

July 2007

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God of War 2 And More

Editorial

It's Not Windows Enough

THE APPLE-MICROSOFT RIVALRY broke into a new battleground last month with the launch of Apple's Safari 3.0 browser—in public beta—for both Windows and Mac OS X. A million downloads of the browser for Windows were clocked right in the first week after the launch. Speculation is rife in regards to this totally unexpected move by Apple.

One school of thought says the motive for this is to invite more developers to code applications for the iPhone, which runs on Mac OS X. Apple has made an attempt to pitch Web-based applications—which, naturally, imply Safari—as the iPhone developer platform. The other possible reason for Apple having released Safari for Windows could be that Apple simply wants to increase its browser market share, which, as you know, lags way behind IE or even Firefox. And with Microsoft still battling the lawsuit on its bundling of IE with its operating systems, there might still be a chance for Apple of taking a lead in this new browser war—if Microsoft loses the case.

History, though, tells us a different tale. It is common knowledge that Apple has never quite been successful at building applications for the Windows platform. The QuickTime media player failed miserably; iTunes is far from having become the default media file management software for PC users. So what are the chances of Safari picking up steam?

The initial, scathing reviews are hardly encouraging. Barely a few hours after the announcement of Safari for Windows, security experts found not less than 18 security holes in the browser. Technology experts, prominent tech bloggers, and message boards have ridiculed Safari for a buggy beta; the user interface enthusiasts are disappointed with the look and feel. The worst of all, it's slow. The problem could quite simply be that Safari for Windows wasn't built for the regular Windows user. It's not Windows enough: for example, Safari uses Mac OS X font anti-aliasing instead of Windows' inbuilt ClearType, and fonts look blurry and bold. Menus are hard to read. Safari uses its own set of key combinations for things like flipping through tabs—which is not a universal standard, let alone a habit for IE users.



Deepak Ajwani Executive Editor

“Apple has never quite been successful at building applications for the Windows platform”

So when Apple tries to force down a Windows user's throat its own idea of a “superior” user interface, it is not taken to with kindness.

Windows users might have been forced to use iTunes if they wanted to play their iPods, but it's still an irritant to those used to the convenience of drag-and-drop offered by Windows media player. Similarly, for a browser, Apple will need to do things the Windows way and follow the standards expected by the Windows user. It might get away with it's our-way-or-the-highway attitude for its own products—the Mac, the iPod, or even the iPhone, but to successfully lure Windows users, the approach they need to take will be one of humility.

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

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



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ACI Emerald
ACI Ethos C
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ACI Ethos Duo 1430D
ACI Matrix 1425
ACI Matrix 1501
ASUS F3Jc
ASUS G15
ASUS Lamborghini VX1
ASUS S6F
ASUS W5Fe
Compaq Presario B1950
Compaq Presario v3225AU
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HCL S21 CMP
HCL W9504 PMP730
HCL X22
HCL Z22CDP
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HP DV9223tx
HP TX1016au
Intex M54N

Lenovo R61
LG RD400 5D23A2
LG RD400 5D4A2
LG X note C1
LG X Note P1 BP33A2
LG X Note R400 E277A2
Sony SZ 483N/C
Zenith Director
Zenith Presidio

Inkjet MFDs

Brother DCP-130C
Brother DCP-330C
Brother MFC-240C
Brother MFC-440CN
Canon PIXMA MP160
Canon PIXMA MP460
Canon PIXMA MP600
Epson Stylus CX3900
Epson Stylus Photo RX650
HP Deskjet F380 All-in-One
HP Officejet 4355 All-in-One
HP Officejet 5610 All-in-One
HP Officejet 5680 All-in-One
HP Photosmart C3188 All-in-One

HP Photosmart C4188 All-in-One
HP Photosmart C6188 All-in-One
Lexmark X1270
Lexmark X4270

Bazaar 116

Hardware

Bose Companion 5
Cooler Master X Craft 250
Creative Stone 1 GB
D-Link DSL-2640T Wireless G ADSL2+ Router
Genius Traveler 355 Laser
Leadtek WinFast PX8800 GTX TDH
Logitech diNovo Edge
Razer ProTone m250
Sony NW-A805
TurboLinux Wizpy

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Mundu IM V4
O&O Defrag 10 Professional

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Enter



16 Shweta Kawatra hates Mumbai traffic. She wants a teleporter!

16 New tech for Rich Internet Applications

20 The MS/FOSS thing is getting messy

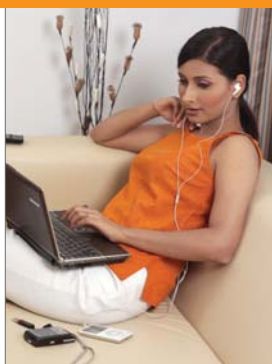
22 Microsoft's Photosynth is quite incredible. Find out what exactly it is

Digital Passion

Lead Feature

25 Chic Tech ▶

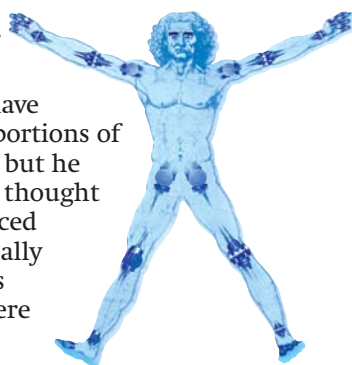
Pretty much every male thinks women love pink gadgets, and that's a myth. We're busting that one, and a lot more—after having spoken to several women



Tomorrow ▶

30 The Body Beautified

Da Vinci may have gotten the proportions of the body right, but he probably never thought we'd get advanced enough to actually replace parts as though they were disposables



Do It Yourself

34 Create Your Own Linux Distro ☑

Whether you're already a Linux aficionado or not, we believe you should read this one. You can't create a Windows-like OS... how about a Linux distro? Your *own* OS? To use, to show off? It's not that difficult. Really.

38 30 Days With

Here's about a month with the Asus P535. It's a Windows Mobile device, and our reviewer thought it was pretty cool. Except that it doesn't have a full keypad. He says "convergence" and "convenience" say it all

40 Droolmaal

Maal to drool after... featuring a gold-plated cell phone. An absolutely fabulous touchscreen LCD to draw on. The world's "smallest and lightest camcorder." And more—turn to the page, but don't wet it

42 Take A Crack At

You have pre-defined sound events in XP, such as "Critical Alarm" and so on. Think you can create custom sound events, like an audio clip playing when Photoshop starts up?

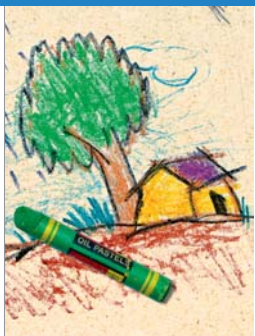
Contents Magazine

Digital Tools

Lead Feature

45 Hacking The Kid ▶

Kids love computers, as you know all too well, and we also don't need to tell you they love the games best. How about going beyond the obvious pastime? How about getting them to learn something, open up their mind while they're at the Desktop?



64 Bazaar

Some of the best of the latest in the world of tech products. Featuring a fabulous keyboard, a great set of headphones, a fast graphics card, an amplified 2.1 Bose system, and then some

Agent001

85 Pixel-perfect

Agent 001 is dead sure many of you still aren't aware what's in the digicam market today. Myths busted, features-to-look-for included, models mentioned—in short, sane buying advice



Net Gain

76 Do It Yourself (And Don'ts, Too)

Our Web site review this month includes a DIY site, one that teaches you Web design to supplement our Fast Track, and best of all, a place to go to after which you won't need to fill in Web forms any more!

Old Way, Tech Way

87 Commuting Vs. Telecommuting

Are we already in the age where physical commuting is unnecessary? What was the work-at-home experience like for one *Digit* writer? Read on to find out

Cover Story

50 Computing Comfort

It's forever raining new laptops, it seems. The omnipresent motif of dropping prices applies. Want a laptop? Need one? Either way, here's our annual shootout



Digital Business

Lead Feature

92 No-nonsense Notebook

Let's put you in a dilemma if you aren't already. Should it be Mac, Vista, or Linux for your business? An informed verdict.



Smart Business

109 Smart Training

Introducing fun ways of training your employees. These may be expensive now, but the idea is catching on quick. Be at the cutting edge...

Trend

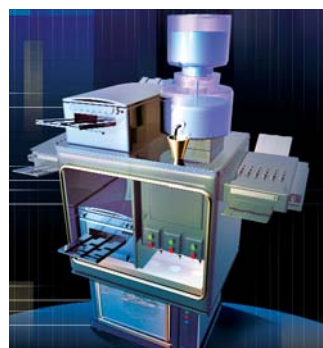
106 Web 2.0 And Businesses

Should you, as an employer, encourage your subordinates to blog, to use social networking sites? It really is a trend that's catching on

Tech Careers

89 Be The Game

Don't bother about it if you don't particularly like games, but if you do, we're putting it into your head that you can create them.



Test Centre

96 One Thing Too Many

Here's our annual inkjet MFD shootout. They have *not* been overshadowed by their laser counterparts. What models for your office—and why?

July 2007

Digital Leisure



113 Game On

Reviews. Yet another racing sim, but it gets a 7 from our reviewer. Then there's Supreme Commander, where you are, well, a commander of many forces. But most importantly, *God of War III*!

Lead Feature

116 Virtual Weapons In Real Life

Computer games haven't been ignored by the US DoD and other agencies. Looks like they have indeed been inspired by weapons from games—think about the Rail Gun and such. We could be wrong about the inspiration part, but there are strong similarities



Escape



121

C: the greatest high-level language ever. Here's about the duo who wrote the famous book

123

A robot (in Korea, of course) was the best man (!) at a wedding. Naturally, these Koreans are crazy

REGULARS

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Gaming

FREE Blob Wars: Blob and Conquer (Linux)

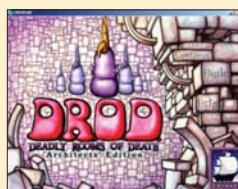
With the apparent defeat of Galdov and the

reclaiming of the Fire, Time, Space, and Reality Crystals, the Blobs' battle was only just beginning. Bob had rescued many Blobs and fought many battles, but now he had

an ever bigger task ahead of him. The Blobs' homeworld is still littered with the alien forces and Bob once again makes it his task to lead the counter attack. But even without Galdov the aliens are still extremely well organised...

D.R.O.D.—Deadly Rooms Of Death, Architects Edition

A brilliant puzzle game that mixes in some portions of RPG as well. Basically, the story is thus: you're a big ugly dude who's been



trapped in a big cave thing and has to kill all the bugs to get out.

Porrasturvat: Stair Dismount

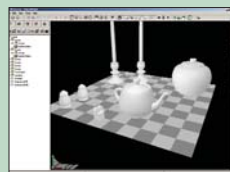
Score as much damage as you can by sending some poor sucker down the stairs. By controlling the initial conditions of the fall, you can create some pretty nasty-looking accidents.

- Cassetto
- Dr. Goo
- Roswell Racer
- Toblo
- Within a Deep Forest



Tools

MULTIMEDIA 3D Canvas 7.0.1.2



3D Canvas is a real-time, 3D modelling and animation tool that incorporates the drag-and-drop approach. Complex models can be constructed from simple 3D primitives or created using 3D Canvas' object-building tools.

with the help of a Wizard and an intuitive drag-and-drop Task Builder. AutoMate



breaks down common user actions into basic steps. You build tasks step by step in logical progressions. The result emulates an actual user performing the given task or procedure.

SynthMaker 1.0.6



Create your own instruments and effects to use in your music or to share with others. Learn about and experiment with sound synthesis and digital signal processing techniques.

- Celtx 0.9.9.1
- Autostitch
- ChrisTV Lite 5.01
- Flames 2.7.2
- Fx New Sound Free
- Photowipe
- RGS-AvancePaint 1.2.9
- Mixcraft Recording Studio
- Oriens JPEG Professional 1.3

INTERNET Mozilla Firefox 3 (Gran Paradiso) alpha 5



Firefox 3 (Gran Paradiso) alpha 5 is a developer preview release of the next-generation Firefox browser. It is only being made available for testing purposes.

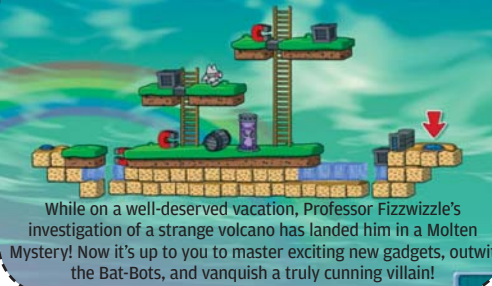
- Celtx 0.9.9.1
- Autostitch
- Celtx 0.9.9.1
- ChrisTV Lite 5.01
- Flames 2.7.2
- Fx New Sound Free
- Photowipe
- RGS-AvancePaint 1.2.9
- Mixcraft Recording Studio
- Oriens JPEG Professional 1.3

SYSTEM AutoMate 6.1.1

This is a software tool for Windows that enables you to easily build custom automated tasks. In most cases, these tasks can be created without writing a single line of code! Users construct automated tasks

- Bildsoft FastnPlay Lite + Pro! 2007
- Pidgin (formerly Gaim) 2.0.1
- PowerArchiver Outlook Plugin 2.0 Beta 3
- Sockso 0.1
- SpaceTime Beta
- uBrowser
- Mask Surf Standard
- OutNote 1.0.9
- PingPlotter 2.6
- TubeTools 1.0.1.2

Professor Fizzwizzle and the Molten Mystery



While on a well-deserved vacation, Professor Fizzwizzle's investigation of a strange volcano has landed him in a Molten Mystery! Now it's up to you to master exciting new gadgets, outwit the Bat-Bots, and vanquish a truly cunning villain!

Entertainment



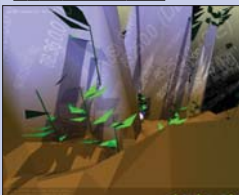
MUSIC Captain Obvious Live at Bar 227 - Full Album

Enjoy the sounds of this German Instrumental Rock band at Bar 227 in Hamburg

virtual 3D worlds that you can explore at will.

- AnimatedAlien ScreenMate
- AnnoyMail 2001 3.0
- Babble Rock 1.0
- BlueScreen Screen Saver 3.2
- Fake Progress Bar 1.1

FUN SOFTWARE Packet Garden



This is an open source, multi-platform, experimental art project that monitors your Internet traffic and uses the data from that to generate

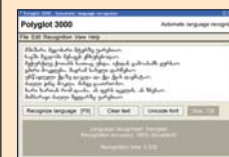
- FlowerThinger 1.1



- Vista Upgrade Prank 1.00

Productivity

PERSONAL Polyglot 3000



Here's a small program that can recognise the language of any text, phrase, or word you provide it. It can handle over 400 languages.

- ISS Smart Flow 1.3.1
- LetMe Type
- Polyglot 3000
- Pro Typist
- ToDoList
- episTree 2 build 2610
- Classroom Spy Professional
- FolderShare 2.5.1
- PC TattleTale 7.9.49

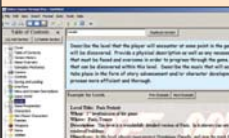
DEVELOPERS Advanced Linux Programming

"If you are a developer for the GNU/Linux system, this book will help you to: Develop GNU/Linux



software that works the way users expect it to. Write more sophisticated programs with features such as multiprocessing, multi-threading, inter-process communication, and interaction with hardware devices. Improve your programs by making them run faster, more reliably, and more securely." All the sample source code for this book is on this CD.

Video Game Design Pro 2006



Video Game Design Pro 2006 offers many tools, resources, and documentation to help users communicate their game concepts to others.

- Free Monitor for Google
- Microsoft Fiddler 1.2
- VLC media player source code
- FeedWrite
- Easy SQL Scriptor 1.0



DUAL LAYER
8,700 MB Of Quality Content!

Gaming



FREE Excilbur: Morgana's Revenge

EMR 3.0 is a unique scenario based upon the Aleph One (Marathon) engine. It is a first-person action adventure game,

featuring an epic and in-depth story line. As a Federation Marine resting after your last mission, you start aboard the exploration class Starship Kronos where you learn that your real mission has yet to begin.



Urban Terror v4.0

Urban Terror is a realism based total conversion mod for Quake III Arena which no longer requires this game to be installed. It only uses its engine, which is open sourced through the GPL and may

be distributed freely. Urban Terror plays in about the same setting as Counter Strike, but is less focused on realism and plays much faster, which among other things, is caused by the ability to strafe jump.

World of Padman

The World of Padman made the change from a mod for Quake 3 Arena up to a very own game. It is available for free and features 7 game types, 12 maps, 6 player characters, own music, and a lot of fun

- CodeRED—Battle for Earth
- CodeRED—Martian Chronicles
- Excilbur: Morgana's Revenge
- ioUrbanTerror (Use this to install Urban Terror if you don't have Quake 3 Arena)

Productivity

PERSONAL Banshee Screamer Alarm 2.55



Banshee Screamer is an alarm clock designed with one purpose in mind: To wake you up.

Active Desktop Calendar 7



This fully customizable calendar with notes, tasks, alarms and contacts provides seamless integration and interactivity with the desktop background. You can organize your data in layers and share them with other people on a local network. The program integrates with Outlook to show its appointments and tasks on the desktop.

- I-Doser 4.5
- IDrive-E
- iFinger Engine
- Active Desktop Calendar 7
- Magic Desktop
- Notezilla Portable 7.0 Build 78
- Oxford Dictionary of English (Second Edition)

DEVELOPERS Microsoft Silverlight 1.0 Beta SDK



The Microsoft Silverlight 1.0 Beta Software Development Kit contains documentation, samples and tools for developing Silverlight applications.

- ActivePython 2.5
- Internet Explorer Developer Toolbar
- Microsoft Silverlight 1.0 Beta Software Development Kit (SDK)
- ElegantJ PDF Library 1.1
- SiteSpinner 2.7c
- VBto Converter 2.3

No more Core, no more Extras—just good old Fedora. Fedora 7 is the latest in the line of Red Hat's popular free Linux distribution. Boot from this DVD to begin installing it.

