. These extra pins are mainly for improving signal integrity at faster clock speeds. Its highly undesirable, (a gross understatement), for memory modules to have corrupt data in their buffers as a result of signal loss—which itself occurs once clock speeds are bumped up.

The architecture adopted by DDR3 is called *Fly-by* and it features additional goodies like on-module signal termination, and other flow stabilisation commands—to aid data integrity. Unlike DDR2's architecture where signals are sent simultaneously, DDR3 follows a more serial approach by sending signals sequentially—one by one to the memory chips. Therefore the internal working of DDR3 memory in terms of data reading and writing is totally different from DDR2. This sequential operation needs some sort of counter or timer in order to link past, current and future operations that are based on the same process. The solution—integrate such a sequencing device on to the memory controller itself. This gives the controller the ability to manage capsules of data and match them to their relevant processes. The technical term for this is called *Data Levelling*. The signal protocols for DDR3 have changed too—as a direct result of the much higher frequencies. These obvious differences mean that DDR3 RAM also has an entirely new set of signal protocols to cope with the higher memory bus frequency.

64-bit operating systems mean greater memory addressing capacities than before. This combined with more bandwidth intensive applications dictates that memory density should increase, and not just its frequency. With DDR2

we saw memory modules with up to 2 GB of memory. Such modules use high density chips of capacities of up to 128 and even 256 MB (each memory module has either eight or sixteen such chips). With DDR2 manufacturers promise as



much as 512 MB on a single chip, meaning a module with a single bank of chips (chips on a single side of the module) could have a capacity of as much as 4 GB! We've heard of manufacturers working on chips with capacities of 1024 MB. Although double bank chips (16 GB on a single module!) will be prohibitively expensive, and will be a rarity, the prospect of seeing eight gigabytes on a single module is exciting. This would also drive prices lower. 2009 should see a sharp decline in DDR3 prices by our estimates—much like DDR2 saw back in mid 2007. Faster, low latency modules should also become available at the price of slower modules, and the ones already in the market will get cheaper. 2009 should be the time that users should migrate to DDR3, as of now DDR2 hasn't relinquished the throne in terms of market popularity.

In terms of performance things are about even, with fast, low latency DDR2 modules competing hard with similar DDR3 modules. Once 1.6 GHz and 1.8 GHz DDR3 modules become *de facto* however, DDR2 will trail behind.

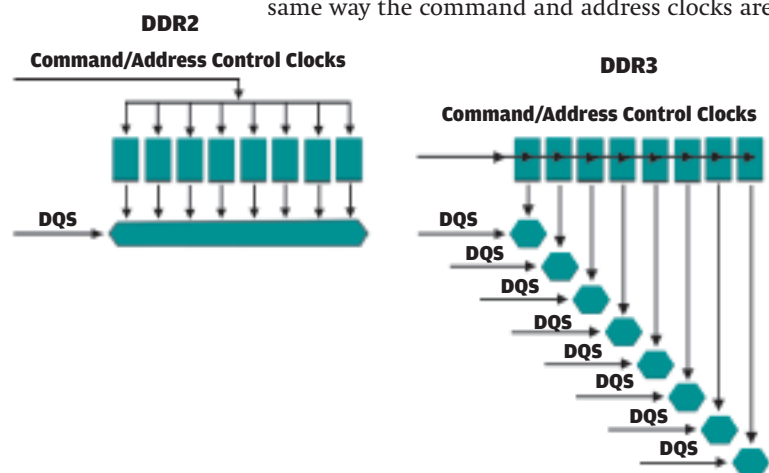
GDDR5—Speed Demon

After a hiatus of nearly 4 years, the world of video memory is about to receive its much awaited shot in the arm courtesy GDDR5. The current norm, GDDR3, has done a great job. It's gone from a mere 256 bits and 1 GHz in the GeForce 6800GT back in 2004, to a 512-bit 2.2 GHz part in the GeForce GTX280. However this industry is all about change, and we're seeing a transition of sorts about to commence. We've already seen GDDR5 make an entry in ATI's

latest Radeon HD4870. The memory on this card is built on a simple 256-bit bus. As opposed to NVIDIA's GTX280 which has a massive 512 bit memory interface. The aim of both vendors is simple—more bandwidth. However, the approach is radically different—NVIDIA uses wider memory buses, ATI has gone with GDDR5 which has higher clocks.

ATI's move makes sense because increasing the bus width is no easy or cost effective task. Each memory chip has to have more pins—this leads to a larger chip—which leads to fewer such chips per wafer (yes, memory chips are also cut from silicon wafers). This drives up the cost, which is why mainstream and budget graphics cards usually have 128- or 256-bit memory interfaces. Even bumping up clock speeds doesn't help, as thermal thresholds are eventually hit. GDDR5 is all about transmitting more data per pin, (we're talking about the pins on a BGA memory socket), per clock. GDDR5 has the benefit of requiring less power, and also fewer pins which simplifies the manufacturing process.

So what does GDDR5 do radically different from GDDR3 and GDDR4? First up, there's an exciting new feature called Clock Data Recovery (CDR hereon) which is all about maintaining clean signals while transporting data and thus preserving data integrity. With CDR the data stream itself generates the memory clock speed, and not the memory controller. The bus between the memory chips and the graphics processor is actually trained or synced. In the same way the command and address clocks are



also synchronised. For this reason this feature is also sometimes called Interface Timing, or Clock Training. The clock speed is actually picked up and read from the data stream and data and addresses and commands are adjusted or de-skewed (the technical term for it) for best possible data integrity. This is one of the new features integrated into GDDR5 memory modules to achieve higher clock speeds.

Traditionally GDDR3 and other memory technologies have used a single write clock (designated as WC) which transmits data and

addresses as well as the read and write operations. GDDR5 makes use of two write clocks instead of one. One clock called the differential command clock (CK) is for data and addressing and the other is called forwarded differential write clock (WCK). The CK operates at half the WCKs frequency, so if the CK is running at 1.5 GHz the WCK would run at 3 GHz. Each of these two clocks gets a byte of storage each which allows for alignment and synchronisation of data to be stored during the initialisation and training sequences—as explained in the previous paragraph. The data is synchronised on the basis of the value stored in the bytes of each clock. The concept of separating data and operations helps to minimise noise and jitter thereby preserving data integrity at the higher clock speeds that GDDR5 can do.

In conjunction with CDR and dual write clocks, one of the new protocols introduced by GDDR5 is error detection for read/write operations. Note we said *detection*, and not correction. Error correction is not supported and a data re-request occurs if an error is detected. This boosts reliability except for one caveat—as the memory is clocked higher, more errors will occur—and the real world bandwidth may actually suffer as more and more instructions and data need to be re-requested from buffers, in case of an error. However with normal clocks and moderate overclocking this feature should help in maintaining signal integrity and therefore data integrity and system stability.

Hand-in-hand with performance, GDDR5 also has one noteworthy trick that helps in power saving. It's called Address And Data Bus Inversion, and its main function is to reduce the number of binary 0s which are transmitted on both data and address lines. To achieve this, a couple of extra pins are integrated on to a GDDR5 chip—these pins are DBI and ABI pins i.e. data bus inversion and address bus inversion pins, and there are one each of such pins for every byte (8 bits) of data.

In data and address buses, a binary one (1) means a high voltage while a zero (0) indicates a low voltage. In case more than 50 per cent of the bits in a byte are low voltages (zeroes), this technology simply sends an instruction stored in the DBI pin that essentially inverts the binary values for that byte. So, ones become zeroes and zeroes become ones. What this does is ensure that in

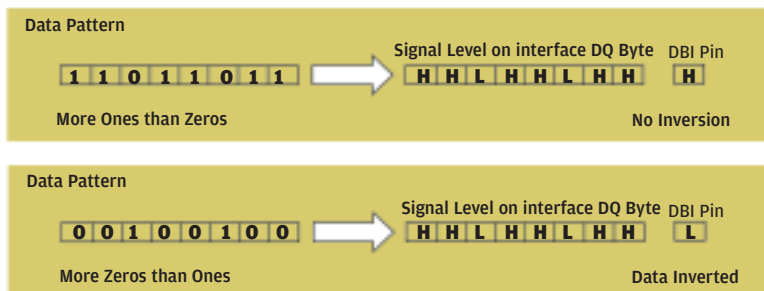
any given clock cycle, no block of data, instructions or addresses will ever have more than 50 per cent of its signal containing zeroes. This especially helps in those clock cycles where very little data is being passed through memory—zero (0) values because even in such cases some power consumption still occurs.

And what makes GDDR5 really fast? Very simply GDDR5 doubles the number of DQ links or Data Queue links over predecessors like GDDR3 and GDDR4, so at the same clock speed it's able to (theoretically) get double the bandwidth. So while GDDR3 at 1 GHz had the data effectively clocked at a speed of 2 GHz, GDDR5 runs the same data at an effective speeds of 4 GHz. Note that the core clock speeds of both GDDR3 and GDDR5 are identical—its only data transmission speeds that have changed. So at the same clock speeds 512-bit GDDR3 memory would yield the same throughput as 256-bit GDDR5 memory, which is a tremendous cost saving factor in favour of the newcomer. GDDR5 is also being developed with higher memory capacities in mind—so the density of each memory chip is also higher than GDDR3—this will further simplify the PCB designs of graphics cards that use this new standard as fewer memory data paths need to be designed as fewer chips will offer the same amount of memory. As of now GDDR5 will be expensive to manufacture with only one real outlet for the chips—ATI's Radeon HD4870, but both vendors (NVIDIA and ATI) should skip to GDDR5 over the coming months. The allure of reducing costs, better performance scaling, and lower power consumption will ensure that GDDR3 dies a natural death. It's not a race though—more like a relay, and the baton is about to change hands.

The Future?

We're told that DDR5—the RAM equivalent of GDDR5 is also destined for the desktop sometime in 2011, and its clock speeds could well exceed the fastest processor clock speeds. Obviously quad cores and even hex cores and octal cores would probably be the norm by then. One revolutionary product spawns several others—just like Intel's Core 2 Duo made the DDR2 standard a runaway success as people migrated from their old, slower Athlon 64/DDR systems. Graphics technologies won't stagnate as well, and aside from development on new technologies like GDDR6, we can expect to see a lot more stream processors on the next generation of cards, and memory management techniques will also evolve. The thing to remember is that all this advancement is very necessary and not just a race—software and us, the users, are slowly evolving to these new horizons. ■

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AN OS YOU WANT!

Agent 001

I've sort of patented a term here at Digit, because I have the habit of saying "Ooh, I want!" when I see a really cool or geeky product. Anyway, long story short, the idea for this article came about when my editor, getting a little fed up of hearing "I want", asked me, "So what is it that you really want?" I was shell-shocked. Why? You'd understand better if you thought of my editor as a rich parent, and me as a kid in a candy or toy store being asked that same question. "Why, everything of course," was my reply.

After shaking his head for a few seconds and making the dissenting noises only he can, he reiterated, "No. I mean, what is it that you *really* want from technology? For example, suppose you owned every tech company on Earth; what is the first product you will get everyone to start building for you?"

I just stood there, mouth agape. Obviously I understood where this was headed, and I knew exactly what he meant, but I was already far, far away in fantasy-land, too busy building castles out of hundred-dollar notes. Well it was his fault for putting it that way, "owned *every* tech company on Earth" indeed!

He snapped his fingers and promptly dragged me out of fantasy world, "Well?" he asked impatiently. After the cogs in my head were done whirring, I said, "The perfect OS". He turned, walked away, and his voice trailed behind, "Write it; about 2400 words; deadline next week..."

Why Not The World's Fastest PC?

A lot of my buddies asked me why I didn't think of this. To be honest, I would like to be the first person on Earth to run an 80-core, 10 GHz, 2 TB RAM machine, but then again, what would I run *on* it? Vista or Ubuntu? Hell no! What would be the point of all that hardware if it gave me not much of a difference in experience than what my quad-core with 4 gigs of RAM and GTX 280 offer me already?

It's always been a lot easier for all of us at Digit to criticise and complain about certain missing features, or bugs in code. However, while sitting and thinking of my "FutureOS", I realised how hard it is to come up with ideas for those killer features that would set my OS apart from everything else out there. Hats off to all of the software and hardware developers out there who bring us so many exciting products—if I was having such a tough time coming up with imaginary features, imagine their plight of having to not only think them up, but implement them as well!

Rather than sit around waiting to see what a future operating system (OS) will offer, we're preparing our own wish list. Let's just hope that the powers that be are listening...

Coolness

Let's face it; everyone seems to be gravitating towards being cool-looking. Everyone associates Apple with "cool", and rightly so. Their MacOS started the *pretty-looking-OS* revolution, and Linux and Vista just seemed to have played follow-the-leader. So now we have Aero and whatnot offering us fancy 3D effects for mundane tasks like Alt-Tabbing—forgive me if I don't faint like a young girl at a Michael Jackson concert.

Now I'm no Vista-hater, because I'm running it, and without an anti-virus at that, for almost a year without any problems. It's quite obvious to me that Microsoft coders have done an excellent job with the security...well, either that or virus and worm writers have all fallen asleep...

However, there are just some things I just cannot seem to get used to. Take for example the fact that I have to go through 2 or 3 screens just to change my screen resolution, IP, gateway or DNS server. All of this was just a click away in XP, and sometimes you can't help but want it back.

As for Linux, I've seen Beryl and XGL/Compiz, and they're just as pretty. Apple has Aqua, and its animation effects are cute, and personally, I prefer it to the rest because it's not so over-the-top as the others. However, all this rush to make pretty OSes has me thinking that we're certainly headed down the wrong path here. Personally, if you saw my system, you would think it runs on XP, because I've got Vista running without all the eye-candy. Does it really matter to me that windows are not translucent, or Alt-Tabbing doesn't bring up cool animated 3D effects? It certainly hasn't affected my work, or the fun I have when using my computer.

What irritates me is the fact that some of my relatives, who might still be using Windows 98 at home, come over and want to see "Aero in action". It's not the added security, it's not the robustness of the kernel...it's the *damn gimmicks* they like. Sadly, that's the world we live in today, where *bling* sells, and reliability doesn't matter. Thankfully, Windows 7 promises to not just bring prettiness to the screen, but a revolution in terms of interfacing with technology. Even if it isn't the best, at least it's a step in the right direction.

Interfaces

We've all being going ga-ga over the iPhone, and with good reason too. Without getting into debates such as whether the iPhone 3G is really worth its price tag, especially in India—where we're sometimes struggling to get 2G services to work satisfactorily—let's give it the credit it deserves for revolutionising mobile interfaces. Similarly, Windows 7 promises to change the way we interface with the common PC, by adding

multi-touch (the Microsoft Surface type), improving hand-writing and voice recognition, and generally promising to reduce your keyboard usage. However, is this enough?

In this space, we've previously told you about research projects that promise to bring *thought* computing to the desktop. Though this research is mainly targeted at improving the lives of paraplegic patients, computers have paralysed us all in some way or the other. We're lazier than we've ever been, and nothing is more appealing to our vivid imaginations than computing at the speed of thought. Besides, although touch is fun and might be practical for some applications, speech just isn't so.

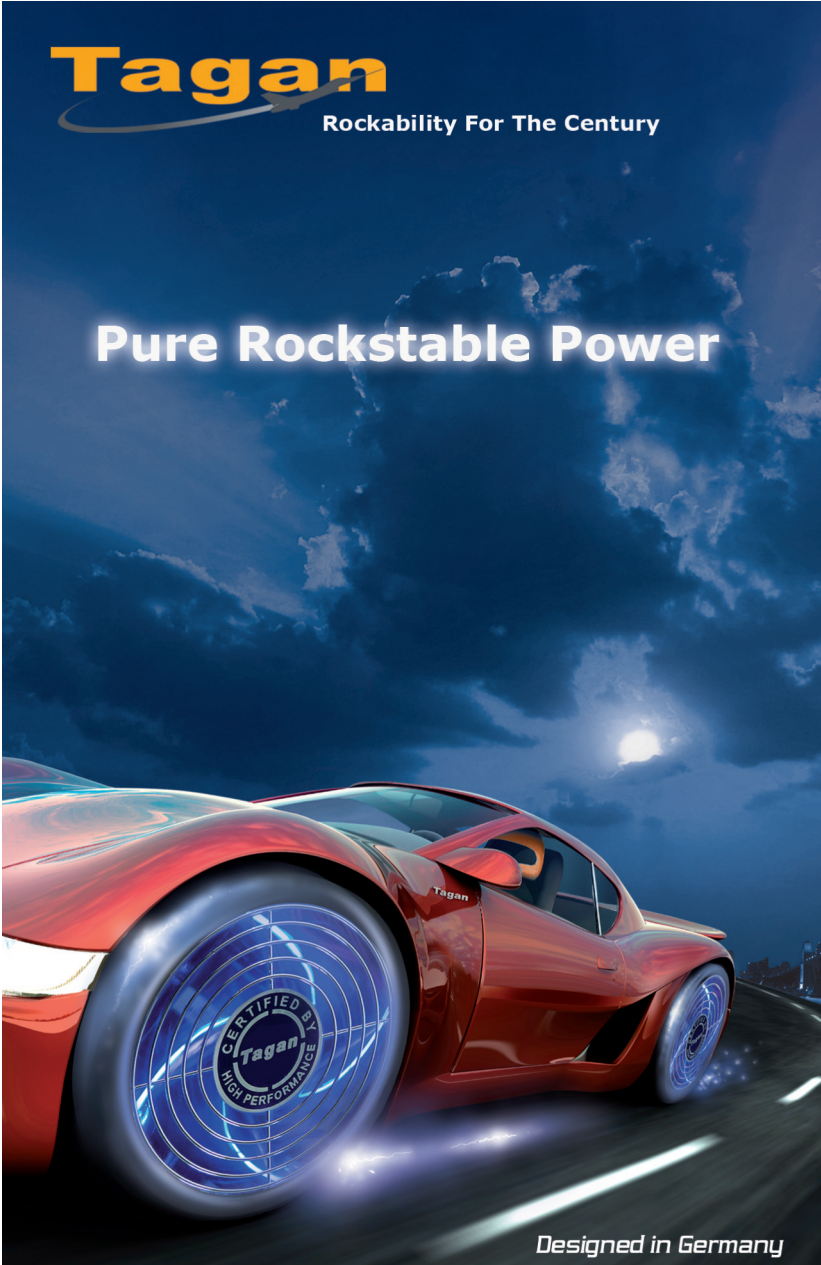
If we were all computing while sitting in a nice serene and silent corner of the planet, talking to your PC would not seem as stupid an idea. Reality, however, has us computing everywhere we are—while walking on the streets, travelling by car, rail or air, in the loo, on our beds, at work, at play... with all the noises of city-life about us, voice interfaces just start seeming idiotic. As if researchers didn't have it hard enough, what with trying to compensate for accents and pronunciations, trying to get a PC to recognise words over the din of traffic, or the bustle of metropolitan life is just near impossible. It's also against human etiquette and sense to submit to having to say, "Call mom" a few times to your phone, whilst invading the sonic space of everyone around, including yourself. For this reason, I personally don't see a future for speech recognition technologies in the OSes of the future. Touch, yes; Thought, yes please; speech, no thanks!

Trends

A year or two ago, there were rumours about "Google OS", or basically, plans from Google to launch a complete Internet-OS for those with always-on broadband access to the Net. Today, we're hearing rumours about Microsoft Research working on a product supposedly called Midori, which is a server-side OS, and basically will work just like we thought the rumoured Google OS would. What's more, it's rumoured that Midori aims to do away with platforms completely, so you can run it on a mobile, a PDA, a "netbook" (ultra-mobile PCs), desktops, and even as a process on any existing OS... you get the idea.

Is this the way forward though? Although opinions, as usual, vary from one extreme to the other, I personally think that a Midori-like OS is a very vital component in the future of OSes. Look at the trends, and you will get your answers. Everyone and his uncle already has a mobile device. By 2012, it's estimated that we will have half a billion mobile users in India alone. With flash memory prices falling, we're getting higher memory capacity gadgets and pen-drives. If 2 GB is the norm today, by 2012, we should have TBs in our systems, and at least 32 GB on our person at all times. Whether it's a flash drive, in your phone or your MP3 player, you will have a lot of data storage capacity.

It's already accepted that people in general, use more than one device or computer. You have your work computer, your mobile, computers you use in cyber-cafes, or your home computer/laptop. It makes sense that you would carry your data with you, and an Internet OS would let you do just that. With more computing devices than people who use them, it also makes sense to develop a digital persona, or an ID, so that you can be you, no matter what device you use. For this, obviously, you need an OS that's platform independent.



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Next is to understand how people use computers, both at home and at work. If you have a Net connection, you will find that, today, the most important software on your system is your browser. Regardless of whether it's IE, Firefox or Opera, which is your personal choice, Orkut, Gmail, Google, Windows Live, Yahoo!, Facebook, MySpace, YouTube, et al, are all online, and you want to get at them. With push-mail, your work e-mail is location independent, and spreadsheets and presentations are accessible in Google Docs. So what is it that you really *have* to use *your PC* for?

Gaming

Ah! Here we come to the first and biggest hurdle in why the future of desktop OSes is not bleak. With the majority of PC games being built for Microsoft's DirectX, it's not hard to see a Microsoft OS continuing to dominate. However, consoles have also started selling like never before, as people fed up with constant hardware upgrades have opted for a gaming experience on the PS3, Xbox or Wii. With more of us getting hooked on to games, it stands to reason that the OS we use will have to play the games we like.

Anywhere Computing

Ambitious projects like the Alky Project (fallingleafsystems.com), which wanted to make it possible for DirectX games to run on Linux and Mac, may have failed, but the effort was made in the right direction. They've even made their code open source, for people who want to continue where they left off. After all, games developers would like nothing more than to have their games open up to Linux and Mac users.

However, set aside thoughts of gaming, and focus on everything else, and it's really not that hard to imagine an Internet OS, or even multiple OSes that do only what they're supposed to—act as an interface between hardware and software. Today, it's not just Windows that tries to be a one-stop solution for all your needs, as Linux distros and Apple are also trying to do exactly that. I'm not so sure that OSes should try and offer all of that to us. For example, I'm tired of the ever-bloating sizes of OSes—Windows 95 shipped on floppies, and now Vista ships on a DVD! Windows XP is my personal favourite, because it seemed to offer not just the right amount of security, but also a good experience on mid-range hardware.

A refreshing new concept is SplashTop, which is a Linux distribution that motherboard manufacturers are installing to an inbuilt flash-chip on motherboards. What this means for us users is that you can have ultra-low powered systems that require no hard drives to check mail or surf. ASUS, for example uses SplashTop on motherboards that they brand as

“Express Gate”. OSes like SplashTop do away with worrying about hardware requirements, and instead of trying to be one-stop-solutions, just let you connect to the Net and get your work done. It's also useful for notorious fiddlers like me, because now I can troubleshoot problems in my primary OS installation and download fixes for whatever I screwed up in Vista while fiddling with settings.

FutureOS

Anyway, coming back to my quest, I need to list what I would want from my “FutureOS”, so here's my wish-list:

Light and fast: Instead of taking ages to boot, and hogging memory for services, I'd rather have an OS that uses the same amount of (or less than) resources as Windows XP.

Interfaces: Like I mentioned, touch is a given, but I would love to have thought computing capability. Not much the OS developers can do to give us this though, but let's hope research in this field is successful.

Portability: This is something that's really important, because I'd rather carry a pen drive with me instead of a laptop, and I also would want to have a familiar interface on all my devices.

Server-side: GoogleOS (GooOS?) or Midori, if they're actually released would solve a lot of problems for all of us. I'd love to have the same Desktop, Documents, Favorites, and more, on every device I use. This way I could log on, check my mail, surf and then download stuff to some virtual drive somewhere, just once, and be able to access it from anywhere.

Application rentals: I use Adobe Photoshop for about 2 hours a month when I need to edit some images. Rather than have me wait to use a designer's computer, my company bought me a license. It's the same for many of us, with a long list of applications. Let's consider a Net-enabled OS from, say, Google. Just as you have advertisements in Gmail, I'd settle for advertisements in GoogleOS, or a small subscription fee, to allow me to use software such as Photoshop for a few hours a week or month. Plus, it would mean not having to install / uninstall applications, or have my system slow down because I have too many things installed.

Remember, this is just what I could come up with based on my usage patterns—a lot of you will have many more ideas for what FutureOS should consist of. Make sure to write in and tell us some of those ideas, and maybe together we can convince developers to start working in this direction. Some of you might even be developers yourselves, who can, or may already have formed groups to develop software that will allow us to experience OS-utopia. You too should write in and inform us of your efforts. ☑

agent001@thinkdigit.com



Avid Acutus

Thankfully, there are a few things in the world that don't have to be studded with Swarovski crystals to make them the dearer. The Acutus turntable from Avid matches the expectations of the most demanding audiophiles. The turntable is available for \$10,195 (Rs 4,46,366). The turntable has been designed from scratch, keeping in mind the audio quality and playback without distortion, or interference at all the time. The turntable is worked by a powerful, carefully hand crafted motor, designed to run silently and without vibrations, driving a ten KG platter. The whole turntable weighs about 30 KGs and is available in two finishes, polished chrome or plated gold.

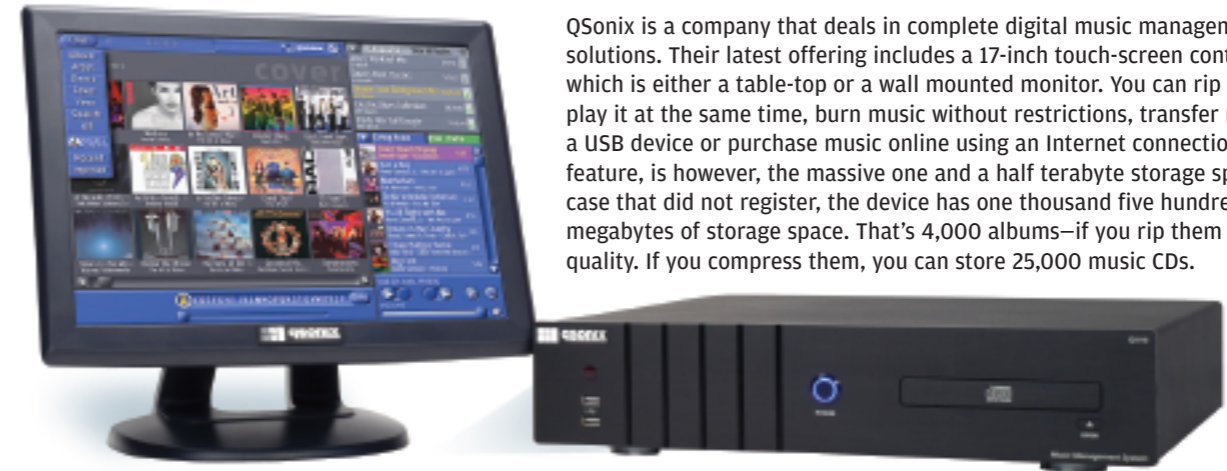


The Zombie

The Zombie Arcade gaming machine is a 100 KG of black finished, chrome edged retro gaming goodness around 30 years ahead of its time. The machine is designed for two players, with led-lit microswitch buttons, and 2 sanwa joysticks. The machine ships with 300 games including dig dug, galaga, mortal kombat, sonic the hedgehog and the all time favorite—volfied. Remember the irritating beeps and clicks music of volfied? With the Zombie Arcade, you can listen to it from two ear level speakers and a subwoofer at ground level for a “thumping bass”. The screen is a 24-inch LCD protected with a smoked glass bezel. If you want to put this thing in the corner of your room (you'd be crazy not to)—your pockets will be lighter by \$4,400 (Rs 1,90,830).

QSonix Q110

QSonix is a company that deals in complete digital music management solutions. Their latest offering includes a 17-inch touch-screen controller, which is either a table-top or a wall mounted monitor. You can rip a CD and play it at the same time, burn music without restrictions, transfer music from a USB device or purchase music online using an Internet connection. The best feature, is however, the massive one and a half terabyte storage space. In case that did not register, the device has one thousand five hundred megabytes of storage space. That's 4,000 albums—if you rip them at highest quality. If you compress them, you can store 25,000 music CDs.



Archos 7

The Archos 7 Internet tablet is powered by a Arm Cortex superscalar microprocessor, has a large 7-inch high resolution (800x480 pixels) touchscreen and 160/320 GB of storage space. The tablet supports most video, image and audio formats, as well as the fully features Opera browser and a few games thrown in for good measure. The tablet is basically meant for accessing multimedia content on the Web, like YouTube, but can as easily be used on Twitter or Orkut. There is also an e-mail application and a bunch of customisable widgets. There are two inbuilt speakers and a leg stand. The Archos 7 320 GB costs \$550 (Rs 24,160).



Videoray Pro3XE

Videoray manufactures submersible probes for a variety of purposes ranging from forensics to scientific research. The Videoray Pro ships with a forward facing wide-angle color camera, a backward facing black and white auxiliary camera, two twenty watt halogen lights, an LED array, two 60 mm propellers, sonar capability and probe arms for handling objects. The submersible weighs 40 KGs, can go upto 500 feet underwater and costs \$2300 (Rs 1,00,830). Strictly speaking this is not a toy, but the recreation section on their Web site has a few articles and videos involving rich yachters entertaining guests and kids with this submarine contraption.



39 Agent 001



42 Digital Camera Test



65 Tips & Tricks

Digital Tools

Technology For Personal And SoHo Productivity

Enhance

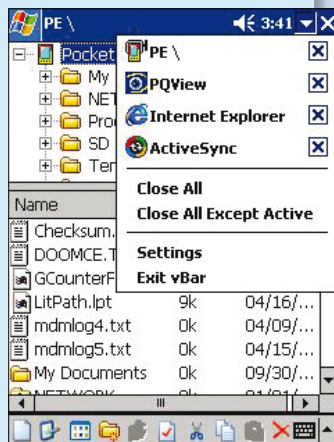
MUST-HAVE WINDOWS MOBILE APPS

Get them now,
that's an order!

Aditya Madanapalle

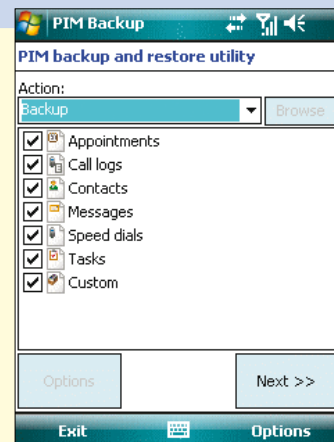
Task Manager

vBar is a task manager for windows mobile devices available as a free download from <http://vieka.com/vbar.htm>. The vBar icon locates itself neatly in the title bar, and has two basic options for closing applications—close all, and close all but active. The software itself is very small (21 KB) and has a small memory footprint as well. You can change the color settings, as well as the order in which the buttons in the menu appears. Another excellent feature is an option to show tiny bars indicating the memory and battery usage instead of the drop down icon.



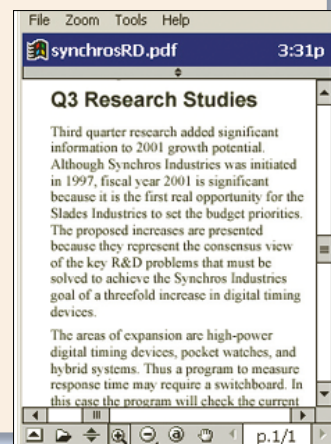
Data Backup

PIM backup is a free backup software from www.dotfred.net. Contacts, call logs, messages, speed dials, tasks and other files can be backed up. It is possible to backup information from one device and restore it in another. The data is backed up in a .pib file, which is just a .zip file so some data can be edited on a computer. There are a number of data restoration options, like updating the data, adding only new data, deleting all existing data and making duplicates of the data. There are two format options for backing up the data, binary and text-based. The binary format is faster, but the text based format is easier to edit on a computer. There is also a setting that allows the data to be compressed, and a scheduler feature which backs up data automatically when scheduled.



PDF Viewer

The official pdf viewer for the windows mobile platform is available for free from www.adobe.com/products/acrobat/readerforppc.html. The viewer is a 13 MB download. The reader optimises high quality PDF content for viewing on a Windows mobile device, with both a portrait and a landscape mode available. A full screen mode and a reflow toggle is included. There are two preset zoom options, the fit width and the default zoom, and a custom zoom option. The hand and the text selection tool are included. The various options available while creating PDF content are preserved when viewed on a windows mobile device—for example any page transitions show up as well as attached slideshows.



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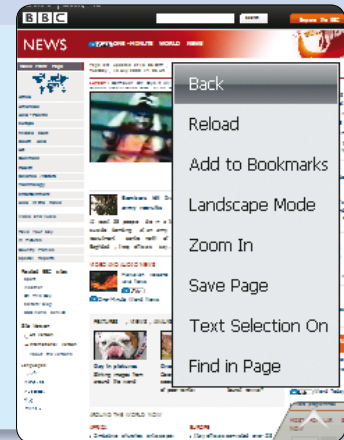
Cleaner

SpeedClean is a utility to clean up temporary files, temporary Internet files and cookies from your pocket PC. This freeware is from some people in France, and the developer's Web site seems to be down, but the software is available on www.tucows.com and a couple of other PocketPC download sites. This software purges files that are no longer in use from the system. For users who surf the Internet a lot from their windows mobile devices, this software can be configured to automatically detect and delete such unused files every time the device is started up.



Web Browser

Opera has two browser options for windows mobile devices—Opera Mini, which works on most phones, and Opera Mobile, which is more feature-rich and meant for the windows mobile platform. The latest edition is the 9.5 beta version available as a free download from <http://www.opera.com/products/mobile>. However the previous stable version, v8.65 is also available from the site for US\$24 (Rs 1,040). A user can save pages for offline view, save images into folders and upload data from the device onto blogs or e-mail. The menu bar is very simple, but feature rich—tabbed browsing, history and bookmarks are available. There are panning and zooming options, as well as a landscape mode. What makes Opera lightning fast is the auto-complete feature, and an option to exclude images from being rendered.



Video Player

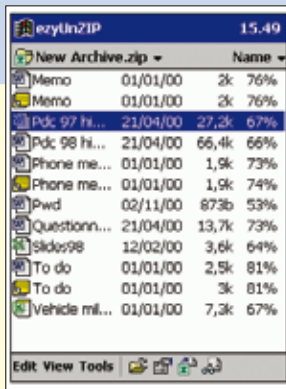
TCPMP or The Core Pocket Media Player is a free and open source media player for pocket PC that supports a wide range of formats. Think of it as the VLC for windows mobile devices.

TCPMP can play audio, video and image files in even the more exotic formats. The development of TCPMP was discontinued in 2007, but the installation file is still available on the Internet. The file is a 1.3 MB download, and can be obtained from <http://picard.exceed.hu/tcpmp/test>. The video player is good as it is, but the optional plugins only make it better, and compatible with even more video formats. The plugins are available on the same page. Some of the advanced functionality of this player include changing the aspect ratio, and playback speed settings for changing the rate at which the video plays.

Screen Capture

CECapture is a free screen capturing tool. It is a small file, only 54KB and can be downloaded from either <http://freewareppc.com> or <http://classic.pocketgear.com>. The utility works by placing an 'E' key on the task bar. Tapping it at any point will take a screenshot and save it as an uncompressed .bmp file in the My Documents folder. Another good screen capture software for windows mobile is called ScreenCap and is available from <http://www.geocities.com/nozomisoft/Screenshot.html>. It is even smaller than CECapture at a modest 11 KB. This software too saves captured images in the My Documents folder as uncompressed bitmap files.





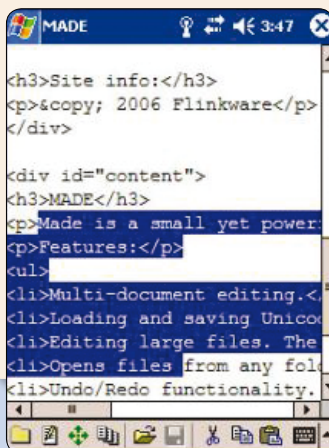
Unzip Utility

EzyUnZip from <http://www.cnetx.com/ezyunzip> is a 461KB free download that can handle all the zip files on your Windows Mobile device. The interface has two styles, the soft-key menu for single-handed

operation, and the classic menu for use with a stylus. It is possible to view the files in a zip archive without extraction, as well as selecting individual files for extraction. The general options include a check to attach all zip files to the program, which allows for a single key unzipping function. The more advanced options include Verifying integrity of the zip archive before unzipping, encryption support, displaying comments, and showing the compression ratio.

Notepad

MADE is a powerful text editor for the windows mobile platform. It is a 100 odd KB file available from www.freewarepocketpc.net or handheld.softpedia.com. MADE can handle multiple files at a time, open really large files, and can handle a number of different formats. It is possible to edit HTML, CSS or XML files using MADE. There are also the usual cut/copy/paste features, with support of a large amount of data. The foreground colour, the background colour and the font are all customisable.



The number of undos and redos can be configured manually. MADE can also load and save files in various 8-bit encodings.

Activity Simulator

It is sometimes necessary to keep the device active and functional for long periods of time—while reading a tricky and in-depth document, or using the screen light to look for something. It is irritating if the back-light goes off in the middle of something. Keepalive from <http://www.scottandmichelle.net/scott/cestuff.html> or <http://pocketpcfree-ware.com> is a 15KB download that simulates keyboard activity, and thus keeping the device 'alive'. There is an 'Application always enabled' toggle, an option to turn it on or off depending on how much battery life is left, and a scheduler to turn it on at certain times of certain days. There is also a timer option to turn it on or off automatically after a set amount of time.

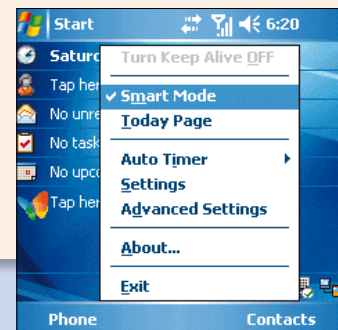
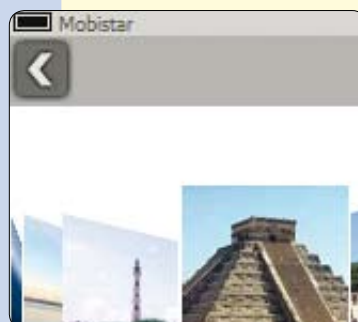


Image Viewer

PocketCM Image Viewer from www.pocketcm.com is an image viewer for windows mobile that uses the touchscreen functionality to its full potential. The software is designed to be used with the fingers instead of the stylus. The image occupies the entire screen, and all the options such as screen rotate, browsing, zooming and closing are available according to different actions with the finger. The experience is similar to the image viewer on an iPhone. The entire interface has a very liquid feel, with a

few bells and whistles thrown in like a carousel view with reflections. Also it is possible to entirely customize it, as it supports skins.