Note: At the beginning of the installation, you'll be asked if you want to verify the installation media. Please skip the test—this DVD fails this test because of the additional content on the disk, but Fedora will install fine on your disk regardless.



Entertainment

MOVIES Nobody Needs to Know



Nobody Needs to Know is a story of Fame and the towns and industries and the people who create and support it. It's the story of two actresses on divergent paths who unwittingly illustrate the power of Fame and its ability to pursue those who run from it and run from those who pursue it.

MUSIC Ocean Dreams by DJ Fab



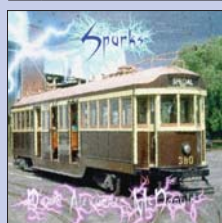
Listen to a preview of this Instrumental album in the Digit Media Player

Scramble by Stygmate

The Pop / Rock band Stygmate started in 1992 under the original name Scramble



Sparks by David Alexander McDonald



Born in the English Midlands, McDonald became an avid lover of classical music after seeing 2001: A Space Odyssey.

A Part of Me by Realize



Relize started his work on an Amiga, and eventually graduated to Fruity Loops to create his music

Tools

MULTIMEDIA Adobe CS3 Design Premium

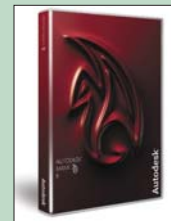
A Digit exclusive! This trial of Adobe Creative Suite 3 Design Premium comes with: Adobe Photoshop CS3 Extended, Adobe Illustrator CS3, Adobe InDesign CS3, Adobe Acrobat 8 Professional, Adobe Flash CS3 Professional and Adobe Dreamweaver CS3



**Digit
Exclusive**

Maya 8.5 Personal Learning Edition

Maya Personal Learning Edition (PLE) is a special version of Autodesk Maya software, which provides free access to Maya for non-commercial use. It gives 3D graphics and animation students, industry professionals, and those interested in breaking into the world of computer graphics an opportunity to explore most aspects of the award-winning Autodesk Maya Complete software in a non-commercial capacity. NOTE: You need to register at <http://usa.autodesk.com/adsk/servlet/mform?siteID=123112&id=9432085> for your PLE Serial Key



Sound Borb 1.0

Sound Borb application was designed to be an audio ambience generating system. The generative nature of Sound Borb's audio engine means that once you hit play, the ambience you're listening to will never end.

Reallusion CrazyTalk Media Studio Edition 4.6

CrazyTalk combines powerful facial animation technology with easy utilities designed to bring your photos to life through three specialized versions to create virtual hosts or animated actors.



- Licence Protector Multimedia Edition 1.3.0.250
- MeD's Movie Manager 2.5.3.3
- Sound Borb 1.0
- Ideal MP3 Music Sorter 5.25
- Plopp 1.2

SYSTEM

- The latest drivers for your ATI or NVIDIA graphics card
- Mofsoft FreeCalc
- Slawdog Aquibind 1.0
- Total Commander Ultima Prime 2.7

INTERNET

- Instant Media 1.2.3
- Silverlight 1.0 Beta
- SleekOffice 1.1
- WebCam Thingy 2.8



By Demand

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

Fedora 7

Size: 2.8 GB

Adobe CS3 Design Premium

Size: 1.9 GB

Maya 8.5 PLE

Size: 240 MB



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Digit Reader Poll

This Month's Question

Which Operating System would you like to use?

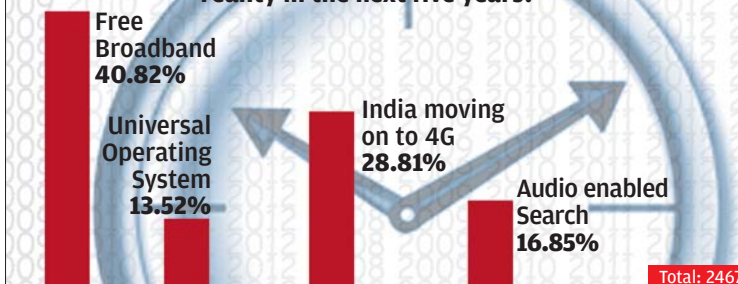
- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Windows 98 | <input type="checkbox"/> Mac OS X |
| <input type="checkbox"/> Windows XP | <input type="checkbox"/> Windows Vista |
| <input type="checkbox"/> GNU/Linux | |

To vote Log on to www.thinkdigit.com



Last Month's Question

Which of the following predictions will be a reality in the next five years?



taste technology at www.thinkdigit.com

FEATURED REVIEW FROM DIGIT FORUM (www.thinkdigit.com/forum)

This month, we feature a member review from the forum here.

Click here to go back to

thinkdigit.com

India's first home made forum software

AEF - Advanced Electron Forums

Link: <http://www.anelectron.com>

It is written in PHP and MySQL

Well I think that this software as far as I recollect is India's first home made forum/Bulletin Board software. This software is OK as compared to the other giants like IPB, vBB, SMF. However it is better than phpBB. But for a month old software it is pretty decent and its prospects are beginning to show up.

The first version was not that great but recently they made the new version 1.0.2 and they have included some pretty good features like a shoutbox, news system (with news articles - this is not featured by many others listed above), threaded mode, suggest framework, dom drag stuff (I have seen this thing for the first time on any forum software), etc. I particularly like the DOM Drag they introduced, its something new and novel. Well also it is very fast.

Coming to the looks I just Love the EYE Candy these guys have put up in the theme. Its so much better than that of the boring SMF and PHPBB looks. AEF has used some good amount of designing and it is a good reason for trying it out.

Well I think this software is good altogether and is worth a try. Have you guys tried it out?

To comment on this review and more, visit www.thinkdigit.com/forum/showthread.php?t=61026

Safari 3 beta For Windows

Apple recently released the Safari 3 beta version for Windows XP and Vista users. (Safari is the default browser on Macs.) Within 48 hours of its release, over a million downloads were recorded. However, three security researchers independently found eight vulnerabilities in the first 24 hours.



YouTube Remixer

YouTube has launched an online editing tool at their site, the YouTube Remixer, powered by Adobe. The Remixer can be used for joining video clips, photos, music, graphics, and other special effects. This means YouTube members can now create more professional-looking videos.



Enter

Shweta Kawatra

Actress

Kawatra started her career as a model in Delhi for big names like Hemant Trivedi and Lubna Adams. She has been an actress since 1995.

Kawatra's break in her acting career came from her lead roles in soap operas—in *Kahani Ghar Ghar Ki*, followed by her role as Eesha in *Kkusum*.

Technology to you is

The future! It allows us to have a better life and a better standard of living.

What gadgets do you use?

I have a mobile phone and use a computer for designing my own Web site. My husband has promised to buy me a laptop if I do a good job with the site.

What would your dream gadget be, and why?

A gadget that would teleport me from one place to another. I am tired of this Mumbai traffic.

What do you do online?

Due to my busy schedule, I hardly spend any time on the Net. But when I do, I reply to my fan mail. I have made a resolution to become more tech-savvy. Otherwise my children will soon treat me like an outcast!

Any instance where technology has really helped you?

On 26 July, 2005, Mumbai was flooded. I was stuck in traffic and didn't know what was happening. Thanks to my mobile, I was informed of the magnitude of the flooding and took shelter in a hotel.

DEVELOPERS' DELIGHT

From Web To Desktop

We've been talking about conventional desktop applications moving to the Web as Rich Internet Applications (RIAs). These are Web applications that typically work within a Web browser, and have features and functionalities similar to those of Desktop applications.

More technically, RIAs are like layers of code added between the user's end and the Web server to perform certain tasks by asynchronous communication within them. For instance, when you visit an RIA-based Web site that has an online word processor (like Google Notebook), code gets transferred to your system. This code acts as a browser extension and communicates with the server. The code renders the user interface of the application to make it more responsive. As you keep writing in Google Notebook, supplementary code keeps getting downloaded.

Different technologies—ActiveX controls, Adobe's Flash, JavaScript, Java applets, AJAX, Windows Presentation Foundation, and other user interface markup languages—are used in the development of RIAs. The limitation of RIAs is that they are only functional online. And now, to overcome that limitation, a number of development tools have been—and are being—released.

Google recently released Google Gears, an open source browser extension that enables Web applications to be available offline. Google Gears offers three chief features—it can act as a local server, as a database,



and can make applications work in the background.. If your Internet connection fails and you need to check your Gmail, Google Gears makes it possible: data held on a Web server can be stored as a database on a Desktop computer. When a connection is established, the data is synchronised with the corresponding Web-based applications.

Adobe, too, has launched a similar cross-platform tool named Adobe AIR (Adobe Integrated Runtime, earlier code-named Apollo) for developers to build and deploy advanced RIAs. Using the Adobe AIR framework, RIAs can be built using

Adobe Flash, Flex, HTML, JavaScript, and AJAX to make them work online as well as offline. Google is working with Adobe on AIR to make further development of APIs for running Web applications offline possible.

"The Gears API will also be available in Apollo, which enables Web applications to run on the desktop, providing developers with consistent offline and local database solutions," said Kevin Lynch, senior vice president and chief software architect of Adobe.

Microsoft's Silverlight offers the ability to build APIs for online Web applications and also make those APIs work offline on desktops: like Flash.

In May, Sun announced its JavaFX technology in response to Silverlight; it is more appealing to Flash and AJAX developers because it's simpler. JavaFX products will cater to the RIA market for mobile devices, Desktops, TV set-top boxes, and more. As you can see, Google Gears along with Adobe's AIR, Silverlight, and JavaFX will compete in this space.

There's also the Dojo offline toolkit, out recently, which will allow AJAX developers to enable AJAX services to run easily while offline. In sum, what we're witnessing is the online / offline gap being plugged. Of course, that line can never be totally erased, but life is getting better.



Security Watch

Yahoo! Messenger Vulnerabilities

The Problem

A pair of serious vulnerabilities have been reported in Yahoo! Messenger. These could enable a hacker to run malicious code with minimal user intervention if the messaging client is running in the background.

In the first vulnerability, a remote attacker could compromise a machine running a webcam on Yahoo! Messenger by causing a buffer overflow in its ActiveX component when the user visits a Web page with malicious HTML code. The result is that more data is sent to the RAM than it can handle, causing the program or other services running on the computer to crash, or the execution of harmful code. The second exploit causes a buffer overflow in the file ywcwvr.dll, which is used in the viewer component of the messenger client.

eEye Digital Security, the company that discovered the exploits, gave them its highest risk rating. Secunia, another computer security company, labelled it "extremely critical."

The Solution

Yahoo! has released a patch for the exploits, stating that everyone using their messenger client should download the updated version from <http://messenger.yahoo.com/download.php>. Yahoo!'s description of the exploit can be found at http://messenger.yahoo.com/security_update.php?id=060707.

NEW SENSOR TECH

Let There Be Light

No more low-light worries: Kodak has leapt into the limelight with new sensor technology. Kodak has said that their new technology will go a long way in overcoming light issues by increasing light sensitivity, which is one of the biggest pains in the neck for professional photographers and amateurs alike. Insufficient light makes for noise in the output image: grains, multi-coloured speckles, and other unwanted elements.

The majority of the sensors in digital cameras use the Bayer filter. This is a chequerboard grid where green pixels make up 50 per cent, and red and blue make up 25 per cent each. Now, neutral, "panchromatic" pixels will be added to the array along with the usual red, blue, and green pixels. Panchromatic pixels are sensitive to all wavelengths, and collect a larger amount of light when it hits the sensor. This will result in a more true-to-life image. The images will also be reconstructed using a different algorithm.

Steve Hoffenberg, an analyst with Lyra Research Inc. has said, "Typically, new features like this would be more likely to show up in high-end

products and then trickle down. But I think the biggest potential benefit of this may come in the camera phone environment. Camera phones are using smaller sensors to begin with and smaller sensors generally mean smaller pixels, which means lower sensitivity."

Kodak will first incorporate this feature in their own cameras and then offer it to other camera manufacturers in the first quarter of 2008.

Certain analysts have expressed scepticism about the technology. Christopher Chute, an analyst from IDC research has said, "They have been guarded about their portfolio, with certain degrees of success. But at the end of the day you need to have invented something or have some kind of intellectual property in order to maintain a market position."

However, Kodak intends to make up for it: it is estimated that they will receive about \$250 million (Rs 110 crore) in royalties and related revenues: every month, the market is hit by new camera models with added features: Kodak's technology has the potential to become widespread, Chute said. "But first it needs to prove itself. It can't just be a lab rat." Kodak does need to innovate beyond their existing camera line-up besides the technical enhancements they've come up with.

HOT



Think iPhone...

Multi-touch screens are right in. With the iPhone and Microsoft's Surface—as in the "touch-table"—having taken off, the technology is here to stay. It enables multiple users to operate a device together. Imagine scenarios like interactive walls and tabletops...

...and styluses!

Input styluses tend to scratch screens, and the screens require calibration. It doesn't allow multiple inputs. Input area is small, and accuracy is demanded of the user. This input mechanism isn't out yet, but it's definitely not the way ahead.

NOT



A NEW INITIATIVE

Green Tech Getting Ahead

Global warming and e-waste are serious concerns. Over-consumption of power by electrical and electronic gadgets—as well as PCs and servers—doesn't help the cause: when the equipment is disposed, the resulting e-waste can cause upset the ecological balance. The Government estimates that 1,46,000 tons of e-waste is produced annually in India in the major cities.

Google and Intel have spanning-new plans towards



One Silly Question

"What's 'XP' in Windows XP for you?"



"eXclusively Pampered"
Dheeraj Kapoor



"eXPired"
Harshal Namdeo



"eXtremely Pathetic!"
Dina Thakkar



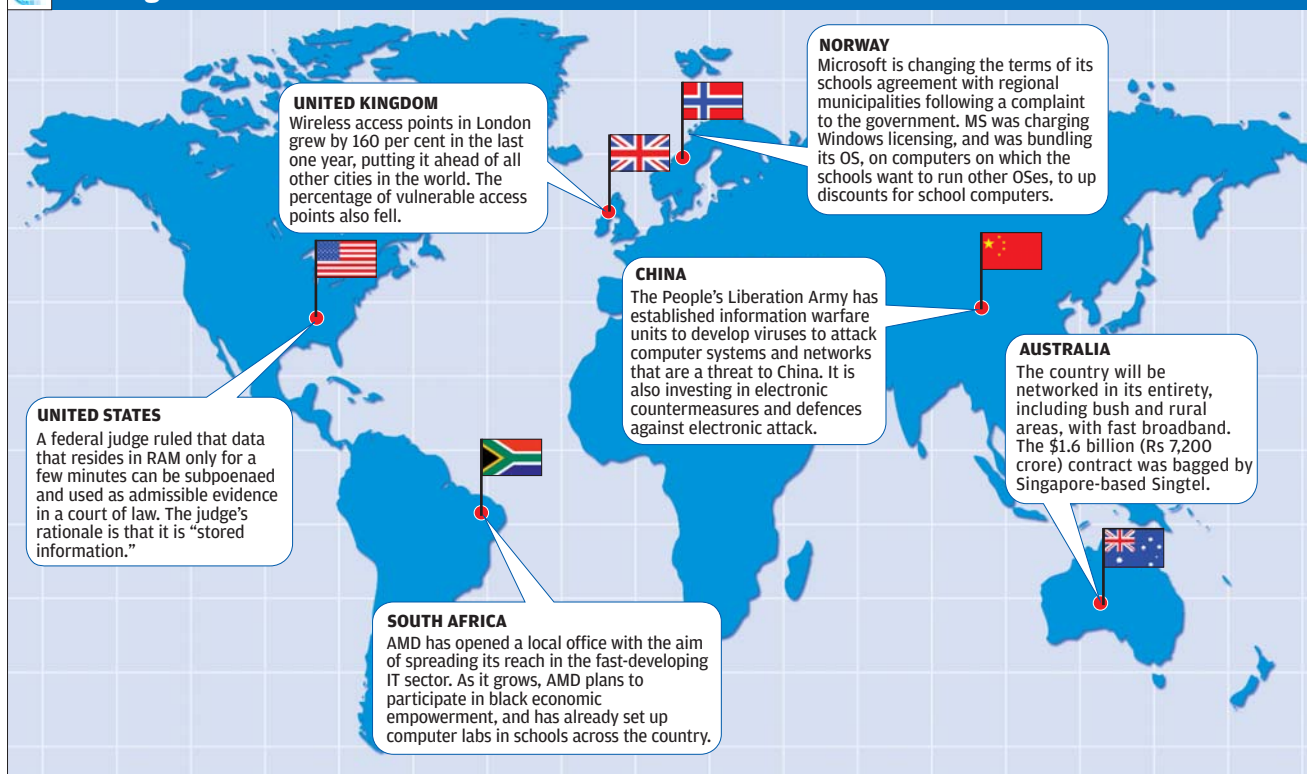
"eXcessive Pricing!"
Rachit Bakshi



"eXtra Phaltu!"
V. Harish

The Digital World

A Round-up Of Technology News From Across The Globe



going green, and they're hoping others will join them. The tech giants unveiled a voluntary program—the Climate Savers Computing Initiative—for introducing more energy-efficient computers and servers to save energy, in order to offset the greenhouse effect.

Pat Gelsinger, senior vice president and general manager of Intel, says PCs waste half the electricity they draw. More energy-efficient technology does exist, but it would mean about \$20 (Rs 900) extra to the cost of a typical PC, and \$30 (Rs 1,350) extra to the cost of a back-office server. "Energy costs of more than \$5.5 billion (Rs 2,475 crore) will be saved. The programme requires 90 per cent efficiency standards," says Urs Hölzle, senior vice president for operations at Google. Computers and software tools that manage power will have efficiency goals set by this programme.