Light Enough For Flight

Agent001 recounts his laptop buying experiences

In the last two years the personal technology space has seen tremendous growth both in terms of demand and in terms of variety. It pleases me greatly to see folks actually taking the time and patience to learn about the product they want to purchase, instead of blindly making an uninformed purchase decision. Besides cell phones, PDAs and PMPs, if I were to pick one product category that is hot, it'd have to be laptops. Many queries directed to me are from readers who wish to buy a notebook for a certain purpose, or based on a particular configuration. Students want something on a frugal budget that allows them to complete their assignments, surf the Internet, and take notes during lectures. Engineers want a configuration that will allow them to run Visual Studio, or Java, and surf the Internet, or even play the odd game. Others may have specific requirements—like a good integrated webcam to chat with loved ones abroad, or a notebook that plays 3D games with most of the bells and whistles enabled. A large bunch of users are confused as to whether to even buy a notebook or opt for a desktop PC instead. Their confusion is understandable—a decent desktop PC can be assembled for Rs 25,000 or thereabouts, which is the same price at which you can pick up and entry level notebook. Users are even willing to up their budgets and pay more for a notebook, their reason, notebooks are

more of a lifestyle symbol (if not a status symbol), and they're portable. It's cool to be seen with a notebook, and the whole image of notebooks being expensive, drool-worthy devices takes your status to a whole new high. Even though laptops are common nowadays they're still viewed as a novelty by most people and this is one of the main factors behind their speedy adoption. Of course it's a much needed tool for the business and executive cadre of user.

Regarding the whole desktop vs. notebook argument, I'm a firm believer in both devices. For me a notebook is a necessity when computing on the move, or attending a press conference to take down notes, or to communicate with office folk and access mails and such when a PC is unavailable. But when I have my desktop PC in front of me—my notebook is forgotten. Both devices are meant to co-exist peacefully, and home users should actually see whether they really need the portability of a notebook before buying one. In terms of performance and ergonomics, a desktop is at least two times the performance of a notebook, my suggestion is to buy a notebook only if you need portable computing. For someone who intends to use his computer on his desk every night after

coming home from office, a notebook PC is a total waste—a desktop is much better suited for such tasks. I also recommend you skip the notion of buying a notebook just to be cool—it's ludicrous.

A so called gaming notebook needs a fast graphics card, and implementing such a graphics solutions into a notebook, where heat dissipation and product size are significant factors, is expensive—Rs 75,000 at least. I do not consider Dell's XPS 1530 to be a gaming notebook—for one, the NVIDIA GeForce 8600GT video solution in this notebook is strictly a low-end solution.

There's a lot of confusion when it comes to notebook components, and visits around the various electronics malls around Mumbai left me with one impression—a lot has to be done to educate consumers. Posing as a newbie I was surprised to see some misleading tactics used by even large vendors. For example a notebook with an NVIDIA GeForce motherboard (GeForce 6150 chipset) had a bold sticker saying "NVIDIA graphics". True, but to most users "NVIDIA graphics" or "Graphics by ATI" means an additional graphics card—whereas this notebook had just an integrated graphics chip. This was an issue with notebooks with ATI onboard solutions as well, and users wanting a graphics card should look for a sticker with the name of the graphics solution mentioned on it like GeForce 8400GS or Radeon X2400 Pro. Most of the sales reps cannot help you either—and they'll expound on the hard disk size, and choice of OS bundled when asked about differences between two similar looking notebooks, instead of talking about processors and memory. A notebook is a

solution, not something you build like a PC, and considering that even I got misled at one point, its imaginable how

first time buyers often get duped—whether intentionally or unintentionally on the part of the vendor. When looking at models, it's important to get a hands-on feel, after all you need to use the device regu-



Shrikrishna Patkar

larly. For example a tiny keypad may be a hindrance for those with large hands, or maybe the keypad feedback may not be to your liking. The layout of the keys themselves is also important.

Intel's *Core 2 Duo* processor is the most widespread and 80 per cent of all the notebooks I saw had this family of processor. With falling CPU prices even entry level notebooks have given up the cheaper Celeron and Pentium Dual Core processors for the faster Core 2 Duo. A few of the smaller notebook have also started featuring Intel's Atom processor which is a highly power efficient solution, and powers most tiny notebooks. AMDs Turion X2 (dual core) processors are also available, but in a very limited notebook models. The Core 2 Duo family is very large—the T5xxx series are suitable for regular office and Internet use PCs. The faster T7xxx series are suitable for multimedia PCs, although the newer T8xxx and T9xxx processors are faster and run cooler owing to the smaller 45nm fabrication process opposed to the 65nm fabrication for the 7xxx series. Unless you want to game or do audio/video encoding the T8xxx and T9xxx processors are overkill. The L7xxx are low power consumption processors at par with the T5xxx series for performance, and the U7xxx (ultra low power consumption) are for those who want less processing power but more battery life. For memory, I recommend at least 2 GB for all users—notebook memory is dirt cheap. Gamers should look for around 3 GB. Keep in mind that Windows Vista is memory hog. Also upgrading a notebooks memory isn't as simple as upgrading a PC, so beware. Upgrading a CPU is even more tedious.

In terms of usability, some notebooks offer tablet PC features. This basically means a touchscreen that can pivot and swivel.

Most of the tablet notebooks are really compact i.e. 12.1 inch screen size—a plus, if size is a factor for you. If you're looking for something really compact, there are a whole new bunch of notebooks from ASUS, MSI, HP and Acer which offer Intel Atom processors, one or two gigabytes of RAM, 80 to 160 GB hard drives with exceptionally small screens—eight to ten inches. These are very compact and lightweight as a result. However, if you type a lot, the keyboards on such compact notebooks may be somewhat cramped. For those looking for compact powerhouses with spacious keypads the 12.1 and 13.3 inch categories are worth looking at, although Sony does have an 11.1 inch model which is also very compact.

A 15.4 inch notebook is usually considered de facto for anyone looking at a notebook, although for me these notebooks seem bulky. I'd prefer a 14.1 inch screen, which offers the same components at no added cost, but is lighter and smaller. For those looking at a large screen notebook (desktop replacement) and they don't intend to cart it around, 17-inch laptops are also available, although most of these are quite pricey, simply because they have high-end configurations. Acer does have some non-standard screen sizes—their Aspire 6920 and 8920G (16 inches and 18.4 inches respectively).

You must remember that a notebook is a consumer product, much like a plasma TV, or a home theatre system, and warranties play an important role. All brands offer warranties but you have to consider things like availability of service centres, time taken to respond, the nature of the warranty and its duration, and even the quality of service. The latter point is something that existing consumers of that brand can share with you. All information is helpful in some way or another.

Among the brands available I came across Sony, HP/Compaq, Lenovo, Acer, LG, Toshiba, Fujitsu and Dell. Dell is unique in certain aspects as they allow you to configure the laptop with your choice of components as well as buy preconfigured notebooks. If you know what you're doing, configuring your own notebook is very beneficial, as you can opt for the correct combination of components.

HPs DV series and Sony's Vaio are some of the most attractive looking notebooks around, although I felt HPs DV2000 and DV6000 series, (their multimedia notebook series), are the most attractive with their satin smooth finishes and the great-looking artwork on the lids. The Compaq notebooks are priced lower than the HPs (in general) and the higher models sport the same slick finishes. These make good buys for someone on a budget.

Some Sony Vaio's are really beautiful, some are mediocre looking. Dell's Inspiron series are available on display, but their XPS series, which offer high-end performance parts, aren't. You'll have to contact Dell India if you want an XPS notebook, and you can configure these on Dell's Web site for their pricing. Lenovo's ThinkPad series are very light, very well built, and targeted at businessmen, while their Y series are for home users. Fujitsu offers mostly business notebooks with charcoal grey finishes that may not attract—however, for the corporate fraternity, these are light and rugged. LG has some nice looking notebooks, mostly finished in variations of white. ASUS is a surprise entrant for me, because they're mostly renowned for their motherboards and graphics cards. Nonetheless they have some really attractive, albeit highly-priced models. The table below lists the models I came across with their prices and basic specifications: ☐

agent001@thinkdigit.com

Notebooks At Malls							
Brand	Model No	Screen Size	Geared Towards	CPU	RAM	HDD	Price
Acer	Aspire 1	8.9 inches	Ultra Portability	N270 (Atom)	1 GB	80 GB	22999
Acer	Aspire 6920	16 inches	Entertainment / Home	T7300	3 GB	320 GB	49,999
Acer	Aspire 8920G	18.4 inches	Entertainment	T7500	3 GB	320 GB	79999
ASUS	U6SG	12.1 inches	Portable	T8300	2 GB	250 GB	92999
Dell	Inspiron 1525	15.4 inches	Workhorse / Home	T7250	2 GB	160 GB	40900
Fujitsu	S6510	14.1 inches	Corporate	T7500	2 GB	160 GB	80000
HP	DV 6704 TU	15.4 inches	Entertainment / Home	T5450	2 GB	160 GB	39990
HP	DV 2701TX	14.1 inches	Business	T5450	2 GB	160 GB	45999
Lenovo	X300	15.4 inches	Corporate	U7100	2 GB	60 GB (solid state)	135000
Lenovo	Y510 7758 52Q	15.4 inches	Entertainment	T2330	1 GB	120 GB	37999
Lenovo	Y510 7758 53Q	15.4 inches	Entertainment	T5450	2 GB	160 GB	44999
Sony	Vaio VGN-TZ37GN/R	11.1 inches	Ultra Compact	U7700	2 GB	120 GB	114900
Sony	Vaio VGN-FZ35GN	15.4 inches	Entertainment / Home	T8100	2 GB	200 GB	59990

☐ My budget is under Rs 60,000, and I need a PC primarily for gaming and also 3D rendering, and multimedia usage. I already have a good UPS, LCD monitor and speakers. Please suggest a good PC. I also want a good DVD writer, power supply and cabinet. A CPU cooler is a must for me as I will overclock my CPU. I need at least 500 GB of HDD space.

Yantesh Dhir

Dear Yantesh, a fast dual-core benefits gaming more, and a slower quad core will yield faster results in 3D rendering. I'm giving you two suggestions—one based on a Core 2 Duo, and the other on a Core 2 Quad. Here you go:

PC Config		
Component	My Suggestion(s)	Price (Rs)
Processor	Core 2 Duo E8500 / Core 2 Quad Q6600	9,000 / 9,600
Motherboard	ASUS P5Q Pro (Intel P45 based)	9,000
RAM	Kingston 4 GB (2 x 2 GB DDR2 800 MHz)	4,000
Graphics Card	EVGA / ZOTAC 9800GTX	12,500
HDD	Seagate 7200.11 500 GB SATA	3,900
PSU	Corsair HX620W	6,300
Cabinet	CoolerMaster CM690	3,900
CPU cooler	Thermalright Ultima 90i	2,500
DVD Writer	LG H55n	1,100
Total		Rs 52,200 / 52,800

You'll also need a good 90-mm fan for your CPU cooler. I suggest an NMB or a Panaflo medium-speed fan, which will cost another Rs 600. Buy Artic Silver MX2. It's a superior thermal paste to use when adding the heatsink to your CPU. Just clean both the CPU heat spreader and the contact area of the heatsink and put some of this thermal paste on both surfaces—ensure a thin layer.

☐ I want to buy a DSLR, as photography is my hobby. I would like your advice on a suitable DSLR with a 10-12 MP sensor, 1/4000 shutter speed and lithium battery. My budget is about Rs 15,000 to 20,000.

Pariza

Street prices of DSLR cameras are much lower than what prices are advertised by online stores. A Nikon D40x could well be available for under the Rs 20,000 mark in your locality, since I've seen the street price of this camera as low as Rs 17,000 (without a bill). The D40 would be lower in price, but availability might be an issue. These are the only two DSLRs within that price range. The Canon EOS 400D is priced at around Rs 26,000, and therefore out of your budget.

☐ I want to buy a cellphone. My basic need is music with a good camera. It should also have proper functionality. My budget is Rs 10,000. Could you also suggest a suitable set of earplugs within my budget?

Shubham Mitra

I'd point you towards a Sony Ericsson K810i. It's got a 3.2-megapixel camera, crisp screen, and great music quality. This phone is an older model now, but should be available for as low as Rs 8,000 (street price). For its price, it's a

beauty and excellent value for money. For earplugs, look at the Creative EP630 for Rs 800 or so.

☐ I have purchased an Intel E8400 processor, Cooler Master CM690 case and 500 W PSU, Corsair XMS 2 PC6400 RAM, WD 5000AAKS HDD, ViewSonic G90fB CRT monitor. However, I am unable to decide on the motherboard. I need the PC for basic tasking and such. However, at a later stage, I want to buy an 8800GT graphics card. Should I buy an onboard-solution based motherboard or a non-integrated chipset with an add-on graphics card?

Ram Mohan

Firstly, why do you want to wait for the GeForce 8800GT? It's already within reach at around Rs 10,000. The 9800GTX is available for Rs 12,000. Regarding your query, I recommend you invest in an Intel G33-based chipset solution, which will allow you to use integrated graphics till you get a discrete video solution. Look at Gigabyte, MSI or ASUS for brands. I don't recommend buying a cheap graphics card for now and then ditching it in favour of a faster card a few months later on. It's a waste of money.

☐ I'm going to buy a graphics card on a budget of up to Rs 13,000. Is ATI Radeon 4850 a good choice? It's priced almost the same as the GeForce 8800GT. Which one is better, and which company should I look at? Is there a cooling solution for this card? Should I wait till such a cooling solution arrives?

Vishal Deepak

I recommend neither the GeForce 8800GT nor the Radeon HD4850. The former is a slower card, and the latter, though faster, is a hot solution that can run up to 85 degrees on load, and even more, if it's not ventilated properly, which makes me fear for the life of the card. NVIDIA's GeForce 9800GTX is a solution that is more powerful than the 8800GT and cooler than the HD4850 by around 10-15 degrees. Look for brands like Gigabyte, ZOTAC, EVGA, ASUS and XFX. Expect prices to be around Rs 12,000.

☐ I plan to buy a desktop PC. My choices are either Compaq 3470 1L or Lenovo 5313 1BQ. Are either of these is a good buy?

Jaswinder Kaur

Why not look at an assembled PC? You'll get a better configuration for the same price. Among the options you mentioned, I suggest the Lenovo 5313 1BQ. The E7200 Core 2 Duo processor that this desktop has, is rather new and should get your job done, which by the way you've not mentioned (usage patterns). Please opt for 2 GB of system memory, and go with a single 250-GB HDD. I also recommend a 19-inch LCD. ☐

Ask Away!

Want a tech product, but don't know how to go about buying it? E-mail agent001@thinkdigit.com with your complete contact details, and he might answer them here! Please note that Agent001 only answers purchase-related questions in this space.

HOT SHOTS

Rossi Fernandes

No one would have ever thought that capturing memories forever would ever be this easy, and as cheap as this. Digital cameras have really come a long way, have taken photography from being an expensive hobby for some, to something that's just a whole lot of fun. For that, they are in their own way a marvel. We receive cameras to test off and on, for our *Bazaar* section. Now it's time to get cameras from all across the country for a showdown.

This year we have an excellent selection of cameras that were sent by a large number of manufacturers—some of which we haven't seen for a while. The cameras are of all shapes and sizes, with prices suitable for all kinds of soon-to-be buyers.

A lot has changed over the years. The shift of users from film to digital cameras has taken place smoothly, but a few still opt for film cameras. Today, cameras are moving towards being simple and easy to use devices that need no prior knowledge or experience of using even a film camera. Then there are the cameras that have. There are also cameras that stand out of the crowd by offering features that were considered "expensive".

Under Rs 10,000

Samsung S1060

The Samsung S1060 is an affordable camera under the Rs 10,000 price bracket. The camera's key features are the 10.2 MP sensor and a 5x optical zoom lens. It comes with a 2.7-inch screen and the refresh rate on it is pretty good. The body and the buttons don't feel right somehow. The user interface has no such issues and is attractive and practical.

Like some of the Samsung cameras we received, the S1060 too has a guide feature to help rookie photographers through the features of the camera. All the other mandatory features expected by users are present as well.

In performance, it leads the pack of Under Rs 10,000 cameras

We test 32 of the most popular digital cameras on sale in India, to find which one suits you best

by a fair margin. The quality in general is great, but the best impression one gets is by the zoom lens. A 5x optical zoom on a camera priced this low isn't too common an occurrence. What's even more shocking is the quality of the lens. The camera gets some really impressive zoom shots with the lens. It's so good at times that it puts some of the cameras from the higher category to shame. It must be said that some of the colours turn out a little too saturated for most people's liking, the flash can be too powerful and that isn't necessarily a good thing as it wipes out all detail.

Although camera resolution isn't everything, a 10.2 MP camera at less than Rs 10,000 was unheard of a year ago. If you can ignore the few quality and design glitches of the camera, and just want performance, you can't go wrong with the Samsung S1060.

Samsung L100

The other Samsung in the Under Rs 10,000 category also comes in a rather boring shape and design. The trigger is pretty flat, and pressing it requires a little effort. The L100 is an 8.2 MP camera, as compared to the S series 1060 model. The L100 is a very light camera considering



Samsung S1060





Samsung L100

that it uses Lithium-ion batteries instead of AAs.

The 2.5-inch screen has a lot of delay, and seems to run a very low frame rate. The interface menus are rather confusing as well. The guide mode for new users is available.

Like the S1060, the L100 also is equally impressive in the zoom test shots. Details of the ruler,

the cloth and the watch are all pretty crisp. Macro shots too are average.

Canon PowerShot A470

The only Canon under Rs 10,000 we received was the Power Shot A470. The shape of the A470 is a lot different from its other series of cameras, and this makes it look like a really ancient camera.

Its long and broad shape makes it a difficult camera to



Canon PowerShot A470

carry around, so a pouch or a bag is needed. The AA batteries also make it the heaviest of all the cameras in the category. There are no separate buttons for the zoom function, and it has to be operated by two of the direction buttons that are normally used to navigate the on-screen menus.

Accessing the playback mode requires turning a dial every single time, which is really annoying. The user interface is a little boring, and it hasn't changed a lot from previous versions. Features like face detection have been added, but others like image stabilisation would be a better addition to this camera.

Photos taken of outdoors look great. Although detail isn't the best, the colours are very natural and one can depend on the Auto mode to do its job well. In the studio light shots, the colours look good, but the clarity isn't

How We Tested

Our primary test consisted of a well lit up test scene. The scene would have objects of all kinds on it. They would be items with many colours and shades, finely printed text and all kinds of patterns and textures. All these details and characteristics would later help in giving scores for the cameras. All the shots for all the cameras were captured under the same settings. A room was darkened for the purpose and the cameras were placed on a tripod so that the position of the camera wouldn't vary a lot. The tripod along with the timed shots would mean there would be no shake in the camera while the scene was shot. All the test shots were taken on Auto as that would be the most used setting by majority of the users buying these cameras. A wide angle shot was taken with the studio lights put on and another with the maximum zoom used to test quality of the lens. Lights were turned off also to take a shot with the flash turned on to see how powerful the flash was. A macro shot was also taken with the lit setup to see how close we could get to the

object and still be able to focus perfectly fine.

The test shots from the test scene would be compared side by side at the 100% zoom level. Reference shots would be taken on a Nikon D200 which would be used to compare the photos taken by the cameras in the test.

The cameras were taken out of the test area to be used in everyday situations without the perfect lightning and the perfect scenario. Shots were taken outdoors, macros were used and some of the custom profiles were used. As always, performance wasn't everything. There are many other components that go into a camera other than just the sensor, the processor and the lens. A lot of thought goes into designing the shape, the buttons, the mechanisms, software for the interface. For that reason, we also rated the cameras for the features, build quality, ergonomics and ease of use.

The categorization of the lot

We received cameras of all possible kinds and obviously, they all couldn't

be compared to each other. Some of the cameras we received were as cheap as Rs. 3,000 and went up to as high as Rs 25,000. Cameras had to be sorted by prices as majority of the users are also most likely to buy a camera based primarily on their budget. We split them into three categories - Under Rs 10,000, cameras priced between Rs 10,001 and Rs 16,000 and finally the cameras with no price limits - everything beyond Rs 16,000.

All the tests were done exactly the same manner but the final scores for each of the categories - features, design and performance were given different weightages depending on the group of the cameras. An entry level camera for example wouldn't need to be the best performer, instead added features would be also of more importance to the user. On the costlier cameras, performance is usually found so design and quality of the camera itself would be more important. The mid-ranged cameras priced between Rs 10,000 and Rs 16,000 would have to be a good mix of both features as well as performance.



Nikon COOLPIX L18

as good as expected. The camera is good for taking macro shots. Video performance isn't great either. At 640 x 480, it can only capture videos at 20 fps which isn't very attractive either.

Nikon COOLPIX L18 and Nikon COOLPIX L16

The Nikon COOLPIX L18 and L16 are identical cameras in many aspects. They were also very similar to the L10 and L11 cameras we tested last year. The only prominent features separating the two are the resolutions of the sensor. The L16 is a 7.1 MP sensor where as the L18 is an 8 MP one. The L18 and L16 both offer the minimum 3x optical zoom found on all cameras.

Most of the buttons are flat and have little travel in them. The trigger is a lot better in that aspect. The interface used also seems outdated. There are some other features like panorama assist which allow you to take panorama shots, and use the previous image as a reference point when shooting the next image.

With the rest of the hardware being the same, there is little



Nikon COOLPIX L16

or no performance difference between the two. The colours presented by the two cameras are pretty identical, and there is a bit of a yellowish-creamish colour tone to the test images. Both cameras produce even closer results in the flash shot.

Olympus FE-330

The FE-330 is one of the entry-level cameras from Olympus, but it still comes with a 5x optical zoom and an 8 MP sensor. Although it tries to look stylish with a metallic look, it still looks like an entry level camera overall. You get the same feeling when you operate the dials and buttons on the camera—which don't feel anywhere near top quality.

The user interface is similar to other Olympus cameras, but this one feels a lot slower than the rest. The screen is decent for its price, but the preview images look like they lack quality. It could be because of the slow processor onboard this camera. The focusing on the camera is also noticeably slow. The camera isn't short of any features and Olympus has still implemented the guide feature even on its entry level cameras.

A yellow tint could be observed in the studio lights setup shots, and the colours generally seem washed out. At maximum zoom, the details show up well, but



Olympus FE-330

there is still some smudginess and grain visible. The flash is too strong as well.

Videos can only be recorded at 15 fps at 640 x 480, which doesn't do a lot for users who would like to shoot videos of special occasions every now and then.

Fujifilm FinePix J10

The FinePix J10 from Fujifilm is a good looking camera for its price. The front, in fact, looks like one of the stylish compact cameras that are up later. The bezel around the screen is big. Instead, a larger screen would have added a nice touch to the camera. The software interface on the camera looks dated.

With no zoom, photos exhibit average quality, and with the zoom, details are better distinguished, but the images still have a lot of grain in it. Outdoor photos are much nicer, but colours are a little saturated.



Fujifilm FinePix J10

The Rest Of The Entry Level Candidates

Kodak also had their entry level candidate the Easyshare C713 sent across to us. It wasn't impressive in any of the tests. The design was also rather boring, and it felt like a cheap camera. For someone wanting a really cheap camera, the C713 could be something to keep in mind. The biggest issue was the yellow colour tone seen in most of the images. The zoomed shots had a lot of grain in them too.

A sole camera from Mustek was the MDC 530 which too



Kodak Easyshare C713

was tested last year. The MDC 530 was a 5 MP camera with the same features.

Although it lagged behind in quality in a majority of the tests, the zoomed photo test showed good quality. The reds in the shots weren't reproduced



Mustek MDC530

well—in the test shots, red items looked more orange than red. There were some issues with the MDC 530. It only had an ISO range between 50 and 200, whereas most cameras had a higher range—64 to 3200 in some. A low range ISO range means a camera won't have

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TECH-COM DSC-520

enough intermediate steps to switch to get the right balance between exposure and grain in a photo.

TECH-COM sent us a few of their cameras from last year's test—the DSC-524X PLUS, the DSC-520 and the DSC-601.

The DSC-601 lacked an optical zoom altogether and the macro shots and zoom shots were appalling when used with the only zoom available – digital.

The other TECH-COM's were a lot better. Although they were around 5 MP each, they performed alright.

In the DSC-524X PLUS, there was massive purple fringing visible on the bright shots. Both the cameras were easy to take macro shots with, but the details were smudgy.

The design and body wasn't as sporty and interesting as the other contenders in the group. The same was the case with the DSC-520.

The photos taken on it had jagged edges and the photos seem to be sharpened by the camera. Zoomed outdoor photos show details being blended together to create patching patterns—which is certainly not acceptable.



TECH-COM DSC-524X PLUS



TECH-COM DSC-601

Rs 10,001 to Rs 16,000

Canon PowerShot SX100 IS

Canon's PowerShot SX100 IS looked like a compact camera on steroids because of its form. It looks like any other camera, but larger. The SX100, as we've seen on previous occasions, has a mighty 10X zoom, and tries to go head-to-head with ultra zoom cameras.

The button layout is different, as is the design. They are larger, well labelled and all these details make using the interface very easy. A scrolling dial is used to browse through the controls instead of directional buttons. There is also a playback button—previewing images is easier than on a camera where you have to use a dial or a knob.

Although the unique design is great, the quality isn't as top notch as the IXUS series, for example. The scroll wheel mentioned earlier, as well as the buttons seemed a little wobbly and loose. Despite its size, it lacks an eyepiece and the flash won't pop open by itself. Manual focusing is a great feature to have in a camera like this, and the dial used to control it is accurate.

The detail and clarity in wide-angle shots and in the lit scene test shots is a tiny bit better than the other good Canon in this category—the A720 IS. The powerful lens on the SX100 shows better detail in telephoto shots. The SX100 is also better at taking macro shots. Focussing is instantaneous and you can get unbelievably close to the objects. Video quality is decent too but the colours are a bit too saturated.

A larger screen in place of the 2.5-



Canon PowerShot SX100 IS

inch one provided would be better suited to something this large. It is clearly the best of the lot, but there are a few things to keep in mind with the SX100. Its massive zoom means that there are larger mechanisms involved, and because of this the size of the camera has gone up. It isn't very comfortable to hold in your hand and cannot be shoved into a pocket. At 265 grams, it's not exactly light either.

Canon PowerShot A720 IS

The Canon PowerShot A720 IS is geared towards users who want an easy to use camera, which can on occasions be used for more advanced photography. The A720 IS is an upgrade from the previous A710, which we know was a great camera.

There have been a few upgrades since then, but the 6x zoom isn't one of them. It now sports an 8 MP sensor, and there are a few changes in the ISO ratings supported by the camera at the higher end. This should mean improved flexibility in low light scenarios.



Canon PowerShot A720 IS

Unlike the SX100, the A720 IS is a little more manageable when it comes to its bulk. The body is better built and holding it is a lot easier. The body is shaped and design to look a lot more casual and users are bound to love

the A720 design over the SX100. The use of a slider to switch to playback mode is annoying. The A720 has the manual focus feature found on the SX100 and some other Canon cameras.

In terms of quality, it is equally behind the SX100 as it is ahead of the A590 IS. Last year the A570 IS was one of the leading performers in the test. The A590 IS which is supposedly an upgrade to the A570 IS is not as impressive as expected. The A720 is pretty close to the SX100 in quality all throughout, but lags a bit behind in the zoomed test. Images turn out a little too soft losing some detail, whereas the SX100 stays sharp all throughout its 10x zoom.

For a lot less, Rs 12,995 to be precise, users can still get a very good 6x optical zoom while not having to sacrifice on a compact design and build quality. The A720 isn't lacking anything much other than the zoom on the SX100 though.

Canon Digital IXUS 80 IS

The Canon Digital IXUS 80 IS is a camera very similar to the slightly superior IXUS 85 IS. It brings along a decently built design for people on the move. There aren't too many settings and controls to play around with on this camera.



Canon Digital IXUS 80 IS

It is made for users who want a camera that's really compact to carry around—like a mobile phone of sorts.

One of the first issues is the battery door: as is the case with the IXUS 85 IS, the battery door here too feels weak and flimsy. Most of the interface design as well as the frame design is identical. The big change is in the Megapixel rating—the 80 IS is an 8 MP camera.

All the other Canon cameras in this price bracket run on AA batteries, but the IXUS 80 IS has a Lithium-ion battery. This, coupled with its compact design makes it a lot lighter than the rest. However, the shrunken size means it's no longer chunky enough to hold in your hand as easily as the PowerShot series cameras.

Its overall performance isn't bad at all. In just plain image and video quality tests, it lags behinds all the Canon cameras, but not the others. Macro shots aren't as easy to take as with the SX100 IS

or the A720 IS. In video quality, once again, colours are a little too prominent, but the exposure meter helps change the intensity of light instantly, and there's not a lot of lag in lighting correction while moving from bright areas to dimmer ones. Overall, it's a very good camera if you aren't particular about pristine quality and manual controls.

Samsung i8

The Samsung i8 is a little larger than the compact cameras from the other camera makers.



Samsung i8

The detail in the design of the user interface and the body itself make it stand apart from the rest. We received a jet black one with a smooth glossy finish. This fancy looking camera is one of the lightest cameras in the category. The i8 has a lens houses in its already compact shell, but still manages to contain a 3x optical zoom in it.

The outer body is plastic and it traps a lot of heat inside, which can get a little irritating especially when used for long durations. The menu on the i8 is a lot better than some of the cheaper Samsung cameras we've seen. The icons and artwork used in the menus aren't of the best quality. The camera tries to be as friendly as possible by giving you a few lessons, and helping via the camera's interface. In some ways, it tries to be more than just a digital camera, and it is!

The i8 has a pretty decent PMP feature built into it, which allows users to read text files on it, view videos and play music on its 2.7-inch screen. Earplugs are provided with the camera for that purpose. There is even a tour guide feature which gives you a list of cultural sites from all around the world. A nice little fitting velvet-like pouch is supplied along.

Features and freebies aside, we now focus on the performance of the camera. It is better than most cameras, but lags behind the cameras leading the mid-ranged segment. There is some unnatural colouration in the photos, and macro photos aren't so easy to capture. Detail is maintained through the

zoom levels. Video quality isn't all that impressive. For just the design, quality of the body and ease of using the camera, the i8 does well.

PowerShot A590 IS

The A590 IS is somewhat similar in design to the A720 IS. The A590 IS is an 8 MP camera that comes with a 4x optical zoom and is also one of the cheapest cameras in the category at Rs 10,995.

Build quality seems to have taken a hit too. The battery door seems a little wobbly and loose. The rest of the body looks and feels great. The mode selection is done using a really rigid dial. The user interface hasn't seen a lot of change either.

The quality in general is decent and a little sharp. There is some grain all through the photos. There is no kind of colouration in the images though. The video frame rate at 640 x 480 has been dropped to 20 fps which means you won't get the smoothest possible video. For 30 fps you need to drop your video resolution to 320 x 240. If you wish to use the camera for video shooting purposes as well, then this is something to keep in mind before buying this camera.

Some of the old features are still there like the manual focus. It works great, is fun to use and is one of the cheapest cameras to feature this. There is also an Easy mode that lets you forget all about the settings you can use



PowerShot A590 IS

with the camera. Like many other manufacturers, features like face detection have been added to the list of features.

Overall, it scores very close to the Samsung i8. It is kind of disappointing to see a camera such as the A590 IS which should have been as good as its predecessor the A570 IS. Fortunately for you, the prices for the A590 IS are much lower too. If optical zoom holds no interest, then the A590 IS is a great photo taking camera to own.

Olympus Stylus 1010

The first impression that you get from looking at the Olympus Stylus 1010 is that it should be impressive. The hardware specifications also seem impressive. A 10.1 MP sensor and a 7x optical zoom lens make up the 1010.

The camera is solidly built. The shape tapers from one side to the other. Right hand users will find the broad end makes this otherwise slim camera pretty comfortable to hold. The buttons also feel great. In terms of build quality, it is the best in its category.

Olympus has put in some of the most impressive features that would be very attractive to a new camera user. It has a guide feature which gives you a list of things that you would like to do with the camera. Selecting it engages all the right modes and settings for you. There are even features that give the user a real-time preview of all the settings. This means you already get an idea of the kind of end result you are about to get—even before you click the photo.

The interface is impressive too. All the menus are depicted and explained well. The operation of the menu is more like a phone in which you choose from menus going left and right. The screen is large and vibrant as well. The playback mode presents the photos in a very attracting sliding manner.



Olympus Stylus 1010

All the features are great, but the same can't be said about the quality of the photos it takes. It is an average performance by this sturdy camera through all the tests. In the test scene photos, there's a little bit of colouration, and details seem a little blurred out. The flash was pretty overpowering as well.

It's just one of more unique cameras that we've seen this year and if (and *only if*) it were equally good in performance, this could be one of the best cameras to own this year.

Samsung L210

Samsung's L210 is a 10.2 camera with a rather uninspired design. It has a simple box design with buttons with little detail, feel and look to them. The camera gives the impression that it is a cheap entry level camera. Zooming is done using an up-down trigger on this Samsung instead of the left-right one used by most camera makers.

The screen looks OK but the refresh rates are poor. The user



Samsung L210

interface is simple with menus well spaced out and simple to use. The camera can also be charged through the USB cable.

There is a guide mode to help users to take advanced photos easily with the help provided.

The camera can capture videos at resolutions of 800 x 592 but at 20 fps. At 640 x 480, it takes 30 fps videos. Videos are recorded as AVI's using the XviD codec which makes the eventual file size smaller. The quality of the video and audio are both pretty good. Colours in the outdoors shots are also pretty sober. The quality of zoom shots in the studio light setup is good too. Details are all present. Flash photos turn out too saturated and there are some odd colours in the lit-scene shot.

Kodak Easyshare M1033

The M1033 is a 10.1 MP Kodak camera priced at around Rs 12,000. The camera has an auto feature that changes modes for the user. So if you get too close to an object, it switches to macro mode accordingly. This can be really useful for new users and for those who do not wish to keep changing settings modes manually. All the menus and options are kept as simple as possible. The interface is also

designed with that in mind and the minimal amount of buttons are put on the camera.

The camera itself is compact and solid. The joystick planted on the camera is robust and a little hard to use. The camera supports 720p video recording

at 30 fps, which is excellent for a camera. There seems to be no image stabilisation during the video recording mode which is a little bit annoying. The video is still very crisp.



Kodak Easyshare M1033

Kodak continues to add many scene modes to choose from. The M1033 is no different. It too comes with countless number of scenario modes. Overall, it seems like a better camera than the M1063. It is just Rs 1,000 more than the M1063, but it does a lot more...and it does it better.

The Nikon Group

The four Nikon's from the Rs 10,000 to Rs 16,000 to be reviewed in this test were the COOLPIX S520, S52, S210 and S550. Each of the cameras other than the S52 was very similar to each other.

The COOLPIX S520 has a slightly noisy motor while it focuses. In many aspects, the S520 is very similar to the S550. It has a feature where favourite photos can be selected for later use. The user interface is slow as well. Once photos are shot, the saving process takes a while too. The camera got average scores throughout the test but it still leads the rest of the Nikon cameras.

The difference in quality wasn't a lot different in all of the Nikon cameras. The S52 was next in line in performance behind the S520. The S52 has a sturdier body and is more stylish and also built well. It is one of the best built cameras of the



Nikon S520



Nikon S52



Nikon S210



Nikon S550

class. The S52 also has a very impressive screen.

The COOLPIX S210 is a compact camera with the proportions as cell phone. It too is a little noisy like the S520. This is another solidly build camera much like the S52. In the zoomed

shots, quality is fine. Colours too are fine except a few colours which seem paler than expected. There is little grain, but the exposure isn't accurate either.

The Nikon COOLPIX S550 – the last of the Nikon's in the group has the largest optical zoom of 5x. There was a lot of noise in all of the test images. The S550 has a feature that keeps track of faces and has a database. That's something not seen very often in cameras. The quality of the screen in general is average and the camera itself looks like a mix of the L series and S series from Nikon.

Fujifilm FinePix S5700

The Fujifilm FinePix S5700 is something like an ultra zoom camera, but it comes with 10x optical zoom. The camera has a deep handgrip for one-handed operation. It is far lighter than the ultra zoom or pseudo-SLR we got in this test—the Olympus SP-570 UZ. The optical lens has a protective barrel around it, so the lens never protrudes out of the camera. The dials on the camera are made of plastic. Although the body itself feels light-weight, it uses 4 batteries which make it heavier.

The screen is rather dull to look at. Like in some SLR's, some of the functions have to be accessed by button combinations. This is something a new user won't necessarily discover easily.

Images from all the tests turn out grainy. Video recording works nice even though it records at 640 x 480. Zooming works well while recording videos. The flash is extremely harsh.

The S5700 is approaching the end of its life, and is currently one of the cheapest cameras with a 10x optical zoom to buy at a price of Rs 12,999. A replacement is already on sale in some countries—the S5800.



Fujifilm FinePix S5700

Fujifilm FinePix Z100fd

The FinePix Z100fd from Fujifilm is a compact little camera with some serious style. The camera, for example, turns on by sliding the protection panel in front of the lens. It has a brushed metal finish to it and the illuminated logo in the front adds to its elegance. It is compact and built well without compromising on style. The 5x optical zoom is impressive for a camera this compact and that makes it more than just another device to show-off.

The clarity of the shots taken outdoors is average and lags behind the other cameras in its category. There is a little grain in the photos, but the colours seem a little too prominent and emphasised. There isn't a whole lot of detail in the shots too. The zoom shots are pretty decent. Although the quality isn't a lot better, there isn't the same amount of distortion and smudginess seen in zoom shots in most other cameras. The ruler in our scene was pretty crisp and the text was well defined in the zoom shot.

There are nice little features in it as well. One of the more useful ones is where you can have the camera click two photos—with and without flash. That way you won't ruin a photo if you have a low light scene. The image stabilisation feature works well. Buttons are small, but are designed well, and have a chrome-like feel and look to them.

The camera allows wireless image transfers, and there is an infrared port on the side for that purpose. Images can be sent to printers and even other cameras



Fujifilm FinePix Z100fd

through infrared. The trimming can be done straight from the camera itself without having to transfer images to a PC and then edit it there.