About 40 companies including major players such as Dell, Lenovo, Microsoft, Yahoo!, AMD, HP, IBM, Hitachi, Unisys, Sun, eBay,

and others have signed up for the programme. The World Wildlife Fund is included in the programme for licensing the initiative as an extension to WWF Climate Savers Program.

In 2003, the European Union adopted a directive that restricts the use, for the manufacture of electronic components, of elements that turn into hazardous waste upon recycling. India's Wipro will, similarly, offer Restriction of Hazardous Waste (RoHS)-compliant PCs and other products, the first Indian computer maker to do so.

Several computing majors such as Intel, HP, and Dell have opted to go green: a few are already coming out with "green PC" models, which are more eco-friendly and energy-efficient than those currently available. These will be sold with rebates as incentives.

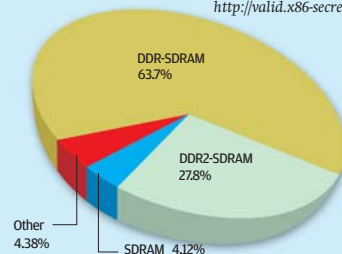
Having set up solar energy systems to power their headquarters, Google, too, is going green. Their popularity and corporate presence is strong enough to encourage others to move ahead along similar lines.



Stat Attack

It's all in the numbers

Worldwide Memory Type Usage

<http://valid.x86-secret.com>


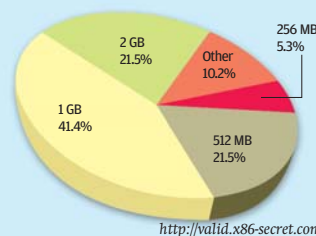
The US has **highest** proportion of **malicious activity**, at **31%**. China is second at **10%**

200 million people use **DSL**. **China** is the largest provider: **37 million**

8.5 million cell phones go down the **toilet** every year. **1.1 million** go into **washing machines**. And **58,500** are **chewed up by dogs!**

Google uses over **10,000** networked **computers** to crawl the **Web**

Worldwide Memory Size Usage


<http://valid.x86-secret.com>



Photograph Utsav Goswami

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.

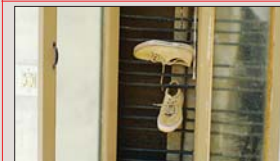
Beat That!

Digit Caption

"Sania—nice moustache!"

Last Month's Winner!

Dr. V. Katheeya,
72-SALAI STREET, VEDASANDUR-
624710, "Windows Bata!"



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

Microsoft Office Access 2007

by Kenneth Hess

Published by

WILEY-INDIA

ERASABLE PAPER

Reprint, Reuse, Recycle

Some of the most significant computing technologies have originated at the Palo Alto Research Centre (PARC). PARC is a wholly-owned Xerox subsidiary, where research programs are undertaken in areas ranging from biomedical science to ubiquitous computing.

PARC has now researched and developed new printing technologies, one of them being solid ink. This is a wax-based ink in the form of cubes to be used in printers in place of fluid inks. A solid ink stick can print on both sides of a paper simultaneously. Using any kind of media—from photo paper to letterheads—better colour quality can be obtained, too.

Researchers at PARC worked with customers to find that 40 per cent of

Time and research will need to be put into "going green" on a global scale, and it is heartening to see that the major players in the computing space are not only sitting up and taking note, they're also spreading the word.

BEYOND 80

More Cores

September 2006, Intel unveiled its 80-core teraflop chip prototype. It was part of a research program, and not for commercial purposes. The chip did not contain x86 cores, and could only compute floating points. Other companies and labs have also developed chips with large numbers of cores: ClearSpeed Technology, for example, developed a chip with 96 cores for performing specific tasks.

After having officially showcased the 80-core prototype, questions were shot at Intel: would they make a multi-core chip with x86 cores? Would the

latency, heat, and data traffic problems be solved? Intel merely said they were working upon it.

Now Jerry Bautista, co-director of Intel's Tera-Scale Computing Research Program has said, "Researchers at Intel are working on ways to mask the intricate functionality of massive multi-core chips to make it easier for computer makers and software developers to adapt to them. These multi-core chips will also likely contain both x86 processing cores, similar to the brains inside the vast majority of Intel's server and PC chips today, as well as other types of cores. A 64-core chip, for instance, might contain 42 x86 cores, 18 accelerators, and four embedded graphics cores."

Each core on a massively multi-core chip is connected to an external memory chip through thousands of microscopic interconnects. This technology of connecting chips is known as Through Silicon Vias (TSV).

One idea from a paper released at the Programming Language Design and

Implementation Conference in San Diego has proposed placing all the cores in an "exoskeleton" (the external protective structure/shell like on outer body of insects or other invertebrate) in a heterogeneous multi-core chip, either to make all the cores look like a single core or to make them appear as a series of x86 cores. Another paper presented at the International Symposium on Computer Architecture, also in San Diego, suggests a hardware scheduler that would share computing tasks among the cores. The scheduler would not only speed up processing, it would also prevent heating by transferring tasks to the next non-busy core. Heat issues are also being addressed.

Intel might not have an x86-core-based massively multi-core chip now, but they might well come up with one. That chip we're looking forward to could make Desktop computers efficient enough to emulate supercomputers, which handle computing tasks differently.

GENDER

Vinod More Vs. Indu Harikumar



We picked chatting buffs Vinod and Indu this time for our task—a more mind-work involved here. They had to chat with two “people” in separate IM windows on MSN Messenger, and figure which one was a chat-bot. The person was Ashu, and the bot was Alice (alice@worldofalice.com). Visit the site if you’re wondering what’s going on!

BENDERS

The initial pleasantries done, Indu began chatting with Ashu and Alice at the same time. At first, Ashu confused her by responding like a bot: “Try to rephrase the query.” Then Indu asked Alice, “What’s *Bokito* in your status message?” Alice responded with links. This didn’t do it for Indu (bots usually respond with links and commands), though. Ashu’s smug replies and Alice’s pleasant responses confused Indu no end. Then it happened: Indu asked Alice her age. Here’s what she got: “I was activated on May 29th 2006 at 16:40, so that makes me 1.307926528412 years old.” Done!

Take a look at Indu’s chat log at www.shorttext.com/pwvwyv.



Indu



Vinod

A cheerful Vinod began chatting with Alice like he already knew her: “wat r u doing these days.” Vinod asked Alice and Ashu about their locations, to which Alice replied, “Where i live is not important, the fact that i actually live is!” Pretty impressive, yes? On the other side, his chat with Ashu was more of an interview—too many questions. In fact, Vinod asked the same questions to Alice and Ashu at the same time. But it didn’t strike him for a long time to ask about age—Indu had gotten lucky.

He did ask, though, at some point, and Alice’s responded true to her bot-nature. Check this chat log at www.shorttext.com/qtb42x.

Xerox customers dumped printed paper at the end of the day. The researchers have also come up with a solution: a technology called “erasable paper,” for reducing paper wastage. Erasable paper is special paper that, once printed upon, gets erased on its own after a certain time period. The paper can therefore be used multiple times. An image is created on a special paper that Xerox has invented, by means of light exposure. There is no ink involved anywhere in the process, so there is no chemical pollution at any stage. Xerox is making preparations to make this commercially available soon.

The concern here for Xerox is that in the past,

they’ve been unable to successfully commercialise PARC innovations. Ethernet, the graphical user interface, and laser printing originated from PARC. Of these, Xerox has only profited from the commercialisation of laser printing. But now, erasable paper is a technology that every country will actively look forward to, since it makes for ecological as well as financial advantages.

AOL STEPS IN

India Online!

America Online (AOL) is the third-largest portal after Yahoo! and MSN.

Last month, AOL officially launched its portal—

www.aol.in—in India. India being a big potential market for portals has attracted Microsoft, Yahoo!, and others as well; with a strength of more than 2,000 employees, AOL has had a presence in India since 2002, working on and building new services for AOL’s portal.

The AOL India portal has services like e-mail, IM, mobile services, Google-powered search, and channels like Bollywood, Cityguide, International Music, Education, and more. India is the first country to witness AOL’s next-generation e-mail services. It will offer users unlimited storage, industry-leading spam protection, and powerful virus protection.

Like the Yahoo! and MSN messengers, “cool” features like offline messaging, sharing of pictures, personalisation, and group messaging will be available in AOL Messenger. What would be different is multi-tab conversations and simultaneous logins through multiple AOL IDs. AOL will also provide video content from various content providers. In mobile services, along with VAS (Value Added Services) downloads; WAP Mail and AOL messenger will be made available.

In the future, more products and services will be made available, we have been told. The content will be made available in regional languages as well. AOL will add more content and channels by collaborating with their other partners, apart from Time Warner.

WHAT’S GOING ON?

FOSS: Business As Usual

As you already know, Microsoft has been going after the Free and Open Source Software (FOSS) community, attempting to sue them for violating 235 of its patents. Analysts called it a lame attempt to protect its intellectual property. The FOSS was disturbed for a while, but has now decided to just go ahead—business as usual.

The Linux Foundation Collaboration Summit was recently organised at Google’s Mountain view, California campus. About 200 open source developers, users, and software vendors were present. The Linux foundation group includes Intel, AMD, HP, IBM, Oracle, Novell, EMC, and Bank of America, amongst others.

The FOSS developers and software vendors discussed the future of the open source movement, and talked about—obviously—the patent infringement thing. Some of those present at summit referred to Microsoft as “the enemy,” while a few expressed the idea that Microsoft would never sue: James Bottomely, CTO, Steeleye Technologies, and Linux kernel developer said, “Since Linux customers also buy Microsoft, it’s unlikely of them... It’s just annoying and riled up.”

On another note, the Linux community is facing

Microsoft Surface

Everyone and their uncle is talking about the Microsoft Surface: it’s a coffee-table shaped computer with a 30-inch interactive display under a hard acrylic tabletop. Its interactive display is capable of multi-touch interaction, which is quite the buzz: you can access digital information by touching it, using natural gestures, and physical objects get recognised, too! For instance, place a digital camera (with a wireless chip) on the Surface, and data can be transferred to a media player through

hand gestures—this might sound unbelievable, but you’d better believe it! The best part is, it allows multiple users to interact with it simultaneously. Cameras are used inside the powder-coated steel frame to sense the touches, gestures, and objects.

The brilliant gadget—if we can call it a gadget—works without a mouse and keyboard. Currently, Microsoft has announced it will be sold for between \$5,000 and \$10,000 (Rs 2.25 to 4.5 lakh) initially to corporate customers. It will thereafter become more affordable for individuals.

Buzzword
of the MONTH



Photosynth

What is Photosynth?

It's a not-so-perfect-just-yet technology from Microsoft Live Labs that takes a collection of photos and analyses them for similarities. It then displays a 3D scene reconstructed from the photos. You'll have to look at it in action to see what this means!

Why is it special?

Microsoft plans to make this technology Web-based, which means that in the future it might be possible to browse different sections of Web sites or view your photos just the way you would move around in a virtual reality space.

How does it work?

In a Photosynth session, digital photos are scanned by pattern recognition algorithms. When photos of the same object are found, the software compares portions of these images to create reference points on a canvas. Using these points, the image is converted into a 3D model.

Who is developing it?

Photosynth is a collaboration between the University of Washington and Microsoft Research using Seadragon technologies, a start-up that Microsoft acquired.

When did it come onto the scene?

Photosynth has been in development since July 2006, and continues to be improved upon.

Where can I preview this thing?

Photosynth only runs on Windows XP SP2 and above. You can preview it at <http://labs.live.com/photosynth/InstallForVista.htm?collection=none&showErrors=0&st=sanmarco/index1.sxs>. To preview it, you'll have to let it get installed on your computer.

problems in the stabilisation of new features in Linux-based operating systems. New features take too long to come out, and this was discussed. Raven Zachary, open source analyst for the 451 Group, believes that in regards to the usability of Linux, no innovations were happening.

The Linux Foundation has support from 70 corporate and non-profit players including Intel, Oracle, IBM, Cisco, Motorola, Nokia, NTT, Dell, Red Hat,



and Sun. These companies use Linux-based servers, and so want the innovations, as well as more stabilisation in Linux OSes and open source software.

Dell's announcement to ship desktops and notebooks with Ubuntu pre-loaded could well have zapped Microsoft. Microsoft continues to strike deals with Linux-based OSes—Novell, Xandros, and recently, with Linspire. These deals contain clauses for creating interoperability between Microsoft products and Linux.

But will Microsoft versus the FOSS community ever end? We see two possibilities.

After signing their agreement with Novell, which we've talked about, Microsoft wanted Red Hat and Ubuntu to sign a cross-licensing deal with them, but neither party was interested. If a miffed Microsoft decides to file a suit against the top Linux distributors, the latter will, naturally, have to bear the legal expenses to defend

themselves. This could even affect the business models of Linux distributors. Even if a court declares the patent infringement matter invalid, Microsoft might decide on another set of patents to use to sue, dragging the matter to court right until FOSS developers give up. The constant fear of litigations will disturb open source projects.

The second possibility we're talking about is *Linux* suing Microsoft for violation of patents. How? Well, Linux springs from UNIX. "Think how long UNIX has been around," says Andrew Updegrove, software license attorney and board member of the Linux Foundation. About this, Linus Torvalds says, "It's certainly a lot more likely that Microsoft violates patents than Linux does."

Basic operating system theory was pretty much done by the end of the 1960s." So if the threats continue, the Linux and FOSS communities could retaliate. Of course, we don't know what's going on Ballmer's head—he could well have some other tricks up his sleeve!

THE PRESENT AND THE FUTURE

Indian Bloggers Meet Up

Censorship and Citizen Journalism have been recently discussed and debated in the media as well as on the Web. To discuss issues pertaining to the blogosphere, an "un-conference" for the Indian blogging community was held at the Symbiosis Centre of Information Technology (SCIT) campus, Pune. About 200 enthusiasts as well as veteran bloggers, along with sponsors from large portals, IT companies, Web start-ups, and Web marketing firms were present. The primary

organiser was Tarun Chandel, who was a student at SCIT.

At the event, Rediff unveiled their new service—Blogshowcase—where bloggers can showcase their blog content and get recognition through votes and comments. The service is still in beta: registration is currently invitation-based, but will become open for the public soon. Rediff spokesperson Jasmeet Singh, vice president for product marketing, said, "This is a platform for users to showcase their own content from anywhere on the Web through RSS feeds. These feeds get updated frequently, and the blogs are offered in an organised format to those who visit our site."

Also present were the marketing folks from Purple Nova, a marketing firm, with a new product that turns a PC into a Web server. A spokesman for Sulekha.com, Sudhir Syal, spoke about the concept of bringing blogs to the print medium. Some Web start-ups pitched new blog concepts: SMS Gupshup, an "SMS blogging" site, talked about blogging through SMS, and Fropper's ezBlogs offering simplifies blogging with predefined templates and such.

The participants discussed blogging-related topics—like how to start a blog, blogging as business, photo blogging, blogging from the Indian perspective, podcasting, and so on. A woman blogger, "Melody," talked about the pitfalls of freely-available information and its misuse. A podcasting talk by the publishers of *Poorna Puna*, a youth magazine, was enthralling. Indian podcasters from IndiCast, an Indian podcasting site (yes, there are some!) were also present.

However, several bloggers present at the event felt the start-ups and services offered by the portals for bloggers were "not cool enough." But in general, it was a healthy discussion about how to better the Indian blogosphere. ☒



30 The Body Beautified



38 ASUS P535



40 Droolmaal

Digital

Passion

Fuelling The Pursuit Of Technology Knowledge

Lead Feature

Chic Tech

What *do* women want? We take a look into the minds of tech-savvy women to find out what they want to buy, and why

Robert Sovereign-Smith

"Ooh, look: a pink laptop! I want!"

"Computers are so boring... I'd rather be out shopping!"

Sound familiar? All guys (or should we say MCPs) should immediately identify with this. Much of what follows will be a pin-prick deflating a lot of male egos. Technology has fallen as the last remaining bastion of male dominance. Two of every 10 of you reading this article is female. That's the impressive demographic of our readers, given the fact that we certainly aren't a complete beginner's guide to technology. This fact alone tells us that the gender bias of technology is ending, if it hasn't already.

Between three and four years ago, technology companies found themselves in a quandary. While trying to sell their products, apparently, salesmen (or should we say salespeople?) often took it for granted that female customers knew nothing of tech. This resulted in a loss of sales, because no-one, male or female, likes to be treated like a clueless moron. It was found that salespeople who treated men and women alike, and only explained features when they were asked for an explanation, were the ones who sold the most. Thus began the end of sexism in all things tech.

Women today are coding much of the software we use, running tech companies, playing games, and are as tech-savvy as can be expected. We conducted a survey of as many women we knew—from engineers to artists, dancers to technical writers,



Photography: Jiten Gandhi
Model: Pallavi Deshmukh

teachers to beauty queens. In what follows, we hope to give all of you a better picture of how women use technology, and get a feel for how tech-evolved they really are.

Harshini Shah, a Client Service Executive from Mumbai, perhaps puts it best: "Men are more interested in gadgets than women are, but times are changing. Currently, we women use technology purely for basic convenience. Take the case of a cell phone: paying extra for features such as Bluetooth, GPRS, etc., does not seem logical to us—unless we're going to use them. However, a phone with radio or MP3 support has become more of a necessity than a luxury to us, and we'll pay for it."

Too many men, on the other hand, buy stuff and features they don't really need—because of the "cool" factor. Men just seem to have a higher level of inquisitiveness. Whether that's a good or bad thing, we'll let you decide for yourself, but we men will sit and read manuals, and open up every screw, just to see what's underneath. Women—at least the ones we spoke to—are just happy when things work. They prefer to use and create only when necessary, and do not have the curiosity to take apart and see what makes something tick. Which is something you know, and which is a perfectly okay thing.