Kodak Easyshare M1063

The Kodak Easyshare M1063 sports a compact design. The camera comes with a 3x optical zoom and a 10.3 MP MegaPixel. The quality of the design and feel isn't up to the mark and this camera fails to impress. The user



Kodak Easyshare M1063

interface looks good and is simple to use. Videos can be recorded at a maximum of 15 fps which makes it not very practical. Overall, it's an OK camera with a low price.

Wallets Unleashed! Cameras Over Rs 16,001

Samsung NV24HD

The Samsung is another unique camera that we got. Much can't be said about its performance, but what it does have

is features. The biggest impressive features are the touch sensitive buttons lining the sides of the screen. They make operating the menus and all the settings extremely simple.

The NV24HD not only supports HDMI but also HD video recording. It records videos at resolutions of 1280 x 720 at 30fps. Videos are recorded using H.264 so a good amount of video can be stored as compared to some of the uncompressed video formats used in other cameras. We shot a 1280 x 720 resolution video tat was 25 seconds long, and it took up only 20 MB of space. The HDMI support means images can be viewed on large screens without a lot of quality loss.

As usual, there is one dial for selecting the modes and there's another one that changes the coloration for the images. We fired test shots with all settings turned to Auto. It was clear that the quality was above average. In a category where all the cameras

were so closely matched, the performance and a little bit of design was to blame for its lowered overall score. We awarded it one of the best scores for the video quality. With its great compression, it also makes a good video recorder, and not just a digital camera.

For a camera with so many features, the design could be a lot better. The flash for example is just a simple cube that pops out from the top of the camera. The build however is solid and great. Sharp edges could leave scratches to its finish though.



Samsung NV24HD

A camera such as this is ideal for someone who wants to shoot, but doesn't know how to get all the settings. The touch buttons definitely help in making things accessible.

Olympus Stylus 1030 SW

The Olympus Stylus 1030 SW has to be the toughest camera of the lot. Olympus claims the camera is all of the following—shockproof, crushproof, waterproof and even freeze-proof! It doesn't look like they're bluffing. The camera sports huge screws along its solid metal body while still maintaining its look and aesthetics. It does look a bit different from other cameras and also weighs a lot for its fairly compact size.

As compared to the other Olympus cameras, it is just next to the SP-570 UZ ultra zoom camera but is also cheaper by Rs 2,000. The performance as compared to the rest in its category is a little lacking, but not by a lot. There was a tad bit of colouration in the test shots.

The camera isn't all about its sturdiness. It also comes with the features found on the latest Olympus cameras. With shooting underwater in mind, there's a small LED light that can be activated while using the macro function. Typically, a camera's flash is too harsh and using it in such close proximity to an object ends up in terrible images. Another unheard of feature is the manometer on the camera to measure height and depth of the camera.



Olympus Stylus 1030 SW

Olympus has some nice presentation while showing the slideshows and image previews. Even the Stylus 1030 SW comes with it. The user interface also is very similar to the MU 1010 model. The camera, like a mobile phone, can be left on and used as a clock. The panorama feature that allows you to shoot and stitch multiple images together also works rather well.

Although the whole camera is built like a brick, there are small design issues—the USB port door is a little dicey while opening, and clicks open suddenly. There is no better way to sum up this camera but to say that this would be the ideal camera if you are the type of person who drops expensive gadgets from time to time into water or have them run over.

Canon Digital IXUS 85 IS

The Canon Digital IXUS 85 IS is the cheapest of all the cameras in the above Rs 16,000 category. A part of the IXUS family of Canon cameras, the 85 IS is compact like its other sibling the IXUS 80 IS. A light, but well-built camera, it has a rather plain design. It is compact and something that will



Canon Digital IXUS 85 IS

easily fit into a shirt pocket. It is also the lightest of the cameras in its category. The door bay for the battery and memory card are a little flimsy and held together by a simple and somewhat weak mechanism.

Selecting modes is done by using a slider on the back. In terms of performance, it matches the Canon IXUS 960 IS, but manages to beat the Olympus Stylus 1030 SW and the Samsung NV24HD by a decent margin. Although there is grain in the photos, detail is maintained all throughout. The zoom quality also is good, but the camera doesn't quite judge the exposure accurately, which results in slightly underexposed photos. This is something seen in most other Canon's. The flash shot is quite impressive. It is powerful but not overpowering. This means the photos are well lit up, but without losing a lot of detail. Colour also isn't affected a lot.

For those who want as many megapixels as they can, you will be happy to know that the IXUS 85 IS is a 10 MP camera. The buttons on the rear are large and flat, so using

them is no problem despite the camera's small form. The user interface menus are also similar to most of the other Canon cameras.

A little more zoom would have been nicer but as it is, it is already a very good camera in all aspects. A user who wants manual focus in a camera will be disappointed, and should look for one of the cameras in the Rs 10,001 to Rs 16,000 category. With a price of just Rs 16,995 it still manages to impress in all departments.

Canon Digital IXUS 960 IS

If you thought the Rs 16,000 and above category was reserved for ultra-compact cameras, then you've guessed wrong. The Canon IXUS 960 IS is a slightly bulkier yet pocketable camera. The camera has been moulded better than the 85 IS with a smooth finished metal body. This camera unlike the 85 IS is a 12.1 MP one.

Like the IXUS 85 IS, the IXUS 960 too showed up darker mages while zooming into the scene. The larger megapixel shoot also meant more grain. Image clarity also suffered a bit in all other test shots as compared to the IXUS 85 IS.

The 960 IS has touch sensitive keys on the rear for easy control. The screen is a little tiny with a thick bezel around it. The battery door is sturdier than the IXUS 85 IS. The body, because of the material, also heats up a bit over time. Like the slider on the IXUS 85 IS, the modes on the IXUS 960 IS are changed using a small dial, and playback of the images can be done using a button instead of using the dial to switch to the playback mode.

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This 12.1 MP camera with its quality comes at a price. It is also the costliest camera of the test at Rs 24,995. Like the IXUS 85 IS, this too lacks a few manual controls. Even though the overall scores in performance are pretty much the same as the IXUS 85 IS, and the features scores no different, the IXUS 960 IS is dearer by Rs 8,000.

The Only Ultrazoom Olympus SP-570 UZ

While most buyers look for compact and fashionable cameras, there are the other few who want as much performance and features as they can get from a camera. These are the people who would look for a good D-SLR. The few irritating things that tag along with D-SLR's, and the higher costs stop people from opting for one.

This is where cameras like the 10 MP Olympus SP-570 UZ come in to bridge the gap between compact point and shoot cameras, and D-SLR's. We've seen many such cam-

eras in the past. The Olympus SP-570 UZ is one of the newer ones to hit the market. This is an ultra zoom camera that comes with an inbuilt 20X optical zoom. Olympus has tried to make this look and function as much as a D-SLR as possible. The body is the heaviest of all the cameras that we received, and is also one of the sturdiest. It is a little smaller than most D-SLR's though, and uses 4 AA batteries to operate. Its bulk also makes it a little uncomfortable to hold.

Zooming is done using a ring, but it only acts as a controller for the motor moving the lens. The zooming is not as smooth as a D-SLR, and it can get a little annoying because of the delay and inaccuracy. Zooming into photos has to be done with one of the clicking-rotating dials. The eyepiece is a poor quality LCD screen. Everything else seems



Canon Digital IXUS 960 IS

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BRAND MODEL NO	Canon Digital IXUS 80 IS	Canon PowerShot A590 IS	Canon PowerShot A720 IS	Canon PowerShot SX100 IS	Fujifilm FinePix S5700	Fujifilm FinePix Z100fd	Kodak Easyshare M1033	Kodak Easyshare M1063	Nikon COOLPIX S210	Nikon COOLPIX S52	Nikon COOLPIX S520	Nikon COOLPIX S550	Olympus Stylus 1010	Samsung i8	Samsung L210
Price (Rs)	13,995	10,995	12,995	15,995	12,999	12,499	11,999	10,999	11,950	14,950	14,450	15,950	13,995	13,990	11,990
Plus (+)	Decent perfor- mance and com- pact design	Great value for money	Good value for money	Powerful zoom	Good optical zoom	Attractive design	720p video capturing	Fairly large screen	Compact design	Large screen	Smooth framer- ate on recording video	Fairly powerful zoom lens	Great build quality	Built-in PMP function	Good quality optical zoom
Minus (-)	Average macro performance	Poor video recording frame-rate	Slightly heavy	Bulky and aver- age build quality	Heavy	Below average performance	Average macro performance	Poor performance	Shabby macro performance	Slightly slow interface	Slow focussing	Average screen	Below average video quality	Heating issues	Poor design
Grand Total (Out of 100)	52.31	51.82	56.67	59.22	47.31	45.15	49.32	44.64	48.11	48.45	48.96	47.06	50.76	51.93	49.83
Features (Out of 30)	18.56	17.42	18.32	18.17	16.91	18.20	19.32	17.79	18.36	18.60	17.46	18.21	19.31	19.53	19.73
Design (Out of 10)	5.25	5.45	5.65	5.35	5.50	5.05	5.10	4.80	5.90	5.70	5.10	5.45	7.15	5.25	4.15
Performance (Out of 60)	28.50	28.95	32.70	35.70	24.90	21.90	24.90	22.05	23.85	24.15	26.40	23.40	24.30	27.15	25.95
Features															
CCD Sensor (Megapixels)	8	8	8	8	7.1	8	10.1	10.3	8	9	8	10	10.1	8.2	10.2
Maximum Image Resolution	3264 x 2448	3264 x 2448	3264 x 2448	3264 x 2448	3072 x 2304	3264 x 2448	3672 x 2748	3664 x 2748	3264 x 2448	3456 x 2592	3264 x 2448	3648 x 2736	3648 x 2736	3264 x 2448	3648 x 2736
Sensor Size	1/2.5"	1/2.5"	1/2.5"	1/2.5"	1/2.5"	1/2.5"	1/2.3"	1/2.33"	1/2.5"	1/2.5"	1/2.5"	1/2.3"	1/2.33"	1/2.5"	1/2.33"
Optical Zoom	3x	4x	6x	10x	10x	5x	3x	3x	3x	3x	3x	5x	7x	3x	3x
Digital Zoom	4x	4x	4x	4x	4.8x	5.1x	5x	5x	4x	4x	4x	4x	5x	5x	5x
Autofocus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manual Focus	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Macro Focus Range (cm)	3	5	1	1	1	9	7	10	10	4	15	10	2	1	5
LCD Viewfinder Size (Inches)	2.5	2.5	2.5	2.5	2.5	2.7	3	2.7	2.5	3	2.5	2.5	2.7	2.7	2.5
LCD Viewfinder Resolution (pixels)	230000	115000	115000	172000	230000	230000	230000	230000	230000	230000	153000	230000	230000	230000	230000
Dimensions (w x h x d) cms	8.68 x 5.48 x 2.2	9.43 x 6.47 x 4.08	9.73 x 6.70 x 4.19	10.87 x 7.14 x 4.67	10.61 x 7.57 x 8.07	9.2 x 5.57 x 1.98	9.37 x 5.78 x 2.07	9.1 x 5.7 x 2.1	9.0 x 5.55 x 1.8	9.75 x 5.9 x 2.1	9.4 x 5.3 x 2.25	9.0 x 5.35 x 2.2	9.9 x 5.63 x 2.52	9.07 x 5.8 x 1.99	8.77 x 5.63 x 2.0
Weight (gm)	125	175	200	265	306	138	126	125	100	125	115	120	135	116	114
ISO Setting	80 - 1600	80 - 1600	80 - 1600	80 - 1600	64 - 1600	64 - 1600	64 - 3200	64 - 1000	64 - 2000	100 - 3200	64 - 2000	64 - 2000	80 - 1600	80 - 3200	80 - 1600
White Balance Settings (Y/N)/ No of settings/ Custom white balance	✓, 5	✓, 5	✓, 6	✓, 5	✓, 6	✓, 6	✓, 4	✓, 4	✓, 5	✓, 5	✓, 5	✓, 5	✓, 6	✓, 5	✓, 5
Shutter Speed Range (Min - Manual, Max - Auto)	15 - 1/1500	15 - 1/2000	15 - 1/2000	15 - 1/2500	4 to 1/1000	4 to 1/1000	8 - 1/1448	4 - 1/1400	NA	NA	NA	NA	4 to 1/2000	16 - 1/2000	8 - 1/1500
Metering Modes	3	3	3	3	3	1	3	4	3	2	3	3	2	3	3
Self-Timer (If Yes time in sec)	✓, 2,10	✓, 2, 10	✓, 2, 10	✓, 2, 10	✓, 2, 10	✓, 2, 10	✓,2,10	✓, 2, 10	✓, 2,10	✓, 2,10	✓, 2,10	✓, 2,10	✓	✓, 2,10	✓, 2,10
Integrated Flash/ Ext Flash support (Y/N)	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗	✓/✗
Memory Types Supported	SD/SDHC/MMC/ MMCPlus/HC MMCPlus	SD/SDHC/MMC/ MMCPlus/HC MMCPlus	SD/SDHC/MMC/ MMCPlus/HC MMCPlus	SD/SDHC/MMC/ MMCPlus/HC MMCPlus	XD/SD	XD/SD/SDHC	SD/SDHC	SD/SDHC	SD	SD	SD	SD	XD	SD/SDHC/MMC Plus	SD/MMC plus/SDHC
In-built Memory (MB)	32 (card)	32 (card)	16 (card)	32 (card)	27	54	32	16	52	38	23	50	14.7	190	10
Audio/Video-out	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PC Interface	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB
Best Video Capture Resolution	640x480, 30	640x480, 20	640x480, 30fps	640x480, 30	640x480, 30	640x480, 30	1280x720, 30	640x480, 15	640x480, 30	640x480, 30	640x480, 30	640x480, 30	640x480, 30	800x592, 20	800x592, 20
Battery Form Factor (If applicable)	Li-ion	AA x2	AA x2	AA x2	AA x4	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion
Battery Charger Included	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Face Detection	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓
Image Stabilization	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Design (Out of 10)															
Comfortable To Hold	5.5	6.5	6.5	6	5.5	4.5	4.5	5	6	5	5	6	6.5	5.5	4.5
Menu Navigation Ease	5.5	5.5	5.5	5.5	5	4	5.5	4.5	6	6	5	6	7	5	4
Button Ergonomicity	5	5.5	5.5	5.5	5.5	5	5	4.5	5.5	5	5	5	7	5	4
Build Quality Of body	5.5	5	5.5	5	5.5	5.5	5.5	5	6.5	6.5	5.5	5.5	8	5.5	4
Build Quality Of movable parts (Memory & battery mechanism, Lens/USB Door)	4.5	4.5	5	4.5	6	6	5	5	5	6.5	4.5	5	6.5	5	4.5
Performance (Out of 10)															
Test Scene (Lights)	5.3	5.5	5.9	6.0	4.1	4.0	4.0	4.1	3.9	4.4	4.1	3.9	4.4	4.5	4.5
Test Scene (Zoomed)	4	4	4	5.5	3	3.5	3.5	3.5	4	3.5	6	4	4.5	4	4.5
Flash Shot Quality	4	4.5	5	5.5	3	3	3	3	4	4.5	5.5	3.5	3.5	5	3.5
Macro Performance	3.5	5	5.5	6.5	5	3	3	3	3.5	3	3.5	3.5	4	4.5	3
Video Quality	5.5	4	5.5	6	5	4	6.5	4	4.5	4	4	4.5	3.5	4.5	5.5



...ever wondered why a flute is made of wood and not plastic?

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Your Questions, Our Answers

All your computing niggles and nags are dealt with here!

Windows Rebooting With A Second Long Blue Screen

Q I have an Intel motherboard (D101GGC) with an Intel Pentium 4 processor running at 3.06 GHz, 1 GB DDR400 RAM, an XFX GeForce 8500 GT, a 40-GB Seagate IDE hard drive and a 160-GB SATA Western Digital hard drive. I use Windows XP SP3, a Frontech 450 W SMPS and a Sony DVD writer. I have installed Windows in C: drive (25 GB) on the newer hard drive. I use an older drive as a complete isolated partition for saving my music collection. Problem is when I start my computer after Windows' welcome screen, a blue screen flashes for a second with an error and then the computer restarts. The second time, it correctly starts and every thing is normal. I reinstalled XP, completely formatted my HDD, and also ran "sfc /scannow".

But the problem continues. Please help me. I have Avast Home edition, Unhack me along with Windows Defender.

Anunay Sinha

A The problem of rebooting with a quick blue screen is most likely a faulty Windows installation. Some Windows files may be corrupted. If reinstalling doesn't help, back up your data to your other drives or partitions, format and then install Windows again. The blue screen would also occur if you installed any other new hardware such as a graphic card, and if there are conflicting issues with the drivers. It could also be a faulty power supply.

Hard Disk Corruption Problems

Q I am facing problem with my hard drive. My system configuration is a 2.66-GHz Pentium 4, 1.25 GB RAM, an Intel D101GGC motherboard with ATI Radeon Xpress graphics solution having 128 MB of VRAM, 80-GB Seagate Barracuda 7200 RPM and a

Samsung DVD Writer. I have been running Windows Vista. My system has been off for around 30 days and I had kept it on sleep mode. After that, it ran well for a day. The other day, when I started Windows, it showed a problem with the Windows Sidebar. A message popped up saying Windows Sidebar is restarting. Immediately, the system restarted. Next, a black screen was visible with a message saying Unable to load winload.exe. A recent hardware or software might have caused the problem, insert Windows installation disk and repair.

I tried the same, but while repairing, it was taking extremely long—around 1hr 45 min. At that time, it was searching for Windows on the system drive. I forced a restart and since then, it has been showing errors of boot failure insert disk. I tried to format the HDD with XP, but it showed an error saying unable to format, the volume might be corrupted. It had four partitions and shows C, D, E drives as empty with only F drive in use. Has my HDD crashed? Give me a solution. How much does a new drive cost, preferably an 80 GB or a 160 GB one?

Shahnawaz Haque

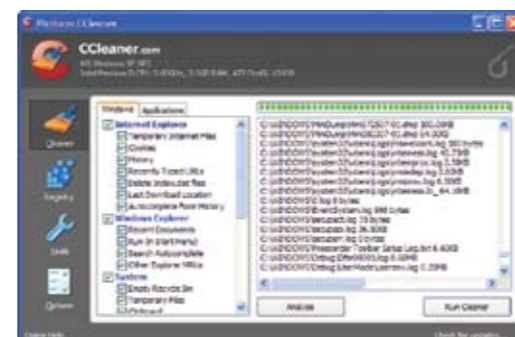
A It could be a hard drive crash. You should try connecting your hard drive to another system and see if you can recover the data. If nothing works, eventually try and use a partition manager and try removing all the partitions from the drive and create new ones. The norm currently is a 250-GB or a 320-GB hard drive. Their prices start at Rs 2,500.

Slowdown After Uninstalling Software

Q I have a system with an Intel Core 2 Duo processor, 512 MB RAM, 160-GB hard drive with Windows XP running on it. A couple of months, I installed Vista Transformation Pack 6.0 on my PC. After a month or so, I uninstalled it through Add/Remove programs in the Control Panel. Since then, my computer's performance has decreased drastically. I doubt that the pack hasn't been removed completely. How can I remove without formatting my PC? Please help!

Mayank Nandwani

A The slowdown could be from some software or drivers as well. If you think it's



CCleaner and Revo Uninstaller are standalone registry cleaners and software uninstallers.

Get Help Now!

E-mail us your computing problems along with your contact details and complete system configuration to sos@thinkdigit.com, and we might answer them here! Since we get many more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

Power Supply Causing Crashes

Q I have a BFG Tech 9600 GT OC graphics card. The problem is that the power requirement is a minimum of 550 W. I have a 440-W power supply that results in random crashes. I would like to buy a better power supply. Should I settle for a 650-watt supply? Please recommend a brand and the price.

My PC configuration is:

Intel Core 2 Duo E6600
1 GB RAM
250-GB HDD
Gigabyte D946DZis Motherboard.

Also, I would like to know of a TFT monitor with great viewing angle, below Rs 10,000 and a good joystick option, both wireless and wired.

Sarvesh Lad

A If the power supply isn't of a good make, then the 440W PSU might actually underperform which could be causing all your instability problems. A Corsair VX450 costs around Rs 3,600 and should be easily able to run your



A good 450W system is both a reliable and fairly inexpensive purchase

system configuration. If you plan on upgrading or adding more components, then there is also a HX520 and a HX620 available, but these are priced considerably higher. Usually, 19-inch widescreen monitors are all TN-based and they aren't best known for viewing angles.

If you want a controller for racing games, a gamepad such as the Xbox 360 wired controller makes good sense. You can find it in the market at between Rs 1,400 to Rs 1,800.

the Vista transformation pack, try a stand-alone application uninstaller such as Revo Uninstaller (www.revouninstaller.com) or the one in CCleaner (www.ccleaner.com)

Vista Crashing Periodically

Q I have an HP laptop running Windows Vista Home Premium. It runs on an Intel Core 2 Duo T5450 CPU, with 1 GB RAM and a 160-GB HDD.

Whenever I close a window, I receive a message "Explorer has stopped working". After a minute, the explorer restarts and the desktop, sidebar and the Taskbar reloads. Please help me as computing has become very difficult for me with this problem.

Jainesh Patel

A It could be a problem with Windows itself. A Vista repair should be done to try and fix that problem. If nothing works, a reinstall without formatting is worth trying.

Pen Drive Disconnecting Too Often!

Q There is a problem with my pen drive. Whenever I copy a file, it shows an error and gets disconnected and then reconnects. I can't delete or even format. Is there hope? Help!

Deepak



USB drives can throw up errors due to hardware or virus problems or even physical loose connections

A The problem could be with the hardware failing. It could be a loose connection with the USB connector as well. Make sure there are no files whatsoever on the drive. Use an application called Unlocker (<http://ccollomb.free.fr/unlocker/>) to unlock any files on the drive.

Corrupted Outlook PST File

Q My PC Configuration is a 3-GHz Intel Pentium 4, 1-GB RAM and 80-GB HDD. I use Windows XP Pro SP2 along with MS Office 2003.

While using Outlook, it crashed. Now I'm unable to restore the Outlook.pst file and it gives me an error that the .pst file is damaged and it prompts me to repair the .pst file.

I tried the SCANPST utility in Office 2003 located in C:\Program Files\Microsoft Office\Office12\Scanpst. While processing it, it gives an error message—Microsoft Office Outlook 2003 Inbox Repair Tool. An Error has occurred, which caused the scan to be stopped. No changes have been made to the scanned file.

I have reinstalled Office 2003, but the problem persists. The Outlook.pst file is 1.96 GB. I have tried to restore this .pst file in another PC. Even there, I'm unable to restore. The same problem occurs.

Avinash Salian
Mumbai

A The Outlook file was corrupted when Outlook crashed. The SCANPST file scans the file for any corruption. If the file cannot be fixed or accessed, use a third party application such as Stellar Phoenix Outlook PST Repair (www.stellarinfo.com) or Advanced Outlook Repair (www.repair-outlook.com).

Your Gmail everywhere and anytime....

Checking e-mail has become a part of everyone's daily routine. Gmail came as blessing for many giving users a free no-nonsense e-mail service with loads of free mailbox space. There have many innovative features that have been built around the e-mail service itself. One of the last few improvements was the inclusion of IMAP which seemed to have gone somewhat unnoticed.

What is IMAP?

We're all used to POP3 and Google has already given us that for free as well, so why should anyone now move to IMAP? IMAP does many things that POP3 doesn't, and a lot of these features make management of mailboxes much simpler. IMAP allows mails and their statuses to be synchronised with the server all the time. This means you can have multiple clients from different locations getting an update of the mails.

Enabling the IMAP feature on Gmail

Before you start with setting up Gmail's IMAP on any of your devices, you need a Gmail ID if you don't already have one. Login to your account and click on the Settings link on the top. Click on the Forwarding and POP/IMAP tab to change the settings. Click on the Enable IMAP checkbox on the bottom and click on



Enable IMAP in Gmail

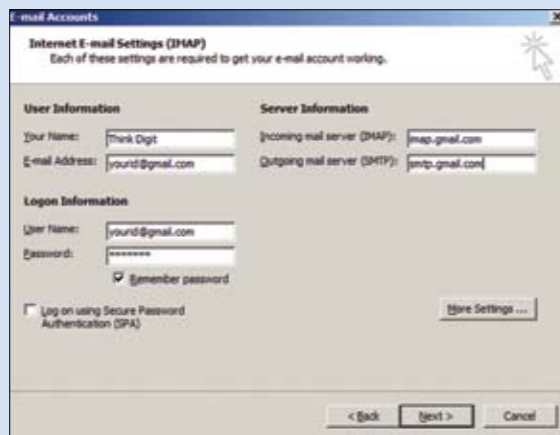
the Save Changes button. With this done, Gmail is ready to provide you with its IMAP service.

Enabling IMAP on Outlook

Now it's time to setup an account on Microsoft Outlook for IMAP. We are using Microsoft Outlook 2003 for this purpose. It works the same on any client that supports IMAP, which includes even mobile device applications like Outlook for Windows Mobile.

First click on Tools > E-Mail Accounts. Click on the Add a new e-mail account radio button and click Next. Click on the IMAP radio button. Enter all the necessary information such as your name and Gmail e-mail address. You will need to enter the IMAP server address and the SMTP server for the outgoing mail. If you are using some other IMAP service or one provided by your ISP, enter that information here.

For Gmail users, enter the IMAP incoming server address as `imap.gmail.com`.



Set Outlook to use the right settings

`com` and the outgoing server as `smtp.gmail.com`. Enter the username for the account as your Gmail address in its complete form—`yourgmailid@gmail.com`.

In the case of Gmail, additional security features need to be enabled and set. Click on the More Settings button for that. Click on the Outgoing Server tab and enable and checkbox for My outgoing server (SMTP) requires authentication. Set it to use the same settings as your incoming mail server.

Next, click on the Advanced tab. Gmail's IMAP incoming server runs on port 993 so set it to that and the Outgoing SMTP server's port to 465. Click the checkboxes of both the servers to enable SSL. Click OK when done.

Downloading and accessing the mails

When the settings have been put in place, Outlook or the mail client you are using will download the mail structure used on the server. In the case of Gmail, there are not any folders but just



Enabling SSL and selecting the ports

labels. New folders with the exact same labels on Gmail will be created in your mail client. You will notice that IMAP is initially slow as it needs to download mail folders and the topics in each one of them. Unlike POP3, all the mail isn't downloaded together for offline use. It is continuously synchronised with the Gmail server.

Every change that you make in any client anywhere will be affected on all the clients simultaneously. This means, you can actually compose a draft on your local client and save it to the Gmail drafts folder, and you can send it anytime from any other computer or device.

Folders in Gmail

Gmail doesn't use folders but it uses labels which are somewhat the equivalent of folders in your mail client. New labels can be created through Gmail's settings option. You can also create labels in Gmail by creating new folders within the IMAP folder on your local client. To dump mails into a folder on Gmail, set a label for the mail. Do this by clicking on the checkbox of a mail and clicking on the More Actions dropdown menu and selecting a label from there.

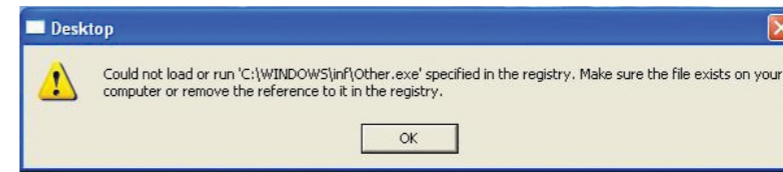
Gmail has loads of free space and this can also be used to backup all of your previous mails online. IMAP acts as an easy gateway to this. Simply drag and drop the folder from your mail client to the IMAP folder. Mails will be automatically uploaded to your Gmail account. You will never have to worry about losing your e-mail ever again.✉

rossi.fernandes@thinkdigit.com

Errors While Logging On To Windows

Q I use Windows SP2 on my system, but there seems to be a logon problem. Whenever I try to boot into Windows, it gives me an error "Could not load or run 'c:\windows\inf\other.exe' specified in the registry. Make sure the file exist on your computer. Please help me out with this.

Akhil Suryawanshi



Typical errors in a virus infected Windows installation

A The error is caused due to some kind of malware. Install an antivirus or spyware cleaner on your system. Temporarily, you can click on Start > Run and enter `msconfig`. Click Enter to launch the utility. Click on the Startup tab and select the entry for `c:\windows\inf\other.exe` and uncheck it. Click OK.

New Folder.exe Virus Problems

Q I have a virus problem with my PC. A new folder.exe is created after I have plugged in a MicroSD card. How can I solve this problem?

Sourabh Singh

A Your PC has been infected by a virus. The simplest way is to run an online virus scanner such as the one on Trend Micro's site (<http://housecall.trendmicro.com>). If that does not work, download and run <http://downloads.andymanchesta.com/RemovalTools/SDFix.exe>.

How Do I Install Windows On The ASUS EeePC?

Q I bought a new ASUS EeePC 4G. The configuration is 512 MB RAM, 4 GB HDD, Intel (R) processor with Linux KDE operating system. How do I install Windows XP on it? Please guide me.

Ricky

A The ASUS EeePC does not come with an optical drive, so the only way to install Windows on it, is through an external optical drive. You can also create an installer for a USB flash drive or a memory card and install Windows on the internal drive.

Inbound Policy Violation

Q I use a Dell laptop with Windows XP SP2 and Comodo Firewall Pro. I connect to the Internet using a BSNL broadband connection. Often, Comodo Firewall blocks Net access due to Inbound policy violation. Here are the details:

Protocol: TCP incoming

Source: 192.168.1.1: 20329

Destination: 192.168.1.4: 2869

TCP flags: SYN

I don't know if I'm right but I always thought that 192.168.1.* is our own network. What do the port: 20329 and port: 2869 mean? Why is this violation occurring and what does it signify? My Net connection has been down since three days due to this. Even if I manage to connect, Comodo Firewall blocks it in few minutes. Please give some information on this.

Sridhar Rao

A There are all kinds of services and applications on Windows that open ports and send request to other computers on the Internet all the time. If this connection attempt is being blocked by the firewall and if the Internet connection suffers, then disable the firewall.

Remove Recovery Partition

Q I'm currently using a Compaq notebook. The system works fine. Hard drives are partitioned as C: and U:. Although C: is fine, when I try to open U: drive, this notice pops up: "Recovery Partition Warning!"

This area of your hard disk (or partition) contains files used for your system recovery.

Do not delete or alter these files. Any change to this partition could prevent any recovery later."

Should I delete these files? It is taking precious 10 GB of my laptop. Please suggest an alternate idea.

Ujjwal Tiwari

A Do not change, add or remove any data from that partition. Like most other manufacturers, the isolated partition stores a backup of all the system files and drivers should there be any problems with your Windows installation.

Choosing A Gaming Laptop

Q I want to buy a gaming laptop, but I have a budget of Rs 58,000. I'm planning to buy a Dell XPS 1530 laptop with a 2.4 GHz processor, 4 GB RAM, 250 GB hard drive and 256 MB NVIDIA GeForce 8600m GT graphic card, but I don't know whether all the games like *Call of Duty: Modern Warfare*, *Crysis*, *Far Cry 2*, etc will run on it properly. Please guide with me this, and if these games won't run, then please give me an alternative choice. I am eagerly waiting for your reply.

Mohd. Yasir

A While the processor and the memory are sufficient enough to run the latest games, the 8600m GT might not be sufficient for playing *Crysis* and *Call of Duty* at the highest quality and resolution. Laptops in general aren't the best place to play games on either with the cramped keyboard and small screen. A budget of Rs 58,000 will buy a much better performing gaming desktop with a 22-inch screen. If you want a laptop, then the XPS M1530 with some upgrades is still worth looking at. ✉

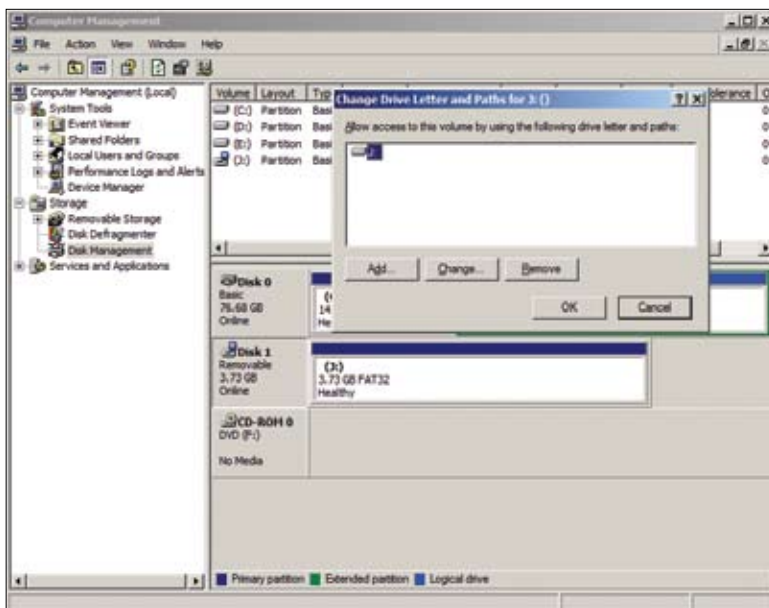
Thinkdigit's TECH Q&A EXPERTS

USB Drive Problems

Q I have a Transcend v20 pen drive. The file system on it has changed to RAW and the capacity now is 0 MB. I cannot access the drive or format it using the DOS application.

This software can't detect the pen drive, but the OS detects the pen drive and displays it as an USB device but it can't format.

I have tried formatting it, but it doesn't work. It could be detected in Windows, but it can't be accessed. In Linux, it can't even be detected. What should I do?



A By looking at the description you have provided, I see that you can see the pen drive in the Device Manager, without a drive letter assigned, so you are unable to format it. After connecting the drive to the USB port, right-click on My Computer > Manage > Disk Management. Find the USB disk under disk management. Assign a drive letter by right-clicking on it. After that, format it from there itself.

Radhakrishnan (TECH QNA Expert)

A I am not sure of any other methods since you have already tried most of the steps like using different operating systems and formats. If it is under warranty please get it replaced as the pen drive might be damaged.

Gopi (TECH QNA Expert)

Startup Problems

Q I have a Compaq laptop with Centrino processor, 2 GB RAM, 160 GB hard drive. My problem is that whenever I start my laptop, it does not start

instantaneously. However after two or three attempts, it starts. My operating system is Vista Home Basic.

A It could be due to many reasons. Check if the BIOS screen itself comes up or whether there is a delay. If BIOS screen comes up instantly but OS screen takes time, it could be due to a boot loader issue if you had multiple operating systems. Take backup of all your data and try an OS repair with the OS DVD.

Gopi (TECH QNA Expert)

Turbo C++ Crashes!

Q Recently I have assembled a PC with a Pentium D 3 GHz processor, a Zebronic NVIDIA 7150 chipset based motherboard, and 1 GB RAM. I have installed Window XP SP2, and all required software. Everything is running smoothly. When I installed Turbo C++, it is does not open. When I double-click the TC.exe from bin folder, a blank window opens for a fraction of a second and disappears, and an error message is displayed—

16 bit MS-DOS Subsystem

Turbo C++ IDE

The NTVDM CPU has encountered an illegal instruction. CS: dooo IP: 03e3 OP: ffeb05ea80

Choose 'Close' to terminate the application.

This is the problem and is there any solution for this? Please tell me what this message means. I am waiting for your suggestion.

A I am assuming that your Turbo C++ installation is not corrupt. The problem is due to a compatibility issue. Go to C:\tc\bin and right click on tc.exe and click on Properties. After the properties window is displayed, click on Compatibility and Check the checkbox for Run this program in compatibility mode and select "Windows 98". This will solve the problem. If that doesn't work, your installation is most likely corrupt.

Danish (TECH QNA Expert)

Can I Make My Drive Portable?

Q My question is that I have an 80GB 7200 RPM SATA Seagate hard disk. I want to use it as a portable USB HDD, please tell me how I can do this. Please also tell me what I need to do this.

A Yes of course you can do it. You should buy USB HDD case that is suitable for it. Power and SATA connectors will be supplied with that case. You have to place your SATA hard disk in it and connect the cables and you're done. It can be easily available in computer shops at major cities. The price for such cases starts from Rs 400 to Rs 900 only.

N.Vinay Kumar (TECH QNA Expert)



SECRETS THAT KEEP YOU AHEAD IN THE RACE

TIPS

Adobe Premiere Pro CS3 1
 Adobe Acrobat 9 3
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30 MINUTES EXPERT

Pictomio 4
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ADOBE PREMIERE PRO CS3

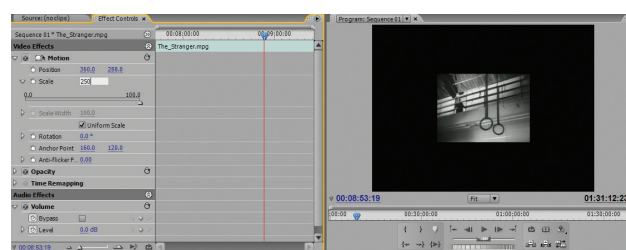
Rotoscoping

Rotoscoping is adding effects to a movie frame by frame—basically painting stuff onto a movie. This was the technique used to make the lightsabers in the *Star Wars* films. To rotoscope using premiere, you have to export the file as a filmstrip, and then edit the frames using photoshop or an equivalent software. First select the part of the movie you want to export into filmstrip. The work area bar is just below the timescale in the timeline sequence window. Ideally, select durations less than five seconds, as anything larger than that is liable to crash the image editing software. Go to **File > Export > Movie**, the export movie window will pop up. By default, premier exports the movie as an AVI file. Go to **Settings > General > File Type** and select **FilmStrip** in the drop down box. Then select the **Range as Work Area Bar** instead of **Entire Sequence**, else premiere will crash. You now have a grid of frames you can edit frame by frame. The filmstrip is saved as a .flm file.

Scaling The Video

While handling videos imported from camcorders, digital cameras or mobile phone clips, a common problem is that the videos are too small and there is an empty black space on the screen. This persists as a large black frame around the movie even when the project is rendered.

To solve this problem, select the clip, go to **Effect Controls > Motion > Scale**. The scale slider slides from only 0 to 100. Click on the number 100, and you can enter a numerical value for the scale here. Put in 250, or 200 depending on how much you want to resize the clip.



Enter values to increase the scale beyond 100

Alternatively, you can click once on the video, and resize it using the mouse. To make premiere automatically take care of this problem every time you import a clip, go to **Edit > Preferences > General** and then check **Default scale to frame size**.

Autosave

Most Adobe applications automatically save the file after five minutes. For some reason, in premiere, the default is twenty minutes. To change this, go to **Edit > Preferences > Autosave**. Change the **Automatically save every value** from 20 to 5. Then click OK.

Re-establish Media Links

If you are working on a large project for a long time, and during the course of the work, if you change the names of the

base files or place them in a different folder, then the project in premiere will retain the edits you have made, but lose the link to the file. If there are a lot of cuts or edits, this may seem like the end of the world. Simply right-click on the file in the bin, select **Link Media** then look up the file in the browser and click OK.

Leader

A counting leader is often used at the start of a clip to allow minor adjustments on a projector, check if everything is working normally, and to leave some buffer time before the video starts. To include one in your file, right-click on the bin, select **New Item > Universal Counting Leader**. You can change the wipe, background, line, target and numeral colors according to your choice. Then drag and drop the leader on to the beginning of your timeline.

Panel Full Screen Toggle

It is sometimes necessary to make very minor adjustments in the timeline panel, or adjusting the keyframes in the effects panel. To make these slight adjustments, it is possible to put any panel on fullscreen mode. To do this, select the panel, then press the [`] key (it's just before the [1] key). Press the same key again to get out of the full screen mode.

Watching the program sequence or a monitor on full screen without rendering the project first will however make for a very jerky viewing.

Saving Workspaces

As and when you work with premiere, you will learn to retain the most used panels and toolbars, along with a customized layout. Premiere automatically loads the last used layout every time you start up. If there is a particular layout that you are most at ease with, then save it by going to **Windows > Workspace > New Workspace**. Enter a name for your workspace in the pop up and click OK. Now the workspace name should appear in the **Windows > Workspace** menu itself. Additionally, a shortcut key for the workspace is automatically assigned. If you are doing this for the first time, it should be [Alt] + [Shift] + [5]. This simple measure also prevents other users from messing up your workspace.

Digital Tools | Tips & Tricks

Premiere Shortcuts

Tool shortcuts

Track Select tool	[A]
Ripple Edit tool	[B]
Razor tool	[C]
Hand tool	[H]
Rolling Edit tool	[N]
Slide tool	[U]
Selection tool	[V]
Rate stretch tool	[X]
Slip tool	[Y]
Zoom tool	[Z]

Panel shortcuts

Project panel	[SHIFT]+[1]
Source Monitor	[SHIFT]+[2]
Timeline panel	[SHIFT]+[3]
Program Monitor	[SHIFT]+[4]
Effects controls	[SHIFT]+[5]
Audio Mixer	[SHIFT]+[6]
Effects panel	[SHIFT]+[7]

Timeline shortcuts

Nudge 5 frames right	[ALT]+[SHIFT]+[.]
Nudge 5 frames left	[ALT]+[SHIFT]+[,]
Nudge 1 frame right	[ALT]+[.]
Nudge 1 frame left	[ALT]+[,]
Toggle play/stop	[SPACEBAR]
Play forward slowly	[K]+[L]
Play backward slowly	[K]+[J]
Shuttle left	[J]
Shuttle right	[L]
Ripple delete	[ALT]+[BACKSPACE]
Set in point	[I]
Set out point	[O]
Trim	[T]

Capture shortcuts

Record	[G]
Stop	[S]
Go to in point	[Q]
Go to out point	[W]



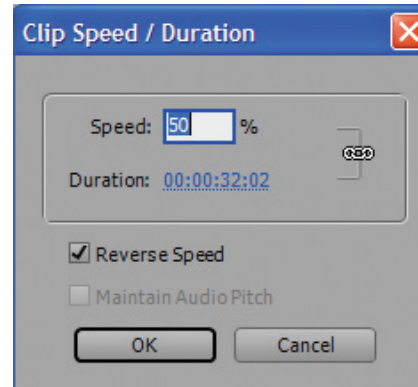
Blank Video

To add blank video to the project, right-click in the bin, go to **New Item > Black Video** and select **OK**. This is basically a black matte that can be used at the beginning or at the end of the film, and by default it lasts for six seconds. To use a matte in any other color, right-click in the bin, go to **New Item > Color Matte**. A color picker will appear, choose a color or enter the values and click **OK**. This too, by default lasts for six seconds. To change this default setting, go to **Edit > Preferences > General** and change the 'still image duration' value. 150 frames is equal to six seconds, so if you want twelve seconds, change the value to 300.



Change Playback Speed

There are many ways to change the speed at which a clip plays back. To change the speed consistently across all the edits in the timeline, right-click on the video in the bin, select **Speed / Duration** in the context menu, and change the speed value from 100% to whatever you want. Alternatively, you can change the duration



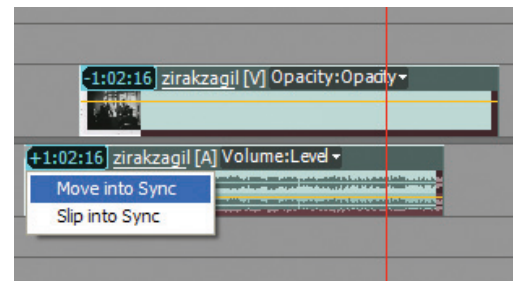
Changing the speed/duration in premiere

value and make the clip last exactly so many seconds. If however, you want to change the speed of only a small portion of the clip in the timeline, use the razor tool to cut out that part of the clip, and right-click to bring up the context menu, then select **Speed / Duration**. Checking the **Reverse Speed** option will play the clip backwards.



A-V Links

Whenever a clip is added to the sequence, it gets split into two parts. The audio part shows up in an audio track, and the video part shows up in the video



Syncing unlinked Audio and Video components

track. When you move them, or cut them, the changes that affect one also affect the other. This occurs because the two are linked to each other. You can find out if media is linked by looking at their title. If they are linked, the title will be underlined followed by a [A] annotation for audio and a [V] annotation for video. To perform any operations on them separately, right-click on the clip and select 'Unlink'. It is possible to synchronize operations on an audio and video sequence that you want to link up together. To do this, align the audio and video sequence together on the timeline, select both of them, right-click and click **Link**. If either the audio or the video track is askew at this point—they will remain so through further edits unless you correct them. Moreover, premiere keeps track of unlinked audio and video components of the same file, so you can relink them if there is any need. Select the unlinked components, right-click, and select **link**. If they are askew, Premiere shows up the duration by which the synchronization is off in red numbers on a white box to the left of the title. Right-click on this box and 'select move into sync' to rectify the synchronization error automatically.



Docking Panels

You can move most of the panels around the workplace. The default editing view has a number of tabbed panels arranged in 6 areas. When you move around a panel from one place to another, just before you dock it, a purple highlight indicates the position where it is going to be docked. Whenever you move a panel to another position, if the highlight is on the middle of the panel, then it will be added as a tab. If the top, bottom, left or right one-third of the panel gets highlighted, then the two panels will share the space, and dock next to each other in the positions indicated. If the highlight appears on the title bar, then the panel is going to be docked as a tab.

**UI Brightness**

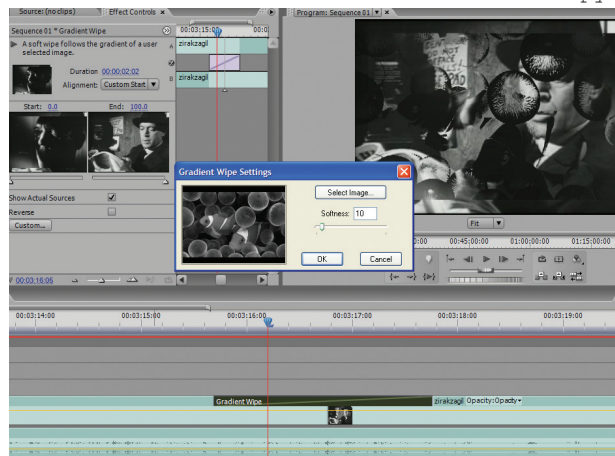
Go to **Edit > Preferences > User Interface** and you will come across one of the oddest sliders to be put in any software. It is a slider for adjusting the brightness of the user interface, without affecting windows settings, or the menu bar. The panels and everything inside them vary in brightness according to the slider.

**Export To Device**

To export the video sequence in a format that is playable on a PMP, go to **File > Export > Adobe Media Encoder**. Under **Export Settings**, in the **Format** drop down box, select the **H.264** format. Change the range to 'work area' or 'entire sequence' as per preference, and then select a preset. There are a bunch of Apple iPod, 3gp, google video, youtube and sony PSP presets. For most s60 phones, choose **3GPP 320x240 15FPS** preset. Click on **OK**.

**Custom Transition**

The gradient wipe transition allows you to use an image to effect a transition. This allows for a number of possibilities—like using the company logo as a transition in a corporate film. The image has to be a grayscale, it is reduced to one by premiere if it is not. The blackest part of the picture is replaced first and the image works upwards through all the shades of grey, and white is replaced last of all. Once the clips are aligned next to each other, in the effects panel, go to **Video Transitions > Wipe > Gradient Wipe**. Then go to the effects controls panel, and click on **Custom**. Choose an image from there, and your custom transition is ready.



Using a custom image as a transition

ADOBE ACROBAT**Set initial view**

It is possible to completely define the way in which a PDF document is seen when it is opened. This extends to the navigation options available, the zoom level, the page number, the layout, the window and interface options available. Go to **File > Properties > Initial View**. Tweak the options according to your preferences and click **OK**.

**Password Protection**

Password protection of your PDF file ensures that the PDF can only be opened by the intended recipient of the file.

Password protection can also be used to prevent users from printing or editing the document. These settings can be further tweaked to allow only low resolution printing, and varying degrees of editing. To password protect your document, go to **Advanced > Security > Encrypt With Password**. A prompt will appear asking if you are sure you want to change the security settings. Click on **Yes**. Select **Encrypt all document contents**, check **Require password to open document**, and enter the password in the "document open password" field. If you want control on the permissions to print and edit the document, check **Restrict editing and printing**. Provide the password for changing these settings. Make sure **Enable copying of text**,

images, and other content is unchecked. Click on **OK**. A prompt will appear asking you to confirm the passwords you have entered. Another prompt states clearly that not all third-party programs respect the security settings in the PDF file. Third party software for bypassing these security settings are easily available.

**Viewing History**

Acrobat keeps a record of which pages the user has viewed. This is helpful if you are skimming through a large report, lots of data, or viewing documents like a dictionary or encyclopedia. It is possible to head back to a particular page you want to go through again. To do this, go to **View > Previous View** or **Next View**. To add the previous view and next view buttons on the toolbar, right-click on the toolbar. A context menu will appear. Select **More Tools**. Scroll down till you see the options for **Page Navigation Toolbar**. Check the **Previous View** and **Next View** check boxes.



The feedreader in Acrobat

**RSS To PDF**

Acrobat has a feedreader that you can use to convert RSS feeds into PDF documents. This option is available by default in Acrobat 8, but strangely enough disabled by default in Acrobat 9. To change this, go to **Edit > Preferences** scroll down to the **Tracker** category and under **RSS**, check **Enable RSS Feed In Tracker**. Now copy the URL of the feed onto your clipboard. Then go to **Comments > Track Reviews > RSS**. Click on 'Subscribe to RSS feeds'. A prompt will open where the feed URL will already be pasted. If not paste the URL in this field, and click **OK**. A number of entries will appear, choose which ones you want to save into a PDF and click **OK**.

**Clipboard To PDF**

Acrobat has a simple option to convert data in the clipboard to a PDF file. Content like images and hyperlinks will be preserved. To do this, first copy the data then, go to **File > Create PDF > From Clipboard**. Go to **File > Save As** and save the file.



Pictomio

Just a better way to view pictures!

Aditya Madanapalle

Pictomio is a free image browsing software that offers a great viewing and organising experience. It uses a lot of system resources, and you need a graphics card with ShaderModel 2.0 and 128 MB video RAM just to run it! Pictomio has a slick interface, and concentrates on working with a large archive of images, but can handle videos and music too. However, the only kind of image editing the software can handle is rotating the image—no cropping or color correction. It makes up by offering extensive organisation and searching options. The animations and the transitions are fluid—the smoothest we've seen.

Image Browsing

To browse the images, either the file system or the internal library can be used. The file system scans for images, and adds them to the library at lightning speed. There are four basic image viewing options—thumbnails, filmstrip, single image and carousel.

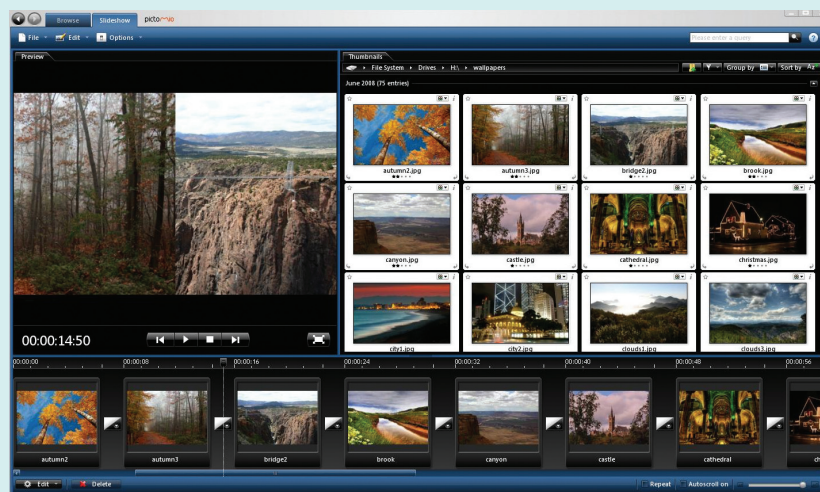
The thumbnails view is packed with features, it is possible to rotate the image, rate it (on a scale of 1 to 5) and view some basic file information like name, dimensions, file size and colour depth from the thumbnails itself. A slider at the bottom can be used to adjust the size of the thumbnails.

The filmstrip view has a tagger for both particular pixels and the entire image, a field to add annotations, a colour picker, a ruler and a histogram.

The single image view has the same features as the filmstrip, with an odd 'play' button, which when pressed, 'plays' the image like a video for about five seconds. The carousel view is probably the feature which uses the graphic capabilities the most—there is a slight reflection below each image in the forefront—this reflection is smooth even when playing videos!

Metadata

All the views have a filter, a group by and a sort by toggle. Once the images are rated, the filter can show images



A slideshow in Pictomio

equal to, greater than, or lesser than a particular rating. It is possible to see only the best photos in the collection, or the worst. Additionally, each image can be tagged with a colour—from a choice of five colours. It's possible to filter images of more than one colour at once, and you have a 'flag' option to shortlist images—somewhat like the star in Gmail. The 'group by' function arranges the images in groups, according to rating, colour, year, month, day, file type, orientation (portrait or landscape) and pixel count. The 'sort' function can arrange the images in order of the name, date, file size or rating.

Image Organisation

The library has extensive organisational capabilities. The Albums are custom collections of images, and they can be nested (albums within albums). They serve as a virtual directory of images, and it is possible for the same image to be put in different albums. Additionally, the library automatically sorts the images by the date taken, rating, colour mark, and medium (CD, Drive, Stick etc). The most useful organisation is probably that of the sorting according to the EXIF information, where it is possible to view images taken from the same camera, the same aperture settings, shutter speed, focal length, ISO rating, etc.

Slideshow

The slideshow is probably the best feature of the program, and is totally customisable—the duration for which each image is to be displayed, the length of the transition, the effect of the transition, etc.

Transitions are a pleasure to watch, and transitions can be tweaked to add more variety. There are up to five distinct properties for most transitions that can be changed. The interface looks somewhat like moviemaker, unfortunately the slideshow can only be saved as a pictomio file.

What really makes the software stand out a mile is the eye candy included in the smallest of things. For example, if you roll the mouse over a thumbnail of a folder full of images, all the images of the folder cycle three at a time—in the thumbnail itself. If you scroll up, the images start cycling backwards. Similarly, the pages in the album flip over one at a time, and it looks as if the photos really are pasted and arranged carefully in a real album. The categories are animated boxes of images that turn into view.

It feels a little strange to handle videos and audio in an application so obviously made for images, but videos can be rotated and zoomed into with the same speed as images. However, make sure your system has the relevant codecs before you use this software for videos. Overall, a must use for those with a large collection of photos. ■

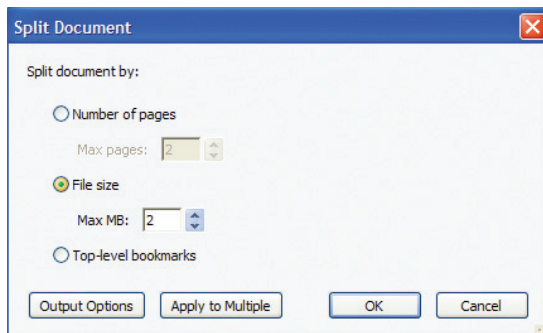
aditya.madanapalle@thinkdigit.com

**Scan Documents**

To scan documents and then convert them into a PDF file, go to **File > Create PDF > From Scanner > Custom Scan**. There are some other options available here, like a colour scan and grayscale scan. Select the scanner connected to your computer in the Scanner drop down box. In the window that opens, check the **Prompt For Scanning More Pages** option. Select the **Output** option as **New PDF Document**. Check **Make Searchable (Run OCR)**. OCR stands for Optical Character Recognition, and this allows the text in the scanned documents to be manipulated like text although it is an image. Press the **Scan** button. After the scanning is done, there will be a prompt asking you if there are more pages you wish to scan. Choose **Scan More Pages** or **Scan Is Complete**.

**Split Document**

Acrobat has a nifty little feature that allows you to break up a large document into several smaller documents. Go to **Document > Split Document**. From here, you can split the document into pieces of a certain number of pages, a certain file size, or according to top level bookmarks. Tweak the **Output** options according to your convenience and click **OK**.



Automatically split a document into smaller files

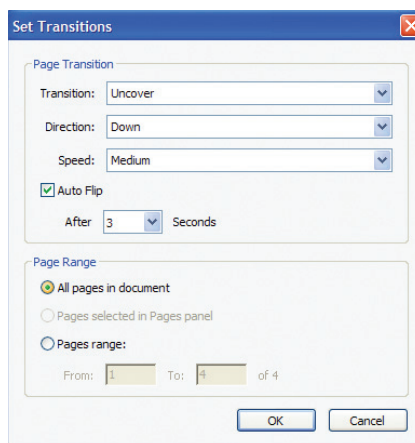
**Combining Files Into A PDF**

It is possible to combine many files into a single PDF in Acrobat. These files can include files in various formats, like .doc, .rtf and .pdf files. To do this, go to **File > Combine > Merge Files Into A Single PDF**. Choose the **Single PDF** option as against the **PDF Portfolio**. Go to **Add Files > Add Files** or drag and drop files from explorer into the box. It is possible to add entire folders by choosing **Add Files > Add Folder**. Click on individual files and move them up or down the list to

establish a suitable order. The file size settings allows for three compression presets. The size of the file will affect the quality. Choose a low file size to distribute by e-mail if you are combining a lot of files together. Click on **Combine Files**.

**Transitions**

Acrobat has a feature that allows for a transition between pages. This feature can be useful to make a PowerPoint like presentation from your PDF document. There are no animation options for text or objects however. To use this feature, go to **Advanced > Document Processing**



Using Acrobat to set page transitions

> **Page Transitions**.

Select the transition from the drop down box. There are thirteen transitions available, and a random transition. Next select the direction of the transition. There are various options available depending on the type of transition. Next select the speed of the transition. There are three speeds; fast, slow and medium. Check **AutoFlip** if you want the page to turn automatically,

you can specify the period in seconds if you choose this option. If **AutoFlip** is left unchecked, the transition will occur when the user changes the page. Apply to **All Pages In Document**. Alternatively, you can specify a page range. Click on **OK**.

**More Recently Used Documents**

Acrobat shows a default of five documents in its history. If you are working with a lot of documents, and want to quickly access them from the file menu, it is necessary to have more recent docu-

Acrobat Shortcuts**Menu shortcuts**

Check Spelling	[F7]
Show/Hide Menu Bar	[F9]
Open document	[CTRL]+[O]
Save document	[CTRL]+[S]
Save document as	[SHIFT]+[CTRL]+[S]
Close document	[CTRL]+[W]
Document properties	[CTRL]+[D]
Find	[CTRL]+[F]
Search	[SHIFT]+[CTRL]+[F]
Preferences	[CTRL]+[K]
Rotate page	[SHIFT]+[CTRL]+[R]
Zoom to actual size	[CTRL]+[I]
Zoom to fit page	[CTRL]+[O]
Zoom to fit width	[CTRL]+[2]
Zoom to fit visible	[CTRL]+[3]
Full screen mode	[CTRL]+[L]
Show grid	[CTRL]+[U]
Snap to grid	[SHIFT]+[CTRL]+[U]
Show rulers	[CTRL]+[R]
Automatic scroll	[SHIFT]+[CTRL]+[H]

Tool Shortcuts

Hand tool	[H]
Temporary Hand tool	[SPACEBAR]
Select tool	[V]
Snapshot tool	[G]
Zoom tool	[Z]
Select object tool	[R]
Object Data tool	[O]
Article tool	[A]
Measuring tool	[B]

Navigation

Shift focus to menu	[F10]
Close current document	[CTRL]+[F4]
Previous screen	[SHIFT]+[ENTER]
Next screen	[ENTER]
First page	[SHIFT]+[CTRL]+[PAGE UP]
Last page	[SHIFT]+[CTRL]+[PAGE DOWN]
Previous page	[CTRL]+[PAGE UP]
Next page	[CTRL]+[PAGE DOWN]
Zoom in	[CTRL]+[=]
Zoom out	[CTRL]+[-]

Digital Tools | Tips & Tricks



SystemRescueCD

Call for help no more, rescue is at hand!

Aditya Madanapalle

SystemRescueCD is a small linux system that boots from a CD drive. There are a bunch of system administration tools that can change the partitions on the disk, rescue data, backup entire partitions for later use, or securely delete data amongst other things. SystemRescueCD is basically meant to backup your system or to repair it after it crashes. The .iso file is available for free from www.sysresccd.org and is a 200 MB download. Once the .iso file is downloaded, it has to be burnt on to a CD using any burning software. Once burnt, restart the computer, enter the BIOS setup and change the settings so that the CD drive is booted first. Once this is done, the SystemRescueCD splash screen will appear. At this point, it is possible to specify boot options, but unless you are an advanced Linux user, press [Enter] to boot the system with the default settings. Press [Enter] again when the keypad screen appears. A command prompt will appear, and the system is ready. To start up the GUI, type wizard and then press [Enter]. There are two GUIs available, XORG and XVESAS. Select XORG, and then the GUI will appear.

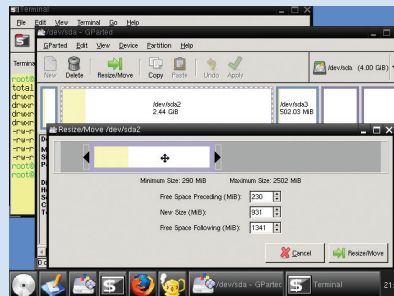


The SystemRescueCD startup screen

GParted

GParted stands for the Gnome Partition Editor. Like many other tools in SystemRescueCD, it is independently available. GParted is a powerful partition organisation tool, and can be used for a variety of purposes. When started, GParted first scans all devices. To perform any operations on a disk, you have to select it first either in the GParted menu or from the top right corner of

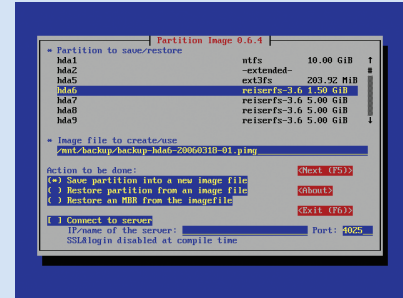
the window. Once a drive is selected, you can delete the partitions, shrink or expand the partitions, create a partition table (which will erase all the data), change the label, change the file system format of the partition, or check and repair errors. The view window offers basic information about a device, like the model, size and path. Another useful feature in GParted is the ability to copy an entire partition and paste it into another partition or removable media.



Shrink or expand partitions with GParted

Testdisk

If your computer crashes because of a virus, or some files are deleted by mistake, testdisk is a very powerful tool to recover your data and get your system up and running again. Testdisk looks deceptively simple when started up. Navigation through the program is done by using the arrow keys and the enter key. At any point, to go to a previous screen, press the [Q] key. Choose no log in the start screen, then choose the file system, which is usually Intel. The Analyse option can look for lost or missing partitions, in case of a system crash. It can also restore these partitions. Under Advanced, Testdisk can recover files from corrupted sectors of a hard disk. First select Quick Search, and a summary of available partitions will appear, then select Deeper Search to recognise missing partitions. Locate the missing partition and press [P] to list the files in the partition. If all the missing files are recognised, select Write to recover the data. You can also save the image of an entire partition. It is possible to change the partition type from here. The Delete option lets you delete all the data in a partition table.



Save a partition as an image

Partimage

Partimage helps you save an entire partition of a disk as an image. Scroll down on the main screen to choose a partition, press [Tab] and enter the name of the partition. Then press [F5] to go to the next screen. If you are saving a very large partition, you can split the image file into smaller parts for better portability. Press [F5] to continue again, uncheck the simulation option, and then continue again. The partition can be stored in a CD/DVD or a USB storage device. In case of a system crash, you can restore the entire partition, along with system files with this tool. Make sure that the partition and the image are of the same size, which is very important for partimage to work properly.

Midnight Commander

Midnight commander is a powerful file manager. Some of the better features include batch-renaming files, copying a bunch of files into another directory and renaming them at the same time, and comparing two directories, and it can open compressed files as directories.

Other tools

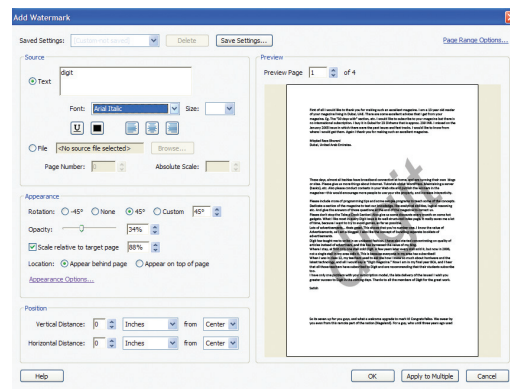
The Lshw viewer is an advanced hardware information viewer which gives an overview of all the hardware installed on your machine with details about the bus info, version, vendor, clock, capabilities etc. There are two text editors, GVim editor and Leafpad. There are two Web browsers—firefox and dillo. You will have to configure the Internet settings to get online though. There is also a PDF viewer, epdview, bundled. There are also CD/DVD burning tools, network tools and the clam anti-virus. ■

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ments to show up in the history. Go to Edit > Preferences. Head over to Documents category. Under Open Settings, there will be an option next to Documents In Recently Used List. Change it to 10 or 15, as per your convenience.

Watermark Documents

A watermark can be a useful identification marker. While there are many ways to bypass this measure, a watermark identifies the origin of the document to at least a limited extent. Additionally, a watermark can be used to simply label a file, say 'incomplete' or 'confidential'. It is also useful for



Applying a watermark to a document

putting the logo of an organization in the background. Go to Document > Watermark > Add. A window will appear with many options. Choose either a Text or a Document watermark. Acrobat supports only JPG, PDF and BMP

files for the watermark option. Adjust the appearance and position options as necessary. The opacity option changes the transparency of the watermark, which is useful if you have the watermark appear on top of the page.

Secret Watermark

It is possible to change the watermark settings so that the watermark appears only when the document is printed, and not when it is viewed on screen. Go to Document > Watermark > Add. Click on Appearance Options. Check Show When Printing, and uncheck Show When Displaying On Screen. Click on OK.

Export All Images

There is an easy way to extract all the images in a pdf document. Go to Advanced > Document Processing > Export All Images. You will be prompted to give a file name for the images. Click OK. By default, this feature excludes very small images. To change this, go to Advanced > Document Processing > Export All Images, then click Settings. Under Extraction, change the 'Exclude images smaller than' drop down box to 'No limit'. Then click OK.

Measuring Tool

The measuring tool can be very helpful when working with maps, scale blueprints or design drawings. It can also be useful to process a document before it is sent for printing. Go to Tools > Analysis > Measuring Tool. A small toolbox for the measuring tool will appear. Click on any point, drag to another point, and by default the distance will be measured. To change the scale, right-click while using the measuring tool, and click on Change Scale Ratio. From here, set 1 inch = 1 meter, or any scale you prefer. By default, Measurement Markup is enabled. This leaves the marks of your measurements on the pdf. To disable



The length, perimeter and area measuring tools in Acrobat

this, right-click and select Disable Measurement Markup. On the measurement tool toolbox, there is also a perimeter measurement tool and an area measurement tool.

Snapshot And Loupe

Acrobat has a snapshot tool to copy content onto the clipboard. Go to Tools > Select And Zoom > Snapshot Tool. To copy the entire page, just click once anywhere on the page. To copy a portion of the page, or an image, click and drag a rectangle around the area you want to capture. To examine details of a picture or a drawing, there is a very useful Loupe tool under Tools >

Select And Zoom > Loupe Tool. This tool is equivalent to holding a magnifying glass over the PDF document. The zoom settings and the size of the magnified display can be tweaked according to needs.

WAVEPAD

Wavepad sound editor is a powerful audio editing software available from www.nch.com.au.

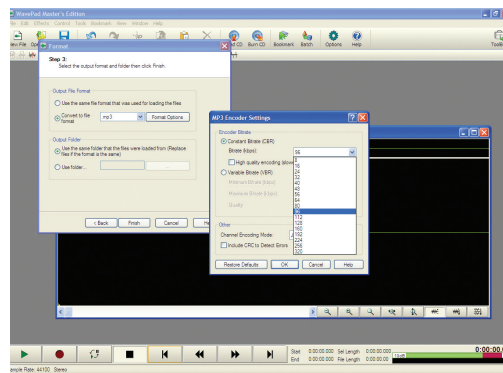
Working in Batches

Wavepad can process files in large batches. Go to Tools > Batch Convert Files. Add files using either the Add Files button or the Add Folder button. If you add one folder, a list of audio files in that folder appears, if you add a number of folders, just a list of folders appear. Click on Next. Under Command List select ADD and add a suitable effect or effects. For every effect you add, change the settings. For example, if you add 'Insert silence at the start', the default setting is for '0' seconds, change it to '5' or '2' as per your convenience. Some effect changes, like pitch change, are handled with percentage values. If you put on a lot of effects, then it makes sense to save the commands list as a batch script file just in case something goes wrong. Click on Save As and enter a file name. Click on Next. Under Output File Format specify a different format or use the same format that the file was loaded in. The Output Folder has two options, to replace the files in the same folder, or to save in a different folder. Pick one of these options and click Finish.

Using WavePad As A Transcoder

You can transcode MP3 files to a lower bitrate for use in your mobile phones or PMPs to save memory space. This technique can also be used to send audio files over e-mail. First save all the MP3 files you want to work with in one folder, then go to Tools > Batch Convert Files and add files using the Add Folder Option. Click on Next, ignore the commands window and click on Next again. Under Output File Format click on Format Options. Change the Constant Bit Rate drop down box to 96 Kbps, and uncheck 'high quality encoding'. Click OK, select an output folder and click Finish.

Digital Tools | Tips & Tricks



Set a lower bitrate in the format options

Advanced Noise Reduction

For high quality audio recordings, it is essential to reduce noise for clarity. There are two automatic noise reduction options available, but wavepad also allows a manual approach. Select a section of the audio file that has only noise, the larger this selection, the better the noise reduction will be. Once the selection is made, go to **Effects > Noise Reduction > Grab Noise Sample From Selected Area**. Then go to **Effects > Noise Reduction > Apply Spectral Subtraction Based On Noise Sample**.

Record Audio

Make sure a microphone or an AUX wire is providing input to your computer. Then go to **Control > Record**. Select a sample rate—a sample rate is the number of permanent records made from the signal per second, the default is 44100 hz, which is the same quality of an audio CD. The higher the sample rate, the higher the quality, and the more the disk space used to store the media. Click on the **Stereo** radio button and click on **OK**. A bar showing audio activity should appear. If more than one audio input device is connected to the computer, select the relevant input device in the

device drop down box. If you want wavepad to start recording automatically every time noise is detected, click on **Advanced Recording Options** and check **Auto start recording**. Press the circular red button to start recording.



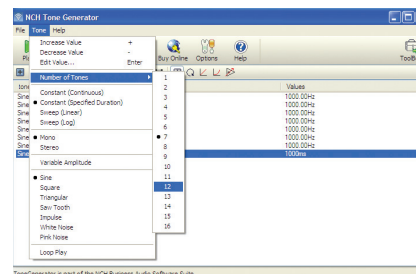
Text To speech

Go to **Tools > Text To Speech**, select a sample rate if prompted, and then type text out in the window and click on **OK**. Wavepad uses Microsoft's text to speech engine, so this feature will not work if you do not have this engine. Every time this is done, a new file with the speech is created. The default is the Microsoft Sam voice, but a few alternatives are available for download from the NCH Web site.

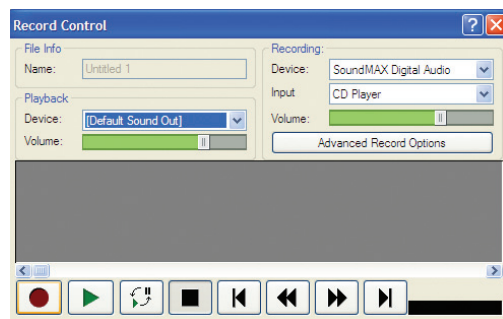


Tone Generator

Go to **Tools > Tone Generator**, which is an install-on-demand module for wavepad. It is a small file, but you will need an Internet connection for this to work. The tone generator has a number of options and can generate sine, triangle, square, sawtooth and impulse train tones. Go to **Tone > Number Of Tones** to change the value from 1 to 16 for the number of parallel tones generated. It is possible to change the frequency of



The tone generator can play upto 16 tones simultaneously



Recording audio using Wavepad



Remove Clicks And Pops

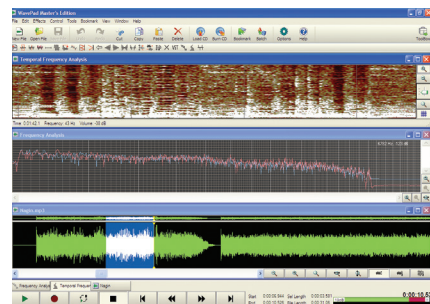
Many recorded tracks have clicks and pops as artefacts of faulty

audio hardware—or when the equipment is moved, handled or toggled. Wavepad can automatically take care of these clicks and pops. Go to **Tools > Auto Click/Pop Restoration**. Maximum click length is the length of the longest defect in the track—the poorer the recording quality, the longer will this be. The default is 450, which should take care of the problem. If the clicks and pops persist, increase it to 600 and run the operation again. If there are still clicks and pops after this, identify the artefact in the waveform, select it and then either press the delete key or go to **Tools > Manual Click/Pop Repair**.



Frequency Analysis

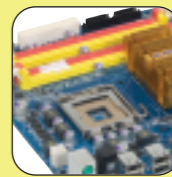
Wavepad offers two kinds of frequency analysis. The basic frequency analysis plots the waveform into its frequency components. For stereo files, there is a blue graph (left channel) and a red graph (right channel). Select a portion of the file, go to **Tools >**



The frequency analysis window in Wavepad

Frequency Analysis. You can zoom in or zoom out in the frequency analysis window to more closely look at the waveform. An alternate mode of frequency analysis offered by wavepad is **Temporal Frequency Analysis**, under **Tools > Temporal Frequency Analysis**. The intensity of any frequency at any point of time is mapped on this graph, giving a hot to cold gradient that can be analysed. A slider adjusts the heat of any particular frequency, which is useful for high intensity music. The brighter areas mean greater intensity (more decibels) of a particular frequency, and the darker areas show a lack of intensity at particular frequencies. This window also has a zoom function, and a grid toggle for reference. ■

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Nokia 6210 Navigator

Slick Slider, Overdone GPS Concept

Slider phones are hot, in more ways than one. They have also become associated (sometimes falsely) with higher prices than other phones, thanks to flagship devices like Nokia's N95. The 6210 Navigator is part of Nokia's new series of phones where GPS is the selling feature. A lot of other phones have GPS—this phone is just blatant with the handle *Navigator*. It's a good looking phone that looks better in black than mocha red, which are the two colours available. The build and working of the slider is excellent—a very smooth and positive action. The back of the phone has a cheap and tacky feeling—a pity since the rest of the

phone is quite well built. The front has this shiny plastic coating that we feel is overdone—this makes the 6210 look a little too loud. The Navigator monogram—a blue four cornered star—on the front of the phone looks overdone too. Call Accept, Reject and menu buttons are large, well laid-out and very easy to use. The number keypad, although flat, is large and well spaced—a boon for SMS junkies. All the buttons on the body feel solid and work well.

The screen is crisp and can display up to 16 million colours. The 6210 Navigator has a 3.15 megapixel camera that is good for taking the odd image, but falls short of



some of the other 3.2 MP rated cellphone cameras we've seen. Music quality is decent, but not as good as some of the other Nokia's. A 3.5 mm jack means you can use your own headphones.

The phone interface is fast, thanks to an ARM 11, 369 MHz processor, and

signal quality is good. We feel a larger battery should have been present. At Rs 20,039, the 6210 Navigator is expensive for what it offers.

Specifications

CPU—ARM 11, 369 MHz, 64 MB SDRAM, Screen size—2.4 inches, 16 million colours, resolution—240 x 320 pixels, 3.15 MP camera, inbuilt GPS.

Contact

Phone: 124 4199358

E-mail: communications.india@nokia.com

Web site: www.nokia.com

Price: Rs 20,039

RATINGS

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

ViewSonic VX1962WM

Sleek And Stylish

ViewSonic makes great though somewhat ordinary-looking, LCDs. Enter the VX1962WM. It sports the same lines, stand and body shape and finish that we're used to seeing on much costlier LCD and Plasma TVs. We feel this monitor will look equally at home in your living room and your office.

A surprise—normally a 19-inch widescreen has a resolution of 1440 x 900 pixels, this one offers a crisp resolution of 1680 x 1050 pixels. Some will protest saying that font and icon sizes will also decrease. True—small, high resolution screens aren't everyone's cup of tea.

Although ViewSonic claims a Dynamic Contrast

Ratio (DCR) of 6000:1, this is a TN panel so we're not fooled. The static contrast ratio is stated as 1000:1, and this figure seems a little high too. A

response time of 2 ms seems accurate. The inbuilt speakers are strictly OK in terms of usability and quality, but you'll want more punch.