Anything But Pink

During our interviews, we found that women hated being stereotyped not just by men, but by companies as well. We asked them all whether they would be inclined to buy products targeted at women: pink MP3 players, or phones with calorie calculators, or a menstrual cycle timetable. This elicited an emphatic "No!" from most. Although looks were important to all the women we polled, all of them hated the clichéd women-only colour combinations of the devices targeted at them. As for calorie and menstrual cycle watchers, none of the women thought it too practical. Some did agree that they would like those features in their phones, so long as the devices were *not* pink or purple. Yes, that's right—and we believe manufacturers should take note.

We also quizzed the women about the importance of various parameters of personal devices, and asked them to rate Looks, Features, Price, Performance, and Customisability—in decreasing order of importance—when it came to a buying decision. The results? Features won by a landslide. Looks came next, then performance and price tied for third, and customisability came in last.

Loveleen Pasricha, a Sr. Image Manager at Media Solutions, Delhi, says, "The first thing to look for is whether I need the gadget. Next I look at the features it has, and try to find the best combination of the features I need and the most affordable price."

Software

When it comes to software, which is perhaps what all of us in the digital age use the most, the consensus was "easier to use." Of the ladies we spoke to, those who use Microsoft Office at work or home all seemed to have only praises for the MS Office suite. When asked how they would like software to be improved, a lot of women cited Office 2007's metamorphosis as significant—because a lot of fea-



My favourite software would have to be iTunes, because it's user friendly and I'm addicted to podcasts. I also love software that is skinnable and customisable. As for gadgets, I look for features and value for money; looks aren't really that important. I don't think gadgets and gizmos are targeted at just men anymore; I think they're unisex, and targeted more at different age groups."

Sarah-Jane Dias
Miss India World 2007

tures that were earlier hidden were now revealed. Interestingly, when we at *Digit* first started using the Office 2007 beta and trials, we found that the men resisted the changes more. Women seemed to adapt to it a lot faster. Today, of course, we all love the Ribbon, regardless of gender.

Gadgets Galore

Our little survey told us that most women have computers at home, and it seems laptops are the preferred PC solution. Some had both laptops and Desktops, while a minority had only a Desktop: roughly 70 per cent had laptops, and 20 per cent of those also owned Desktops (though the Desktops were all older models). This is consistent with the sales figures for increased laptop sales that all PC vendors are reporting—so women are right up there with changing technology trends.

Absolutely no surprise was the fact that everyone we polled owned a cell phone—men, women, children. Nokia was the popular choice, with a few Sony Ericssons thrown in, and hardly any of the others. However, interestingly, the majority of those who had bought a phone in the last two years made sure it had MP3 playback and camera functionality. Music and camera phones are the order of the day, with radio functionality coming in a close third.

The only exceptions to the music phone rules were those who own a portable media player. Again, no prizes for guessing which was the most popular: the iPod. Though there were a few who owned a Creative or a Philips portable media player, they're grossly outnumbered by iWomen...

Gaming

The women we polled admitted to only casual gaming. Cell phones and PCs were the favourite platform, followed by those addictive iPod games. Only a handful had a gaming console at home, and even then it was mostly because of the presence of a male sibling. However, almost 5 per cent had no male siblings, and still owned a gaming console. A wild guess tells us that this is not radically lower than the figures for males in India.

Cynthia Dsouza (Mumbai) and Loveleen Pasricha (Delhi) both have gaming consoles at home, and no male siblings that we could attribute this phenomenon to. They both just love their gaming, especially racing games, and spend over three hours a week on them—a lot when you consider that they're not college students but working professionals. Incidentally, Cynthia owns a PS2 and an Xbox 360, while Loveleen has a PS2 and a PSP; both are looking forward to buying a PS3.

F1

We have a joke going about the office about when a female colleague was asked to restart the computer by the System Admin over the phone. After several repeated calls, the admin went down to her floor to see what was wrong and found her switching her monitor on and off, trying to reboot! This was quite a few years ago, but perhaps we still tell such stories because we at *Digit* consider ourselves alpha-geeks, which automatically brings with it our chauvinism. But enough rambling...

What we're getting at is that women are generally the butt of technology jokes, and we found



"I love the user friendly tutorials and wizards that software have incorporated today. This makes it easy for anyone to accomplish tasks."

—**Karina Noble**
A teacher of Indian origin in Canada



"I just want software that does not crash and gets the job done quickly and efficiently."

—**Loveleen Pasricha**
Sr. Image Manager, Media Solutions, New Delhi



"I use Picasa for pictures and iTunes for music. Anything that's easy to use is good software."

—**Harshini Shah**
a Client Service Executive, Maximus, Mumbai



"We professionals have no problems, but software should be designed to make it easier for those new to technology—men or women."

—**Diana McGowan**
Executive Director, Education Abroad, Australia



"Software should be easy to use. The whole software industry has a long way to go, when it comes to easy adoption for the masses."

—**Romasha Roy Choudhury**
Business Director, Cynapse, Mumbai

that there just isn't enough justification left to continue telling them. Today, hordes of both men and women are employed in the BPO / services industry, and more often than not, when you dial a helpline, you get a woman on the other end helping you with your problem. It makes us wonder whether the women in this industry tell jokes about technology-challenged male callers!

When they require help with something tech-related, most of those we quizzed admitted to using one of three solutions: dialling the manufacturer's helpline, using the age-old dial-a-geek-friend service, or searching online for help. Of the three, looking for solutions online is the least popular, and most had male geek friends on speed-dial. However, this happens to only be true about PC troubleshooting. Purchase decisions are a completely different matter.

Buying Advice

When it comes to buying PCs most admitted to asking friends or family for help—mostly males. Some just depend on their system assembler, or base buying decisions on ads. For laptops, the general consensus is that branded products cannot be bad anyway, so you're pretty safe just buying the latest model that falls within your budget. Most owned Core Duo- or Core 2 Duo-based laptops, with Windows XP being the most popular, but quite a few were running Windows Vista.

The scenario is quite different when buying personal products such as cell phones or MP3 players. Harshini says, "I'm usually the one who gives buying advice to my female friends. If I need advice myself, I generally speed-dial one of my male geek buddies, because none of my women friends know much more than me about technology."

Karina Noble prefers to follow her own decisions, as does Mousumi Chatterji, a technical writer at LionBridge, Mumbai. Mousumi says, "I try and buy things on my own, and do the necessary research. I don't want to end up blaming someone else if I don't like what I buy." A colleague of Mousumi, Sharada Menon, also prefers to buy things on her own after visiting the manufacturer's Web site and looking for features and reviews online.

Interesting here is the fact that most of the women insisted that they weren't rash or impulsive shoppers—not for technology, that is. They preferred to first read about the product, ask either friends who already owned the same model, and even spend as much as an hour with the gadget (most often a mobile phone) at the retail outlet before putting any money down.

Net Anywhere

Quite a few of those we polled used their mobile service providers for Net access when away from their desks. GPRS seems to be the favoured protocol. When asked what they do online, 95 per cent of the answers contained the word "chat." Most of the ladies have Yahoo!, MSN, or Google Talk. Social networking is popular; Orkut and Facebook account for most of the surfing bandwidth.

Other activities involve using the PC for work, researching things for their respective jobs, playing games.... Mousumi says, "I am fascinated by Microsoft Office and Adobe and Flash MX. When I'm not working, I'm usually dabbling in SEO for friends."

Also very common were Reliance or Tata data cards, which you just plug into your laptop's PCMCIA and then stay connected.

So What Does It All Mean?

What it all boils down to is the fact that women are a lot more tech-savvy than we give them credit for. Some may call our data skewed, though, because we only polled the middle and upper-middle class. We did this because the majority of women in this class have the education and money to be able to purchase tech products and services—and thus the biggest female target audience of manufacturers.

Currently, both software and hardware seem to be heading in the right direction—by just demystifying technology, making it simple to use and understand. Everyday technology, or consumer technology, which is what most manufacturers are focused on, seems to already have piqued the interest of the fairer sex. Down with pink products, we say—quite happily. ☒

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The Body Beautified

A largish step short of the cyborg, the Bionic Man is already a reality

Ram Mohan Rao

Here we go again about man-machine convergence: two years ago, we spoke about cyborgs and the engineering of the human condition. This time it's about bionics. So why are we repeating ourselves?

We aren't. "Cyborgism" is about transcending human capabilities, about creating supermen. Bionics is about repairing injured or disabled humans so they can function normally—as normally as possible, at any rate. Becoming a bionic man may not sound as cool as becoming a cyborg, but the stories are just as fascinating.

"Bionics" actually refers to the application of mechanisms found in nature to the design of artificial systems using technology. However, there is so much usage of the term in the context of designing body parts that "bionics" is now almost synonymous with "artificial organs".

Humans are benefiting from bionics to a degree of sophistication you wouldn't believe. Though expensive, there are bionic eyes, ears, arms, legs, knees, lungs, livers, you name it... a bionic anus has been developed, too, in case you were wondering. The following, then, is the story of how technology is repairing bodies and restoring lost bodily functions—a story of brain, mind, body, machine.

Sight And Sound

Research into the possibilities of bionic enhancements dates back a long time, but the first real breakthrough—at least, the most-remembered and best-known achievement of the early days—was the development of a bionic ear. The Australians are so (rightly) proud of it, it has been featured on a postage stamp: they call it the "Australian Bionic Ear."

Developed by Prof Graeme Clark, the prototype was first implanted in an adult at The Royal Victorian Eye and Ear Hospital in 1978. This one let the patient hear speech for the most part: speech, aided by a small processor that the patient could wear, was analysed and converted to electrical signals that were direct stimulation to the main hearing nerve.

The bionic ear has been brought much closer to perfection over the years. It is now more popularly known as the cochlear implant.

In the case of the sense organs, pretty much the same principle applies throughout all implants: how do we see, and how do we hear? Information is converted into electrical impulses that speed along nerves. The same thing happens in the Argus II system, which consists of external glasses, a retinal implant consisting of electrodes, and a wearable processor. The camera on the glasses views the image and sends signals to the processor. These are converted to bio-friendly information, which is sent back to the glasses and then wirelessly to a receiver under the surface of the eye. Once the signals are inside the eye, it's easy to imagine: the signal is conveyed to the electrodes in the retinal implant, which stimulate the retina appropriately. (The retina then does its job of sending signals to the optic nerve, which carries on to the brain.)

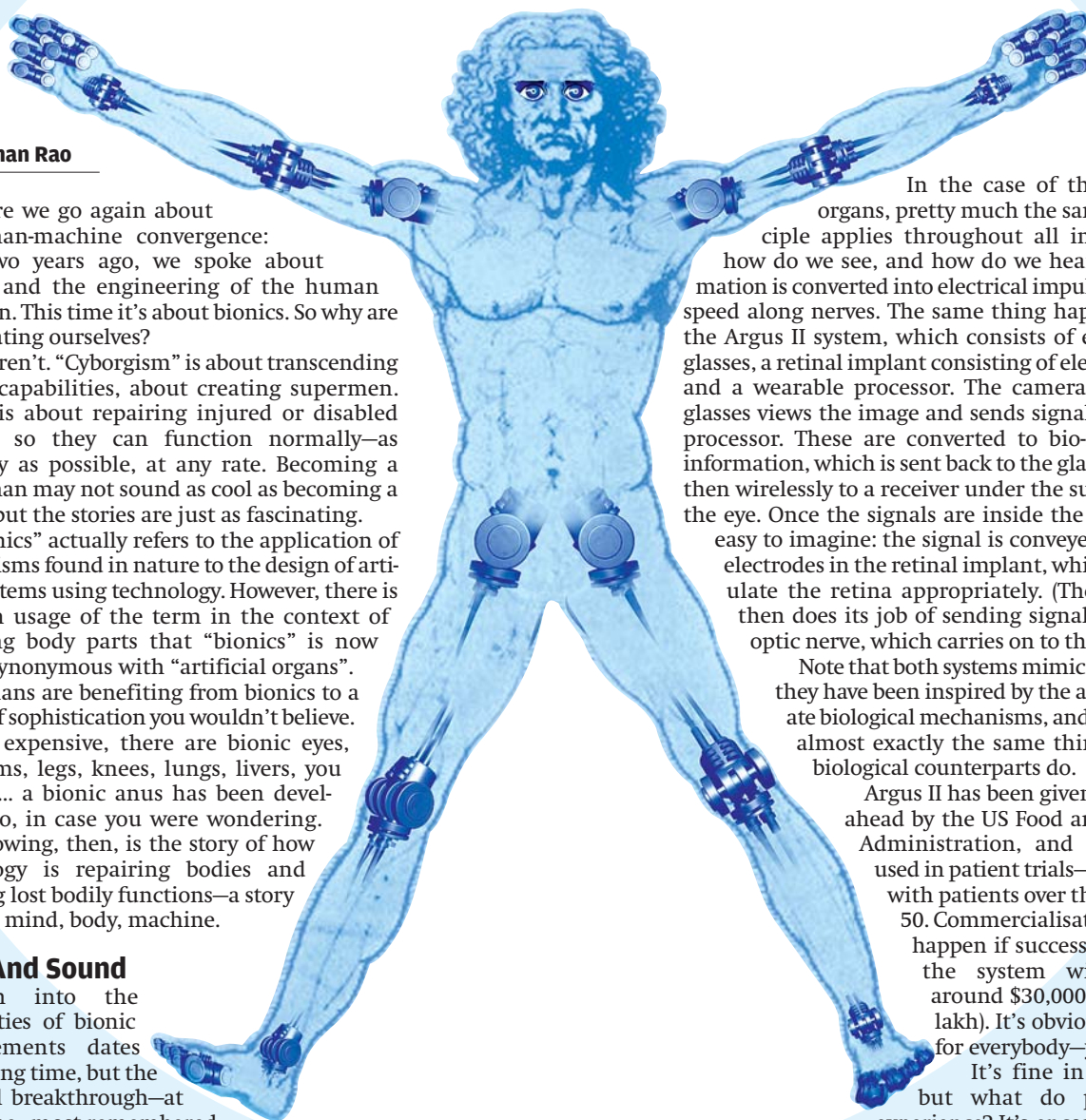
Note that both systems mimic biology: they have been inspired by the appropriate biological mechanisms, and they do almost exactly the same thing their biological counterparts do.

Argus II has been given the go-ahead by the US Food and Drug Administration, and may be used in patient trials—initially with patients over the age of 50. Commercialisation will happen if successful, and the system will cost around \$30,000 (Rs 13.5 lakh). It's obviously not for everybody—yet.

It's fine in theory, but what do patients experience? It's encouraging, but far, very far, from perfect. Terry Byland, then 58, was fitted with an implant in 2004. When it was done, "It was like seeing assembled dots—now it's much more than that," Byland says. "When I am walking along the street I can avoid low-hanging branches—I can see the edges of the branches." What about faces? "I can't recognise faces, but I can see them like a dark shadow." What this means is that we're still a long way from "restoring vision"—it's more like helping the blind live their lives without someone (or a dog) having to guide them all the time.

An Arm And A Leg—And A Mind

Jesse Sullivan can put on his socks, eat without assistance, and vacuum the floor without assis-



tance, too. This is interesting not because he is a baby, but because both his arms were amputated. He now has artificial arms—and they seem to be doing well.

Sullivan's arms are a major advancement: we've had externally-powered hands and wrists and more for many years, but the problem is with the control mechanisms. These things interface with the body at the point where the natural limb was amputated; they are controlled by brain signals from a pair of muscles there. That allows only a single motion at a time; for example, to move the wrist and the elbow at the same time—try it, it's easy for us, but impossible with those prostheses. The system Sullivan has works on a different principle: researchers at the Rehabilitation Institute of Chicago discovered that when a limb is lost, the body's mechanism that controls the limb—the control signals—are accessible from nerves that can be grafted to *other* muscles. This produces signals that can be used to control prostheses in a more natural way.

Such a "muscle reinnervation procedure" is used in Sullivan's Bionic Arm. Nerves from the shoulder were transferred, in Sullivan's case, to his chest muscles. The prosthetic arm uses the signals from the chest, activated by Sullivan's thought-generated nerve impulses. As you can guess, electrodes on the surface carry the signals to the arm. Sullivan doesn't need to think "somewhere in his chest" about moving his arm; the nerves have been transferred, so when he thinks about moving his

What kind of computer signal would a nerve be able to understand?



He's actually repairing a bike! Make no mistake—prostheses today allow recipients to be near-normal

elbow, some chest muscle detects the thought, and the arm moves. It probably takes a lot of getting used to, but like we said, Jesse Sullivan seems pleased. This is semi-mind-control, because nothing is connected directly to the brain; we'll come to total mind control in a bit.

"Smarts" can be infused into anything these days, it seems. BBC reporter Stuart Hughes has a prosthetic leg. He lost his leg stepping on a landmine covering the Iraq war. Receiving a prosthetic in such a situation is routine nowadays; what's special here is that the foot—called the Proprio—is intelligent. It can detect what kind of terrain is being walked upon.

"Every type of terrain has a distinct 'signature' which the software controlling the foot is able to interpret. When the microprocessor recognises a change in terrain, it instructs a motor to automatically adjust the angle of the foot in preparation for the next step," explains Richard Hirons of Ossur, the Iceland-based prosthetics company that developed the Proprio.

The idea that we're quickly moving towards seamless integration of man and machine is getting more and more commonplace. Saeed Zahedi, visiting professor in prosthetics at the University of Surrey, is confident that we could soon create hybrid limbs that combine natural tissue with electromechanical devices. "What we're seeing at the moment is just the tip of the iceberg."

And then, there's direct mind control. A company called Cyberkinetics developed a brain-computer interface called BrainGate, which was breakthrough enough to have been in the news the world over. It is actually plugged right into the brain, and allows the paralysed patient to do things like control a computer cursor and move a robotic hand by "thought control," meaning thinking about the action does it. Matthew Nagle, stabbed in 2002 and paralysed from the neck down, was the first to try BrainGate. Of course, he still had to sit in a wheelchair all the time, but he wowed people by controlling a computer cursor and similar feats. (He actually could beat some people at Pong.)

Space doesn't permit talk of all the cool, groundbreaking stuff going on in the space of prosthetics and their interfaces and the signals that control them—see box *Links* for more. We should remember that much of this borders on "cyborgism," for lack of a better word.

We mentioned the performance artist and would-be cyborg, Stelarc, in our June 2005 issue—he quoted him as saying, "The body is neither a very efficient nor very durable structure..." He now has an extra ear in his arm and says it could be "connected to a modem and a wearable computer, and broadcast RealAudio sounds to augment the local sounds that the actual ears hear. This "extra ear" becomes a kind of Internet antenna that telematically and acoustically scales up one of the body's senses." Stelarc is not very articulate, and what follows and precedes those sentences doesn't make much sense to us. (As an aside, his Web page is, surprisingly, ghastly.) Why we're mentioning Stelarc at all is because it indicates that bionics, as a phenomenon, has excited the imagination of this new breed of humans that wants to be wedded to machines.

What's Ahead?

Plenty. If you've been with us thus far, it might just seem that whatever's been done only needs to be improved upon. Not so. Think about one of the essential problems: how to *directly interface* devices, such as implants, to the nervous system. Brand-new technology needs to be developed for this to happen. For one example, there's micro-mechanics, as we learn from *Strategic Workshop on Future Challenges in Bionics*, by Giulio Sandini of the University of Genova. Micro-mechanics would have to come in if a direct interface between nerve cells

and silicon is to be developed. Micro-mechanics, because—imagine this—tiny connectors actually *touching* individual neurons. Apart from the fact that it's all tiny, Sandini explains that bio-compatible materials need to be explored; in addition, a “micro-environment” suitable for the coexistence of the flesh and the wires needs to be devised.

Thinking from the ground up, then, we have more problems. Think of information coding. What kind of computer signal would a nerve be able to understand? How can—or should—we fire neurons? This involves deep study of the language that nerve cells use amongst themselves, and how that relates to the impulses we can generate.

Now, if we're going to have a new kind of coded information, we're also going to need a new kind of information processing. Think about this: once an implant is in place, the tips of the nerves and the tips of the electrical interface cannot possibly be perfect. This means the processor would need to be tweaked a little to make for a better implant experience, and for that tweaking to happen, we need to make sense of the information actually flowing within the device.

We also need better and new types of batteries—as in everything digital today. Receivers of, say, artificial legs, can take their legs off at night and recharge them from the mains, but what about those with heart implants? Forget to recharge, and you pay for it with your life... of course, it's not quite that way, but we're talking about devices that can be powered by such things as body heat and limb movement. Like watches that don't require batteries, running on the energy generated by the movement of your forearm.

Then there is the problem of creating new sensors. Optical and acoustic sensors are reasonably acceptable today in terms of quality, but what about those used in smell and taste? Smell, as you know, occurs when molecules of a substance bombard sensors in the nose. We need to create devices that can actually translate molecular concentration into computer-friendly signals.



The extra ear becomes a kind of Internet antenna

Stelarc

Principal Research Fellow
Performance Arts Digital
Research Unit
Nottingham Trent University

Endpoint: The Brain

In the ultimate analysis, to make implants work the way we want them to, we need to understand how the brain works. Grand dream, naturally, but little step by little step, that's the road ahead.

“Philosophers and psychologists have long noted that human perception has both analogue and digital characteristics,” says Dr Sebastian Seung, a professor at MIT and co-author of the research report we'll soon talk about. “One neuron can make another active or inactive, but the intensity of the activity varies in a continuous way.” In other words, apart from turning each other on and off, nerve cells also have analogue interactions. This is reflected in, say, visual perception: we make spontaneous yes / no distinctions like whether it is light or dark outside, but we also see shades of grey when we need to.

In what seems a breakthrough idea to us—if not a breakthrough implementation—researchers at MIT have, using this concept, built a circuit of artificial neurons with hybrid analogue / digital interconnections. Details are sketchy, but the creators believe such circuits can—after refinement—help process auditory and visual information for robots. They could also process feedback information from bionic implants: retinal chips—as in the artificial eye we talked about earlier—could at some point be pre-processors feeding into such circuits, for example.

What is special about the circuit, the way we see it, is that it mimics the brain. It's a top-level idea, and it's not been seen in action yet, but think about it: since the brain is the final processor of information from and to any source in the body—biological or artificial—it's natural that the circuits that interface with it should behave like it.

Such is the road ahead: “Continued research in neuroscience and bioengineering will no doubt lead to improvements in man-machine interfaces and functional replacements, but it will be a long, hard road filled with many failures and a few successes.” That's William Jenkins, Vice President for Development at Scientific Learning, which makes products that develop learning and communication skills.

Endnote

So bionics helps the blind see, the wheelchair walk, the deaf hear, and more. It's interesting that some people look upon the field with a kinky sort of fascination: going beyond need, as in patients who need prostheses, they want implants. What if we could have more than two arms, Hindu-god-style? When will such things be socially acceptable?

We're veering away again to the realm of cyborgs, androids, and other such interesting creatures, but then, bionics does straddle the middle ground between corrective surgery and all this.

Like we said, it's not just a question of our current methods getting better: there are fundamental issues to be addressed. Again, like we said, there needs to be a better understanding of brain function for bionics to take off.

We cannot end on a predictive note, saying when those legs will be on the shelves: Jenkins is probably right. It will be a long, hard road. ☒

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Links

<http://tinyurl.com/285zhx>

A cool robotic hand with ultra-cool fingers. Videos, too.

<http://tinyurl.com/yuv677>

“Physical Enhancement Page.” Lots of links. Trans-humanism and stuff.

<http://tinyurl.com/2xg2ge>

Excellent, long Wired article on The Desire To Be Wired.

<http://tinyurl.com/yqkv5v>

A company page. They call it “healthcare,” and they talk about bionic stuff like store products. Don't skip the part about the biker.

<http://tinyurl.com/yovamq>

About the bionic products of Iceland-based Ossur, whom we mentioned.

<http://tinyurl.com/2crlnt>

Web site of Victhom, which develops bionic devices. Videos here too.

<http://tinyurl.com/yvdmon>

Artificial *everything*: researchers make kidneys from a cow's ear, and more.

<http://tinyurl.com/27jdkl>

The first completely artificial heart. Videos.

Create Your Own Linux Distro

We bet you didn't think it was possible!

Asfaq Tapia

Wouldn't it be ultra-cool to carry around your very own operating system with you? Or share an OS with friends? Have you wanted to build an OS according to your requirements and needs? If you've answered "yes" to all the above, you're in for a treat! Here, we show you how to build your very own, customised Linux distribution (distro).

For creating our distro, we used Ubuntu 7.04 as a base and built over it. We wanted an OS that would allow us to do the usual Internet browsing, creating documents and spreadsheets, e-mailing, and playing movies and videos. Here's how to do it.

STEP 1 Get hold of the Ubuntu 7.04 ISO file from last month's (Anniversary) issue and install it. You'll need to be running in Ubuntu while you create the distro.

STEP 2 Make a list of all the essential programs you need. We chose NTFS Read/Write Support, The GIMP, Gaim, Automatrix2, Flash 9 player with the Mozilla plugin, W32 Codecs, Audio / Video codecs (Bad and Ugly versions), and VLC Media Player to make the distro complete.

STEP 3 We now need a program to do our dirty work because, quite frankly, building a Live CD the Linux From Scratch (LFS) way can be quite a pain in the a***. We chose Reconstructor, a Linux CD creator. It's a small download, from <http://reconstructor.aperantis.com/>

STEP 4 Fire up Reconstructor with "sudo python reconstructor.py" in your Linux Terminal, and you'll be told which dependencies you need to install before you run Reconstructor.

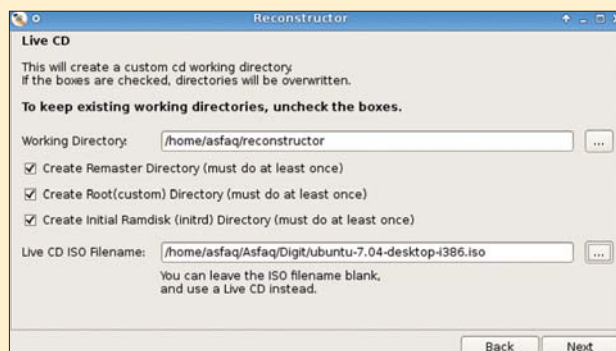
STEP 5 Go to System > Administration > Synaptic Package Manager > Settings > Repositories to make sure the Universe and Multiverse repositories are selected. Open a terminal and run "sudo apt-get install squashfs-tools gcc rsync libbogl-dev libusplash-dev gpg dpkg-dev fakeroot apt-utils" in the terminal window. You need to be online for this to work.

STEP 6 After downloading the dependencies, start Reconstructor again and you'll be greeted by a welcome screen.



Reconstructor's welcome screen

STEP 7 In this new screen, the locations of working directories need to be set up—they tell the program where all the files are stored locally. Select the "Create Remaster", "Create Root", and "Create Initial Ramdisk" options. These options are used to create the cdrom directory tree, the root filesystem directory tree, and the initial ramdisk tree.



Make sure all the boxes are checked

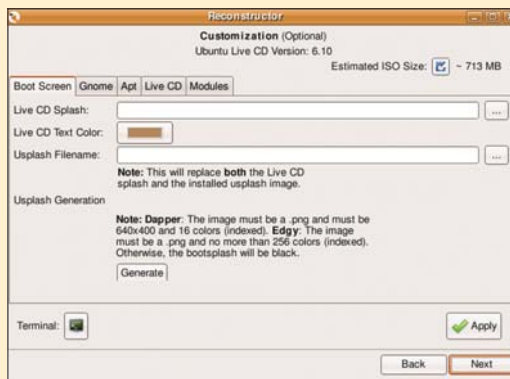
STEP 8 The last option in the window asks for the location of the main Ubuntu ISO file, which will be used to replicate the directory structure. Click the "..." button next to the Live CD ISO Filename option, and navigate to where the Ubuntu ISO file is located; then click Next.

STEP 9 This screen is divided into various tabs, the first being "Boot Screens". As the name suggests, this is where you change the first screen that is shown (the splash screen) and also the image shown after you select the boot options. To select an image here, click the "Generate" button. Select the source image (which has to be a 256-colour PNG) and choose where to save it. Reconstructor will copy

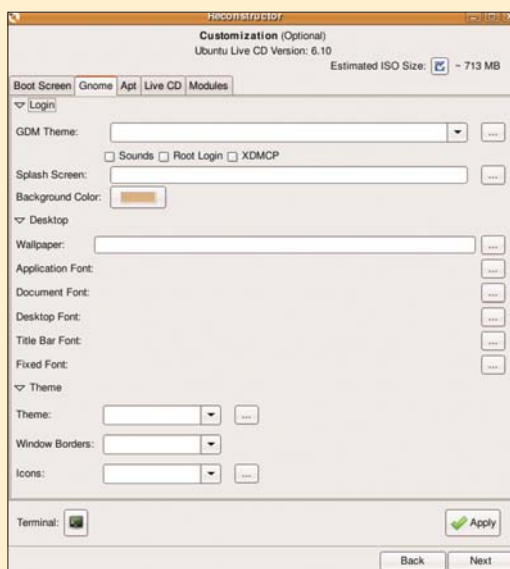
it to the correct directories, automatically giving you the custom screens.

10

You can also change the CD text colour on the Live CD by clicking on the button and choosing your colour.



Adding customisations

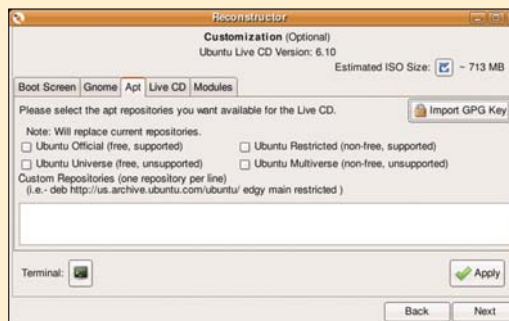


Customising the boot screen settings

11

The “Gnome” tab allows you to change the default login screen, theme, and fonts of the Ubuntu software after it’s installed. Options such as XDMCP, sounds, and root login can be modified here. You can either select one of the default themes, or click the “...” button next to the theme selection option and import a custom theme. This is either a tar.gz or a tar.bz2 package.

Reconstructor then automatically imports all icons, themes, and wallpaper customisations in the the live cd environment. Hunt for more of these at <http://gnome-look.org/>



Adding Repositories

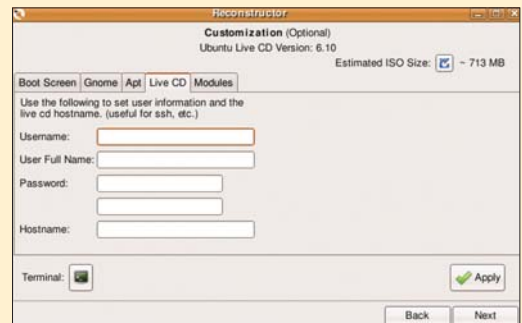
There are loads of modules for Reconstructor available for download

12

The “Apt” tab allows you to select the repositories you want available during the live CD customisation phase. What impressed us most was that based on the version of Ubuntu you’re using as a base, Reconstructor automatically chooses the corresponding repositories. So far, so good!

13

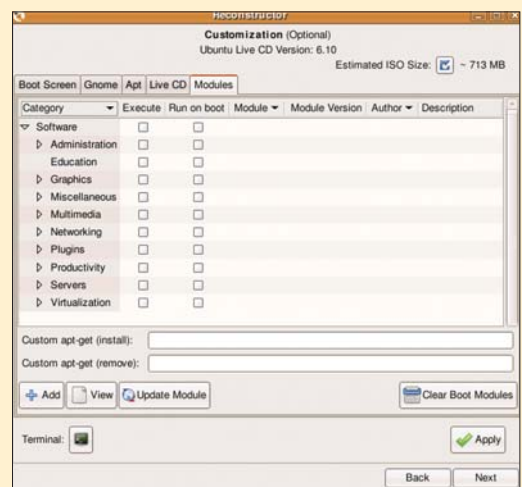
In the next tab—“Live CD”—you can set the default username, password, and hostname of the computer.



Set a custom username and password here

14

Once that’s done, move over to the next tab called “Modules”—the soul of the program. Towards the bottom half of the screen, you’ll find options to install or remove custom programs from the list above. Here you can add any program that appeals to you, especially the essentials we mentioned earlier. There is also an option to “Update Module”, which allows you to check if the module is updated.



Select custom apps in the Modules window

There are loads of modules available for Reconstructor; these can be downloaded from http://reconstructor.aperantis.com/index.php?option=com_remository&Itemid=33&func=select&id=4 or <http://tinyurl.com/2dthrq>. After downloading, these modules can be added into Reconstructor by clicking the “+ Add” button.

Once you have all the modules and customisations in place, click on the Apply button to go ahead and compile your very own distro!☑

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ASUS P535

Michael Browne

June 2007

I'm the Windows Mobile user, who gets poked at for my rather bulky iMate Jasjar, but I love the sheer functionality at my disposal. Anyway, since I'm the WM5 user, I got a chance to play around with this beauty...

Day 1: Hey there good lookin'...

The P535 is beautifully finished in charcoal grey and exudes a quality feel. Even though the side buttons on the body and the four-way scroll button are chromed, it's matte, and therefore doesn't look gaudy. The fit and finish is excellent, and the rear cover fits flush—no play even after multiple SIM card and battery inspections. Accessories are abundant, and their quality is excellent.

Day 5: Pop the hood...

The crisp 240 x 320, 2.6-inch screen is a joy. The P535 is devoid of a keypad... don't lose the stylus! There's a 2.0 megapixel camera with auto-focus and flash. The battery is 1300 mAh, on par with similar-spec PDAs. Its innards consist of a 520 MHz PXA270 processor from Intel—this provides oodles of clout to run resource-hungry apps. With 64 MB of RAM and 256 MB of fast NAND ROM, the P535 offers more storage than many other PDAs. More on that later...

Day 7: Cry to me...

While signal reception and call quality is on par for a PDA phone, I have a gripe with the loudness (or rather the lack thereof) of the speaker. Even talking about the hands-free, I say my ancient Nokia 6630 gives much better sound quality and volume. Another negative is the 2.5mm jack, this means that my lovely Bose headphones won't work with this phone.

A plus is the hold switch reminiscent to the iPods—it freezes all buttons and screen activity.

Day 11: Upward mobility

Surfed at office using the P535, the integrated "g" class wireless connectivity is good for road warriors. The P535 is also Bluetooth 2.0 ready and

supports A2DP, so you can enjoy your tunes with any Bluetooth headset.

Transferring data to my PC using the USB cable was slow, a little more than I'd have liked—to my dismay, I discovered this is a USB 1.1 device.

Day 13: Peashooter!

Necessity demanded I use the camera today. I must say the auto-focus works well, and camera quality is comparable to the similarly-rated K750i.

Day 16: Words...

A conference today. I found jotting down quick notes a pain, especially after the full-size QWERTY layout I'm accustomed to. This is not for those into typing long e-mails or documents. You'll need to invest in a Bluetooth keyboard. Handwriting recognition is good—at par with other Windows devices.

Day 20: I'm all ears

We were doing some video mixing for a workshop. I played around recording voices, and we all had some fun. Later I transferred these files onto my PC. Sound quality is good, and this is something that can be used for the odd interview: the mic is quite sensitive. However, a Dictaphone it's not.

Day 23: Deck of cards

Attended a client meet today. I used the business card scanner utility, which I must say works very well, extracting nearly every detail accurately. Very, very nifty... Plus I handled the remote presentation using the bundled application in conjunction with my laptop's Bluetooth. (One installation later, that is.) The software works flawlessly—another area where you can use the P535, and effectively.

Day 26: Homeward Bound...