In Display Mate we had the usual issues that TN panels exhibit with contrast in our grey scale intensity check, and this monitor should be avoided by hardcore multimedia aficionados. Its better at



gaming, but a 22-inch with the same resolution may be better for gamers. One great thing is this monitor gives good quality even at non-native resolutions.

It performed decently throughout our movie tests, but there are places where we could notice issues with contrast. Colours however are good, and very few users will complain.

At a price of Rs 12,500, its costlier than most 19-inch monitors, but offers a higher resolution than the others. If desktop space is at a premium—go ahead and purchase it. Imaging professionals can look elsewhere.

Specifications

Size—19 inches, Resolution—1680 x 1050 pixels, Contrast Ratio—1000:1, Brightness—300 cd/m2

Contact

Phone: 26681921

E-mail: viewsonic@rooponline.com

Web site: in.viewsonic.com

Price: Rs 12,500

RATINGS

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

Goliathus Alpha Speed

Whatta Mat!

Razer caters to the gaming fraternity. They name their products accordingly, and *Goliathus* seems apt for a colossus of a mousepad. Built from micro fibre, which is the choice of material for the best mousepads the *Goliathus* takes up a lot of desktop space—be warned before hand. Its a beauty, thanks to the patterned weave.

Its designed to offer a somewhat rough surface which is flat but has slight pits which are created from the weave of the fabric itself. This is a *control* mat, and the slightly coarse feeling of the surface fabric is able to control the slither motion of the slick Teflon feet that gaming mice have, thereby offering

greater twitch precision and accuracy to the discerning fragger. However fans of smooth finish a.k.a. *speed* mats will beg to differ. For us, the smooth mats offer greater mouse acceleration which is a boon for RTS and RPG genres of games, but control mats offer greater precision for smaller mouse movements like rail-gunning in *Quake 3 Arena* or sniping in *Unreal Tournament 2003*.

We had a few goes with *Quake 3*, *Warcraft 3*, and *UT 2003*. The *Goliathus* definitely offers a lot more control than every regular mat out there, and even image editing professionals and 3D



artists will appreciate the extra control their mouse pointer gets. The sheer size of the *Goliathus* does give it an edge over other smaller gaming mats.

At Rs 1,399, the *Goliathus* is well priced in comparison to the competitors products. This is no ordinary desktop mat, and definitely not meant for an ordinary user. Discerning gamers and imaging professionals will want to take a serious look at this mat, for the razor sharp precision it allows. Of course you need at least a Logitech MX518 (or costlier) grade of mouse

to fully exploit the precision it offers.

Specifications

Size—444 x 355 x 4.3mm, Silk Cloth Weave

Contact

Phone: 022-40053901

E-mail: enquiry@netplacetechnologies.com

Price: Rs 1,399

RATINGS

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

ViewSonic PJ513DB

White And Bright!

ViewSonic's new PJ513DB is touted as a compact projector. Well—most DLPs are compact. We've seen projectors that are smaller, and weigh less—some models from NEC come to mind. It's built well, with very solid quality plastics used on the body throughout—piano white and glossy black aren't bad colours and these are the two shades this projector is available in. It's a very clean looking device, with an attractive shape.

The quality of accessories provided is good, and the remote is rather compact. Connectivity options are scanty—only one D-Sub connect has been given for PC connectivity and S-Video and Composite connects are pro-



vided. For a home entertainment projector we find it weird to not include at least Component connectivity, if not DVI and HDMI connects. ViewSonic's menu system is well laid out, and reasonably intuitive. With a native resolution of just SVGA (800x600 pixels) it seems pointless for ViewSonic to advertise support for 720p and 1080i signals, simply because most projectors don't do well at any other resolution besides their native resolution.

In Display Mate we had no issues with the contrast tests save one part in the grey scale and intensity check test—a deficient contrast ratio. In the movies tests this projector did well, although we'd have liked a higher resolution of at least XGA (1024 x 768 pixels)—at its current native resolution, anything higher than DVD quality isn't as immersive as we liked. For gaming the PJ513DB isn't going to win

many hearts. The reason, its lower resolution.

At Rs 38,000 this projector is cheap, and we forgive most of its shortcomings. It's also attractive enough to find its way into a decent mid-range home entertainment setup.

Specifications

Dynamic Contrast Ratio (DCR)—6000:1, Static Contrast Ratio (SCR)—1000:1, Brightness—300 cd/m2, Native Resolution—SVGA

Contact

Phone: 42243535

E-mail: viewsonic@redington.co.in

Web site: in.viewsonic.com

Price: Rs 38,000

RATINGS

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

ASUS Xonar U1 Audio Station

A Soundcard And Amplifier In One?

The ASUS Xonar U1 looks like a fancy external controller for your speaker but it is a full fledged external soundcard—an external version of the Xonar series of sound cards.

The design is really neat and solid. It's a smooth finish with a port for a microphone and one for headphones or speakers. It connects via USB, and setting it up is simple after you install all the drivers. The top of the Xonar U1 rotates freely and endlessly and is used to control the volume. Pushing the dome down toggles the muting.

The Xonar performs well and provides a very neutral tone without emphasis on

any particular frequency ranges. The player also has a built-in amplifier that also does a good job.

Things can get pretty loud and the volume control must be used with care. There is no clearly audible hissing. There is an array microphone supplied with the player. The drivers and the software bundled are simple and light on system resources. There are features for surround sound effects built into the software.

There are a few shortcomings with the external Xonar U1. First and the most obvious one is the lack of support for anything more than 2.1. This means you have to use this mainly for

music playback. The USB cable is also quite short.

The ASUS Xonar U1 is a decent improvement over the integrated sound solutions found on motherboards. Being compact and also because of the USB connectivity, it can be used with laptops and carried around very easily. With a decent amplifier built into it, it can also be used to drive high-end headphones. A Rs 4,140 tag makes it a good option for those who want quality music. Movie buffs wanting quality surround sound and gaming experience will have

to opt for dedicated PCI-based sound cards.

Specifications

Analog/Digital Combo out, Stereo mic/line-in, Bundled array mic

Contact

Phone: 67668800 / 18002090365

E-mail: media_india@asus.com

Web site: www.asus.in

Price: Rs 4,140

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



HTC Touch Diamond

Not So Precious

If HTC's *Touch* didn't win you over with its *iPhone* rip-off touch interface that was quirky at best, you can have another go at finger swiping with the Touch Diamond. If the touch interface was really all that productive we wonder why the extra menu keys like Home, Back, and call accept/reject have made their way into this device.

Its very well built, very slim, and compact for a WM device. This is a truly pocketable PDA, though the lack of a keypad does hamper any sort of serious productivity. The screen sports an ultra high resolution



of 480x640 pixels and the result is a very, very crisp display—colours are excellent, much better than any WM device we've used before, and text quality and readability is amazing. The 3D touch interface lags severely, a faster processor (maybe a dual core) and more memory is needed.

Its packed to the gills with software and applications. There's inbuilt GPS with Google Maps pre-installed, Voice Commander, a UTube video viewer, an MP3 editing software, Adobe Flash and Adobe Reader LE as well as the

Opera Browser inbuilt. Incidentally, the Touch Diamond has no memory expansion—4 GB of inbuilt flash has been provided.

Although this device works well as a touch only device—HTCs effort at implementing any kind of gesture sensor doesn't seem to work as well as Apple's touch interface. In terms of pure interaction the *Diamond* will always fail when compared to the *iPhone*. What really works for this device, is its compact dimensions, and the fact that it's a full fledged PDA, (minus keypad). A good bundle of utilities are never bad.

It's not revolutionarily different, but it is different enough from most PDAs to create its very own little niche away from the competing crowd. If you want a WM based device that's sleek, aesthetic, and reasonably usable the Touch Diamond is very suitable,

and perhaps the only choice. If you want a PDA for a lot of office work and mailing then skip this. For Rs 27,990, the HTC Touch Diamond is admittedly expensive, perhaps prohibitively so. If it appeals to you, wait for the price to fall.

Specifications

CPU—528 MHz Qualcomm, RAM—192 MB, ROM—256 MB, 4 GB memory built-in, GPS, 3.2 MP camera, WM 6.1 Pro, 110 grams

Contact

Phone: 9310746555 / 9350263618

Email: deepak@jainaindia.com,

htc-sales@brightpoint.co.in

Site: http://www.htc.com/in

Price: Rs 27,990

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

Sennheiser PXC 450

Shhhh!—I'm Listening

The PXC 450 belongs to Sennheisers *active* noise cancellation series. The PXC 450 is very well built, and looks nearly identical to the PXC 350—which we reviewed some time ago. The headband has been given a slight boost in padding material, once again the ear cup material is pure leather—making its pedigree evident. The steel headband makes for a really fit tight over ones head. Due to this sound isolation is very good—even with the noise cancellation (NC hereon) switched off. There's a neat talk through button that momentarily disables NC, (till you press the button again). This allows one to hear outside sounds like someone calling you, without actually removing the headphones. The earcups can also be rotated and folded inward, to allow packing and transportation



without risk of damage. The NC part of the headphone is powered by a single cell AAA battery, although the headphone functions normally without the battery since only the active NC circuitry requires juice.

We tried these headphones with our test PC on an X-Fi Platinum soundcard, and on an iPod Touch for a portable set up. To be quite honest the PXC 450 sounds nowhere near its best on a system without proper amplification. We tried them with a headphone amplifier and the difference was startling. Without amplification bass sounds rather boomy and uncussed while the mids are completely recessed,

although detailing is present. The highs are absolutely muddled, and instrument separation is guess work at best. Amping these headphones does the trick—bass becomes clear, hard hitting and much more precise. The mids are more revealing, and the highs lose that muddy effect. Instrument detailing is accurate. However these aren't in the league of Sennheisers own HD600 and HD650, AKGs K701, or BeyerDynamics DT880, which are true audiophile cans.

At Rs 16,990, the PXC 450 is slightly overpriced, although to be quite fair you do get a lot of headphone for the price. It's also not quite a

pure audiophile headphone. Its biggest feature—active noise isolation, works well, but these headphones isolate noise well with NC off as well. Then there's the issue with amplification—another investment, which leads to other investments, as you try to clean up your sound source (since amplification of poor quality signals leads to discernable noise). If only they didn't need a dedicated amplifier, and sounded even 10 per cent better, we'd heartily recommend them.

Specifications

Closed circumaural type headphones, Active Noise Cancellation

Contact

Phone: 95124-4187800

E-mail: info@sennheiserindia.com

Web site: www.sennheiser.com

Price: Rs 16,990

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

Razer Mako 2.1

Fanciful And That's It

The Mako 2.1 are the Razer branded speakers designed for gamers. The design is fresh and unique. Both the satellites and the woofer have a dome style design and they have been built well. A flashy lit-up touch-enabled remote also comes with the speaker set. The source can be connected through a 3.5mm jack or using RCA connectors. The remote also has a Line-in and a headphone out connector built into it.

The performance gets better as time goes by, but there's one important factor—it still doesn't sound powerful enough. The quality

too improves and overall it is pretty satisfactory. The bass is rather shallow and only a few regions of the low frequencies are generated really well.

There are no signs of sound cracking anywhere because the volume doesn't up all that much. The highs are bright, and though the bass isn't loud, it's quite tight. It sounds great—there's nothing special it does with movies, but it sounds good in fast action games.

The remote's touch feature doesn't work very well,

and we had to struggle to set the volume to the maximum. Other than volume, there is an option to adjust the amount of bass. Users can have two inputs connected to the speakers and switch between the two through the remote. The second Line-in is through RCA connectors. The satellites sound a little brighter and less muddy if turned upwards.

As a set of speakers for everyday use with a bit of style element thrown in, the Razer Mako 2.1's are fine.

Rs 22,355 is extremely expensive for 2.1 speakers. Stylish they may be, but there are better performing audiophile and desktop speakers available.

Specifications

3.5mm and auxiliary inputs, Frequency range - 25 - 20,000Hz. Power: 300W RMS

Contact

Phone: 022-40053901

E-mail: enquiry@

netplacetechnologies.com

Price: Rs 22,355

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



Openmoko Neo FreeRunner Freedom Beckons?

Advertising itself as a *free phone* is misleading, for you will not be getting the *Neo FreeRunner* as a gift any time soon. The novel concept turns out to be a phone based on a Linux based OS called *Openmoko GNU*. The device itself is physically rugged and the hard rubberised finish exudes quality. With a Nokia N-Gage like shape, the FreeRunner has a very large eyehole built into the bottom and looks like a GPS unit. The screen is ultra crisp—even the bootup screen, which has really microscopic text, is very readable. At 2.8-inches, it's at par with most PDA screens, the resolution is a crisp 480 x 640 pixels—which is much better than average. Processing grunt is provided by a single core ARM9 processor clocked at 400 MHz, we'd like a faster CPU as the interface lags a bit.

There's a command line interface provided which speeds things up—but only Linux users will be able to utilise this feature. A camera has been forgotten. As with any open source application or Linux distro the real potential of this phone lies on the Web, once you get down to trying out all the free applications—which really unleash the potential of open source applications. Since the source code is available Linux aficionados will dig into the FreeRunners software innards. Openmoko also provides you the liberty to actually access the Neo FreeRunners PCB, although how useful this feature is to regular users we leave to the individual. While the Web site has a section dedicated to opening your FreeRunner we didn't see many options to mod the device.



Our device was very shy on application support—no document editor or PDF reader or any PMP capabilities, but we're told that all these applications will be added soon. Sadly no applications were available for download at the time of reviewing this product. We found the on-screen number pad to be too small, perhaps future software revisions will remedy this. In terms of signal quality we had hardly any issues, and handsfree quality was good although due to its elongated ends the Neo Runner does feel bulky in hand, and weighs a ton in cellphone terms—185 grams. As a phone, this is a device that's flawed in terms of usability and users looking for a func-

tional platform will definitely look elsewhere. At Rs 22,000 the FreeRunner is costly, but not for Linux buffs.

Specifications
CPU—400 MHz ARM9, RAM—128 MB, ROM—256 MB, MicroSD expansion, GPS, WiFi, Linux/GNU based, 185 grams

Contact
Phone: 011-413243321
E-mail: sales@idasystems.net
Web site: www.idasystems.net
Price: Rs 22,000

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

Cooler Master Elite 330 A Case Of Mediocrity

The large numbers of cheap cabinets are slowly being sidetracked with brands known world over bringing their offerings to the India market. The Elite 330 from Cooler Master arrives to bring in some sanity by trying to get entry level cabinets some quality and decent design. This new case has a decent design and doesn't have an out-of-the-world look that will amaze anyone. The quality isn't all that impressive either. The panels are made of really thin metal and they wobble and flex a lot. The top being a comparatively smaller area feels sturdier.

The interiors have smoothly folded metal edges so users don't get scratches and bruises while working on the insides of the cabinet. There are thumbscrews on one side of the cabinet. There are a few useful locking mechanisms to hold the rear expansion panels in place and lock all the drives in their bays.



For cooling, there is a single 120 mm fan at the rear of the cabinet and there is space for additional fans in the front. The side panel has a vent to funnel air to where the processor usually lies. Cooler Master has dust filters placed where the drives go in. The front of the cabinet has the power and reset buttons, two USB ports and an audio out and microphone in. It also comes with connectors for HD Audio. The power supply that comes with the cabinet is a Cooler Master RS-390-PMSR-A3—a 390 W one from the eXtreme Power series—OK for most onboard graphics solution running systems. The cables are long and the PSU case itself is sturdy. Only the 12V power cable going to the

motherboard comes with sheathing. Although we wouldn't highly recommend this product, if you really want a Cooler Master cabinet at a low price, this Rs 1,950 cabinet is a decent buy.

Specifications
120 mm fan, Motherboards: ATX and Micro-ATX, four 5.25-inch and six 3.25-inch drive bays. 189 x 425 x 485 mm. 6 Kg

Contact
Phone: 9833870302
E-mail: Tanmay_L@Coolermaster.com
Web site: www.coolermaster.com
Price: Rs 1,950

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

CoolerMaster Real Power M700 For Mid-range Enthusiasts/Gamers

In the age of 3-way SLI and overclocked quad-core processors, it's easy to get carried away with buying a super high-end power supply even when your PC doesn't really need something that hefty to power it. Enter the CM Real Power M700—a 700W, modular power supply. This unit is built around ATX 12V version 2.3 specifications. The build quality of the unit itself is a mixed bag—cable and connector quality is top notch, but the gauge of sheet used on the body is light. A single 120mm fan provides the basis of cooling. This power supply supports two PCIe power slots, and two each of the six and eight pin connects have been

provided, which means SLI and CrossFire are supported, even for the latest generation of cards like the ATI Radeon HD4870 and NVIDIA GeForce GTX 280. We loaded up an Intel Core 2 Quad Extreme QX9650, 4 GB of RAM, with two WD Raptor 10,000 rpm drives, and a GeForce GTX 280 graphics card. There were no issues with reboots, false starts, or freeze-ups even while stressing the CPU and GPUs with synthetic and real-world benchmarks. For those looking for something basic to power a home PC, this is too much of a power supply for you. For those looking at 3-way CrossFire and GeForce GTX280 SLI look elsewhere too, as the M700 may not be



able to support adequate juice to the setup, and a power supply in the range of 1 Kilowatt may be required. If you're looking for something for a fast gaming rig that's not too heavy on power the M700 is worth a glance. At Rs 7,800, this PSU is overpriced, especially considering the excellent Corsair HX620, which offers nearly the same power output is priced at Rs 6,200 only.

Specifications
Total Power—700 Watts, four 12V rails, 1x 120mm fan,

modular, 8x SATA power connectors, 4x four pin connectors, 2x 6 pin PCIe connectors

Contact
Phone: 9833870302
E-mail: Tanmay_L@Coolermaster.com
Web site: www.coolermaster.com
Price: Rs 7,800

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

BEC Technologies Billion BiGuard S6000 Secure Connections Galore

We're used to seeing network hubs and gateways, and then we saw the BiGuard S6000! Its very well built, has a great, industry grade silver finish, with the word *Billion* engraved on the top. What the BiGuard S6000 is, is a secure, VPN-based network hub that allows secure access of corporate resources from public terminals. In short the S6000 is a switch, with support for 2 parallel or separate WAN/Internet connections (RJ45). It is SSL secured—meaning secure links are possible from any remote terminal to access your enterprise resources with minimum risk. The S6000 has a couple of features worth mention. *Network Extender* allows for remote connections to internal network resources. *Transport*

Extender allows the use of the secure path created by the SSL secured route to be used for mail delivery. There is a fail over feature whereby, in case of network failure on one of the RJ45 ports, another takes over automatically, and both of these ports can also be set to balance loads between themselves. One of the best features for us was the fact that client-less connections are supported. This means that virtually anyone who has been authorised to access resources can do so. Another benefit is the support for multiple platforms, including flavours of Windows, Linux, and even PDA platforms. There is also a chat service which can be used for getting immediate technical support during



working hours. This service is offered for up to six months after registration. Firmware upgrades are also free, for a period of one year from the date of purchase. The BiGuard S6000 supports up to 200 secure *tunnels*, or information pathways at a time. The number of concurrent sessions is a whopping 1,20,000 or 50,000 (there are two versions), which should be enough for most medium-sized businesses. The inbuilt firewall has SPI (Stateful Packet Inspection), Packet Filter, Intrusion Detection, and Denial of Service prevention. A neat product and one that is sure to be appreciated

by business houses with employees always on the move. For anyone with an organisation consisting of less than 25 people - you can do without the S6000.

Specifications
2x RJ45 WAN/Internet ports, 8x RJ45 LAN ports, 2x USB, 1x RS232 control, VPN, SSL secured

Contact
Phone: 9821014253
E-mail: sales@onenetwork.co.in
Web site: www.onenetwork.co.in
Price: Rs 1,75,000 / 3,75,000

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

Gigabyte GA-EP43-DS3L P45 mini edition...

The P43 is a new, and slightly cheaper variant of the high end P45 chipset. Gigabyte's offering is an all solid capacitor model (the *D* in the model name signifies this).

In terms of build quality this board is solid—no complaints. The layout is good.

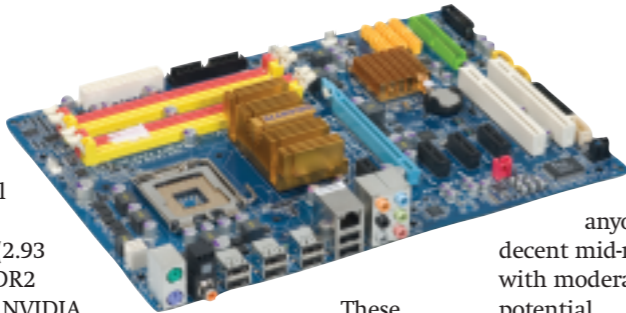
The BIOS itself is feature packed and well laid out, complete with overclocking options—although a surprise (and an irritation) was the lack of detailed information on the CPU model, and the memory installed.

On the rear I/O panel, it's interesting to note the presence of *eight* USB 2.0 ports—PS2 ports for mouse and keyboard are also provided.

We installed CoolerMasters Hyper 212 on this motherboard with absolutely no clearance issues, and there was quite a lot of room available. The CPU region features an eight phase design, and the

quality of mof-sets is top class. We used an Intel Core 2 Duo Extreme X6800 (2.93 GHz), 4 GB of DDR2 1066 MHz RAM, NVIDIA GeForce 8800GTX and a WD Raptor 80 GB 10,000 RPM drive to test this board.

PC Mark 05	
CPU	7538
Memory	5847
Graphics	13742
HDD	7118
Overall	8534
3D Mark 2005	
CPU Score	17163
SiSoft Sandra 2007	
CPU Dhrystone	27046
CPU Whetstone	18754
CPU Integer	161614
CPU Floating	88038
RAM Integer	5495
RAM Floating	5490
Drive Index	79 MBps
Far Cry	
640 x 480	134.55
1600 x 1200	150
DOOM 3	
640 x 480	244.2
1600 x 1200	202.1



goodies into the higher-end chipsets. That being said this board is very suitable for anyone looking for a decent mid-range solution with moderate overclocking potential.

These scores are just about equivalent to a P45s scores, meaning the GA-EP43-DS3L is right there in terms of performance. We'd like to point out that the new PCIe 2.0 interface makes a slight difference in the gaming performance results, particularly at higher resolutions which is significant to gamers and overclockers who will use such benchmarks. At Rs 8,500, the GA-EP43-DS3L is a well laid out, and moderately feature-rich offering. The important thing is the price difference between this and the higher P45 chipset, as boards based on that chipset will have more features, or possibly greater overclocking potential, as manufacturers pump more

Specifications

Northbridge—P43 chipset, Southbridge—ICH10, 16 GB DDR2 1200 MHz RAM support, all solid state capacitors, 1x PCIe x16 slot, 2x PCI slots, 3x PCIe x1 slots, 8x USB 2.0 ports, 7.1 channel Realtek ALC 888 audio solution.

Contact:
Phone: 40633222
E-mail: vivek@gigabyte.in
Web site: www.gigabyte.in
Price: Rs 8,500

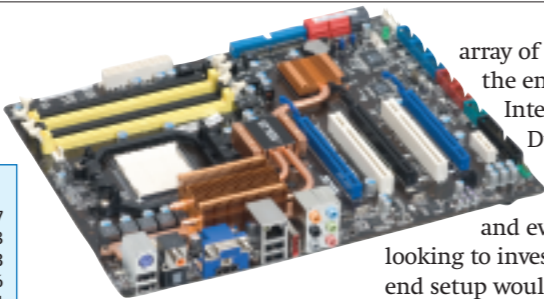
RATINGS	
Features	★★★★☆
Performance	★★★★☆
Build quality	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆

ASUS M3N-HT Deluxe NVIDIA 780a SLI On A Rampage!

The 780a SLI is an NVIDIA chipset designed for AMD Phenom and Athlon CPUs. It is the first chipset to feature *Hybrid* SLI, which is sorely missed on all 780i and 790i boards. Hybrid SLI allows an integrated NVIDIA graphics chipset to work in tandem with an NVIDIA GeForce 9xxx series or newer card. This helps increment performance and save power.

ASUS' M3N-HT Deluxe is a beautiful board. The build quality is absolutely superb, and the beautiful heatpipe solution keeps things cool. The CPU region is quite clean, and the use of high quality solid state capacitors

PC Mark 05	
CPU	5637
Mem	4208
GPU	11733
HDD	7216
Overall	7261
3D Mark 2005	
CPU	14173
DOOM 3	
640 x 480	163.3
1600 x 1200	159.5
Far Cry	
640 x 480	150
1280 x 1024	152.2
SiSoft Sandra 2008	
CPU Dhrystone	20102
CPU Whetstone	11238
CPU Multimedia Integer	122787
CPU Multimedia Floating	70929
Drive Index	78
Memory Bandwidth (Integer)	5156
Memory Bandwidth (Floating)	5147



array of features. At the end of the day, Intel's Core 2 Duos and Quads win the battle, and everybody

didn't escape us. The integrated graphics solution offers performance just below the GeForce 8400GS graphics card, and an HDMI port has also been provided—HD junkies take note. We tested this board with an AMD Phenom 8450 tri core CPU, 4 GB of DDR2 1066 MHz, WD Raptor 10,000 RPM HDD, and a GeForce 8800GTX.

At Rs 17,600 the M3N-HT Deluxe is uber costly, in fact a little too costly even for its

looking to invest in a high-end setup would go for an Intel solution. Only for AMD fan boys as of now.

Contact
Phone: 67668800 / 18002090365
E-mail: media_india@asus.com
Web site: www.asus.in
Price: Rs 17,600

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

CoolerMaster Hyper 212 Cool Skyscraper

The last famous CPU cooler from CM was the Hyper 6, which was large and heavy. CM has now decided to go all out to claim the performance to price ratio throne with the Hyper 212. Its attractive, large, and is an all aluminium (except for the copper base) tower type heatsink. It comes with a CM 120mm blue LED fan already attached. Build quality is goo. The heatsink is huge, larger than Thermalright's

Ultra 120 Extreme. The Hyper 212 is, however, surprisingly light for its size. While assembling the cooler, we found an issue with the tiny screws supplied to mount the bracket of the retention front plate on to the cooler—one of these screws didn't fit properly. Its easier to install as compared to other tower-type coolers since the CPU retention plate bolts on to the heatsink and this prevents the screws

from falling off once you reverse the motherboard to tighten the backplate on.

The Hyper 212 is accommodated easily on even heatpipe based boards. The option to install a second fan in a push-pull, (one fan pushes air, the other fan pulls this pushed air through), is available. However a second fan isn't provided.

We tested it using a Core 2 Quad Extreme QX9650 (3.0 GHz), comparing it against Intel's stock cooler and Thermalrights Ultra 120.

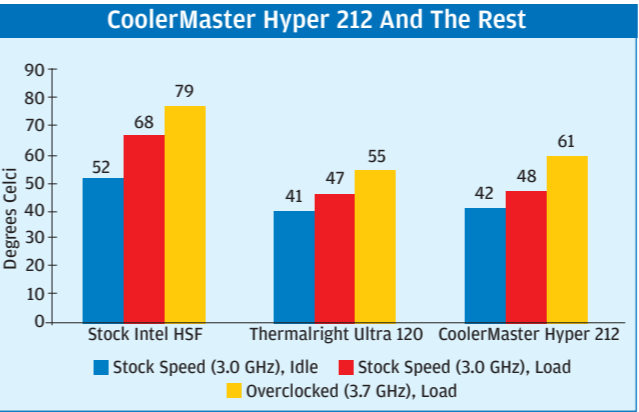
For loading the CPU we used WPrime. The results show great cooling at stock, although it loses ground on an overclocked setup. At Rs 2,250, its a well priced, great cooler for non hardcore overclockers, we wish it were less bulky, like the TR Ultima 90i.



Specifications

Tower type cooler, aluminium with copper base, 120mm fixed fan

Contact
Phone: 9833870302
E-mail: Tanmay_L@Coolermaster.com
Web site: www.coolermaster.com
Price: Rs 2,250



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

Aten ALTUSCN KE8220 Connectivity Galore

KVM solutions are pretty common, but this beauty is advertised as a *wireless presentation system*. The device is actually a multi-port KVM control unit that works on the basis of IP addresses. Just like regular KVM switches allow the user to juggle between two PCs desktops, the KE8220 allows the any PC/notebooks desktop environment to be transmitted to another PC/notebook or a display. It has WLAN (802.11 b/g) capabilities and that allows the user to make presentations without the need for switching cables. In terms of looks, the KE822 is a very simple, yet attractive looking device, housed in a

rugged metal shell, finished in all black. It looks like a miniature network hub sans all the ports. There's also a rack mount bracket provided. The best part of the inbuilt WiFi is that for use with notebooks and other such WLAN enabled devices no external access point is required. The KE8220 embedded Web server has software installed on it which users connecting to its network wirelessly can download. The software allows switching the display focus between computers—an enormous boon in case multiple people are giving presentations.



At the rear of the product you'll find an RJ45 connect for an Internet/LAN connection, and for WLAN purposes there's a single USB type A connect. There's one each of keyboard, mouse and monitor (D-Sub) connects. Note that both keyboard and mouse connects are USB based, so PS2 port based keyboards and mice are out.

We tested this device and used it to stream PowerPoint presentations and video files to our 32 inch Vu LCD screen, from one desktop PC, and two notebooks. The KE8220 works really well,

except that with four wireless clients connected we feel speed could become an issue. Maybe once 802.11n specification becomes standard we'll see a WiFi N version of this product. At Rs 22,500, this an IT concious business houses' dream tool—ease and flexibility of use.

Specifications

WLAN based on 802.11b/g, Video connect—D-Sub, Wired LAN connect—RJ45

Contact
Phone: 022 -25008962
E-mail: marketing@cubixindia.com
Web site: www.cubixindia.com
Price: Rs 22,500

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

Digital Tools | A-List

External Portable Hard Drives

WD Passport Portable (Black)

- ⊕ Excellent performance, good value
- ⊖ None in particular

Contact Champion Computers Pvt Ltd
Phone +91-11-26214751
Web site www.championindia.com
Price Rs 6,500



Digital Cameras (Upto Rs 16,000)

Canon PowerShot SX100 IS

- ⊕ Powerful zoom
- ⊖ Bulky and average build quality

Contact Canon India Pvt Ltd
Phone 1800-345-3366
E-mail info@canon.co.in
Price Rs 15,995



MP3 Player above Rs 10,000

Cowon D2

- ⊕ Very good performance
- ⊖ Slightly bulky

Contact Lipap Systems P. Ltd
Phone +91-9819917440
E-mail iaudio@lipap.com
Price Rs 11,000



Graphics Cards (High-End)

Galaxy GF8800Ultra

- ⊕ Sheer performance
- ⊖ Heats up

Contact Technology and Gadgets
Phone +91-22-23823331
Web site technologyandgadgets.com
Price Rs 35,000



Internal Hard Drives

Seagate 7200.11 500GB ST3500320AS

- ⊕ Value for money, performance
- ⊖ None in particular

Contact Fortune Marketing
Phone +91-11-2641 4468
E-mail sales@fortune-it.com
Price Rs 4,900

Internal Hard Drives

Seagate 7200.11 750GB ST3750330AS

- ⊕ Class leading performance
- ⊖ None as such

Contact Fortune Marketing
Phone +91-11-2641 4468
E-mail sales@fortune-it.com
Price Rs 8,900

Internal DVD-Writers

Samsung SH-S203

- ⊕ Performance, inexpensive
- ⊖ None in particular

Contact Samsung India Electronics Pvt Ltd
Phone +91-11-41511234
E-mail c.serrao@samsung.com
Price Rs 1,200

Graphics Cards (Mid-range)

ASUS EN8600GT

- ⊕ Well priced, fast
- ⊖ None in particular

Contact Asus Technology Pvt Ltd
Phone +91-22-67668800
Web site <http://in.asus.com>
Price Rs 8,800



The A-List



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



2.1 Speaker Sets

Altec Lansing MX5021

- ⊕ Excellent performance
- ⊖ Some minor vibrations in woofer

Contact Rashi Peripherals Pvt.Ltd
Phone +91-22-67090909
E-mail altec@rptechindia.com
Price Rs 7,600



5.1 Speaker Sets

Logitech Z-5500 Digital

- ⊕ Explosive power
- ⊖ Too expensive

Contact Logitech
Phone +91-22-26571160
E-mail kavita_nath@logitech.com
Price Rs 27,995

MP3 Players up to Rs 5,000

Apacer Steno A4351

- ⊕ Good performance
- ⊖ Tacky build, Screen quality

Contact Apacer Technology
Phone +91-80-25702208
E-mail suraj_raina@apacer.com
Price Rs 1,720

MP3 Players up to Rs 10,000

Samsung T10

- ⊕ Good music quality, nice screen
- ⊖ Tacky exterior

Contact Samsung India Ltd
Phone +91-11-41511234
E-mail jitendra.c@samsung.com
Price Rs 6,600



Projectors

NEC VT800

- ⊕ Excellent performer
- ⊖ Slightly pricey

Contact NEC India Pvt. Ltd.
Phone +91-11-4657 0000
E-mail enquiries@necindia.in
Price Rs 92,000

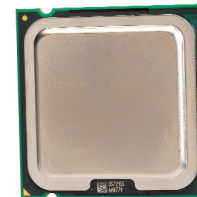


Processors

Intel QX6850 Core 2 Extreme

- ⊕ Extreme performance
- ⊖ Expensive

Contact Intel Tech India Pvt Ltd
Phone +91-9833823474
E-mail saranya.rustagi@intel.com
Price Rs 52,000



LCD Monitor LG 246Wp

- ⊕ Great performance and Build
- ⊖ Bulky, Slightly expensive

Contact LG Electronics India Pvt. Ltd.
Phone 91 - 120 - 2560900 / 940
E-mail sanjoyb@lgindia.com
Price Rs 28,000

Desktop PCs Sahara 20CK16

- ⊕ Great performer
- ⊖ Slightly bulky

Contact Sahara Computers & Electronics Ltd
Phone +91-120-4397777
E-mail info@saharacomputers.co.in
Price Rs 40,000



AMD AM2 Motherboards Gigabyte GA-MA69G-S3H

- ⊕ Well built, feature rich
- ⊖ None in particular

Contact Gigabyte Tech India Ltd
Phone +91-22-30616666
E-mail sales@gigabyte.in
Price Rs 6,900

Intel P35-based Motherboards ASUS P5K Premium

- ⊕ Excellent enthusiast solution
- ⊖ Expensive

Contact ASUS Technology Pvt Ltd
Phone +91-22-67668800
E-mail media_india@asus.com
Price Rs 15,870



Intel Integrated Graphics Motherboards Gigabyte GA-G33-DS3R

- ⊕ Very good layout
- ⊖ Expensive

Contact Gigabyte Tech India Ltd
Phone +91-22-30616666
E-mail sales@gigabyte.in
Price Rs 9,500

WiFi Routers D-link DIR-655

- ⊕ Excellent signal coverage
- ⊖ Expensive

Contact D-Link India Ltd.
Phone +91-22-3061 6666
E-mail sales@dlink.co.in
Price Rs 13,500

Multi-Function Devices

Canon Pixma MP 610

- ⊕ Terrific performer
- ⊖ Average Scanning quality

Contact Canon India Private Limited
Phone 1800-180-33-66
E-mail info@canon.co.in
Price Rs 15,995



PCI TV-Tuners

Leadtek Winfast PVR2000

- ⊕ Excellent video quality and software
- ⊖ Expensive

Contact Topnotch Infotronics (India) Pvt Ltd
Phone +91-44-42042565
E-mail naqui@zebronics.net
Price Rs 5,500



Laser Printers HP LJ P1007

- ⊕ Compact and fast
- ⊖ Nothing Specific

Contact Hewlett-Packard India Sales Pvt Ltd
Phone 1800425499
E-mail cic.quality@hp.com
Price Rs 6,999

Multimedia Cell Phone above 20,000

- ⊕ Features Galore
- ⊖ Slider Quality

Contact Nokia India
Web site www.nokia.com
Price Rs 28,000



Multimedia Cell Phone Upto Rs 8,000

Sony Ericsson K550i

- ⊕ Compact
- ⊖ Lacks Features

Contact Sony Ericsson Mobile Comm. India Pvt Ltd
Web site www.sonyericsson.com
Price Rs 7,354

Business Device

Nokia Communicator E90

- ⊕ Extremely powerful
- ⊖ Heavy, bulky

Contact Nokia India
Web site: www.nokia.com
Price Rs 40,499



Value Executive Phone Nokia E51

- ⊕ Loads of features
- ⊖ None

Contact Nokia India
Web site www.nokia.com
Price Rs 13,000

Office Inkjet MFDs

HP Photosmart C4188 All-in-One

- ⊕ Good print quality
- ⊖ No fax

Contact HP India Sales Pvt. Ltd.
Phone +91-124-2566111
E-mail kakuni.mahto@hp.com
Price Rs 7,999

DVD/DivX Players



Samsung DVD-1080P7

- ⊕ Great looks and performance
- ⊖ No 5.1 channel RCA

Contact Samsung India Electronics Pvt. Ltd.
Phone +91-11-41511234
E-mail shailja.m@samsung.com
Price Rs 2,990

Mice

Logitech MX Revolution

- ⊕ Has a flywheel
- ⊖ Expensive

Contact Logitech Electronic India Pvt Ltd
Phone +91-22-26571160
E-mail response@logitech.com
Price Rs 8,000

Laptops

Dell XPS 1530

- ⊕ Well built, powerful
- ⊖ Heavy

Contact Dell India
Phone +1-800-4254026
E-mail Online_India@dell.com
Price Rs 49,900



Soft Where?

Answer the questions, why, what, where and how to buy software for your business

Agent 001

Last month I took you through the process of buying hardware for a small office, but without the right software installed, all that hardware is useless. In this article, I will take you through the processes involved in buying software for a small office setup.

Piracy is rampant, and India is no exception—9 out of 10 people in India have pirated software installed on their machine. Worst, most of them are not even aware of this fact. With cyber laws in place, it would be prudent not to be on the wrong side of the law. That's not the only reason why one should buy genuine software though. Legal obligation aside, if you are using pirated software, critical updates and patches required to bolster security against viruses, worms and other malware are not made available to you, which leaves your entire computer network open—a situation which should be avoided at all costs, especially in a business environment.

Buying legal software also entitles you to technical help from the vendor. Initially, this might seem unimportant, but as your business grows and dependence on IT increases technical help becomes a critical factor. For example, you might want to customise the accounting software to your needs, or might want to merge two different databases, or want your old database made available on a newer version, in such situations vendors are your best bet and buying original software from them automatically gives you bargaining power.