The P535 is all packed to despatch. My thoughts centre on words like "convergence" and "convenience"—an apposite way to describe a device so small and yet so powerful. A full keypad less means it won't replace my PDA. However, for those who won't miss all those keys, this is one powerful, compact, stylish, yet functional mobile workstation.

michael_browne@thinkdigit.com





DXG DXG-589V

This little gadget is a marriage between a handheld gaming device and a digital camera. There's nothing quite like playing photographer and then gaming when the creative juices have run out! The DXG-589V has a video camera that records at 640 x 480, and a 5 megapixel still camera. The 3-inch screen should be quite enough for gaming as well as previewing images and videos. You can even record video streams using the provided video inputs. An expandable SD memory slot lets you dump all your videos and songs onto external storage cards. There's also a remote so you can control the camera from a distance. A gaming + imaging device seems like loads of fun to us... we shouldn't have to wait much longer: it's expected to be out anytime now.

Droolmaal

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

Wacom Cintiq 21UX



Are you the highly creative painter-designer-artist? Do you want the ultimate in pointing devices? Do you have \$2,400? Get yourself a Wacom Cintiq 21UX! This is a 21.3-inch touchscreen LCD that does a resolution of 1600 x 1200. You get a battery-free pen that lets you draw right on the screen with a whopping 1,024 pressure levels! You get three standard nibs for the pen, a felt pen nib, and a stroke nib as well for variety in feel. Finger-sensitive touch-strips let you easily scroll around and zoom like you would with your mouse scroll.

There's more—you get eight customisable buttons. The screen has two layers, one meant to reduce glare and the other to give you a paper texture. The makers claim you can place your rulers, protractors, and other measurement tools directly on the screen—like you would on a drawing board—and go ahead and draw!

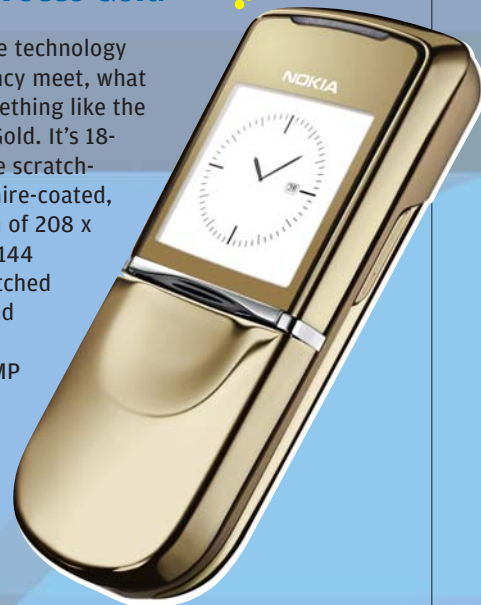
If you don't have the \$2,400, there's still hope: you can get yourself a 200-rupee mouse!



Nokia 8800 Sirocco Gold



In an age where technology and flamboyancy meet, what you get is something like the Nokia 8800 Sirocco Gold. It's 18-carat-gold-plated; the scratch-proof screen is sapphire-coated, supports a resolution of 208 x 208, and can do 262,144 colours. A colour-matched Bluetooth headset and desktop stand comes with the bundle. A 2MP camera is thrown in along with the MP3 player and FM tuner. The MP3 player supports a wide range of audio formats—MP3, MP4, AAC, eAAC, and WMA. Onboard memory is 128 MB. The phone lacks an expandable memory slot and also weighs a bit more than most phones, but then it's about elegance and luxury more than anything else. Cost? 1,000 (Rs 54,000), excluding taxes.





Microsoft Surface

You've probably heard about the Microsoft Surface—it's been all in the news. In case you haven't, it has a 30-inch touchscreen display in a 21-inch box that supports multi-touch; it can be used by many people at once. It lets you pick up elements such as videos and images and drag and drop them around, like you would with a mouse—but only you use your hands! What makes it even more revolutionary is that you can put a digital camera and a mobile phone upon it, and they get detected automatically. You can then view images off the devices, or drag and drop

images from the camera to the phone. We can't do justice to it here—you'll have to see it in action!

We're excited about this kind of computing, but we doubt the Surface is going to end up in your home anytime soon—it's going to cost between \$5,000 and \$10,000 (Rs 2.25 to 4.5 lakh!). We've heard it's going to be out around the end of this year.



Archos 704 WiFi

Whate to say this, but your 2-inch-screen phone is a sad excuse for mobile entertainment, put face to face with the Archos 704 WiFi. You get this device in 40 GB and 80 GB variants; it has a 7-inch touchscreen that supports a resolution of 800 x 480. A wide range of high-quality video formats such as MPEG4, WMV, AAC/H.264/MP4, MPEG2, and VOB are supported. Formats like PDF for books and image formats such as JPG, BMP, and PNG are supported as well. Hook up the optional DVR Station and it will record video streams off your TV; it can also play back media on your TV.

Other than playing music and videos, you can also surf the Net using Opera over the Wi-Fi connection.



And then, you can turn the device into a camcorder by hooking it up to certain digital cameras or to the optional helmet camera (a mini-cam that you can strap on to your head—which sports enthusiasts will love, for example). You can thus take advantage of the large onboard storage. The expected price for the 80 GB 704 is \$550 (Rs 24,750).



Sony HDR-CX6EK

Sony's new obsession seems to be tiny gadgets. Sony claims the HDR-CX6EK HD is the world's smallest and lightest camcorder. It weighs just around 370 gm without the batteries; it can record videos at 1080i and still images at 6.1 MP. 5.1 Dolby surround sound can be recorded using the inbuilt microphone. The 2.7-inch touchscreen is used to view footage and navigate through the interface. You can also connect the device to an HDTV and view your shots using the HDMI interface.

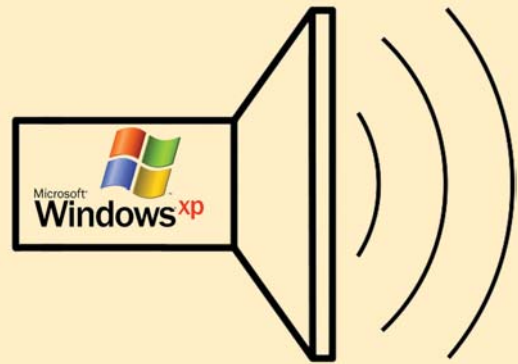
A new feature here is the Face Index, which detects faces from within videos and creates an index so you can look for videos of a particular person by clicking on a thumbnail! The HDR-CX6EK will set you back by \$1200 (Rs 54,000), though.

How would you create custom sound events in Windows XP?

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

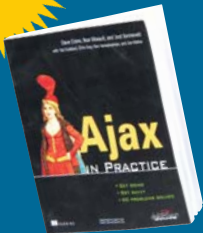
THIS MONTH'S CHALLENGE

Add Sound Events To XP



LAST MONTH'S CHALLENGE

Win!



Take a Crack and win

PC Upgrade & Repair Street Smarts

by Dave Crane, Bear Bibeault and Jord Sonneveld

WILEY-INDIA

LAST MONTH'S WINNER

R Vinod
Salem, Tamil Nadu

Rules and Regulations

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

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

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

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

Boot Into XP Using A Floppy!

Last Month's Solution

Last month's challenge was to boot into XP using a floppy disk. Here's how to do it.

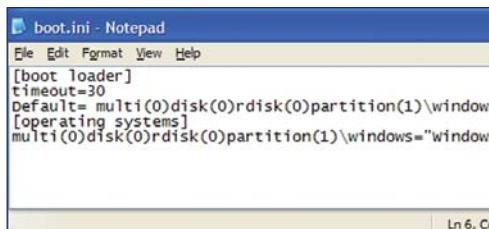
First format a floppy disk using XP's format utility: open My Computer, right-click the floppy icon, and select Format.

Copy the files `ntldr` and `ntdetect.com` from the `i386` folder in the Windows XP CD to the root of the floppy disk. Then create a file called "boot.ini" in the root of the floppy disk to contain information corresponding to the computer which you want to boot using the floppy. The boot.ini file should look something like this:



Format the Floppy

```
[boot loader]
timeout = 30
default =
multi(0)disk(0)rdisk(0)partition(
1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partitio
n(1)\WINDOWS = "Microsoft Windows
XP Professional" /fastdetect
```



Create or copy Boot.ini

If XP is installed in any directory other than "Windows", say "x", the third line must read:

```
default = multi(0)
disk(0)rdisk(0)partition(1)\x
```

and the fifth line must read:

```
multi(0)disk(0)rdisk(0)partition(
1)\x = "Microsoft Windows XP
Professional" /fastdetect
```

Also, in the third and fifth lines, in `partition(y)`, `y` indicates the partition number in which XP has been installed. Change it to the appropriate value. To find the exact values for your system, in XP, right-click My Computer and click on Manage. Click Disk Management in the left pane. Now you will be able to view all the drives and their partitions on the right-hand side, look at the bottom right part of the window. Each drive is labelled; there is the drive letter along with the drive name, in the next line you will see the drive capacity and the file-system and in the

last line, you will see the health status. Observe this last line for each drive and in one of the drive, you will see the status as Healthy (System). This is the boot partition where XP resides. Note the disk number, say X, at the right of this drive, this is the value which you should put in the `rdisk(X)`. You will be graphically able to find the partition number by counting the partition from left. If the system partition is the first then you should use `partition(1)`, if it is second then it will be `partition(2)`, and so on.

If the computer boots from a SCSI hard disk, `multi(0)` must be replaced by `scsi(x)`, where `x` depends upon the adapter specified in the SCSI driver. If the `scsi(x)` option has been made use of in the `boot.ini` file, copy the device driver for the SCSI controller and put it in the root of the floppy disk, along with the three other files, and rename it to `ntbootdd.sys`.

In the case of SCSI hard disks, in the third and fifth lines, in `disc(z)`, `z` represents the SCSI-ID of the hard disk that must be booted into. Change it to the appropriate value. ■



50 32 Laptops Tested!



77 Tips: Outlook, Linux, Torrent Clients



85 Pixel-perfect

Digital Tools

Technology For Personal And SoHo Productivity

Lead Feature

Hacking The Kid

Kids have this annoying habit of getting stuck to PCs—why not make sure they learn something while they're at it?

Nimish Chandiramani

It's not like we have a foot in the grave here or anything, but every once in a while, today's kids make us feel old—learning how to configure your mobile phone from a 12-year old doesn't really help that youthful feeling. With a PC in nearly every middle class home, and more on the way, it's no surprise that parents summon the off-spring every time an error message baffles them. The kids will be exposed to technology no matter how much you "protect" them from it—even if you don't buy a PC; the best you can do is ensure they're using applications that will be of some use to them.

EasyBits Magic Desktop

www.easybits.com

Remember Microsoft Bob? In the days of Windows 3.1, Bob was a new, friendly user interface for Windows, designed to make computers easy to use for newcomers. A little dog named Rover guided you around the OS, telling you what you could do with it. The idea was nice, but Bob was a little too friendly and quite an insult to the intelligence, and finally made it to the Dark Place where all terrible products end up. When we first started up Magic Desktop from this

month's DVD, it reminded us of Bob, only without the nausea.

Somehow, it's taken someone this long to realise that the same idea could apply wonderfully to children—Magic Desktop looks like Windows XP, only with child-friendly colours, themes and applications—perfect to keep a 5 to 10-year-old off your back. It functions like a protective layer on your XP installation, blocking keyboard shortcuts like [Alt] + [Tab] and [Ctrl] + [Alt] + [Del], and suppressing applications and dialogs that may pop up in the background—ensuring that your child doesn't stray into your running applications and do some damage. You're also given full control over Internet access—the bundled browser will load Web sites only after you approve them. The bundled applications range from simple maths quizzes to puzzle games, and even a child-friendly e-mail client! While Magic Desktop insulates your child from everything else on your PC, you can decide which applications can be accessed from within Magic Desktop.



Magic Desktop's music player lets your child go wild—just make sure to turn down the volume

Illustration Chaitanya Surpur
Photograph Sandeep Patil

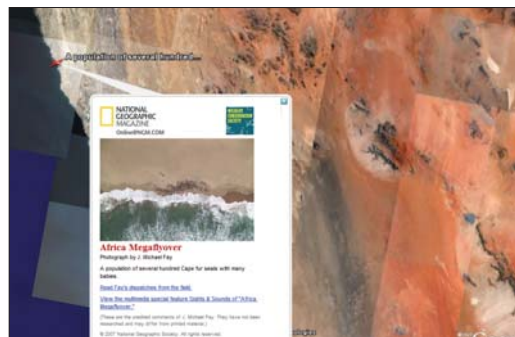
One of the features we liked was the bonus system—to ensure that your child doesn't get attached to just one program, you can assign bonus points to applications that you want your child to access on a regular basis, multiplication tables for instance. These points can then be used to access other applications like games or the browser. The message you send your child is clear—do your duties and your rights will follow.

Once the ten-use demo expires, you can purchase Magic Desktop for \$29.99 (Rs 1,350), and we highly recommend that you do.

Google Earth

<http://earth.google.com/>

Children don't like geography, mostly. Think back to times when you really couldn't care less



Don't you wish you had this when you were in school?

what the Steppes were (we used to think grasslands were really big gardens) and the world's miscellaneous geographical formations were just new words to remember.

Google Earth takes all that away and actually makes learning about the world fun—it brings the Atlas to life. We don't really need to tell you much about it—it's been talked about in these pages many times, and you've got it off our DVD often (at least, we hope you have). A lot of new overlays have been added to the new Google Earth—you can now view photos from Panoramio, a community project that matches photos to the locations they were taken at. You can take a photograph of the neighbourhood garden, for example, and mark the garden's location on Google Earth—anyone moving over that area will then be able to see your photo. The whole process of touring the earth looking at everyone's photos can be mesmerising. But we digress.

It shouldn't take much thought to assess Google Earth's educational value—schoolchildren will be able to appreciate the places they read about better when they've seen them from above, for one. Turn on the National Geographic Magazine layer in the left pane to take your child through their Africa Megaflyover—interesting sights (no sounds) from the Dark Continent. Geographical formations will also make much more sense when you get to see what they look like outside the textbook.

You could even recommend it to your child's schoolteacher, and maybe you'll have a classful of geography geeks on your hands.

Celestia

www.shatters.net/celestia/

What Google Earth is to, well, Earth, Celestia is to the universe! All right, so that's perhaps a tad

Google Earth actually makes learning about the world fun—it brings the Atlas to life

exaggerated—though Celestia is based on actual data gathered by the Hubble space telescope, and it does let you navigate to planets and stars and view them from any angle you like.



Boldly go where no child has gone before

The universe that you view is supposedly in the state it should be at that instant—if you see the Earth at point X in Celestia, it's estimated that it's at the same point in real life. We can't really verify this, what with being unable to afford a trip to space, but we're told that the estimate is more than dependable. The interface is quite easy to use—if you're on a random star-hunt, just click on a star you like (double-click to centre that star in your view) and hit [G] to go to it. After a brief, very *Star Trek*-like trip, you're at the star you chose, with a little scientific information about the star at the upper-left corner of the screen. The best way to start with Celestia, though, is to run the demo ([D]), which takes you through the Solar System, some popular constellations, an interesting star or two, and a view of the Milky Way. It also gives you an idea of the features you have at your disposal—viewing the orbits of heavenly bodies, for instance.

For even more educational value, download the Celestia Educational Activities add-on from <http://celestiamotherlode.net/catalog/educational.php>—the tours of the universe (complete with sound) are more exhilarating than your first day at the planetarium. Each activity comes with a guide for educators—helpful if you're teaching a group of children about the universe.

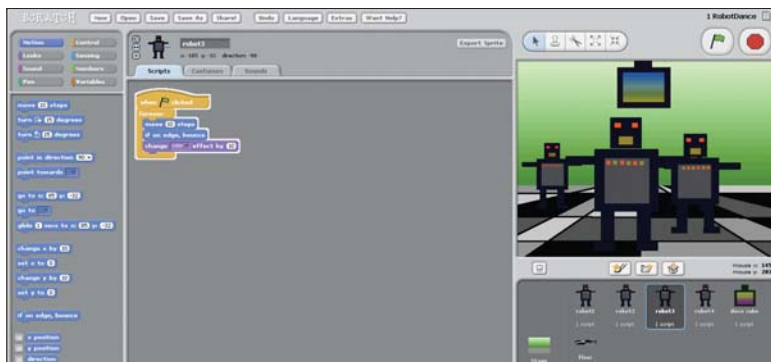
Scratch

<http://scratch.mit.edu/>

You can't argue that software programming isn't a lucrative career today—and India's already booming IT industry still has a long climb ahead of it—we haven't built our answer to Microsoft yet, have we. We're not asking you to breed software engineers, but monetary promises aside, programming also teaches children to think analytically, break down problems to little bits, and generally figure out how technology works.

The researchers at MIT's Lifelong Kindergarten project have come up with the Scratch programming language, which teaches children programming through visual elements. Loops, for example, are shown as bright orange clamps that enclose code, and the code itself is a bunch of statements inside interconnecting blocks. Think of it as drawing a flowchart before actually coding, only the flowchart is the code itself. The resultant program isn't one of those boring old





MIT's Scratch teaches children programming the only way they'll learn—with lots of visual elements

console programs—the scripts you create apply to animations. You can create games, presentations, and even what they like to call “interactive art.”

Check out the Web site to see what Scratch is capable of, and sit down with your child and create your next masterpiece together—you can even share it on the site!

Sid Meier's Railroads!

www.2kgames.com/railroads/railroads.html

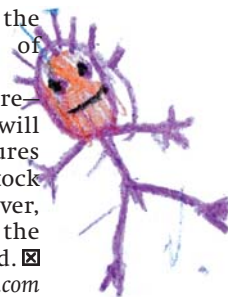


Let *Railroads!* teach your child the basics of squishing the opposition—through smart resource management, of course

Every child needs a break from all that learning, and Sid Meier's Railroads! is the way to do it. Miniature train sets are nothing short of captivating, and this game will let your child do it in the style of the original rail barons of long ago. The challenge is to set up a rail network in the map you play (parts of North America and Europe, mostly), manage your finances, make profits, buy and sell companies, and get rich before your opponents do. You get to play as and against some of rail history's biggest names, and the game features a veritable encyclopaedia of information on each railway engine and the history of the first railways in general. For a full review of Railroads!, pick up our January 2007 issue.

We're honestly not sure what the lesson is here—maybe your teen (the game isn't for the too-young) will learn the basics of managing incomes, expenditures and loans; perhaps they'll learn the basics of the stock market... you never know. What we do know, however, that *Railroads!* is one of those few games that gives the mind a good, solid workout, and that's always good. ☒

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Michael Browne

The words portability, connectivity, and convenience describe the need for laptops best. It's important to be connected at all times these days: knowledge received late is knowledge lost in many cases. Then there are those emergencies when you just have to jot down a few notes, and a paper and pen aren't within reach...

There are also those for whom a laptop is not a necessity but part of their lifestyle—a classy extension of oneself, a wardrobe accessory, or even a status symbol.

Anyone who has ever attended a LAN party will testify to the pain in the neck, shoulders, and other regions that result from lugging a bulky cabinet, LCD, or worse still—a CRT, and peripherals about. Now think convenience. Although a laptop is still not a Desktop replacement for gamers, a good mouse coupled with a reasonably-configured laptop will see you through most fragging sessions just as easily.

Inbuilt goodies like memory card readers, wireless connectivity, and Bluetooth are something 99 per cent of Desktops won't have. Although a fast Desktop would still leave the best-performing laptops grovelling in the dirt, the point here is that notebooks are a solution for various needs—and manufacturers are tailoring them to suit those.

A word about the reviews that follow: Acer, Dell, and Fujitsu are going through a product refresh cycle. The older models are no longer available, and the new range wasn't out at the time of this writing. Expect reviews of laptops from those manufacturers in our *Bazaar* section in the issues to come.

Value Laptops

This category is the most populous of the four. Compaq aside, we have mostly home-grown brands here. In fact, if you want a big-brand laptop and are restricted to the

45K price point, we suggest you dump the idea of a big brand altogether. While we haven't yet gotten to US prices, it's good to see Indian vendors taking such aggressive price points. Bear in mind that hardware scales with price, so a Rs 20K laptop will most certainly win no processing accolades.

ACI was present in force in this category with four models. Compaq and Intex featured a model each; LG and HCL featured three apiece. Zenith made it to the party with two laptops.

Features

The most attractive notebook here is the Compaq Presario v3225AU. The palm-rest and even the outer lid feature the same treatment HP uses on its high-end DV series. This material is extremely smooth to the touch, and it seems it will easily withstand the rigours of daily use. It's a real pity that HP chose to use the same material on the touchpad. This makes it too slippery—just not enough



feedback. Slightly less painful—but painful nevertheless—are the too-soft mouse keys. The Presario v3225AU also has a slightly flawed keypad: use it a bit and you'll notice the keys have too much travel. However, keypad feedback is largely subjective, and some people like soft keypads. (We don't.) On a positive note, the layout of the keypad is very good.

All the ACI laptops except for the Ethos C have great keypad feedback. Our gripe was the lack of shortcut keys—an Internet key and a media player button just do not cut it. The Ethos C does feature shortcut keys to switch off Wi-Fi and the touchpad, though.

The Zenith Director with its silver and grey colour tones will appeal to the corporate user segment, which, as you can see from the name, is its intended audience. The only ergonomic issue we could find was the largish spacing between the keys—not good unless you're used to it. The Presidio, too, featured a great keypad, and in a tiny body. We didn't place this one in the ultra-portable category because of its weight and thickness.

Intex's M54N doesn't feature a very good finish, but we'll forgive that considering the price. What we won't forgive is the tacky, chromed shortcut key buttons. The carry bag is beautiful and sturdy.

Some of the ACI laptops—the Ethos series—feature a little subwoofer directly underneath the touchpad. This is supposed to provide improved bass, but it just doesn't!

Performance

The Core Duo processors here gobble up all the benchmarks that have anything to do with number-crunching.

The second-most important aspect of a laptop is the storage subsystem, which often becomes a bottleneck.

The two LG RD400s and the Compaq Presario v3225AU have a strong storage subsystem, as the scores testify. If your applications lean towards this trend—for example, transferring large files, or opening large images in Photoshop, you know where to look—at this price point.

The ACI Duo 1430 and 1430D offer very good multimedia performance, as their scores in 3D Mark 2005 and our game tests revealed. This makes them suitable for playing the occasional game... movie playback is also guaranteed to be skip-free, although the quality of the LCD panel should have been better, in keeping with such good graphics performance.

The Conclusion

The Presario v3225AU isn't shy on features, with touch controls similar to that of the DV series, and dedicated buttons for wireless connectivity—not to mention superb build and attractive looks. This one just had to be a winner. The Digit Best Buy Gold is with the



Zenith Director
Sturdy, rugged, great value

Compaq Presario v3225AU: unbeatable value at Rs 32,990.

The T2350-powered Zenith Director is our Digit Best Buy Silver winner: unbeatable value and great performance for the price—only Rs 29,700.

If you want something half-decent to game with in this price category, ACI is the only way to go, with the Ethos Duo 1430D actually featuring NVIDIA graphics hardware (the GeForce Go 7300 series).

If you're looking at something compact at a ridiculously low price, the Zenith Presidio will surely please your aesthetic sensibilities as well as your wallet. At Rs 28,700, it's a steal. Drop in a little more memory and watch this little notebook really run—very suitable for most everyday applications.

PERFORMANCE LAPTOPS

There exists a cadre of users that will not be satisfied with just *good* performance at a value-for-money price point. They'll want better graphics—perhaps a discrete graphics solution; more CPU horsepower; and memory bandwidth to handle it. These are the users who will also be likely to need more storage space. We discuss, in this section, laptops that cater to this user profile.

Features

There was a lot of beauty in this category—from the dusky, all-black, matte-finished Lenovo R61 ThinkPad, to the flashy and even more eye-catching HP DV6226tx. While the R61 seems to draw you in subtly, the DV6226tx simply grabs you by the scruff and demands attention with the kind of piano finishes we've seen on much more expensive hardware. Equally attractive is ASUS' F3Jc: it features a very pleasing black and dark grey finish.

The LG X Note P1 has a very alluring shape, and the quality of fit and finish is excellent. The white, matte-finished body immediately attracts more than just a cursory glance. A pity they used navy blue on the lid—it gives the effect of a school uniform. Or could that have been intentional...?

Once again, the coating treatment given to the DV6226tx's palm-rest, ditto the outer lid, is absolutely top-notch. Equally tasteful is the subtle and flowing patterns adorning the entire top body and inside, which we're told is inspired from Japanese rice fields. It seems, in Japan, paddy is grown not in straight rows but in flowing, curved patterns. Whatever the inspiration, the result is stunning!

Equally cool are the media buttons above the keypad: they're touch-activated and a cool backlit blue! Also bundled is a tiny IR remote for Media Center purposes. This tasteful blue extends to the power jack area, which will illuminate when the adapter is connected to the mains. All this blue is attractive without hitting you in the face in any way. The speaker grille is also attractive, and proudly sports "Altec Lansing." As we'd expected,



Compaq Presario v3225AU
Exceptionally good value

sound quality and volume levels are better than on most other laptops.

The R61 is all about quality. It has that subtly sturdier build that comes from use of quality material both inside and outside. All ThinkPads come with hard drive protection inbuilt, and the R61's hard drive head will park if the sensor inside the notebook detects a sharp change in G force (as in a fall). Loads of nifty little features like a light near where most laptop webcams are ensures that your keypad stays illuminated even if the rest of your room is not. The R61 also features a brilliantly crisp resolution—1440 x 900—something all but extinct in this category.

ASUS' F3Jc has a beautiful keypad—well-laid out, and even better feedback. The feedback from the touchpad is also positive and accurate, in fact, it's on par with the excellent ThinkPad R61. A far cry from this is the HP DV6226tx; as with the Presario v3225AU, the touchpad offers insufficient feedback due to its slippery-smooth surface.



HP DV6226tx
A great buy!

Incidentally, ASUS' F3Jc also has DVI connectivity—a welcome and rare feature. Equally rare was the fact that this laptop ships with two batteries—one compact for regular use, and the other a large 7200 mAh battery pack.

Performance

The Lenovo R61 features a jaw-dropping T7700, the absolute top-end laptop processor from Intel's Core 2 Duo line-up. Running at 2.4 GHz and featuring an 800 MHz FSB, this CPU happily ate up all the data it was being fed by the 2 GB of fast 667 MHz memory that the R61 has under its hood. Coupled with the Intel 965PM a.k.a. the Santa Rosa platform, the R61 is an über-number-cruncher.

ACI's Matrix 1501 is another hot performer, featuring the T7200 processor and 2 GB of memory. Additionally, this laptop features the ATI X1600 graphics processor with 256 MB of dedicated video memory—enough to send most casual games into orbit.

A shade behind these come the ACI Matrix 1425, HP DV6226tx, and ASUS F3Jc, featuring the NVIDIA 7400/7300 Go.

How We Tested

We slotted the laptops into four categories.

Value Laptops (up to Rs 45,000): The laptops here are mostly entry level solutions from most vendors. However, recent price reductions also mean this category holds exceptional value for money. Better hardware is trickling down to this segment.

Performance Laptops: This category comprises the laptops with good enough configurations for power users and those who demand more processing power and speedier performance.

Ultra-portables: These are for those who want something with a small footprint: something light, and therefore easy to carry around. This category is populated by models with screen sizes up to 12.1 inches.

Lifestyle Notebooks: These have nothing in common really, aside from the fact that they're different! Everyone would love to own one, they have oomph. They're drool-worthy.

Pre-test

We did a clean format on all the laptops, creating a primary partition of 30 GB and a secondary partition of what was left. We installed a fresh copy of Windows XP SP2 on those laptops that came bundled with Windows XP. The ones bundled with Windows Vista got a fresh copy of Windows Vista Ultimate Edition. We used all the latest drivers from the manufacturers' Web sites.

Features

We took special note of ergonomics—something that most people fail to realise is very significant. We rated the keypad layout, the feel of the keys while typing, and ergonomic enhancements like switches and buttons for enabling and disabling functions like Bluetooth, Wi-Fi, the touchpad, and more. We also rated the feel of the palm rest, another significant, oft-overlooked parameter.

Finally, we rated the laptops on their build quality, looking separately at parameters like body, keypad, and movable parts.

We felt it equally important to rate specifications like storage space, the presence of connectivity options, the number of USB and FireWire ports, and functional add-ons like card readers and webcams.

Performance

Our tests, as always, consisted of a gamut of synthetic benchmarks and real-world tests.

Synthetic Tests

PC Mark05 tests a computer's most pivotal components and provides a macro as well as micro look of those. The CPU, hard drive, memory, and graphics subsystems are benchmarked, and an individual as well as overall score is brought up.

3D Mark 2005 is a well known graphics subsystem test. It tests the pixel and vertex processing of a graphics solution and brings up an overall score.

We used DisplayMate to judge the quality of the screens. In particular, we concentrated on its suite of colour tests.

WirelessMon 2.0 was our benchmark of choice to test signal strength (as a percentile) in Zones 1 and 2. For those who remember, we used these Zones in our Wireless Router/Access Point test earlier this year. For those who don't, Zone 1 was a replication of a scenario where the laptop and the wireless access point were in the same room, though approximately 15 feet apart. Zone 2 saw the access point and the test subject 25 feet apart with a cement wall in between.

Real-World Tests

We used a 1080i clip to test the candidates on their ability to provide a good movie-watching experience. We watched for skipping of video and audio, as well as screen anomalies. We judged onscreen colour rendition.

Our video encoding test consisted of a 100 MB .VOB file being converted to DivX. This is a test of the laptops' CPUs more than anything else, but hard drive and memory performance do play a small part.

The file transfer test saw us copying a 1 GB file from the primary partition to the secondary partition of the laptops' hard drives. This tests the storage subsystem.

Our game benchmarks consisted of an OpenGL and a DirectX based game each, Far Cry and Doom 3 respectively. These games were benchmarked via a fixed "timedemo" (a rendered clip consisting of a fixed number of frames), with settings at medium, and the resolution at 800 x 600.

In the wireless bandwidth test, we transferred a 50 MB file wirelessly between a Desktop hooked up via RJ45 to the access point (802.11g ready) and the test subject. To arrive at the bandwidth figure, we divided the file size by the amount of time taken.

The Conclusion

When it comes to ergonomics, none can hold a candle to the HP DV6226tx and the Lenovo R61, although HP's keypad feedback is an adverse factor. Try as they might, the HCL Z22 CDP and the LG X note P1 BP33A can't stand in the same league as the others in this comparison, even though the X note P1 is shockingly costlier than the HP DV6226tx.

It's no surprise, then, that the combination of good processor, great graphics, and excellent pricing, along with a lot of goodies (like the great speakers, touch controls, and wireless remote) help the HP DV6226tx bag our Best Buy Gold award. This notebook makes a very good buy if you're looking for a powerful and attractive solution, or even if you're interested in a good multimedia solution with a lot of show and functionality.

Very close on its heels comes the attractive, powerful, and ergonomic ASUS F3Jc, our Best Buy Silver winner. In fact, there's less than a point of a gap between our Gold winner and this one: it is a good performer that builds upon a solid feature list and ergonomic package.

Although LG's X-Note P1 is also an attractive solution, one look at the price makes it seem lacklustre—it's more expensive than the superior DV6226tx, and within a hairsbreadth of the excellent ASUS F3Jc.



ASUS F3Jc
Good performer, great value

Lenovo's excellent ThinkPad R61 deserves a mention here. It doesn't win Gold, but this is mainly due to its astronomical price: Rs 1,55,000, which is more than double that of the next-costliest option (the Matrix 1501). The high price is mainly due to the T7700, which is a costly part, and, of course, the ThinkPad branding. However, cheaper CPU options are available in the ThinkPad lineup. If you *must* have the best possible CPU and are willing to pay for the peace of mind associated with the rugged ThinkPad brand, the R61 is definitely the quickest way there.

Gaming, did you say? The only notebook here worthy of your attention and your cash would be the ACI Matrix 1501. Though it's boxy, and the touchpad isn't the best around, the combination of a strong processor with a sterling graphics solution make it ideal for gamers. The price (Rs 77,999) will hurt a bit, but the performance should take some pain off the sting.

ULTRA-PORTABLES

While 17-inch laptops have blurred the line between laptops and Desktops—in fact, they're called Desktop replacements—they've moved away from what a notebook PC is meant to be: nicely portable. So if you're frequently on the go, or just want something light and slim, yet powerful, in short a *real notebook*, then an ultra-portable is for you. We must caution you though—ultra portables are generally costlier than a similar-specification-bearing "regular" notebook.

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Scoreboard		Value Laptops: Up to Rs 45,000			
BRAND MODEL	ACI Emerald	ACI Ethos C	ACI Ethos Duo 1430	ACI Ethos Duo 1430D	Compaq Presario v3225AU
					
Price (Rs)	25,999	31,199	36,399	41,599	32,990
Comments	+ Attractive, cheap - Low on storage space	+ Decent specs - Keypad layout	+ Good keypad feedback - Plain looks	+ Good specs and performance - Plain looks	+ Great looks, good performance - Sticky touchpad
Final Score (Out of 100)	50.54	46.40	54.55	53.57	58.25
Features (Out of 48)	20.79	18.28	20.74	20.74	26.51
Performance (Out of 38)	17.15	17.62	24.81	24.96	21.81
Price Index (Out of 14)	12.60	10.50	9.00	7.87	9.93
Features					
Component Specifications					
Processor Model No.	Pentium M 730	Pentium M 730	Core 2 Duo T2350	Core 2 Duo T5200	Turion 64 ML-36
Processor Speed	1200 MHz	1600 MHz	1866 MHz	1600 MHz	2000 MHz
RAM (MB) / Type / Speed (MHz)	512 / DDR2 / 533	512 / DDR2 / 667	512 / DDR2 / 667	1024 / DDR2 / 533	512 / DDR2 / 667
Chipset	Intel i915GM	Intel i915GM	Intel i945GM	Intel i945GM	NA
Graphics Solution	Intel GMA 900	Intel GMA 900	Intel GMA 950	NVIDIA GeForce Go 7300	NVIDIA GeForce Go 6150
Onboard Video Memory	Shared	Shared	Shared	256 MB	Shared
Audio Solution	Realtek ALC 880	Realtek ALC 655	Realtek ALC 880	Realtek ALC 655	Cx20549@NVIDIA nForce 430
HDD Size	60 GB	80 GB	80 GB	80 GB	80 GB
Bundled OS	Windows XP Pro	Windows XP Pro	Windows XP Pro	Windows XP Pro	Windows Vista Home Basic
Characteristics					
Screen Size	15"	14.1"	14.1"	14.1"	14.1"
Screen Resolution (Native)	1024 x 768	1280 x 800	1280 x 800	1280 x 800	1280 x 800
Weight (kg)	2.40	2.30	2.30	2.3	2.46
No. of Ports (USB / FireWire)	4,1	3,1	3,1	4,0	3,1
Connectivity (LAN / Bluetooth / Wi-Fi)	✓/✓/✓	✓/✓/✓	✓/✓/✓	✓/✓/✓	✓/✓/✓
Memory Card Reader / Types of Cards	✓/ SD, MMC, MS, xD	✓/ SD, MMC, MS, xD	✓/ SD, MMC, MS, xD	✓/ SD, MMC, MS, xD	✓/SD, MMC, MS Pro
Inbuilt Webcam (✓/✗)	✓	✓	✓	✓	✓
Build (Scale of 10)					
Build Quality (Body)	6.00	6.25	6.00	6.00	6.50
Build Quality (Keypad)	6.00	6.00	6.00	6.00	6.50
Build Quality (Lid, Movables)	6.00	6.00	6.00	6.00	6.50
Ergonomics					
Keypad/Touchpad Tactile Feedback (So 10)	6.50	5.75	6.50	6.50	6.50
Key Layout (Scale of 10)	5.50	5.50	5.25	5.25	6.50
Shortcut Keys/Switches (Scale of 10)	5.50	4.25	4.25	4.25	6.00
Biometrics Login (✓/✗)	✗	✗	✗	✗	✗
WiFi On/Off Switch (✓/✗)	✗	✗	✗	✗	✓
Bluetooth On/Off Switch (✓/✗)	✗	✗	✗	✗	✓
TouchPad On/Off Switch (✓/✗)	✗	✗	✗	✗	✗
Performance					
Synthetic Scores					
PC Mark 2005					
CPU / Memory Score	1925 / 1861	2568 / 2458	3364 / 2105	3465 / 2210	2802 / 3331
Graphics / HDD Score	555 / 2943	679 / 2657	1912 / 2645	1898 / 2564	1178 / 3764
Overall	1357	1693	3165	3156	2187.00
SiSoft Sandra 2007					
Drive Index / Memory Bandwidth (MBps)	36 / 1787	31 / 2270	34 / 2899	31 / 2939	38 / 4270
3D Mark 2005	201	187	1645	1685	283
Display Mate Tests					
Colour Accuracy Test (Avg) (Scale of 10)	5.75	5.25	5.25	5.25	6.00
Battery Life Test (Hours:Minutes)	2:34	2:32	2:36	2:40	3:00
WiFi Signal Test (Wireless Mon) (%)					
Zone 1 / Zone 2	25 / 15	25 / 12	24 / 12	23 / 14	25/14
Real-World Tests					
HD Movie Viewing (Scale of 10)	5.00	5.00	5.75	5.50	6.25
Video Encoding (100 MB file) (sec)	216.50	245.40	213.20	210.50	192.45
File Transfer Test (1 GB test file) (sec)	118.93	89.80	63.76	63.60	83.90
DOOM 3 (fps) (800 x 600, medium detail)	6.30	5.60	14.70	43.80	10.10
FarCry (fps) (800 x 600, high detail)	2.59	2.30	12.82	45.40	6.80
Wi-Fi Performance (Zone 2) (MBps)	1.89	2.01	1.54	1.47	1.58