Proprietary Or Open Source?

Once you have made up your mind to invest in software, the immediate question that arises is, "Should I opt for Free, Open Source software, or pay and buy proprietary software?" The answer to this question depends on the kind of infrastructure you want to put up, and whether you will have a resident technical person looking after it. Both Open Source and proprietary software have their distinct advantages, and hence a healthy mix of both should be used to maximise return on investments (ROI). In a client/server model, which will be used in most organisations, Open source can be deployed on the server side and Windows can (should) be used on the client side. Such an approach will return good ROI and on a technical level will offer a robust platform.

For an office with more than 10 computers it's better to have a technical administrator overseeing matters. If he is competent in Open Source Software (OSS) then deploying OSS might be an option. Even if you have a consulting Open Source Software expert, deploying OSS can be considered. The key in deploying OSS is the availability of technical competence.

Can't Linux be deployed on the desktop too? Technically, yes, there are many opportunities to deploy Linux on desktops. If you are running a technical firm, for example, software development, where there is no dearth of technical people, you can deploy Linux on the desktop. Also, if you're looking at a customer service and data entry department, where only data read/write happens from databases, Linux can be deployed. However, in the case of an Accounts department, the Marketing, creative department, etc., Linux on the desktop isn't recommended. People from such departments are generally accustomed to the Windows environment, and expecting them to unlearn it and learn Linux can be a serious challenge. In order to improve bottom-line and ROI, don't blindly push Linux as it might prove counter-productive.

First Things First

An operating systems (OS) is the first software you need to install on all machines. Microsoft's Windows is widely used and is very popular. Windows XP and Windows Vista are the two versions which you will come across most often, as they are pre-loaded by PC and laptop vendors. Windows is not the only OS available though, Mac OSX by Apple and various flavours of Linux are also available. In a business environment, you need two types of OSes; desktop or client OS and server OS. Windows XP and Windows Vista are client operating systems whereas Windows Server 2003 is a server operating system.

Before any software is purchased, pay close attention to its licensing policy. A license is nothing but terms and agreements related to the use of that particular software. Let's take some examples here to clear the mysteries surrounding Windows products. Microsoft's software can be bought in three ways namely, OEM, Buying online and Dial-a-software. Vendors such as Dell, Lenovo, Wipro, etc., offer pre-loaded operating systems with their PCs and laptops—these fall under the OEM bracket.

At times, you may come across OEM OSes being offered in the grey market at lower rates. Though they appear to be genuine software with proper license keys, they have to be used with the hardware they were originally meant for. If you buy a PC or a laptop without an OS, then you can buy it online or get it from your local Microsoft partner by simply calling them. In either case you will get a license for your personal use. For e.g. typically when only a single copy is ordered you get the software packed in a box and hence it is termed as Box license. This license is valid for only a single machine which means you can only install it on one computer.

But most offices have more than one computer, for such scenarios, volume licensing should be considered. Most vendors specify the minimum amount of licenses one needs to order before their request is considered for volume licensing. Under volume licensing, you can just buy a single copy of that particular software and install it on as many computers you have. For every computer you install it on your vendor provides you a paper license. If you have 100 computers then you need to possess 100 paper licenses but you need not buy 100 software boxes just a single box would do. When you buy any software it is often validated by entering a code often known as serial key. Under volume licensing you only get one serial key to be used across 100 computers; this saves lot of administrative trouble.

When opting for volume licensing, always think forwards. Today, your office might have just 20 computers, but if you expect it to grow to say 50, it is advisable to buy 50 licenses before hand. This is because the more licenses you buy at once, the better your bargaining power. Also, keep a look out for combo deals. If you are buying OSes, it's likely that you will need to buy office productivity suites such as MS Office as well. If this is so, ask for combo deals. Getting deals on software purchases are very easy in India, because we are so used to not paying for software in India, that vendors and dealers are eager to sell, even at lower prices. Bargain hard, they will give in.

When it comes to server operating systems, there is yet another type of license, often known as Client Access License (CAL). Here the licenses depend on the number of clients that would connect to the server. So, in our case we need 100 CAL to be on the safe side. For small offices, this could mean heavy investment, and Open Source alternatives are welcome.

Alternatives, such as Linux as server operating system workout great in the longer run. Not only will you save money but Linux on a server is a more robust solution. RedHat, SuSE, Mandrake, Ubuntu etc are some of the distribution you can get for the server side. Ubuntu, which is a rage nowadays, also has a special server edition called

LTS (Long Term Support), which, as the name suggests, are kept alive for longer periods before a new version is released thus ensuring stability over longer period.

Productivity

At some point in time, everyone uses word processors, spreadsheets, presentation applications and some database application. Microsoft's Office is the most widely used office productivity suite in the world, and it completely deserves the credit. Word, Excel, PowerPoint and Access are often used, but not everyone may use all these applications in their profession—hence Microsoft offers eight editions of its favourite suite.

If you only need Word, Excel and Outlook (e-mail client) then MS Office Basic 2007 is the way to go. Microsoft Office Standard 2007 comes with all the three in Basic plus PowerPoint and that should be enough for most offices. These two editions are more than enough for any small office; you need not look into the remaining six editions. Licensing is similar to Microsoft's Operating system as described earlier, and volume licensing is also available for Office products.

If you have limited budget, then MS Office might not work out in your favour. In such a case, you can definitely opt for Open Source office applications such as OpenOffice.org. This open source office is very similar to MS office in terms of user interface and has nearly all the features you need. People who swear by Excel initially may have some difficulties working with Calc (Excel alternative), but persistence pays rich dividend. My advice would be to begin with OpenOffice, if things don't work out get Microsoft office.

Accounting department needs more than just office application for keeping track of daily expenses and I would recommend investing in proper accounting software. Tally is well known in the accounting circle and I would recommend it for two reasons; first, it is good and second every fresh commerce graduate coming out of college ensures to learn Tally and hence competent work force is available easily. There is other good Accounting software available too, for example from Wingsinfo.net, who has wider range of products to choose from but then staff training will be required. Most of these accounting software are available as single user license but if you want to deploy it across your accounting team then Multi-user license will be required. A single user license copy can be bought for no more than 10K—no really expensive for something which will help manage assets worth lacs.

Every office creates some kind of database be it customers, clients, subscribers or just simple inventory. Every office needs a good database to ensure business runs smoothly. Microsoft's Access can be used to good effect for creating small but powerful databases and it wouldn't cost you a

bomb to buy it. Oracle, MySQL are other database applications which should be considered if your database will eventually run into thousands of records. For a small office, Access would be more than enough to get the work done.

Security

Each computer on your business network should be properly secured against viruses, worms, Trojans and malicious spywares. The general trend is to install a copy of an Anti-virus on each machine, and further bolster it by having personal firewalls and spyware removal tools running in the background. Well, that's passé; I will suggest a better way.

It's not enough to have an Anti-virus running on all PCs, as they need to be periodically updated with recent virus signatures. Most people often forget to do so, or the update fails due to numerous reasons. Instead of opting for individual anti-virus licenses, you should consider deploying an anti-virus server. In such a system, the anti-virus is running on a server and its client runs on individual machines. The advantage is better manageability, higher efficiency and total control. Only the anti-virus server connects to the Internet and gets the new virus signatures, and then it automatically updates all the client machines without human intervention. This not only saves time and effort, but also minimises the use of Internet bandwidth, since the signature file is downloaded just once. The anti-virus server should be hosted on proper server hardware though, or at least on a powerful PC to ensure smooth operation.

In terms of manageability, a system administrator can check the status of each client from his desk, and can mend problems without getting up from his seat. He can also force check any machine on the network for viruses and other malicious content, thus ensuring a virus free network. Anti-virus applications are more affordable these days, and they are a must if you're ever going to protect your data—so make sure to budget for them. You will easily earn back the investment in terms of man hours by keeping your network virus-free.

installing a firewall on or between the gateway and your network, spyware problems can be tackled. This, in conjunction with a proper proxy server will save you a lot of headaches in the long run.

There are many types of firewalls available, individual machines can have personal firewalls, and some examples are ZoneAlarm, Comodo, etc., but these are not as effective as network level firewalls. An old Linux box (PC) with correctly configured IP Tables can be turned into an excellent network firewall. Proprietary hardware firewall devices are also

available, but they are expensive, and you have a large network, these can be ignored.

Network

The Internet plays a pivotal role in all offices today, and as a resource, it needs to be shared amongst all computers on the network. A decent speed Internet connection won't come cheap, and hence every effort has to be made to ensure as a resource it is properly shared and utilised. Setting up a proxy server is the best way to do this. Linux can be put to good use here, as one of the best proxy servers, Squid, is available for free. Squid is an excellent proxy server, and to be effective, it needs to be configured properly. Also, it is a caching proxy server, so you should pay attention to utilising and exploiting this to its maximum. Though Squid is deployed by many, the caching part is often left out, which is not advisable. Implement it properly, and you will tell the difference in terms of Internet speeds. On the hardware front, even an old machine will do. So long as you upgrade the RAM and put in a new hard disk, there's not much that can go wrong here.

The Internet plays a pivotal role in all offices today, and as a resource, it needs to be shared amongst all computers on the network. A decent speed Internet connection won't come cheap, and hence every effort has to be made to ensure as a resource it is properly shared and utilised. Setting up a proxy server is the best way to do this. Linux can be put to good use here, as one of the best proxy servers, Squid, is available for free. Squid is an excellent proxy server, and to be effective, it needs to be configured properly. Also, it is a caching proxy server, so you should pay attention to utilising and exploiting this to its maximum. Though Squid is deployed by many, the caching part is often left out, which is not advisable. Implement it properly, and you will tell the difference in terms of Internet speeds. On the hardware front, even an old machine will do. So long as you upgrade the RAM and put in a new hard disk, there's not much that can go wrong here.

In all probability, have at least one Linux machine on your network running. This machine can be used to administrate the proxy server, file server, and firewall, or it can also be used to diagnose network related problems. Get a good network analyser such as WireShark (formerly Ethereal) to detect network problems. Such a machine can also be used for remote administration of Servers, FTP transfers, etc.

I hope this guide helps you to grasp the basics involved in selecting the right kind of software for your small organisation. If you have any suggestions, queries, questions or need any help, drop us a mail and I will be glad to listen and help you. ☐

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Printers Test

Sanket Naik

In the early days of personal computing, printers and scanners were the chosen peripherals one would buy along with their PC. Then, printers were expensive and the consequent running cost would limit their use to occasional printing and very few could afford them. But today the prices have fallen and one can easily buy a small printer for not more than Rs 3,000. Also, Inkjet printers were the only option because Laser technology was new and laser printers would cost five times more than a similar spec inkjet printer. Today a good laser printer can be had for not more than Rs 5,000.

Printing technology has made rapid advancement in the last couple of years, and today they boast of mind-numbing speeds and photolab printing quality, irrespective of whether you choose Inkjet or Laser. Inkjet printers were typically known to be better at producing

Laser and inkjet printers tested across two categories to help you find the right solution for your business

coloured printouts at lower speeds. Laser printers were known to deliver mono prints at impressive speed and proved economic in the longer run. But now you get Inkjet printers which offer similar benefits as laser printers and vice-versa.

Volume of printing should be used to decide the type of printer except in some special cases. Laser printers work out cheaper when print volumes are high—100 pages a day. On the other hand, for 10 pages a week, an entry level inkjet printer is sufficient.

In this test we are looking at both laser as well as inkjet printers, but not exceeding Rs 20,000. The Inkjet printers have been divided into two distinct classes. Products for home and small offices and photo printers with loads of features. For lasers, there are two categories as well: for personal lasers, we have grouped all laser printers below 10,000. Then there's the small workgroup laser printers priced between 10K to 20K, for

SoHo applications. We will begin with the laser category first and then look into the inkjet products.

Laser Printers

Personal Laser Printers

As the name suggests, these are laser printers for personal use. In this category we got nine printers priced between Rs 4,000 and 10,000. For clarity, we have further divided them into two categories.

Brother's HL-2140, Canon's LBP 2900B, Samsung's ML-1640 and Xerox's 3117 printers are priced below Rs 6,000, and form the entry-level personal laser group.

Features

A personal laser will often be kept near your desk and hence it has to look good. Canon's LBP 2900B excels here due to its intelligent design and compact form factor. Samsung's ML-1640 has a familiar design, but the proportions are well within acceptable limits.

Xerox 3117 replicates Samsung's design, but is finished in white. The HL-2140 is a new series from Brother and is designed to appeal with its low profile, horizontal layout—but it uses more desk space.

Laser printers are often defined by their speed given as PPM (pages per minute). All these devices nearly delivered on their speed promises. Importantly, each device was able to print the first page within 10 seconds and that matters more than PPM. Except for Canon, all other printers are equipped with 8 MB of onboard memory. But despite lower memory, the Canon machine is just as fast when printing the first page. Canon uses system memory, a method it calls CAPT, and it's definitely delivering the goods.

Canon's LBP 2900B, Samsung's ML-1640 and Xerox's 3117 had paper trays that tuck away into the printer when the flaps are closed. However, Brother's HL-2140 has a paper cassette which holds paper, due to this design the Brother printers seem to occupy more space. You have to remember that in the first three printers, the paper trays extend from the body, and this uses nearly the same space as the Brother HL-2140 does. Hence, all four printers irrespective of their design need same amount of desk space.

Eco mode is available on all these printers and can be set via the driver settings. In the Eco mode, the printer uses less toner and hence less electricity too. Automatic dual-side printing is not offered on any of these printers. The drivers provided with each of these printers offered extensive control over the device.

The usual options for paper, orientation, quality were present and other pre-defined options for printing text, graphics, photos were present for one touch selection.

Performance

On printing speed, Canon's LBP-2900B was ahead of other printers on most of the tests we put it through. The first printout is delivered in just 10 seconds, while the rest take 11 seconds. When printing large files such as the combi-document, the

CAPT technology helps the Canon maintain the lead. Both Samsung and Xerox deliver almost identical performance figures, with the Brother HL-2140 trailing slightly behind.

If we scrutinise print quality, then Brother's HL-2140 delivered excellent results, followed by Samsung and Xerox. Canon's LBP-2900B missed out on some details especially in the lighter shades of the grey scale. Graphs are faithfully reproduced by the Brother, Samsung and Xerox printers, and Canon does a good job, but misses out on finer details. With respect to laser printers tested a couple of years ago, all the four printers here are remarkably better in terms of print quality—especially in the graphics department. The result is smooth consistent-looking images, without any gradient or pixilation.

If you are on a shoestring budget, and want a laser printer, then go for Xerox 3117. Both the Samsung

ML-1640 and Brother HL-2140 are excellent buys—just make sure your dealer readily stocks their toners. We have chosen Brother's HL-2140 as the *Best Buy* over Samsung's ML-1640 simply for its better performance and bigger paper tray. If Brother Printers are not available in your locality, then the Samsung ML-1640 should be considered.

Brother's HL-2150N, Canon's LBP 1210, HP's P1007 and P1008 and Samsung's ML-2245 are all priced between Rs 6,000 and 10,000, and they form our next category of premium personal laser printers. These machines offer higher duty cycles, and hence can take some thrashing. They also offer some additional features such as networking options and higher speeds.

Features

The P1007 and P1008 are new laser printers from HP and sport a modern design. The Brother HL-2150N is identical to the HL-2140

How We Tested

Our test-bed comprised of a Pentium 4 3.2 GHz processor, plugged to an Intel 875PBZ motherboard, with 512 MB of corsair 400 MHz DDRRAM, MSI Ti4800 display card and 40 GB 7200 rpm ATA IV Seagate Barracuda hard drive. We used Windows XP with SP1 as our chosen operating system. The system was made up to date by loading all the latest chipset drivers and graphics driver. The USB patch for windows XP was also installed and the devices were connected on the USB 2.0 port for optimum performance. We used 100 gsm papers for doing all test except for the drain test where we used 75 gsm papers. For printing photographs, we used NovaJet's 130 g/m² inkjet photo paper across all the printers, since they are widely available across the country.

We tested all the printers on the same test benchmarks which comprised of a text document, a combi document, a continuous document and an image file. These test documents incorporate every small detail that a printer will need to reproduce right from smallest point text, lines, specular effect (shining) on metal, etc.

The combi document has many sections with text of varying points; lines draw in a circle, seven colour bars of decreasing gradient and a small picture at one corner.

Each of these subsection tests the printer's ability to reproduce every detail exactly as seen in the original file. The varying text point size test the printers ability to reproduce even the smallest possible text, in other word it test the spatial resolution of the printer when it comes to printing text. Where as the circle of lines test the printer's ability to reproduce lines without jarring the edges. Similarly the seven colour bar test the colour reproduction capabilities of the printer cartridges.

The continuous document is a small report with bar graphs, pie charts, line graphs, images and test all spread over six pages. We choose this document as it resembles the real world usage in most cases.

The image document is made up of many elements, with varying contrast and brightness areas. This document test the printers colour reproduction ability on a photo paper, so that the final output looks as striking and brilliant as that taken from a studio.

All the test files were printed for two different quality settings, except for the test image. The text and the combi-document file were printed at Normal and Best quality settings, where as for the image file we used only the best quality settings.

and has the same low profile horizontal design. Samsung's ML-2245 is similar to ML-1640, but larger in dimensions. Canon's LBP-1210 has been around for a while, and its bulbous design feels dated.

Brother's HL-2150N comes equipped with inbuilt Ethernet network support, apart from the ubiquitous USB. All other printers offered only a USB 2.0 connector. Further, the HL-2150N comes with 16 MB of buffer memory as compared to 8 MB seen on the others. However, the higher memory doesn't seem to help the HL-2150N perform better. Canon's LBP-1210 had a Parallel port and as we said, this is an old printer from Canon—it's fast though.

Brother's HL-2150N and Canon's LBP-1210 had dedicated paper trays, and hence could hold 250 sheets. All the other printers had standard 150-sheet capacity trays. HP's P1008 also has a substantial 100 page sheet feeder, whereas Canon's LBP-1210 has a 10 page manual sheet feeder. None of these printers had automatic dual-side printing support; it's a feature which saves lot of paper.

Installing these printers was a breeze, and there were no problems. The driver interface is intuitive, and the settings can be changed without any fuss. There are pre-defined profiles which can be used with a single-click of the mouse. The driver allows extensive control over the device and also gives full details on the toner and drum life in all printers.

Performance

HP's P1008 and P1007 set the performance benchmarking by delivering the first print—9 seconds flat. This was observed in all tests we put these two babies through—even when printing heavy documents, both the HP printers completed



Brother HL-2140

the job in just 13 seconds. In this speed run, Samsung's ML-2245 was just behind the HPs. Brother's HL-2150N took slightly longer than the other printers when printing heavy documents; otherwise its performance was on par with Samsung's ML-2245. Canon, despite being an older model, competed well with these new models, and was even faster than the Brother HL-2150N in some tests.

In print quality, Samsung's ML-2245 delivered sharp and well-detailed printouts. The ML-2245 was right up there with HP printers in most of the tests, and scored even better in some. The only area where the Samsung was well and truly beaten by the HP was when reproducing light shades of grey. Brother's HL-2150N delivered reasonably good printouts. Canon's LBP-1210 couldn't compete with these new age printers, we think it's about time Canon should pull the plug on the LBP-1210.

Samsung's ML-2245 is sensibly priced and given its terrific performance we award it our *Best Buy* award. HP's LaserJet P1007 takes the coveted *Editor's Pick* for its balanced package of good performance, acceptable features, sensible pricing and terrific after sales support (unit level replacement and ready availability of consumables).

Small Work Group Laser Printers

Brother's HL-2170W, Canon's LBP-3300, Samsung's 2850D and HP's 1505 are the contenders in the small work group laser printer category.

Features

Let's begin with Brother's HL-2170W. This was the only laser

printer to offer maximum connectivity options. It offers wireless connectivity via 802.11 b/g protocol and have Ethernet as well as USB 2.0. Setting up the Wi-Fi is easy and can be done via the settings panel, and can be secured using the strong WAP2 protocol. Brother should consider offering a higher capacity paper cassette as optional though.

Canon's LBP-3300 has a vertical design profile and hence requires less desk space. The base model doesn't come with Ethernet but it is available as option. Dual-side printing is offered as standard. The paper tray holds 250 sheets, but with dual-side printing one can print 500 pages.

Samsung's ML-2850D sports the familiar boxy design but the use of good looking materials gives it a pleasing look. Samsung offers optional 250 paper cassette and 128 MB memory upgrade.

The HP P1505 sports larger dimensions, but designed cleverly to look good on a desktop. The P1505 is the base version and comes with just 2 MB of memory, but the higher spec P1505n comes with 8 MB of memory and Ethernet inbuilt.

Performance

HP's P1505 took the performance crown in the speed test by delivering printouts at sensational speeds. First page came in record breaking 6 seconds flat. The combi-document which generally takes 14 seconds to get printed was delivered in just 9 seconds. Samsung's ML-2850D came in second place as far as speed is concerned and averaged about 10 seconds on various speed tests we put it through. Canon's LBP-3300 and Brother's HL-2170W were neck and neck, and in most of the tests Canon was ahead by small margin of 2 seconds.

HP continued its dominance in the print quality test too, delivering crisp printouts. Finer details were faithfully reproduced. The grey scale gradients, graphs, lines, concentric patterns were printed immaculately without jarring edges. Samsung's ML-2850D was equally impressive as HP and delivered near sharp print-

outs. Canon's LBP-3300 and brother were locked in a close battle for the printout quality too. In some test Brother was marginally ahead of the Canon and in some Canon dominated but none of these two could match HP or Samsung.

HP's laserJet P1505 takes away the *Best Buy* award due to its terrific performance and sensible pricing, not to mention the wide after sales support HP has pan India. Samsung's ML-2850D also makes a good buy if you are willing to spend a thousand more for the dual-side printing and future upgrades.

Inkjet Printers

Home & SOHO printers

Features

In this category we had six such products which fit our criteria. Two printers each from HP, Canon and Epson.

The Stylus T11 is the newest in the extensive range of printers from Epson and the cheapest printer available on the market. Neatly designed the exterior panels show no signs of cost cutting, in fact it looks upmarket and would definitely appeal to a large audience. Under the hood, the T11 comes with meagre 32KB of memory and it is USB 1.1 compatible; not the recipe for fast printing.

HP 910 comes from the small cute looking series it had introduced a couple of years ago, but still retains the charm. Compact, laced with right kind features the HP 910 surely makes for a good home printer atleast on paper. It has 384 KB of memory and interfaces using full speed USB 2.0.

Canon's iP2580 is the smallest baby in the PIXMA range of printers known for their terrific print speed and equally impressive print quality. The iP2580 is beautifully designed and the exterior are classy for this category of products. The iP2580 uses Canon's CAPT technology to good use and relies completely on your system memory for delivering printouts at unbelievable speeds.

All three printers above are entry level devices from respec-



HP P1007

tive vendors and are devoid of any frills such as memory card readers, PictBridge, direct CD printing, etc. Moving a step ahead we have Canon's iP-3500, Epson's Stylus C110 and HP's PS-D5368 offering few more features which would appeal to the SoHo audience.

Canon's iP3500 is a step up from the entry level iP 2580, and offers some additional features. Designed in much the same way as other PIXMA range of printers—boxy yet good looking due to use of translucent material. The iP-3500 also has dual paper path wherein paper can be fed from the top as well as the both cassette. Auto dual-side printing feature isn't available though. The printer is PictBridge compatible and interfaces via USB 2.0.

HP's PS D5368 as the name implies comes from the PhotoSmart series which are



HP P1505

capable of printing photographs. Amongst the three printers here, the HP PS D5368 is loaded with utility features. First, it comes with a small LCD display which helps in printing photographs without connecting it to a PC. It has inbuilt memory card reader to do so, but doesn't support PictBridge. Second it features dual-side printing and hence would save lot of paper in the longer run. Third, HP has provided a tray for printing directly in CD/DVD, albeit you need media

which support direct printing.

Epson's C110 is the typical non-sense office printer with the right mix of feature and performance. We did like to see Epson to include dual side printing support for it to be the perfect office printer. Apart from faster print engine and more memory there is hardly any other feature it offers over the Stylus T11.

Performance

Coming to print speed, Canon's iP2580 literally murders HP 910 and Epson stylus T11. In some test such as the photograph printing, the difference is staggering—6 minutes to be precise. We have seen the PIXMA print engine blew the competition away in our earliest test and hence this result wasn't any surprise to us. Between HP 910 and Epson T11, HP is much speedier. In the photograph printing test the Epson stylus T11 took 9 minutes to deliver the printout, when HP 910 did it in 5 minutes and Canon iP-2580 took just 3 minutes. One thing to remember though is these printers will rarely be used for such heavy printing. They are meant for light text and graphics.

Image quality is HP's playground and the 910 doesn't disappoint. The text printouts are flawless with hardly any jarring edges or smudges. The colour printouts are vibrant and saturation is perfect. The photograph we printed was reproduced as is with hardly any tonal deviation. Interestingly, Epson's T11 does better job than Canon's iP-2580, though both are equally matched when printing text, the same cannot be said when printing graphics. Overall, it was HP 910 which delivered exceptional results in the print quality test.

In the SOHO category, Canon's iP-3500 sets the benchmark for printing speed and delivers the fastest printout. However, in this category the other two contenders from HP and Epson are fast enough and are behind by smaller margins as compared to the home category of printers. Epson's Stylus C110 is ahead of both Canon and HP when printing text documents, it's only when printing large graphic files



	Personal Laser Printers									Small Workgroup Laser Printers			
Brand Model	Brother HL-2140	Canon LBP 2900B	Samsung ML-1640	Xerox 3117	Brother HL-2150N	Canon LBP-1210	HP 1007	HP 1008	Samsung ML-2245	Brother HL-2170W	Canon LBP-3300	Samsung ML-2850D	HP P1505
													
Features	20.90	20.22	20.60	20.60	22.62	22.04	19.18	21.70	20.60	23.42	24.74	24.22	21.90
Performance	38.70	36.58	38.63	37.43	39.58	33.75	43.75	43.75	42.73	39.67	40.09	43.23	46.81
Price	5900	5995	5299	4704	9090	7195	6999	8299	6999	11810	13695	12999	11299
Warranty	1 Year	2 Year	1 Year	1 Year	1 Year	2 Year	1 Year	1 Year	1 Year	1 Year	2 Year	1 Year	1 Year
Pros	Appealing design, fast printer	Fast printing speed	Good overall performance	Affordable	Networking built-in	Parallel port present	Compact and fast	Fast and superb print quality	Reasonably priced	Connectivity galore	Appealing design	Upgradable memory	Terrific printing speed
Cons	Larger footprint	Small paper tray	Nothing specific	Nothing specific	No Dual side printing	Mediocre print quality	NA	No dual side printing	No dual side printing	Dual side printing missing	Nothing specific	None	No dual side printing
Features (40%)													
Print PPM	22	12	16	16	22	14	14	16	22	22	21	28	23
Resolution (dpi x dpi)	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600
Interface (USB, Parallel, Network etc)	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0, Ethernet	USB 2.0 and parallel	USB 2.0	USB 2.0	USB 2.0	USB 2.0, Ethernet, WiFi 802.11 b/g	USB 2.0, Ethernet optional	USB 2.0	USB 2.0, Ethernet Available
Input buffer (Kbytes)	8 MB	2 MB	8 MB	8 MB	16 MB	2 MB	2 MB	8 MB	8 MB	32 MB	8 MB	32MB	2 MB
Buffer Memory Upgradeable / Up to	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	128 MB	NA
Paper capacity (Input / Output)	250 / 100	150 / 100	150 / 100	150 / 100	250 / 100	250 / 125	150 / 100	150 / 100	150 / 100	250 / 100	250 / 65	250 / 150	250 / 150
Eco-Mode	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Duplexing (Auto/ Manual)	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Auto	Auto	Manual
Usability (Printer settings, Driver interface, etc)	6.33	6.17	6.42	6.42	6.33	6.17	6.83	6.67	6.42	6.33	6.67	6.50	6.92
Data cable / Power Cord	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓
Troubleshooting guide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Quick setup guide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Performance (45%)													
Speed test (in sec)													
First Print out	11	10	11	11	11	11	9	9	10	11	11	10	6
Point Size Document at Normal	11	11	11	11	11	11	9	9	8	10	11	9	7
Point Size Document at Best	13	11	12	12	13	11	10	10	10	13	11	10	7
Combi document- Normal	15	14	14	14	16	13.5	11	11	14	16	14	12	10
Combi document-Best	16	13	15	15	16	14	13	13	14	16	14	14	9
Pie Chart	12	13	11	11	11	11	10	10	11	12	13	10	9
Line Graphs	12	11	12	12	12	11	10	10	11	12	11	10	9
Image Quality Test													
Point Size Document	7.5	7.5	7.5	7.5	7	7	8	8	8	7	7.5	8	8
Combi Document (Normal & Best)													
Text print	7	7	7	7	7.5	6	8	8	8	7.5	7	8	8
Resolution of circles on concentric pattern	6.5	6.5	7.5	7.5	7	5.5	7.5	7.5	8	7	7	8	8
Uniformity of colors in lines of concentric pattern	6.5	6.5	7	7	7	5.5	7.5	7.5	8	7	7.5	8	8.5
Seven color bars - how many differentiated?	7.5	5	5.5	5.5	7.5	5.5	8.5	8.5	8	7.5	7	8	8.5
Yellow text on black background	6.5	4	7.5	7.5	7.5	6.5	8.5	8.5	7.5	7.5	7.5	7.5	8
Quality of small photo	6	6	6	6	6.5	5.5	6.5	6.5	6.5	6.5	6.5	6.5	6
Highlights on red berries	7.5	5	7	7	7.5	5.5	7.5	7.5	7	7.5	7.5	7	8
Details on fruit	7	6	7	7	7.5	5.5	8	8	7.5	7.5	7.5	7.5	7.5
Grille on the wooden plate	7	7	6	6	7	5.5	7.5	7.5	7	7	7	7	7.5
Minimum readable text point size	6.5	6.5	6.5	6.5	6.5	5.5	6	6	6.5	6.5	6.5	6.5	6.5
Image Quality Graph													
Pie Chart Saturation	7	7	6.5	6.5	7.5	5.5	8	8	8	7.5	7.5	8	8
Background colouration	6.5	6	6	6	7	5.5	7	7	7.5	7	7	7.5	7
Background Pattern	7.5	8	7.5	7.5	7	5.5	7.5	7.5	8	7	7	8	8
Line Details	7.5	7.5	7.5	7.5	7.5	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7



Inkjet Printers	Home Inkjet Printers			SoHo Inkjet Printers			High-end Inkjet Printers			
Brand Model	Canon Pixma iP2580	Epson Stylus T11	HP 910	Canon iP3500	Epson Stylus C110	HP Photosmart D5368	Canon iP4500	Epson Photo R230	Epson Photo R290	HP Photosmart D7268
										
Features	14.2	13.06	14.14	17.09	14.48	24.51	22.47	16.26	16.26	25.41
Performance	40.96	35.54	40.30	43.94	37.91	43.13	46.95	36.90	39.40	43.06
Price	3995	2199	4999	5995	5299	5599	7995	6999	8499	7199
Warranty	1 Year	2 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year
Pros	Fast print engine	Very Affordable	Superb print quality	Dual paper path	Fast print engine	In-built Dual side printing	Very fast printer	Good software bundle	Relatively fast	Loaded with features
Cons	Mediocre Print Quaiity	Very Slow	Pricey	Relatively pricey	Less features available	Nothing specific	No memory card reader	Slow printer	Photos lack punch	No dual side printing
Features										
Resolution (dpi x dpi)	NA	5760 x 1440	4800 x 1200	4800 x 1200	5760 x 1440	4800 x 1200	9600 x 2400	5760 x 1440	5760 x 1440	4800 x 1200
Interface (USB, Parallel, Network etc)	NA	USB 1.1	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0 , Ethernet
Input buffer (Kbytes)	System Memory	32KB	384KB	System RAM	64KB	NA	Systetm RAM	128 KB	64 KB	64 MB
Paper capacity (Input / Output)	80 / 25	80 / 25	80 / 25	250 / 50	120 / 25	120 / 50	300 / 50	120 / 25	120 / 25	100 / 50
Duplexing (both sides printing)	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗
Photo-Printer specific										
Display (Normal / Touch)	✗	✗	✗	✗	✗	✓ / Normal	✗	✗	✗	Touch
Memory Card Reader	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓
Pictbridge	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓
Direct CD Printing	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓
Data cable / Power Cord	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓
Troubleshooting guide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Quick setup guide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Usability (Installation, Driver Interface, printer set-tings etc)	6.64	6.21	6.57	7.21	6.29	7.29	7.21	6.50	6.50	7.79
Software Bundle	Printer Driver, Easy PhotoPrintEX, Solutions Menu, Adobe RGB, MyPrinter	Epson EasyPrint Module, PIF designer, , Web-To-Page, Easy PhotoPrint,	HP Imaging Device Function, HP Solution Centre, HP Update, HP Drivers, Smart Web Printing, HP Photosmart Essentials	Printer Driver, Easy PhotoPrintEX, HP Solution Centre, HP Update, Adobe RGB, CDLabelPrint, MyPrinter	Epson EasyPrint Module, PIF designer, Epson PrintCD, Web-To-Page, Easy PhotoPrint, Print Image Framer, Epson Creative Suite	HP Imaging Device Function, HP Solution Centre, HP Update, HP Drivers, Smart Web Printing, HP Photosmart Essentials	Printer Driver, Easy PhotoPrintEX, Solutions Menu, Adobe RGB, CDLabelPrint, MyPrinter	Epson EasyPrint Module, PIF designer, Epson PrintCD, Web-To-Page, Easy PhotoPrint, Print Image Framer, Epson Creative Suite	Epson EasyPrint Module, PIF designer, Epson PrintCD, Web-To-Page, Easy PhotoPrint, Print Image Framer, Epson Creative Suite	HP Imaging Device Function, HP Solution Centre, HP Update, HP Drivers, Smart Web Printing, HP Photosmart Essentials
Performance										
Speed Test (in sec)										
First Print out	10	30	21	13	11	12	7	34	17	17
Point Size Document at Normal	7	25	20	7.7	11	13.5	6	30	15	16.12
Point Size Document at Best	28	80	94	26	22	37	16	30	25	21.75
Combi document- Normal	36	135	72	25.6	71	38	21	43	22	34.27
Combi document-Best	121	259	173	26.6	123	107	50	120	57	73
Photo Target	187	547	339	100	264	151	62	217	205	101
Image Quality Test (Out of 10)										
Point Size Document	6.5	6.5	8.5	8	6.5	8.5	8	6.5	6.5	8
Combi Document (Normal & Best)										
Text print	8	6.5	8	8	6.5	8	8	6.5	6.5	8
Resolution of circles on concentric pattern	7.5	6.5	7	8	6.5	8	8	7	7	8
Uniformity of colors in lines of concentric pattern	7.5	7	7.5	8	7	8	8	7.5	7.5	8
Seven color bars - how many differentiated?	7	7.5	8	7.5	6.5	8.5	7.5	8	8	7
Yellow text on black background	7	6.5	6.5	8	7.5	6.5	8	5.5	5.5	6
Quality of small photo	5.5	6	6	6	6	6	6	6	6	6
Highlights on red berries	5.5	6	7	5.5	6	7	5.5	6	6	7
Details on fruit	6.5	7.5	8	6	6.5	8	6	6.5	6.5	7.5
Grille on the wooden plate	6.5	7.5	8	7	7.5	8	7	7.5	7.5	6
Minimum readable text point size	6.5	7	7	6.5	6	7	6.5	6	6	7
Image Quality (Photograph)										
Details on the motherboard	7.5	7.5	8	6.5	6.5	7	6.5	6.5	6.5	8.5
Details on the Pen stand	7.5	7.5	8	6.5	7.5	7	6.5	7	7	7
Details on the scale	7	6.5	8	7	6	7	7	6	6	8.5
Details on the Corn stalk	7	6	8	7	6.5	7	7	6.5	6.5	8
Refelection on the Binoculars	7.5	7.5	8	7	6.5	7	7	7	7	8
Translucent effect on the flower Vase	7	7.5	8	8	6.5	8	8	6.5	6.5	8.5
Refelction on the Flask	7	7.5	8	7.5	7.5	8	7.5	7.5	7.5	8
Human skin tone	6.5	6	8.5	6	6	8	6	6	6	8

does it slid down. HP D5368 put up consistent performance across the tests and delivers printout with acceptable time limits.

Coming to print quality, HP's D5368 sets the benchmark for others to follow. Be it text, graphics or photographs this printer delivers exceptional printouts which are faithful reproductions of their original. The tonal balance was spot on with no over saturation seen in any colour. Finer details were also perfectly rendered. Canon's iP-3500 comes in at second place here displacing the Epson Stylus C110 to third place. Epson's C110 does good job of reproducing the text and graphics, but looses out on tonal balance especially in the graphics test. Otherwise it is as good as Canon's iP3500.

If you want the cheapest and basic printer for printing nothing but documents then Epson's Stylus T11 should be in your list. HP 910, Canon iP2580, Epson Stylus C110 and Canon iP3500 are good printers, but nothing quite beats HP Photosmart D5368. It has all the features you can ask from a printer and is versatile at doing many things, plus the pricing is just perfect. We suggest HP's PhotoSmart D5368 as the ultimate Home/SoHo printer and give it the *Best Buy* as well as the *Editor's Pick* award.

Photo Printers

In this category we have grouped together photo printers from HP, Canon, and Epson. Though termed as photo printers they can also be used for general purpose printing too. Canon's iP-4500, Epson's R230 and R290 and HP's PS D7268 were the contenders here.



Features

On paper, HP's D7268 has an impressive list of features for a Photo printer. It has a small touch sensitive LCD panel which allows the printer to be used for printing photographs without a PC. The inbuilt memory card reader helps in this matter too. The printer is PictBridge compliant and hence digital cameras can be directly connected to it. It comes with a separate tray for printing directly on a CD/DVD. The D7268 has inbuilt Ethernet and can be connected directly using the USB 2.0 interface. The only thing missing is dual side printing.

Canon's iP4500 comes from the same PIXMA series but has features which defines it as a photo printer. Unlike HP it doesn't have any LCD panel or memory card reader, but is PictBridge compliant and can also print to CD/DVD directly. It has dual-paper path and the combined capacity equals 300 sheets. The iP4500 also offer auto dual side printing.

Epson's R290 and R230 are from the same series; R230 is an old model. While the R230 sported contoured design, the R290 is boxy, but appealing. Both these printers are positioned by Epson as photo printer based on the fact that they use more than three ink cartridges to improve colour gamut. But none of the features present in HP or Canon

is made available here, which is a serious drawback for both these printers.

Performance

You guessed it right! Canon's iP-4500 simply blows the competition away when it comes to printing speed. It retains its speed advantage across the various tests we put it through. Be it text, graphics, photographs or large files it just prints them instantly.

HP D7268 and Epson R290 are neck and neck returning similar timing at least in the text document test. In the graphics and photograph test HP surges ahead of the R290 which takes more time to complete the job. The Epson R230 gets left behind in almost all the tests. We thought it would be because its an older model and competing with the latest would always be a challenge.

In the print quality test, HP's D7268 and Canon's iP4500 were lugging it out. Both these printers were exceptional in printing text and on par with each other. But in the combi-document, the finer differences between the two started appearing. Finer details were amicably reproduced by both printers. Canon has a slight advantage in the colour gamut test and was able to reproduce all colour and their gradients. In the photograph test, it was HP's D7268 who took the lead by reproducing a flawless photograph. The tonal accuracy was superb and the photograph came out stunning. Canon's printout was near as good but the photograph had a warm tone to it. Epson's R230 and R290 did reproduce good prints but their performance was completely overshadowed by HP and Canon's performance.

If you are looking at an affordable photo printer then HP's PhotoSmart D7268 is better equipped in terms of features to handle your needs. The Epson printers are too basic and the Canon iP4500 does deliver great results but doesn't have the feature list HP's D7268 offers. For this very reason we give the HP PhotoSmart D7268 our Best Buy award. ■

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HP Photosmart D7268

Contact Sheet

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Epson	Epson India Pvt Ltd	080-30515023	think@eid.epson.co.in	www.epson.co.in
HP	Hewlett-Packard India	124 - 2566 111	naveen.kejriwal@hp.com	www.hp.com/in
Samsung	Samsung India Pvt. Ltd.	011-41511234	Anupam.k@samsung.com	www.samsung.com/in
Xerox	Xerox India Ltd	NA	xic@xicindia.net	www.xerox.com



Around The World In Real Time

Enterprises today are confronted with an array of responsibilities with a pressing need to communicate regularly with employees, customers, partners, suppliers and shareholders. Ubiquity is a bedrock value in communication technologies. The advances in technology have changed the fabric of the business community—getting woven into every thread.

Changes in business perspective have necessitated organisations to manage time and business relationships globally. An array of technologies such as e-mail, SMS, fax, pager, voicemail, conferencing solutions, streaming media and instant messaging help in communication. Guaranteed service acknowledgement as offered by FedEx has enhanced traditional features and capabilities of snail mail.

Organisations today have moved from traditional private branch exchange (PBX) systems to IP-PBX system in search of greater value. Organisations wanting to address their compelling business issues have switched to Internet telephony. It offers transporting communication services such as voice, facsimile and voice messaging applications via the Internet, rather than over the public switched telephone network (PSTN).

E-mail has been the dominant group working application. It is dominated by open standards such as simple mail transfer protocol (SMTP), Internet message access protocols (IMAP), post office protocol (POP3). SMTP controls delivery to the server. IMAP allows a client to access a server that stores all e-mail folders centrally; POP3 requires users to download and

Advances in technology are enabling organizations to communicate faster to address their business needs

manage their messages locally. The Business community has realised the problems with this form of communication with the rapid increase in the number of e-mail users. E-mail is inherently inefficient as much content is duplicated. There is a migration towards highly distributed common discussion group platform such as Usenet News to resolve these problems. This presents a threaded view display with direct reference to all the messages.

To reap business benefits in terms of cost and productivity is to communicate ideas among people through Groupware. Groupware works by delivering messages in a structured manner with varying degrees of privacy and priority. Corporations have shifted to solutions such as Digital Equipment Corporation (DEC) Notes, Lotus Notes, Novell's GroupWise and Microsoft Exchange that provide better security and structured content delivery to appropriate groups in contrast to e-mail lists.

Facilitating dynamic group creations, peer-to-peer (P2P) communication and others, require that the communication solutions support mobile workgroup, location sensitivity and telephony support. To add flavor to the groupware is the standard session initiation protocol (SIP) and SIP for instant messaging and presence leveraging extensions (SIMPLE). These messaging protocols work along with instant messaging and presence protocol (IMPP) to present a globally accepted standard for instant messaging solutions such as MSN Messenger, Yahoo! IM. Session Initiation Protocol (SIP) is the Internet engineer-

ing task force (IETF) signaling protocol for global, interoperable real-time communications. With SIP, IP telephony becomes as simple to use as a Web application integrates easily into other Internet services.

To accommodate spontaneous and scheduled business transactions, corporations go in for audio conferencing that has the capability to handle communication needs ranging from brainstorming sessions to online meetings. But for situations where presentations are a necessity, a visual collaboration technology called Web conferencing is essential. This brings an in-person experience by enabling a collaborative visual environment with tools such as shared whiteboard.

Chat tools give the ability to manage collaboration. It aids in sharing of PC applications such as presentations, documents among the participants. These audio and Web conferencing solutions employ the existing devices such as telephone and personal computers connected to the Internet.

To eliminate scheduling and managing dual conferences, the business community uses integrated conferencing solutions that incorporate both audio and Web capabilities giving a seamless conferencing experience. Video conferencing solutions give the user a virtual environment for face-to-face contact in addition to the capabilities offered by audio and Web conferencing software.

Streaming media facilitates one-to-many business communications. Multipoint conferencing solutions add the ability to extend the reach of communication across multiple locations. It supports continuous presence, camera switching to enable people to see everyone on a multipoint call. The technology is becoming the best solution for meetings, online education, training, conferences, etc.

Technology Myths

Some common misconceptions about enterprise communication technologies, are now being addressed due to the technical advancements:

Hitch In Moving From TDM To Pure-IP

Contact centers, which have already invested in TDM infrastructure, used to consider investing in pure-IP strategy as an unfruitful investment and a waste of resources. However, pure-IP does not mean scrapping legacy circuit switched products. It rather ensures the smooth migration, leveraging existing infrastructure with gradual change to a pure-IP network. This misconception supports the hybrid-IP approach. However, many contact centers will find that introducing a hybrid-IP approach will in fact lead to a longer migration to IP and at a greater expense for the contact center.

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Lack Of Reliability

A common misconception about pure-IP contact centers is their lack of reliability. However, in the last couple of years, service providers of packet switched data communications services have been successfully able to come out with robust and redundant infrastructure, providing highly reliable service. Wicom's contact center solution is worth mentioning here.

Poor Voice Quality

Another broad misconception has been of poor voice quality in a pure-IP environment. But that is not true, as many contact centers utilising pure-IP technology have reported excellent voice quality, which can be compared to TDM service. For enterprises, pure-IP comes in the form of a managed corporate network, not the public Internet, which still remains questionable for voice traffic.

Scalability Issues

In the past, due to the immaturity of voice over IP (VoIP), scalability was an issue for IP contact centers. Now with pure-IP technology, contact centers are able to quickly and efficiently scale up or down as needed on a site-by-site basis.

Technology Application Areas

Each industry vertical taps the potential of an enterprise communication technology differently. The following are a few examples:

Healthcare

The clinical departments can collaborate together without the constraints of conflicting schedules. Online meetings help them manage project communication and collaborations among the physicians, employees, vendors and contractors. Organisational communication and collaboration solutions offer the healthcare workers full mobility. By sharing medical resources available

Video conferencing solutions create an environment for face-to-face communication along with the capabilities offered by audio and Web conferencing software

in a central repository, skilled physicians provide their diagnostic assistance to remote areas. It is now possible to systematically track projects.

Healthcare departments manage scarce resources, making cost reduction for labour and for voice and data communications an essential aspect. IP telephony offers a proven path for cost reduction in communication.

Call Center

Person-to-person communication through IP enables enterprises of all sizes to increase revenues and reduce costs. Customer service agents who are physically distributed provide a centralised service offering better resource utilisation and business flexibility. It helps balance demand across time and locations. Location independence functionality helps match the needs of every person, function and service.

Education

Collaboration between distributed scientists and researchers throughout the world is possible. Today, students and professionals participate in online discussions and classrooms.

Banking And Finance

The unified mode to receive voice, video and data enhances productivity of sedentary and on-the-fly staff. It reduces maintenance costs by managing a single, integrated voice, video and data network in a central location, rather than maintaining separate voice and data networks in many locations. It enhances customer experience by decreasing their idle time, provides customised value-added services after customer identification, bridges a communication channel between the customer and the expert advisors, and makes services available in the most remote locations.

IP Conferencing helps easy connectivity to pioneers across the bank channels. It also improves employee satisfaction—provides ease of connectivity to people after detecting their availability, reduces time spent in unsuccessful attempts, employee education enables them to understand the service and thereby resolve issues effectively. IBM enhanced enterprise communication solution for the banking sector is a noteworthy technology here.

Others

Software companies, real estate, government, industrial and retail resort to communication technologies to empower on-the-fly and distributed decision makers and to make collaborative communications in real-time. Information Technology departments, media firms, brokerage houses, financial institutions use instant messaging tools to notify employees, customers and others, and implement group communications and messaging. ■

Technology Adoption Benefits

The following are the two most important benefits that can be extracted from the advanced software packages available in this domain.

Business Continuity And Desktop Productivity

Deployment of emergency notification and escalation services help locate any person, any group, anywhere, at any time, and at the same time deliver alerts and strategic intelligent information simultaneously across virtually every available communications device. It is possible to deliver high-speed acknowledged communications via landline, cell phone, e-mail, pagers, SMS, fax and satellite phone to individuals, employee desktops.

Emergency Operations

In case of unavailability, it is now possible for emergency departments to contact the emergency worker through phone, e-mail, and pager and organise an interactive mode of channel so as to ensure service by him. Emergency operation centers are able to provide better service since messages are tailored to the first responders with specific expertise. It effectively speeds up and enhances quality and reliability of communication.



Revamping The Technical Education System

"The study of the scientific methods and principles underlying the practice of any handicraft, industry or profession; and the application of those methods and principles of the handicraft, industry, or profession in question. The first is the primary or technological aspect of the subject; the second is its subsequent and practical application."

— 1901, Lord Curzon, the then Viceroy of India.

India produces over eight lakh graduates and diplomas in professional degrees, from over four thousand approved institutes. Yet, there is an acute shortage of the right manpower across industries. A severe attrition problem exists in many industries other than IT; from the candidate's side, there is the ever-looming prospect of unemployment and under-

Uniformity in technical education and not the English language alone will help India win the race to become a global destination for bagging contracts

employment. Typically, the graduation certificate needs an additional certificate that students get independently of their college education—like in IT or management—to find the right job. With campus interviews—the trend not just in the IIMs and the IITs, but even in other universities—the gap between the industrial HR needs and the qualification of the pass-outs has come to the fore.

Typically, soft skills are most conspicuous in their absence. The stress now is more and more on the need for emotional quotient rather than just the IQ. R Guhan, Country Manager, JobsDB.com says, "Communication and commitment are problems that most companies face while recruiting. The salary expectations are high. And, employees treat jobs that

pay less, a stop-gap arrangement before jumping to greener pastures. In fact, even lecturers and principals are jumping to industrial jobs as they are better paying."

An HR team confirmed this view in a presentation that it made to its management. The company is a leading automotive components maker in Chennai. Many candidates recruited from leading institutions stay for an year or two, pick up the tricks of the trade and move on to more lucrative jobs.

Picking students from the not-so-top class institutes is a dicey affair as there is the ever-present question raised about the quality of education imparted. The well-known capitation fee structure does nothing to dispel the misgivings.

Down Memory Lane

Technical education in India has a rich history, starting with the first survey school in 1794, near Fort St George in Chennai, with eight students. Now it's well known as the Guindy Engineering College. A modest beginning, but by no way insignificant, and by independence, there were over 12,000 students admitted to the engineering colleges.

The Technical Education of Central Advisory Board of Education, 1943, envisaged: "The primary function of technical instruction remains, and is likely to remain, that of satisfying the needs of industry and commerce for a) skilled craftsmen, b) intelligent foremen and executives, and c) research workers." It includes engineering, pharma, applied arts, MBA, MCA and similar professional courses.

Post-independence, the first breakthrough in education happened with the setting up of the Indian Institutes of Technology (IIT), conceived by Prime Minister, Pt Jawaharlal Nehru, and set up in 1950 in Calcutta—later shifted to Kharagpur—and called the Eastern Higher Technical Institute. It was called IIT just before the inauguration in 1951. The other IITs were in Bombay (1958), Madras (1959), Kanpur (1960), Delhi (1963) and Guwahati (1995). The first management institute came around this time, in 1954, and was called the Indian

Meeting The Chinese Challenge

This is a reality that cannot be ignored. China has improved its infrastructure and lifestyle to meet the global needs. In a recent visit to India, the Chinese premier visited the IITs and IISc. "No doubt, this was to emulate the education system followed by these institutions. And what India is doing in small numbers, China will replicate in hundreds. We have but five years before the Chinese catch up," said Kiran Karnik, President, NASSCOM. "Unless the education system in India is revamped dramatically, India cannot retain the advantage it has today," he added, voicing the concern of many.

Institute of Social Welfare and Business Management, in Calcutta.

Private institutions

Post liberalisation, education was freed and private institutions started coming up, especially in Maharashtra, Tamil Nadu, Karnataka and Andhra Pradesh. Even today, these states easily take the lead in the number of institutions and the number of students graduating each year. While initially the purpose of these institutions was envisaged as charitable, today profit making is recognised as the goal of the private-run institutions, which has also thrown up questions of the quality of education imparted.

Technical Education Administration

One of the problems faced by the industry today is the lack of uniformity in technical education, as different institutions are run differently. There are the institutions run by the central and state governments, the universities, the deemed-to-be-universities and private institutions.

The Central government runs its institutions through the Bureau of Technical Education under the Ministry for Human Resources, the UGC and the AICTE. It is responsible for policy formulation, funding AICTE, University Grants Commission (UGC) and national institutes, partial funding of RECs, training and paying stipends to graduates/diploma holders under the Apprenticeship Act, to teachers for training in industry, linking institutions with foreign agencies for developmental activities, etc.

The UGC allocates funds for maintenance and development to universities.

AICTE, instituted in 1945 as an advisory body, takes care of planning, formulation and maintenance of norms and standards, accreditation, funding of priority areas, monitoring and evaluation of institutions, maintaining parity of certification and awards and ensuring the coordinated and integrated development of technical and management education. AICTE looks at the development needs, coordinates development, allocates and disburses funds for technical education, promotes research, etc. It also accredits colleges through the National Bureau of Accreditation (NBA).

The state government runs its technical institutes through the Directorate of Technical Education (DTE) and State Board of Technical Education. While the DTE is responsible for development of technical education, manpower forecast, curriculum design, starting, new institutions, budgeting and human resource development, the State Board undertakes policy planning, formulations and approval of curriculum,

diploma/certificate exams, quality approval and other development activities.

Together, there are the government-run universities, the IITs and IIMs, the RECs that are partly government-funded and the private institutions—all with different management and administration.

The other problem, which has come to the fore with Tamil Nadu's doing away with the Common Admission Test, is the different selection procedures for each of the institutions or group of institutions—so there is JEE for the IITs, CAT for the RECs, state level exams for the state level colleges, GATE for the MTechs and so on.

Challenges

"It is a myth that only the premium institutions are producing the best; there are many institutes doing a good job," asserts Arulmani, Head of HR and Administration, Igarashi Motors. However, there are miles to go before the institutes can rest. Shortage of staff, and high-quality staff at that, is the recurrent theme in the technical education scenario in India. There are not enough qualified teachers. The IITs produce 60 per cent of the MTechs and 75 per cent of the PhDs today. Better pay at the industry and the lure of the industrial experience, in addition to the famed brain drain to the western countries, are a common cause for concern. The other recent development, the boom in the ITes market and their need for graduates from any stream (employment has grown from 284,000 in 1999-2000 to 1 million in 2004-2005) has led to many bright students being pulled away to work instead of pursuit of education.

The government, too, since the Fourth Five-Year Plan, has shifted its focus away from technical education to elementary and adult education, with a result that only Rs 100 crore has been allocated for technical education.

A weak R&D culture, poor manpower planning, almost negligent linkage with the industry, poor participation of women and slow response to changes threaten to weaken the technical education scenario in the country.

Initiatives

The need of the hour is action. China is a real threat. A professor from Purdue University mentioned at an HR Summit conducted by NASSCOM recently that engineers coming from China are almost as good as those graduating from the IITs. And, unless there is uniformity across all colleges, the English language alone will not help India become a global destination for bagging contracts.

Recognising this, the NBA was created in 1987 to certify the quality of the institutions.

One of the problems faced by the industry today, is the lack of uniformity in technical education, as different institutions are run differently

Any institute that has functioned for five years can apply for this. The rate of accreditation in the country currently is low, says Nath, with just 200 of the existing 5,000 colleges having been given the status. Infrastructure and manpower limitations at the AICTE themselves are a major concern in this regard. "Of course, students prefer word of mouth and the past performance of the institutions before they apply." However, what also needs to be addressed, in this context, is the huge capitation fee charged by the institutes and not reported by students.

NASSCOM, recognising the lacunae in the Indian technical education system, has signed up with AICTE for a faculty development program in the IT sector, in partnership with the IT industry. Such initiatives are needed across streams and industries. Says Kiran Karnik, President, NASSCOM, "The industry can play a major role in ensuring that the curriculum is up-to-date and relevant by sharing trends, likely future developments and the requirement of skill-sets." As part of the memorandum of understanding (MoU) signed between the two, NASSCOM and AICTE will jointly undertake curriculum review, develop training modules, develop a database of engineering and management colleges across the country and study international models for industry-academia partnership.

Nath also suggests that for improving the communication skills of the students, it would be a good idea to follow the REC model of admitting students from rest of the country also. "A mix of students from different regions will mean more interactions, a broadening of perspectives and better communication skills," he suggests.

Retention: The Bane

The IT industry's retention problems are well known. But, this industry itself has added to the retention problem of other industries as the demand for functional experts is growing. With better pays, that is a lure difficult to overcome. But some of the retention tactics applicable to the IT industry are applicable here too: Creating a conducive work atmosphere, providing the scope to innovate, delegating responsibilities, changing personal success symbols from just monetary rewards to roles and responsibilities and retraining and enhancing skill sets.

In the modern world, no job is for life and loyalty to the employer has been replaced by loyalty to the designation or job role. Recognising this is of utmost importance and approaching HR problems in this perspective will be helpful in better attraction and retention of employees. ■



How Secure Are You?

The growing dependence of information technology in modern society has created new vulnerabilities. Breaches in information security can have grim consequences.

The spectrum of products and procedures aimed at providing information security is vast. One of the most common and useful technologies is encryption.

This report provides current information on encryption and other emerging technologies and trends driving the development of new information security products, applications, and markets.

Encryption provides a secure communication channel even when the underlying system and network infrastructure is not secure. This is important when data passes through shared systems or network segments where many people may have access to the information. In these situations, sensitive data and passwords should be encrypted in order to protect them from unintended disclosure or modification.

Key Factors Affecting The Encryption Marketplace

Many organisations have produced encryption products, which include software, services, servers, and consulting. The market segments vary from PC users, to financial institutions to

Encryption and other information security technologies are receiving heightened attention now, thereby driving the development of new information security products, applications, and markets

military and government. Several approaches to encryption have been developed but there are substantial barriers to widespread deployment. For example, there are many different and incompatible encryption techniques available, and not all the software needed implements a common approach. Effective use of encryption requires vendors to agree on methods and standards. Two different cryptographic methods are being applied to computer security problems: private-key and public-key encryption.

The general public is concerned about access to private information. In many countries, there is already strong and public debate about both data security and secrecy. Many experts say that security concerns of the average home computer user are unfounded, although the public at large has not been very well informed to date. Improvements in security provided by public-key cryptography and other encryption systems are actually already providing much higher security than existed before, and public education will go a long way to addressing this issue.

Relatively weak encryption appears to have been used to protect files recovered from two computers believed to have belonged to Al-Qaeda operatives in Afghanistan. The files were found on a laptop and desktop computer bought by Wall Street Journal reporters from

looters in Kabul a few days after it was captured by Northern Alliance forces on November 13. The files provide information about reconnaissance missions to Europe and the Middle East. A report in the UK's Independent newspaper indicates that the encryption used to protect these files had been significantly weakened by US export restrictions that existed until last year. The files were reportedly stored using Microsoft's Windows 2000 operating system and protected from unauthorised access using the Encrypting File System (EFS), which comes as standard on this platform. They were protected with a 40-bit Data Encryption Standard (DES), according to the Independent's report.

This was the maximum strength encryption allowed for export by US law until March 2001. All systems are now sold with the standard 128-bit key encryption, exponentially stronger than 40-bit.

The Competitors

The computer-security market is rapidly coalescing around a few big players, including firewall leaders Check Point and NetScreen, and anti-virus company, Symantec. In this down economy, smaller companies that may have better technology, but less staying power are struggling to land clients. Often, it's hard for them to attract big customers who need assurance that a supplier will be around to support its product.

Competition is strong among the big name vendors. Cisco Systems has gained ground on several key server rivals, such as Juniper Networks, during this tech spending downturn. Cisco has been a big player in firewalls, intrusion-detection systems (IDS), and virtual private networks (VPNs) that use encryption to secure remote connections to corporate computer systems.

A VPN is a means by which certain authorised individuals (such as remote employees) have secure access to an organisation's intranet, by means of an extranet (a part of the internal network that is accessible via the Internet). VPN can be far less expensive than using actual private lines in a wide area network (WAN). VPNs can be strictly software, but most often they are hardware devices.

Customers would like to buy more than one security solution from a single company rather than piece together the products of several suppliers. Venture capitalists put \$1.6 billion into 140 computer-security startups during 2000. That fell 38 percent to \$990 million invested in 100 startups, during 2001. In 2002, some 60 startups received less than \$500 million through the first three quarters.

In 2001, corporations spent on an average 3 per cent of their tech budgets on security. Many analysts are expecting this market to grow to \$15 billion 2006 from what was \$6 billion in

Encryption provides a secure communication channel even when the underlying system and network infrastructure is not secure

2001. Over the next 10 years, markets for firewalls and VPNs, both relatively mature products, should grow at rates above 10 per cent.

On the leading edge, in areas such as wireless security, competition is especially fierce. Startups that build security options for cell phones and wireless local area networks are competing with established players such as Check Point and General Dynamics for a market that is still more promise than a reality.

Products Offered

Faster growth is expected from advanced forms of protection, such as intrusion detection, and tools that protect specific applications on corporate networks and vulnerability-assessment software and services. An Intrusion Detection System (IDS) inspects all inbound and outbound network activity and identifies suspicious patterns that may indicate a network or system attack from someone attempting to break into or compromise a system. This trend should continue for the next few years as more companies add IDS to their existing security infrastructure and the technology becomes easier to use.

Vulnerability assessment involves engaging tech experts to check a corporate network's security by probing and testing it. The market for this service was \$500 million in 2002, with sales of automated diagnostic tools probably making up 10 per cent of the total. Annual vulnerability checks by humans can cost as much as \$150 each. The same amount or less can buy multiple checks using automated systems.

Another growth area is protecting servers and desktop machines. Most companies, large and small, now use some form of perimeter firewall protection to protect their networks combined with antivirus software on mail servers and individual desktops. In fact, corporate antivirus software alone will be a \$2.7 billion market by 2006, up from \$1.2 billion in 2001.

From a security company's viewpoint, antivirus protection is not enough. Desktop firewalls are mandatory for many companies, leading to big deals for suppliers such as San Francisco-area companies ZoneLabs and Sygate. Both these companies have gotten big venture financing in recent months—proof that investors believe the market is ripe for these products.

The wireless LAN (WLAN) industry is experiencing tremendous growth aided by lower pricing points and standardisation of the technology. Analysts believe that this growth will continue to accelerate, all the multi-billion dollar technology and telecommunications companies such as Microsoft, Intel, Dell, AT&T, and IBM, to name a few, enter the WLAN industry. These corporations bring their deep financial pockets and millions of consumers to the WLAN industry. ■

Better Safe Than Sorry

As IT organisations face greater pressure to manage, store, and retrieve increasing amounts of corporate information, they are searching for new ways to keep data readily available, whenever and wherever needed. To support the requirement for Business Continuity and Availability (sometimes referred to as 'BC&A'), there are a wide variety of solutions available in the industry for various kinds of organisations. To name a few, cluster solutions, replication solutions and to some extent backup and recovery solutions qualify as BC&A solutions based on the requirement of the business.

For business requirements one solution which stands out and provides the most secure and robust mechanisms of data replication and availability of applications is storage-based replication. Based on the industry standard Fiber Channel (FC) protocol, this mechanism is the default choice for businesses today.

In a typical scenario, the infrastructure would comprise of servers, SANs, storage subsystems and IP networks for connectivity to the information islands. To achieve a true Disaster Recovery (DR) capability, the same and scaled down version of infrastructure has to be maintained at the DR site as well. So, there would be a set of servers in production using the production copy of data at the primary site and another set of servers at the DR/BC site waiting for the primary servers/site to fail. The servers on DR site can also be used in active-active configurations where these servers are performing some other computing tasks for the organisation.

To achieve Business Continuity and Disaster Recovery (BCP/DR), each one of these components has to be taken into consideration and robust methodologies applied to each component. Storage Area Networks and storage subsystems at the core of this infrastructure require special attention. For connectivity requirements between two sites

Effective Disaster Recovery practices are imperative for the effective functioning of any IT setup

refer to Figure 1 which states the technologies available and where they best fit. Other than the link between the sites, such technologies would essentially require SAN infrastructure, storage subsystems with licensed replication software (like PPRC, SRDF, True Copy, Continuous Access) and routers which would do long distance propagation and protocol conversion, if needed.

Long-distance SAN extension works on the storage-based replication of the storage subsystems and requires interconnects which can propagate the FC protocol over long distances. This propagation can be done in native FC protocol or by converting FC into IP and sending the signal over infinite distances. Although long distance FC connectivity is generally the most reliable, organisations sometimes prefer to send FC over existing long-distance IP links to take advantage of existing IP infrastructure.

It is essential to consider future needs when choosing the appropriate technology.

Today, the most common approach and also the most logical approach towards building a DR practice is to build a BC site not very

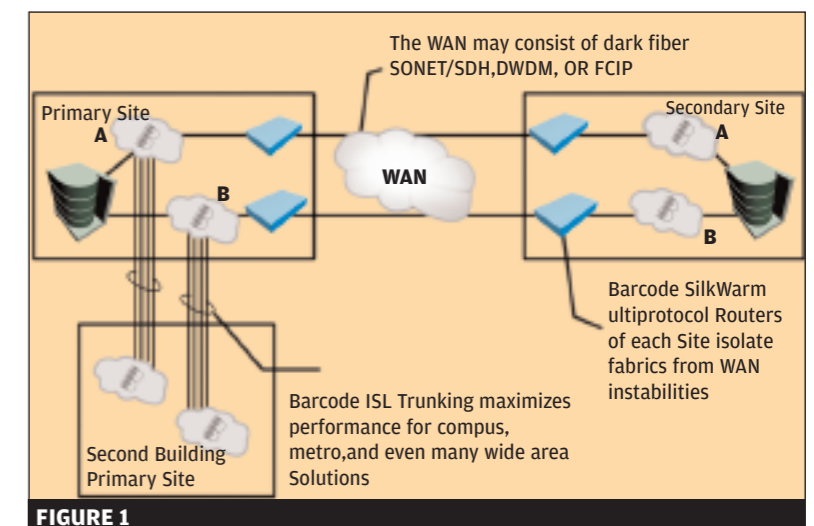


FIGURE 1

far from the production site and then from thereon build a seismically distant DR site. Refer to Figure 2.

The major advantage of this approach is that companies don't have to invest in redundant infrastructure and high cost links from day one. As and when business grows and demands another level of protection, DR sites can be built. However, there are some companies especially in the telecom and finance industries, which have invested in a complete DR site from day one. It is the business—rather the business impact in case of disaster—which defines the level of redundancy and justifies the case for two stage DR (multi hop DR sites) or a single stage mirror site.

Also, latencies of the networks involved play a vital role in achieving DR and BC. If the latencies are high and bandwidth is less then replications that are not in sync are generally proposed and implemented. This is also a function of qualification from vendors for different links and the acceptable latencies for their replication technology. While storage based replication software manages the data replication at block level from the storage sub systems, the application servers continue to access data non-disruptively and work on the local copy of data, i.e. the data residing in the storage on the local site. While making a decision for storage based

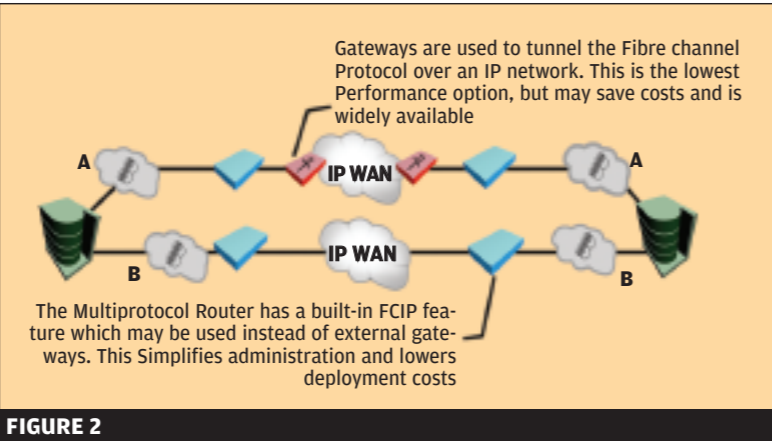


FIGURE 2

utilities and storage sub systems, the organisation should ensure that these replication utilities are certified with the applications or databases they wish to replicate over to another site.

This certification merely ensures that the bits and bytes replicated would be consistent when they arrive at the DR site storage. These utilities are storage controller based and take the I/O load off the servers.

Now, imagine a scenario when disaster strikes. The applications and servers lose connectivity with the production copy of data (there is a high chance that servers are also down). At this moment, the replication utilities start a consistency check on the replicat-

ed data (or some of them are already doing it while replicating data) and ensure that each byte transferred is referable by the application servers on the DR site.

There is intelligence built into the storage sub systems which allows them to change the state of the data volumes at DR site from read-only to read-write enabled. This is necessary as the copy of data would be the production copy for applications until the primary site comes up.

Geographically dispersed cluster solutions play a vital part in such implementation as they sense the failure on the primary site and then take corrective action by mounting the volumes onto the servers on the DR site and firing up the applications.

The storage subsystem and replication utility ensure consistency; the cluster software along with volume managers ensures that this particular DR copy of data is consistently accessible to the servers and ready to be accessed by applications.

A financial organisation in Mumbai replicates its data to an alternate site, about two kilometers away, and has a full facility where key application users can come and sit on networked PCs and start working. As soon as they log on to the network, their profiles, applications and permissions are restored to that PC and they continue to work seamlessly. Testing has made it possible for this system to work all the time and more so at the time of disaster.

To summarise, many customers in India have got on to DR implementations and few others have successfully completed their projects as well. Implementing DR requires expertise from various areas of IT infrastructure; each one of these functional experts play a vital role in the success of the project.

The key to running a resilient IT setup is to implement DR practices, training the team members and making them aware of their roles and responsibilities. To implement and depend on DR/BC plans, a perpetual test process is absolutely necessary. ■

Technology	Summary Of Solution And Best-Fit Scenarios
Native Fibre Channel over Dark Fiber	Full performance is required and supported distances is 80 to 100 kilometers or less. Optical cables are in place between the sites, or budget is available to install/lease cabling. Fibre channel switches and/or routers on each end have enhanced buffer-to-buffer credit services to support full-speed operation over long distances, and have Long Wave-Length (LWL) or Extended Long Wave-Length (ELWL) media.
Native Fibre Channel over Passive Coarse wave Division Multiplexing (CWDM)	Same as above, but more inter-site links are required than there are fibers available to carry them. (CWDM supports multiple links per fibre pair.) The LWL or ELWL media must support different frequencies of light in addition to being strong enough to cover the required distances.
Native Fibre Channel over Active CWDM or Dense Wave Division Multiplexing (DWDM)	Like passive CWDM, active WDM services map multiple links to a single fibre pair. They also increase the supported distance by hundreds of kilometers beyond passive technologies, can share links between different protocols such as Ethernet and Fibre Channel, and can be rented from providers. However, they are more expensive than passive solutions.
Fibre Channel Mapped over Synchronous Optical Networks/ Synchronous Digital Hierarchy (SONET/SDH)	It is possible to transport Fibre Channel over SONET/SDH to support very long distances. This is useful when native solutions are unavailable, are cost-prohibitive, or if SONET/SDH networks are already in place.
Fibre Channel over IP (FCIP)	If the other technologies are unavailable, it is possible to transport Fibre Channel over IP. This is a less-reliable and lower-performance option, but it is widely available and typically less expensive.



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SAVE HUMANITY BY SACRIFICING YOURS — PART BY PART

Michael Browne

The year is 2210, mankind has taken to the stars, exploring, discovering, and populating. In his thirst for exploration he inadvertently sets foot on a planet sacred to another ancient species called the Kerak. Suddenly attacked, the space fleet is quickly decimated and these aliens seem intent hunting humanity to extinction—a goal which they intend to achieve by following stragglers back to Earth, and destroying the home planet of the interlopers. You play Seth Walker, an engineer and robotics specialist, aboard one of the large motherships, en route to Earth. Kerak forces have infiltrated your ship, and they're intent on killing everybody aboard and allowing the ships navigation systems to take them to your home planet. PILOT, the ships control computer, decides to put everybody to sleep in their sleeping pods, while flooding the ships environs with a toxic gas, thereby eliminating the Kerak. You awaken later, only to find you're alone. The other crew members have gone missing from their pods. As you arm yourself and fight your way through Kerak forces (who somehow survived the poison gas) you'll find remnants of the crew aboard who'll join you in your objective—to rid the ship of these invaders. But the Kerak are not your *only* worry. There are also cybernetic entities onboard—part-human, part-machine, all trouble. Where did they come from? Since they're hostile towards both you as well as the Kerak, what do they want? Then there's PILOT, who seems to have his own agenda, and his own methods of saving humanity.

At the outset, *Space Siege* doesn't have a very strong storyline, and there are a lot of gaps—especially about who the Kerak are, why is your ship so important to them, and such, and these you will have to fill in yourself. This tale isn't without its twists, and in the end, you'll be entertained. As Seth Walker, you have a personal dilemma as well. There are a number of cybernetic body parts—legs, hands, and even a

spine and brain that you will come across in the game. These body parts enhance skills and make you stronger, or bestow bonuses to your character stats. You'll need to decide whether you wish to stay human, or...err...indulge your *RoboCop* fantasies. There's also a point in the game where you'll need to make an important and rather epic decision—but we're not spilling the beans!

The game has great body physics and rag doll effects. For example, when an explosion throws bodies around, they'll slide to the floor rather realistically. Weapon and grenade effects are good, as is the animation and attacks of your main melee weapon, the *Magblade*. Keep in mind though, that this is an isometric game, and not fully 3D, like some of the other hack-n-slash games out there.

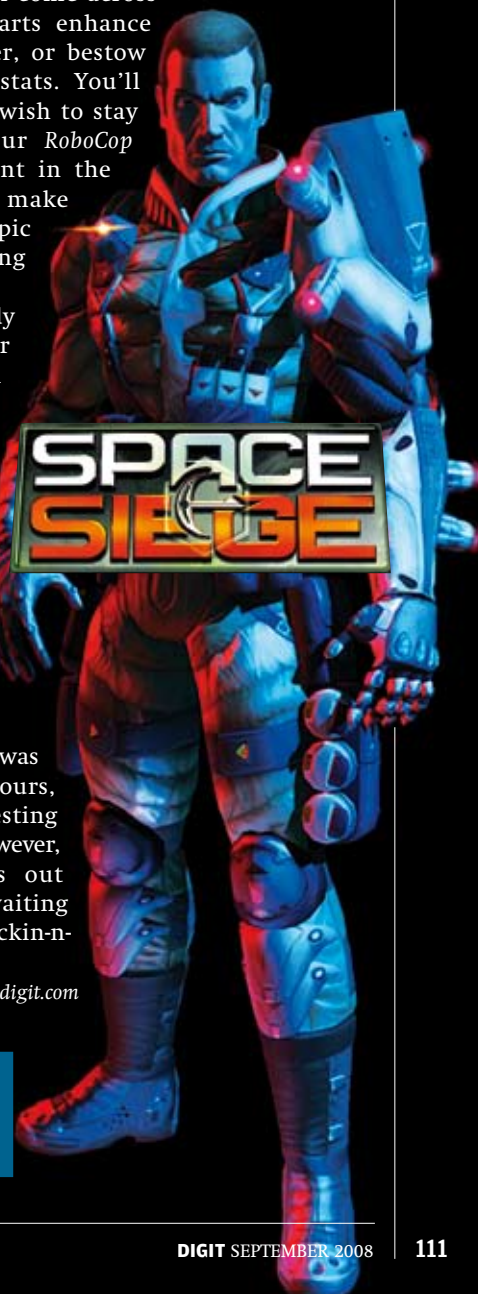
I quite liked the game, and was entertained for around ten hours, thanks to the sometimes interesting storyline, and the action. However, there's nothing that stands out about *Space Siege*, and I'm waiting for *Diablo 3* to get my real hackin-n-slashin thrills.

michael.browne@thinkdigit.com

Rating: 7/10

Developer: Gas Powered Games

Publisher: Sega



In The

Company

Of Greatness

Michael Browne

COH was a superb game—superb visuals, a superb aural component, amazing campaign scenarios, and an immersive experience like no other. Creating such an RTS isn't easy, and sequels are only fun if they out do their predecessors. Out came *Opposing Fronts*, and I just had to get my hands on it. For me, the best part of the COH franchise is the game-play itself. The beautifully crafted, realistic locales, the winding storyline, the sheer grit of combat, and the beauty of immensely detailed maps, all add to the level of immersion, and after a while, I effortlessly slipped into the role of a World War 2 sergeant, or tank commander, depending on the mission. The missions themselves were very well done, and hardly repetitive. As a gamer, you were always kept on your toes, guessing, and COH rewarded quick strategic thinkers—a formula which I absolutely loved.

Opposing Fronts brings with it two campaigns. This time you get to play as both the Axis (German) forces as well as the Allies (British). This adds some more replayability for the campaign part of the game. Both add up to be longer than the original game's campaign—I'm a fan of single player, so goody! In the first campaign, you'll play as two German brothers who are tasked with battling British forces who air-dropped in a daring raid that was historically known as *Operation Market Garden*. The British part of the campaign has you battling against the forces of the Third Reich in a struggle to regain the French city of Caen. At the very outset both the Germans and British play very differently from the original game, and there are a number of new units, with new abilities, and a host of new vehicles.

The terms of strategy the British, as a race, focus on their infantry and artillery more, they rely on

Rating: 9.5/10
Developer: Relic
Publisher: THQ
Price: Rs 999

COMPANY^{of} HEROES

OPPOSING FRONTS

Imaging: Sajeev M V





delaying enemy advances with mines, and Howitzers. They are also a lot more mobile with good infantry support providing tanks, like the Sherman FireFly and the Cromwell—the former a tank destroyer, and the latter a general purpose tank. The light Stuart battle tank makes short work of foot soldiers, and can be used to support advances against troop emplaced within structures and machine gun nests. The lumbering, heavily armoured Churchill tank is also available, in three avatars. The British infantry are also able builders, especially their sappers, who can also lay mines and wield anti tank weapons.

The Germans are also mobile, in fact, even more so, as they have the most powerful tanks in the game. While the British must build their tanks, the Germans have most of their tanks made available to them via the *command point* tree. Although they can only build a Panzer IV tank, you can summon powerful all purpose Panther tanks, tank hunter Hetzer tanks, and the super tank-hunter the *Jadgpanther*. In the campaign you will also get to control the King Tiger, a very powerful tank strong against most enemies. The Germans tend to bulldoze the map—once they get access to these powerful tanks.

Despite their differences I found both sides to be evenly matched, the British with their devastating artillery and the Axis, with their ability to booby trap

resource points and buildings. Relic's winning formula remains largely unchanged, except for faction changes, and why the heck not?

Environments and effects detail remain a treat for the eyes. Battlefields can be rain drenched, foggy, or arid, and everything from the totally destructible environments and structures is detailed to perfection. Remnants of vehicles, scorched bodies, and debris can be seen after battles, even terrain deformation is impressive. All weapon effects are impressive, and attention to detail is good—for example, you will witness details like the smoke that comes out of a tank's exhaust, or the recoil of a shoulder mounted bazooka. Troops will seek cover if fired upon, and their desperate scampering around amid shouted orders really sets the tone for realism.

The multiplayer component is robust, but due to the high system requirements, you may be hard pressed to find servers. Skirmish mode against AI opponents is fun though.

For me *COH: Opposing Fronts* is a game virtually sans flaws. I happen to have a fast PC with a quad core, 4 GB of RAM and a GeForce 8800GTX graphics card, so I could enjoy this game in all its splendour. And I've never come across a better WW2 based RTS experience!

michael.browne@thinkdigit.com

The fearsome King Tiger in action



German infantry go to work repairing a damaged tank



Infantry with a Nebelwerfer rocket artillery in the foreground





Rating: 8.5/10
 Developer: Capcom
 Publisher: Capcom
 Platforms: PC, Xbox 360,
 Playstation 3

Devil May Cry 4

Cry he will... cry he must!

Rossi Fernandes

For those unaware and wondering how they missed the last 3 chapters of this game, *Devil May Cry* is a hack-n-slash game that once again comes back again to the PC for the second time. You play Nero, and for the first time, Dante!

The game plays by missions that are to be completed one after another. There's no proper story-lined gameplay through the game, but there's a very satisfying heart-warming start to the story. It's not just non-stop mindless slicing of monsters either. There are puzzles on the way to open up gates leading to large halls or corridors of creatures waiting to welcome you. Everyone wants a change, so there's the boss fight. These boss fights are not so rare. They aren't too easy to win, but are still good fun. At the end of every mission, you get a score card for your performance, and depending on the amount of items you've collected on the way, you get to choose from new combos and items. It's not just swords—there are guns, and combos for them are available.

Gameplay is great and there's a tutorial in the beginning that flows alongside the initial storyline, and shows you how to use the controls. Most of the AI is simple, but the attacks are well-timed,

so that you relish the game. Since this is a hack-n-slash, people expect it to get repetitive... it doesn't! There's a good variety of creatures to defeat—each one with a unique and charming way of trying to kill you. You discover new ways to defeat these cute little colourful beings, and over time, you may find even more spectacular ways. It's like trying to learn a musical instrument—sometimes frustrating, but always exciting.

Graphically, the game looks absolutely gorgeous. Users who saw screenshots online, and felt it looked great should know that it looks a lot better in motion. The cut-scenes are some of the best and most entertaining. Sure, they are cheesy as hell at times, but they're still good fun to watch. The levels are well designed too and range from indoors and outdoors and sometimes a mix of them.

Sure the graphics are great but can you run it? It runs on pretty much any decent hardware. An 8800 GT for example can run it flawlessly at 1680x1050 with the graphics turned up to the maximum and FSAA turned on. Sounds have been made well too. The acting has influences from East Asian cultures, and it all adds up well with the cut scenes to form the kind of game that *Devil May Cry* is.

Upgrades in the game come in the form of combo moves that you can do and there's plenty to keep you occupied. Speaking of combos, controls are very good if you use a controller. I used an Xbox 360 controller and it did wonders. Using the keyboard is fine if you just want to get through the game, but if you want some of the more advanced combos, you're going to find it difficult.

Besides, sitting back on a reclining chair and playing a game that is usually destined for consoles suddenly makes you forget that you're actually playing this on a PC.

If you are looking for a game with an open world gameplay, character building and meeting new friends online, we suggest you play *Second Life*. If you want a complete change from FPS games that you're used to playing on the PC, then *DMC4* with its fun gameplay, cool graphics and sound, and cheesy cut scenes is perfect for you.

It earns a well-deserved rating of 8.5 from us, and is a must-play for any one who wants good button-mashing action on the PC.

rossi.fernandes@thinkdigit.com

Hack Your Brain

Mitch Altman has made a brain machine that induces hallucinations, nirvana or deep sleep cycles using LEDs that flash into your eyes along with alpha, beta, theta and delta sonic pulses phased to your brain through the ear. This is a piece of open-source hardware from the guy who made TV-B-Gone



Facebook Bans Scrabulous

The popular Facebook application Scrabulous was banned on all facebook networks across the world, except in India, from where it originated. The app by Jayant and Rajat Agarwalla was used by ten times as many people as Mattel and Hasbro's official scrabble app. Luckily, Indians are the only people in the world who get to play it



Escape

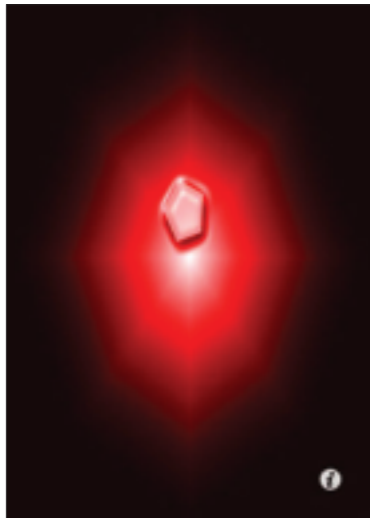
WHO NEEDS SWAROVSKI?

The \$1000 iPhone App

There have been ridiculously priced tech products around ever since people had the money to spend on them, but this one takes it to an entirely different level. The iPhone was more or less a status symbol till the skimming tactics got the prices low enough for a lot of people to afford one, and along comes a German fellow called Armin Heinrich who puts together an iPhone app that displays a red gemstone with a glowing effect and puts it on sale on the iPhone online app store for \$999.99, which is the most any software developer is allowed to charge for an app on the store.

The app is called i-am-rich, and does not do anything else. So in effect, for a little less than a thousand dollars, you get an icon on your iPhone that proclaims your richness. The miserable excuse for an app, for reasons unknown was removed from the store, without any explanation being given to the developer or the users.

That was however, not before eight people bought it, six from the United States and one each from France and Germany—all within the twenty four



hours for which the app was available. The application is still available on the developer's Web site, by special request over e-mail. Message boards on blogs discussing this scam/brilliant marketing gimmick/exceptional exercise in human psychology are awash with posts of those who want to offer a look-alike for \$1 or the \$1500 i-am-richer iPhone app, but the original stands without being equalled.

Heinrich didn't receive the amount that is due to him from the site, but that is probably because there were some purchases made by mistake or after thinking the application was a joke. Despite the 'all sales final' policy, Heinrich has offered to return the money of those who have

purchased the app by mistake, but he has to get the \$5,600 he has earned first. Those people who now own the app, are really happy about how exclusive it is, and have said so in their mails to the developer.

SHORTSIGHTED SEER

Bill Gates Predicts The Future; Or The Past

Bill Gates is often called a stealer of ideas, and accused of indulging in less than ethical business practices. He's also infamous for his sometimes awry predictions—"640 K ought to be enough for everybody," which to be honest was probably wrongly attributed to him. It's probably all that money that he's surrounded by that causes jealousy and the need for such rumours.

However, his latest prediction, some say, suggests that he's retired just in time... Addressing a gathering of 1,600 researchers, developers and academics in Hong Kong, Bill Gates shared his "vision" about the future of computer use. This was a seminar marking the tenth anniversary of Microsoft, at their Asian research wing.

Whatever Happened To... 64-bit Computing

A bit is the most fundamental unit of data, either a 0 or a 1. A 32-bit processor is the norm, and they can process data units that are 32-bits or 4 octets wide. A 64-bit processor, can handle data units twice as wide, i.e. 8 octets, and therefore promise faster computers.

64-bit computing has been around since the sixties, and at the turn of the century, it looked as if they would replace the 32-bit processors in the PC market. Intel's Itanium, AMD's Athlon 64 and Apple's G5 were all competing with each other to establish themselves in the 64-bit market—only, there was no market. All the hype fizzled out, and 64-bit computing has been stuck in limbo ever since. The biggest benefit of 64-bit computing was also its biggest problem. A 32-bit processor can use up to 4 gigabytes of RAM, with 2 GB allotted to the OS and 2 GB for the applications. A 64-bit processor, on the other hand can handle 16 billion gigabytes—there is simply no need for it.

The transition from 16-bit to 32-bit happened in the heydays of Windows, and was pretty smooth. However, changing over to 64-bit is much trickier process. Video content and Gaming stand to benefit the most in the changeover, and will be the driving forces, if and when it happens. There will always be a need for more computation power—and no one will put an upper limit on this.

DigiPick
of the month

Call Airtel on XXX-XXXX-XXX for help



Last month's winner:
Imtiyaz Jariwala

Participate and win next month:
Google Power Tools-Bible
by Ted Coombs, Roderico DeLeon
Published by

WILEY-INDIA



WIN!

Send in your entry and you could win an exciting gift by sharing an amusing picture with a tech angle to it. The picture should have been shot by you, and should not have been published anywhere earlier. E-mail your picture with "DigiPick" in the subject line, mentioning your postal address, on or before the 20th of this month to digipick@thinkdigit.com. One prize-winning picture will be published each month.

He looked far into the future and discussed the various transformations that he expects in technology. He noted how the increasing connectivity to the Internet will allow for more development of server-based technology. "People often talk about this as the Internet service revolution, that will eventually lead to machines that have lots of server capacity, lots of low-cost computing, low-cost storage and that will let us write software in an even more ambitious way, eliminating the last constraints we have." Reading between the lines, it means that in the future, Microsoft hopes to catch up with Google and offer services on the lines of Google apps.

His other gem was about touch screen appliances being everywhere, "because they're fairly developed in the labs, I can say that in 10 years (they) will be widespread." Yes, he did say "In ten years, they will be

fairly widespread," in case you thought you read wrong. In another interview, for BBC, he said "I'll be brave, in five years we'll have many tens of million of people sitting browsing their photos, browsing their music, organising their lives using this type of touch interface."

Err... Mr Gates, it's called an iPhone or an iPod Touch, and millions are already using such devices.

Some other Gates gems include "I believe OS/2 is destined to be the most important operating system, and possibly program, of all time."

It's sad really, because a lot of Linux fanboys and general Microsoft bashers now get to add more fuel to the already raging anti-Microsoft fire. On some forum a member seems to have the last laugh, "Hell, what do you expect from a person who never saw the end of the millenium coming." This was in reference to the Y2K bug.

PSYCHOTECH

The Spam King Is Dead

In 2002 Edward "Eddie" Davidson started an Internet promotions company known as "Power Promoters". Between 2002 and 2005, Davidson's company specialised in sending thousands of unsolicited e-mails advertising watches, perfumes, penny stocks and other products. He lied and misguided about the products in his mails, increasing their apparent value. The voluminous nature of his activities earned him the title of "Spam King."

On December 3, 2007 he plead guilty in a US Court. By April 2008, after many hearings, he was judged guilty by US District Court Judge Marcia S. Krieger and sentenced to two years in prison. Some of his ill-gotten gains including property and gold coins were forfeited, and he was ordered to pay

People Who Changed Computing

Paul V. Mockapetris

Jimmy Wales was the guy who turned around the concept of the mob mentality by using it for fruitful purposes. In retrospect it may seem like a simple idea, but Wikipedia was an



Jimmy Wales

important breakthrough on how efforts of various individuals are collaborated over the Internet, and paved the way for many technologies that are called 'Web 2.0'.

Born in 1966, Wales began by working on Nupedia, which was like any encyclopaedia—experts were called in to write articles, and peers would review it. There was only one major distinction, it was free. Wales hired Larry Sanger to be the editor-in-chief for the Nupedia project.

Larry Sanger had the idea of using the wiki script to make the encyclopaedia editable by anyone. Wikipedia spread like wildfire, more than doubling in size every year. The free multilingual open content encyclopaedia was born. In 2006, Time magazine named him on the list of the most influential people in the world.

Bluff

YOUR WAY THROUGH

Wiki Jargon

Stub: A stub is an article that stops short of giving an encyclopaedic coverage of any topic. The article is usually very short, giving a very brief overview of the topic without an index or sub sections.

Wikify: Many articles are added without the markup language (known as wiki markup) used by wikis and do not follow the formatting guidelines of the wiki. To wikify an article means to format the content as a wiki.

Patrols: Patrols are units of wiki editors who regularly go through a class or category of articles and take any reasonable actions to improve their quality. Most patrollers are humans, but there are a few bots as well, programmed to automatically enhance the content of articles.

Cleanup: A cleanup is the term used by image editors on a wiki to enhance the quality of an image. This usually involves removing distracting backgrounds, color correction or using an image of a higher resolution.

Forking: Forking is the practice of lifting or copying an article from one wiki, and pasting it onto another and editing it to suit the needs of the wiki that it is copied to. The GNU licences on wiki articles makes this a legitimate practice.

Collaboration: A bunch of people combining their creative efforts towards a portal or a class of articles is known as collaboration.

Usage: Was *patrolling* the Culture and Arts pages of Wikipedia, and came across quite a few *stubs* and a few images that need a *cleanup*. Many pages on Uncyclopedia are *forked* from wikipedia, and some of them need to be *wikified* by *collaboration*.

Wild Wild Web

Boredom Killer

The inane, weird and sometimes hilarious underbelly of the Web can be accessed from www.i-am-bored.com—the site is constantly updated, and never fails to deliver a dose of refreshing miscellany.

Check out the links in the weird or tech category. You can also login to keep track of your favourites if you end up being a regular.

\$714,319 in restitution to the IRS. In May 2007, Davidson was asked to report to a facility designated by the Bureau of Prisons.

Not even three months into his sentence, Davidson decided that he had seen enough of the prison life. It was a minimum security prison, and Davidson jumped ship into his wife's car when she came to give him a visit. He forced her into the car, went home, changed his clothes, picked up some cash and vamoosed. A warrant for the escaped Davidson was issued, and the FBI, the IRS and the Rocky Mountain Safe Street Task Force combined forces in their manhunt.

It did not last too long. He was discovered in a car with three bodies, the one of his wife, his three year old daughter and his own. Presumably, he first shot his wife and child, then turned the gun on himself. The spam king is survived by a one year old son. We're just hoping no one tries to make the most of the situation, and starts sending spam that asks you to help the son out by not deleting. We know, it's a terrible thought, but then spammers are notoriously low human beings.

Homepage Surfer

www.coolhomepages.com keeps track of the cutting edge in Web page design. Most of the sites here are online portfolios of designers, studios or artists, and each site has a unique approach in terms of interface and navigation. These sites use flash or java in innovative ways, and many are content heavy with videos and special effects integrated into the site

layout. Beware though; many of the sites here are heavy on bandwidth.

Loony Toons Junkie

Which firm sells anti-nightmare machines, strait-jacket ejecting bazookas, jet-propelled pogo sticks and rocket powered roller skates? ACME, of course. Head over to home.nc.rr.com/tuco/looney/acme/acme.html and you will find a complete catalogue of Acme products. Pity you can't buy them.

DUBYA ESCAPES RTI

White House Server Loses E-mail

Anyone in their right minds would assume that the White House is one of the safest, most secure and technologically proficient places to receive and send e-mails in the world. Well, they would assume wrong, because as many as 225 days of e-mail have mysteriously gone missing from the White House servers. This is not thanks to some renegade hacker from Afghanistan, there is, in fact no one to blame but the White House staff themselves.

While on the one hand, the White House has asked for bids to make a recovery attempt, on the other, they refuse to admit that the event has even occurred—ignoring all media enquiries on the topic.

It is unlikely that the e-mails are going to be recovered because of the scale of the problem. There is a 9 page document that gives the details about the e-mails stored in 35,000 disaster recovery backup tapes. The recovery efforts

are running into reels of red-tape and going nowhere.

Meanwhile, a fresh angle is thrown in by citizen watchdog groups who claim that the missing data conveniently covers the period of the Iraq violence and the Abu Gharib prison scandal. Those for open legislation have hit a brick wall because of documents being withheld from the common public—as these documents are entirely missing.

Conspiracy Theorists are sure to put this tit-bit of information to good use for their own purposes. Suspiciously, a huge chunk of the 400 million or so e-mails falls bang in the middle of the period of time when the White House was planning to attack Iraq.

The recovery of these e-mails, if at all it ever happens, will easily outlast the term of Bush's presidency.

This at a time when the White House is taking increasing measures to keep track of the hundreds of thousands of e-mails that fly around the Internet each day. We're waiting for the Dubya jokes to start flying.

NOSEY GMAPS

Drunk Man On Google

A man, known only as "Bill" from northern Australia, wanted to go biking with his buddy on the island of Tasmania. Only, before he could do this, his buddy died. So Bill went down to the local bar and had a few drinks, got properly drunk and a bunch of his friends bundled him into a cab and sent him home. After reaching home, he promptly collapsed on his mother's front lawn. On any other day, he would have woken up a few hours later with a splitting headache, and gone inside for a cup of coffee...

Along comes a car, with a guy operating a video camera in the back. The object of the whole setup is to upload entire streets on to the Internet, for Google Map's latest offering, called Street View. Bill eventually gets up, presumably has his cup of coffee, and is well on

Hard Hit...Or Hitting Hard?

August—not the most eventful of months. We had a long, lazy weekend, since the fifteenth was a Friday. After that none of us could seem to get our stuff together. For one, everybody seemed to be coming to work late, and our office looked like a night-shift affair at 10.00 am. Then products we intended to test got delayed, courtesy the heavy rains.

We were hit hard with the loss of Bhaskar Sarma, and Rohan, who just joined us last month, but was bitten by the malaria parasite. Aditya came in though, and saved the day. It's brilliant how so many of our readers, like Aditya, join us and are able to hit the ground running. Of course, he's often seen running for cover in our Q3 deathmatches.

DIGIT DIARY

his way towards recovering from his buddy's death, goes surfing for a while, decides to look up his own home on the Street View offered by Google, and suddenly he sees himself in a right state on the World Wide Web. He was obviously not too happy with it. Bill did not officially complain, but a number of users flagged that part of the site, and Google has since then removed the content—but not before the hilarity of the whole situation made a pint sized celebrity out of him on the Web.

UPGRADE TO XP

Vista Users Like XP Better

Microsoft is trying hard to get people to fall in love with Vista. Despite Vista



being far superior to XP in terms of security, a third of Vista users downgrade to XP according to research firm's CTO Craig Barth in collaboration with InfoWorld. They surveyed more than 3000 computers shipped in the last six months and came to this conclusion. Sometimes, the downgrade was done by the customers once they purchased their computers, but there were instances where vendors such as Dell downgraded their systems based on requests from their customers. Perhaps the most demeaning thing about the whole issue is that a lot of people are not looking at this as a downgrade at all. In their opinion, replacing Vista with XP is actually an *upgrade*!

The deep permeation of XP in the corporate environment is the reason for this. It looks like Microsoft's \$300 million advertising campaign to boost Vista sales isn't helping. ☒

think diGit Blog WATCH

Featured here are snippets from some of the best bloggers who have registered at the Blog Watch section on thinkdigit.com.

If you wish to be featured too, head to www.thinkdigit.com/blogger.php and sign-up.

Milind Koyande

<http://tinyurl.com/5qdb5z>

<http://win-regedit.blogspot.com/2008/08/native-processor-performance-control-in.html>

The following tweak applies to processors with either Intel SpeedStep or AMD PowerNow! Processor performance control technologies. Windows includes inbuilt processor performance control to utilise it more efficiently. Some CPUs that support the aforementioned technologies have trouble with random hangs under XP. Even if you've installed an updated CPU driver, XP might not have enabled it. This hack is for such cases. Navigate to: `HLM\SYSTEM\CurrentControlSet\Services\PS3\Parameters`

Here, create a new DWORD value (or modify the existing value) called HackFlags, and edit its value according to the following.

- 0: Disables native XP support
- 1: Use settings inherited from Intel Software during your XP upgrade.
- 5: Allow XP to support all modes when on battery

You will need to restart for the change to take effect.

Jal Desai

<http://tinyurl.com/59m7md>

<http://jal-infotech.blogspot.com/2008/08/flock-powerful-yet-unnoticed-internet.html>

When we think of an Internet browser, the first thing that comes into our mind is Microsoft Internet Explorer.

Too bad. Well, times changed and people migrated to Firefox and then 'flocked' around Opera. I think one should now flock around 'Flock'—ya that's the name they gave it. Flock is an Internet browser that was hiding for all these years, and nobody noticed it.

First of all, it does it all. Casual surfing is awesome with the tabbed interface which almost all browsers have these days. Digging more into the features, it has many many plugins built into it, such as its own RSS Reader, a People sidebar, a cool personalisation facility 'My World' which integrates snippets of Yahoo!, Digg, Flickr, YouTube, etc.

All Your Base, And More...

- 1** Which 2 famous companies have come together to colonise Mars?



- a) Dellorola (Motorola and Dell)
b) Asun (Sun and Asus)
c) Orapple (Oracle and Apple)
d) Virgle (Virgin and Google)

- 2** Who said, "All your base are belong to us"?

- a) CATS
b) DOGS
c) RATS
d) PIGS

- 3** Which was the first gaming console to use 128-bit architecture?

- a) Playstation 3
b) X-box 360
c) Sega Dreamcast
d) Mitashi Cub

- 4** Which is the largest computer manufacturer in the world?

- a) Apple
b) IBM
c) Fijitsu-Siemens
d) Hewlett Packard

- 5** Who made the game Dangerous Dave?

- a) Ubisoft
b) Softdisk Publishing
c) Bluemoon software
d) Apogee software

- 6** Which was/were the first dog(s) in space to safely return back to earth?

- a) Laika
b) Chernushka
c) Belka and Strelka
d) Veterok and Ugolyok

- 7** Why do many Linux users work from the command prompt?

- a) It is faster
b) It is more geeky
c) It allows more control
d) GUIs are for idiots

- 8** What was the first portable audio cassette player called?

- a) iTape

- b) Aiwasonic
c) Walkman
d) Stereobelt

- 9** Which was the first computer virus?

- a) The Creeper
b) Brain
c) ElkCloner
d) MyDoom

- 10** Who developed the Java programming language?

- a) Alan Kay
b) James Gosling
c) Niklaus Wirth
d) David Pascal

In Mesopotamia—as early as 200 BC—the first batteries were used. These primitive people used a half-volt battery to electroplate silver on to copper!

Did You Know?

Answers

1. d	10. b
2. a	11. c
3. c	12. d
4. b	13. a
5. a	14. b
6. d	15. c
7. a	16. d
8. c	17. a
9. b	18. d
10. b	19. a

Got an interesting question? Send it in with the answer to **TQ@thinkdigit.com** Mark "TQ" in the subject area.

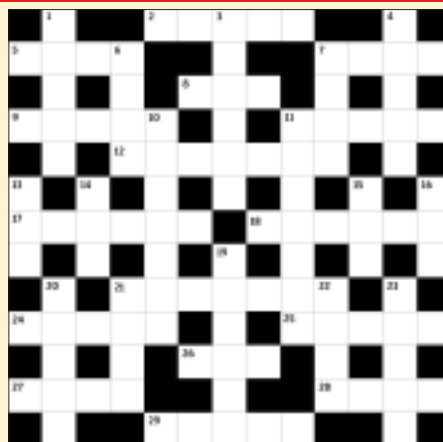
Crossword

ACROSS

2. The account name used to gain access to a computer system (5)
5. Short for signature (4)
7. A software or hardware feature included in order to simplify later additions or changes by a user (4)
8. America Online (abbr) (3)
9. ASCII character 35 (5)
11. Maximum clarity of an image rendered by an optical system (5)
12. Microsoft's current mail client and office information package (7)
17. 3.5 inch input drive (6)
18. Search-----series of alphanumeric characters used to perform an online search (6)
21. A simulation of the real thing (7)
24. Bug free code (5)
25. Finnish mobile telephone company (5)
26. Telelocator Alphanumeric Protocol (abbr) (3)
27. Recording sound over a single channel (4)
28. -----printer - kind of impact printer in which the full character set is on a rotating cylindrical magnetic media, available for each printing position (4)
29. Code name used for the beta version of Microsoft's SQL Server 2005 (5)

DOWN

1. Lifecycle Global HyperText (abbr) (5)
3. Popular search engine and internet company (6)
4. An online community where users read and post topics of common interest (5)
6. Popular software for burning and copying various formats (4)
7. Same as 7 across (4)
10. A free open-source application that is used for exchange of data using the TFTP- is also a name of a large fruit (7)
11. Early computer language for numerical and scientific applications (7)

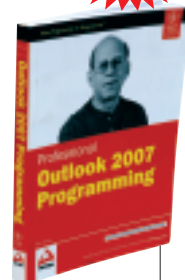


13. System not in operation (3)
14. Out---- - folder where e-mail is stored before it is sent and after it is created (3)
15. Basic unit of numbering in a binary numbering system (3)
16. '---Of Empires' - real time strategy game (3)
19. An attempt to violate computer security (6)
20. -----light - artificial light providing illumination over a large area (5)
21. Sony's trade name for its desktop and laptop PCs (4)
22. To copy a program into memory so it can be run (4)
23. Manmade programs that infects systems and causes them to crash (5)

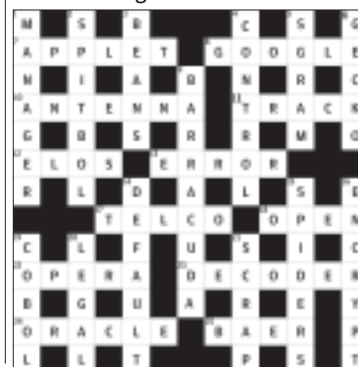
Last month's Winner
Sandeep Kumar Srivastav

Send in your entries to **TQ@thinkdigit.com** on or by the 20th of this month. One lucky participant will win

Professional Outlook 2007 Programming
By Ken Slovak
Published by
WILEY-INDIA



August's Solution



Crossword by Nitta Jaggi



Feedback: August 2008 Issue

Sharing Is Caring

I am a class III employee with the Orissa State Govt., and a non-technical person by profession. I am a regular reader of *Digit* since July 2004. The Tips and Tricks, Q&A and software sections have turned me into a computer *quack* in my locality—I help others by referring to knowledge provided in your magazine.

Now I have more than 125 GB of different software that you have provided in the CDs and DVDs. I want to share the software with other people, but I don't know if it will be legal to do so.

Recently I visited thinkdigit.com, and I must say, it's marvelous! I forget time after entering the thinkdigit world, as everything that is needed to keep a man glued to a site is right there.

The articles, blogs, Tips & Tricks, Q&A, etc., makes one forget about other sites. However, I find that the software section is not up to the standard of a reputed magazine like *Digit*. I would like a section on the site that tests and reviews software, so we know that all that is on your download's section has been recommended by *Digit*.

Ajaya Kumar Pani

You may share most of the content of the discs with your friends, but you may not share any licenses for full version software that are provided specially for *Digit* readers—one disc equals one license. As for the downloads section on the site, we will try and implement your suggestion.

Team Digit

No Net Nonsense

I am a reader since October 2002. I've read many computer magazines before, but *Digit* is just special. Your articles are amazing and the software on your CDs and DVDs help users like me who are not connected to the Net. However, I find that certain software that you provide need you to connect to the Net, which are completely useless for people like myself. I love games, and would like to become a game tester. What qualifications will I need?

I am a physically challenged person, will that matter?

Praveer Joshi

Unfortunately, we cannot ignore software that need a Net connection, just as we cannot give only Linux software, or only multimedia software. Although useless to you, the same software could be very useful for those who do have a Net connection. Our attempt is to give some of the best applications being developed, regardless of their requirements. We hope you will continue to find enough software that you like, so that the ones you cannot use will cease to bother you.

As for becoming a game tester, there's really no qualification, as experience and skill is all that matters. Even though the gaming industry in India is just in its infancy, there's been enough buzz for us to consider it to have a very promising future. Your physical handicap should not stop you from becoming a game master, which is the whole beauty of games.

The best example we can cite is that of a colleague of ours, Mayur Bhatia, who despite a severe handicap, remained one of the best FPS gamers we've seen. He passed on from this world a couple of years ago, but we remember him fondly, as the guy who used to whip our butts in *Quake 3*!

Team Digit

Missing Pages, Again

I loved the August issue of *Digit*, but I found that pages from 25 to 33 were repeated, and 16 to 24 were missing. This meant that I had to miss the article related to graphics cards. I do not want a replacement, because I am content to read the article when you provide PDFs next, but please be more careful in the future. I have seen repeated pages once before in the magazine and the *Fast Track*, but I didn't have missing pages then, just extra repeated ones. You are doing a great job though, and the content is getting better and better. Keep up the good work.

Darshan Singh Kali Rai

First of all, I would like to congratulate you for publishing such a great and informative magazine. I am a faithful reader for over 10 years now, and have never missed a copy of *Digit* from April 1998-when you began as Chip. This, however, is the first time I am writing to you to show my appreciation of your hard work. I have collected all you Fast Tracks, and they are very useful to me.

You are doing a fantabulous job, and have raised your standards a lot, but I think it's time to go global. Instead of being confined to the sub-continent, we readers promise to support you if you decide to undertake global projects such as creating hardcore games or making essential software and hardware.

This month, when I opened the *Fast Track* and the magazine, I found that some pages were missing—33 to 64 for the *Fast Track* and 109 to 116 for the magazine. Please do the needful.

Anurag
Kanpur, UP

Darshan and Anurag, please send us your full postal addresses via e-mail and we will replace your copies immediately. Since a couple of readers have complained for two months in a row, we will look very carefully into the binding process from now on.

Team Digit

Praise And Protests

Digit is definitely the No.1 tech magazine, not only in India, but probably the world! I've been reading *Digit* since its very early days. I was in

10th standard then (2002). Today, I'm a computer science and engineering graduate. *Digit* fueled my interests in computers, and I've read many technology magazines, both Indian and International, and believe me, you rock! Nobody beats you in the quality and content balance that you strike. The *Fast Track* itself is worth the whole price tag.

Still, I have a few complaints / suggestions / requests:

The Anniversary Issue was not up to the mark, apart from the cover story which was good. Please mention minimum system requirements in game reviews.

Give us a detailed guide to video encoding, compression, etc.

Lastly, keep up the good work!

N. Lalit Vidyadhar Sharma

We're going to try and make sure that you will like all the issues to come. We will also start publishing minimum system requirements for game from the next issue onwards.

Team Digit

At Any Cost

First of all, my hearty congratulations to you for being India's No 1 technology magazine. This is surely a tribute to your team's hard work for bringing a technology navigator in our hands every month! I'm a reader for the past two years, and I can't get *digit* in my hometown Kangayam, because it's a small town. I travel every month to another city (Coimbatore) to buy *Digit*, and am filled with joy every time I get it in my hands. I've loved each and every issue of *Digit*, especially your all new colour *Fast Track*.

Digit has made me tech-savvy amongst my friends, and has also helped increase my self-confidence. When I wasn't a *Digit* reader, I used to just listen to my friends when they spoke about computers. Today, I'm the most knowledgeable of them all, and it's all thanks to you.

I suggest you review more games, and please don't inform me of SKOAR!, because I'd like to stick to *Digit* only. Also please start mentioning minimum system requirements, and which platforms the same game is available for. I also want a *Fast Track* to: Gaming-II, Virus proof your PC-II, Upgrade your PC-II, etc. Your August 2008 issue rocks!

Sathiyamoorthy.S

We will try and address all of your complaints and suggestions as soon as possible, especially in the game reviews section.

Team Digit

Thanks!

I've been reading *Digit* since August 2006 and this is the first time I am writing to you. You don't need to remind us that you are India's no. 1 tech magazine, as we know this already. Over the past two years, your articles and the wonderful *Fast Track* have really helped me to increase my Tech Gyaan. I am a BCA student, but unlike others, I can even compete with my seniors, and it's all because of you guys! I appreciate all your hard work, and thank you for all that you have done for us readers.

Although *Digit* is the best, I still think there's room for improvement: Please include less expensive gadgets in your Bazaar section, as not all of us can afford high-end products.

A regular Linux article would be appreciated, although I respect what you have already done to promote Linux and the Open Source movement.

The DVDs and CDs also need to contain more Free and Open Source software.

Rishabh Sharma

More Than Meets The Eye

I thought computers were only meant to play games on, until the *Digit* light dawns on me, that is. Thanks to *Digit* , I am known as a computer specialist in my class.

I even suggested the book to a colleague, and he's hooked. The *Fast Track* is portable, informative, and is the ideal companion for me.

I don't like the idea of giving bootable DVDs or CDs, and thank you for the advertisements. My brother recently bought a Dell XPS Laptop, and this was the result of an advertisement in *Digit*. If possible, please start adding Bollywood songs to your discs.

Ranganath Pai

We will try and address all of your complaints or suggestions as soon as possible.

Team Digit

Secret Admirer

I can't say that I'm a regular buyer of *Digit*, but I am a regular reader. It all started for me in class 8, when I wanted to buy a computer magazine while I was travelling in a train. I don't know why, but I cried like a baby to get one. Finally, since my parents couldn't bear it, my father got off at a station to buy one for me. Unfortunately, before he could get back in, the train started moving. My mother started screaming at me, and I blamed myself too. Somehow, my father managed to grab a magazine, pay for it and hop back on to the train, but in a different compartment. At the next station, he came back angrily and handed me the magazine—*Digit*. Until I read *Digit*, I thought computers were only for games and word processing. That magazine opened my eyes to the latest technologies and innovations.

However, due to the events on the train, my parents were extremely angry, and decided to punish me by never buying anything, especially *Digit*, for me. For a year I read and re-read the same *Digit* magazine, and thankfully, my school subscribed in 2005. From then on, I spent all my free time in my library reading *Digit*, but never got a chance to see the CDs or DVDs because the Librarian used to throw them away.

I started buying *Digit* a year later, because everywhere I would turn there was *Digit* on the stands. Now you know what would happen if I asked my parents to buy me a *Digit* magazine! So, I secretly collected money from anywhere possible, and started buying *Digit* every month. The best part is, nobody knows that I have so many *Digit* magazines, because I wrap them in school covers, and keep them with my school books. I hide the discs with my movie collection. It's hard work, but *Digit* is worth the effort!

Thanks to *Digit*, I've scored 95 per cent in class 12 in Computer Science. I will be starting my course in B.Tech Computer Science this September. While my friends dream of joining MNCs, all I want to do is work with you, *Digit*. You have the power to defeat any competition that stands in your way, and can become a global brand.

Please publish this letter, as I plan to show it to my parents, and hopefully, finally forgive me for that day on the train, and let me subscribe.

Elam Parithi
Coimbatore



Tabloid TECH

People And Events That Grabbed The Headlines—For Better Or For Worse

Obama's VP Is A Tech Hater

Obama has gone ahead and picked a vice presidential candidate who is known to be harsh on file sharing networks and Internet privacy. When Joe Biden was a senator, he sponsored a bill that would make using any software that plays MP3 files on a computer a criminal offence. Thankfully, the bill was not passed because all the heavyweights of Silicon Valley were against it, and for once Apple and Microsoft were on the same side. He has also sponsored another bill backed by the

RIAA (Recording Industry Association of America) that makes it difficult for listeners to record songs from satellite and Internet radio stations.

If all the tech-hate was not enough, Biden does not want the common public to have access to e-mail encryption, as one of his many counter-terrorism measures. The measures include allowing government access to all kinds of information transmitted by voice, text, data or any other form of communication.



Mac Addict For Microsoft

Usually it is Bill Gates who has to eat his words with infamous proclamations like "Spam will be a thing of the past in two years' time."

This time around, it's the guys at Apple who are left in the lurch. Jerry Seinfeld has just been hired by Microsoft to be a part of a \$300 million advertising campaign. This after the latest offerings by Mac were seen in the background of many Seinfeld episodes, and a decade after Mac proclaimed "Jerry would never use a PC" in one of their own advertising campaigns. For a writer and a comedian, working in the entertainment industry, there must be a pretty good reason to switch loyalties from a Mac to a PC. The reason happens to be \$10 million worth of greenbacks, which is sufficient incentive to make anyone change his mind.



Beat It

Wacko Jacko turned 50 on August 29. To celebrate the occasion, Sony BMG, GMTV and the Sun released a compilation of his greatest hits in an album called the *King of Pop*. The album itself is unique as fans get to vote for their favourite songs and each country the album is released in will have a different tracklist based on the votes of that country. To promote the album, Jackson released a game across three social networking sites to allow fans (those that still exist anyway) to make a virtual version of Jackson dance. While it is not clear whether there is any combination of keys that can make the digital Jackson grab his crotch, there are a bunch of hourly and daily prizes up for grabs. Every hour, the best player gets a ringtone, and the best player for every day gets a limited edition *King of Pop* iPod Nano. The top 5 players (over 18) have a chance at grabbing two round-the-world plane tickets, or a Sony Bravia 32-inch TV. For the under-18 category, the top prize is a PS3 and thankfully not a trip to Neverland Ranch.