Value Laptops: Up to Rs 45,000

HCL S21 CMP	HCL K21 PDC	HCL X22	Intex M54N	LG RD400 5D23A2	LG RD400 5D4A2
					
29,990	37,490	39,990	38,990	28,990	37,990
+ Decent integrated graphics - Bulky, weak CPU	+ Good configuration - Bulky	+ Fast CPU - Tacky shortcut keys	+ Attractive looks - Low on RAM	+ Great Value - Relatively slow CPU	+ Great value, good config - Plain looks
53.43	52.89	53.65	49.97	49.24	45.87
23.31	23.79	23.74	20.89	18.37	16.88
19.20	20.36	21.72	20.68	19.57	20.37
10.92	8.74	8.19	8.40	11.30	8.62
Intel Celeron M410	Dual-core Pentium T2080	Core 2 Duo T2350	Core 2 Duo T2050	Celeron M440	Core 2 Duo T2050
1466 MHz	1733 MHz	1866 MHz	1060 MHz	1866 MHz	1733 MHz
512 / DDR2 / 533	512 / DDR2 / 533	1024 / DDR2 / 533	512 / DDR2 / 667	512 / DDR2 / 667	512 / DDR2 / 667
ATI Radeon Xpress 200M	ATI Radeon Xpress 200M	Intel i945GM	Intel i945GM	Intel i940GML	Intel i943GML
ATI Radeon Xpress 200M	ATI Radeon Xpress 200M	Intel GMA 950	Intel GMA 950	Intel GMA 950	Intel GMA 950
Shared	Shared	Shared	Shared	Shared	Shared
Realtek ALC 660	ALC 660	AD 1986A	Realtek ALC883	Realtek ALC262	NA
80 GB	120 GB	120 GB	60 GB	80 GB	80 GB
Windows Vista Starter	Windows Vista Home Basic	Windows Vista Home Basic	Windows XP Pro	FreeDOS	FreeDOS
15.4"	15.4"	15.4"	15.4"	14.1"	14.1"
1280 x 800	1280 x 800	1280 x 800	1280 x 800	1280 x 800	1280 x 800
2.80	2.80	2.30	2.00	2.35	2.60
4,1	4,1	4,1	3,1	3,1	3,1
✓/✓/✓	✓/✓/✓	✓*/✓	✓/✓/✓	✓*/✓	✓*/✓
✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	NA	NA
✓	✓	✓	✓	✓	✓
6.00	6.00	6.00	6.00	5.75	6.00
6.00	6.00	6.00	5.75	6.00	6.00
6.00	6.25	6.25	6.00	6.25	6.00
6.00	6.00	6.25	6.00	6.50	6.50
6.00	5.75	6.00	6.00	6.25	6.25
5.00	5.00	5.00	4.75	5.50	5.00
✗	✗	✗	✗	✗	✗
✓	✓	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✓	✗	✗	✗
2293 / 2185	2356 / 3215	4237 / 2804	2484 / 3295	3068 / 2722	3230 / 3100
479 / 3074	467 / 3278	668 / 3481	573 / 3354	719 / 4094	696 / 3865
1789	1876	2987	1921	2023	2465
29 / 2610	32 / 3274	35 / 3040	32 / 3432	40 / 2852	38 / 3005
511	521	560	673	Failed	573
6.00	6.00	6.00	5.50	5.75	6.00
3:02	2:55	3:00	3:04	2:45	2:34
23/13	23 / 12	24 / 12	24 / 15	21 / 13	23 / 13
5.75	6.00	6.00	5.50	6.00	6.00
194.34	123.40	140.42	145.67	135.30	143.54
58.63	62.50	57.14	85.65	97.40	101.50
6.60	4.30	Failed	6.40	6.70	5.60
5.70	2.80	4.59	4.34	5.35	4.87
1.76	1.86	1.53	1.75	1.31	1.22

Value Laptops: Up to Rs 45,000

BRAND MODEL	LG X Note R400 E277A2	Zenith Presidio	Zenith Director
			
Price (Rs)	44,990	28,700	29,700
Comments	+ Well priced - Poor onboard graphics	+ Very compact, functional - More memory needed	+ Handsome, VFM - Bulky, low on RAM
Final Score (Out of 100)	45.82	53.21	57.55
Features (Out of 48)	18.50	23.04	26.01
Performance (Out of 38)	20.04	18.76	20.51
Price Index (Out of 14)	7.28	11.41	11.03
Features			
Component Specifications			
Processor Model No.	Core 2 Duo T2350	Pentium M 740	Core Duo T2350
Processor Speed	1866 MHz	1333 MHz	1866 MHz
RAM (MB) / Type / Speed (MHz)	512 / DDR2 / 667	256 / DDR / 266	256/DDR2/667
Chipset	Intel i945GM	Intel i945GM	Intel i945PM
Graphics Solution	Intel GMA 950	Intel GMA 900	Intel GMA 950
Onboard Video Memory	Shared	Shared	Shared
Audio Solution	Realtek ALC262	Realtek ALC655	Motorola Si3054
HDD Capacity	120 GB	60 GB	80 GB
Bundled OS	Vista Home Basic	Windows XP Pro	Windows XP Pro
Characteristics			
Screen Size	14.1"	12.1"	15.4"
Screen Resolution (Native)	1280 x 800	1280 x 800	1280 x 800
Weight (kg)	2.60	1.90	2.40
No. of Ports (USB, FireWire)	3,1	3,1	4,1
Connectivity (LAN/Bluetooth/WiFi)	✓/✗/✓	✓/✓/✓	✓/✓/✓
Memory Card Reader/Types of Cards	NA	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro
Inbuilt Webcam (✓/✗)	✓	✓	✓
Build (Scale of 10)			
Build Quality (Body)	6.00	6.25	6.50
Build Quality (Keypad)	6.00	6.25	6.25
Build Quality (Lid, Movables)	6.00	6.25	6.25
Ergonomics			
Keypad/Touchpad Tactile Feedback (So 10)	6.50	6.75	6.25
Key Layout (Scale of 10)	6.00	6.50	6.00
Shortcut Keys / Switches (Scale of 10)	5.00	5.00	4.00
Biometrics Login (✓/✗)	✗	✗	✗
Wi-Fi On/Off Switch (✓/✗)	✗	✓	✓
Bluetooth On/Off Switch (✓/✗)	✗	✗	✓
TouchPad On/Off Switch (✓/✗)	✗	✗	✗
Performance			
Synthetic Scores			
PC Mark 2005			
CPU / Memory Score	4261 / 2781	2784 / 2333	4154 / 2635
Graphics / HDD Score	356 / 3422	624 / 3102	778 / 3585
Overall	2896	1751	2647
SiSoft Sandra 2007			
Drive Index / Memory Bandwidth (MBps)	32 / 2986	34 / 1754	40 / 2958
3D Mark 2005	Failed	Failed	180
Display Mate Tests			
Colour Accuracy Test (Avg) (So 10)	6.00	6.00	6.25
Battery Life Test (Hours:Minutes)	3:10	3:03	2:45
Wi-Fi Signal Test (Wireless Mon) (%)			
Zone 1 / Zone 2	24 / 12	25 / 14	25 / 13
Real-World Tests			
HD Movie Viewing (Scale of 10)	6.00	5.50	5.75
Video Encoding (100 MB file) (sec)	142.67	165.18	180.20
File Transfer Test (1 GB test file) (sec)	114.32	72.80	75.80
DOOM 3 (fps) (800x600, medium detail)	Failed	5.80	5.50
FarCry (fps) (800x600, high detail)	3.20	2.40	2.10
Wi-Fi Performance (Zone 2) (MBps)	1.85	1.64	1.42

Scoreboard

BRAND MODEL	ACI Matrix 1425
	
Price (Rs)	51,999
Comments	+ Reasonably-priced - Dated Looks
Final Score (Out of 100)	53.30
Features (Out of 44)	23.53
Performance (Out of 46)	21.81
Price Index (Out of 10)	7.96
Features	
Component Specifications	
Processor with Model Number	Core 2 Duo T2300
Processor Speed	1666 MHz
RAM (MB) / Type / Speed (MHz)	2048 / DDR2 / 533
Chipset	Intel i945PM
Graphics Solution	NVIDIA GeForce Go 7300
Onboard Video Memory	256 MB
Audio Solution	AD1986A
HDD Capacity	120 GB
Bundled OS	Windows XP Pro
Characteristics	
Screen Size	14.1"
Screen Resolution (Native)	1280 x 800
Weight (kg)	2.40
No. of Ports (USB / FireWire)	4,1
Connectivity (LAN / Bluetooth / Wi-Fi)	✓ / ✓ / ✓
Memory Card Reader / Types of Cards	NA
Inbuilt Webcam (✓/✗)	✓
Build (Scale of 10)	
Build Quality (Body)	6.00
Build Quality (Keypad)	5.00
Build Quality (Lid, Movables)	6.00
Ergonomics	
Keypad/Touchpad Tactile Feedback (So 10)	6.50
Key Layout (Scale of 10)	5.50
Shortcut Keys / Switches (Scale of 10)	4.75
Biometrics Login (✓/✗)	✗
Wi-Fi On/Off Switch (✓/✗)	✗
Bluetooth On/Off Switch (✓/✗)	✗
Touchpad On/Off Switch (✓/✗)	✗
Performance	
Synthetic Scores	
PC Mark 2005	
CPU / Memory Score	3886 / 2733
Graphics / HDD Score	1919 / 3065
Overall	3371
SiSoft Sandra 2007	
Drive Index / Memory Bandwidth (MBps)	31 / 3614
3D Mark 2005 Score	1703
DisplayMate Tests	
Colour Accuracy Test (Avg) (Scale of 10)	5.25
Battery Life Test (Hours:Minutes)	2:25
Wi-Fi Signal Test (Wireless Mon) (%)	
Zone 1 / Zone 2	23 / 15
Real-World Tests	
HD Movie Viewing (Scale of 10)	6.00
Video Encoding (100 MB file) (sec)	150.00
File Transfer Test (1 GB test file) (sec)	78.90
DOOM 3 (fps) (800 x 600, medium detail)	44.10
FarCry (fps) (800 x 600, high detail)	47.78
Wi-Fi Performance (Zone 2) (MBps)	1.76

Performance Laptops

ACI Matrix 1501	ASUS F3Jc	HCL Z22CDP	HP DV6226tx	LG X Note P1 BP33A2	Lenovo R61
					
77,999	60,250	45,990	56,990	59,990	155,000
+ Great for gaming - Plain-looking	+ Good performance, looks - None in particular	+ Good value - Boxy look	+ Funky looker, good features - Needs better graphics	+ Great looks and keypad - None in particular	+ Sturdy, powerful, feature-rich - Expensive
55.81	56.22	51.87	59.17	46.97	52.25
26.17	29.04	27.81	31.23	25.16	29.83
24.33	20.31	15.06	20.68	14.91	19.75
5.31	6.87	9.00	7.26	6.90	2.67
Core 2 Duo T7200	Core 2 Duo T2050	Core 2 Duo T5300	Core 2 Duo T5200	Core 2 Duo T2250	Core 2 Duo T7700
2000 MHz	1600 MHz	1733 MHz	1600 MHz	1733 MHz	2400 MHz
2048 / DDR2 / 533	1024 / DDR2 / 667	1024 / DDR2 / 533	1024 / DDR2 / 667	1024 / DDR2 / 667	2048 / DDR2 / 667
Intel i945PM	Intel i945PM	Intel i945GM	Intel i945PM	Intel i945GM	Intel 965PM
ATI Radeon X1600	NVIDIA GeForce Go 7300	Intel GMA 950	NVIDIA GeForce Go 7400	Intel GMA 950	NA
256 MB	512 MB	Shared	128 MB	Shared	NA
Realtec ALC882	Realtec ALC660	AD 1986A	Cx20549	Realtek ALC883	NA
160 GB	100 GB	160 GB	120 GB	100 GB	160 GB
Windows XP Pro	Windows XP Pro	Vista Home Premium	Vista Home Premium	Vista Home Premium	Windows Vista Ultimate
15.4"	15.1"	15.4"	15.4"	15.4"	15.4"
1280 x 800	1280 x 800	1280 x 800	1280 x 800	1280 x 800	1440 x 900
2.90	3.10	2.30	2.50	2.60	2.70
4,1	4,1	4,1	4,1	3,1	4,1
✓ / ✗ / ✓	✓ / ✗ / ✓	✓ / ✓ / ✓	✓ / ✓ / ✓	✓ / ✓ / ✓	✓ / ✓ / ✓
✓ / SD, MMC, MS	✓ / SD, MMC, MS	✓ / SD, MMC, MS Pro	✓ / SD, MMC, MS Pro, xD	✓ / SD, MMC, MS Pro	✓ / SD, MMC, MS Pro
✓	✓	✓	✓	✗	✓
6.00	7.50	6.00	7.00	6.25	7.25
6.00	7.00	6.25	7.00	6.00	7.00
6.00	7.25	6.00	7.00	6.00	7.50
6.00	7.00	6.00	6.00	7.00	7.00
5.50	7.25	6.00	7.25	7.00	7.00
4.75	6.75	5.00	6.50	6.25	7.00
✗	✗	✗	✗	✓	✓
✗	✓	✗	✓	✗	✗
✗	✗	✗	✗	✗	✗
✓	✓	✓	✓	✗	✗
5082 / 3997	3632 / 2517	4309 / 3184	4004 / 3164	3934 / 2689	6230 / 4287
3075 / 3214	1856 / 3319	654 / 3707	1922 / 3321	654 / 3225	1055 / 4653
4595	3205	3002	3166	2654	4976
39 / 3636	31 / 3203	28 / 2452	34 / 3564	28 / 2957	37 / 4620
3734	1591	456	1662	530	760
5.00	6.50	5.75	6.75	6.00	7.00
2:30	4:05	3:20	3:40	3:20	3:10
23 / 12	25 / 14	25 / 12	23 / 13	24 / 14	26 / 15
6.00	6.50	6.00	7.00	6.00	6.25
110.50	158.62	135.30	135.26	148.21	84.82
75.95	93.62	76.20	81.20	121.40	119.43
66.00	44.00	Failed	40.90	Failed	14.40
79.19	46.04	4.50	42.30	4.72	9.10
1.77	2.12	1.57	2.00	1.64	1.97

Features

The vanilla-plain ACI Dimiq 1200 and the boxy HCL W9504 PMP730 are (you guessed it!) the simpletons of the ultra-portable world. The Compaq Presario B1950 is also rather plain-jane, though we must say the build quality of all three models is quite good.

If we could reward outright beauty, we'd have to have cataracts in both eyes not to accolade Sony for the raw sex appeal exuding from the Vaio SZ483N. An absolutely gorgeous-looking hunk of carbon fibre—yes, real carbon fibre—and brushed aluminium alloy encompasses some of the fastest hardware you'll see under a 12.1-inch form factor. This laptop is also ultra-light, courtesy the carbon fibre, and has brilliant ergonomics. Placement of switches and even keypad layout is typically Sony-precise. The only sore point with the ergonomics is the mushy keypad; there is also excessive key travel. The presence of biometrics security via a fingerprint scanner is another utilitarian feature, and we found logging in very convenient—no passwords, just a finger-swipe.

Equally brilliant is the Stamina mode, something the Vaio series proudly sports. There's a switch provided, right next to the Wi-Fi on/off switch that actually switches between Intel onboard graphics and an NVIDIA 7400 Go solution, with a system restart of course.

ASUS' W5Fe is another standout looker with a secondary 2.8-inch LCD screen embedded in the laptop cover. This tiny screen can be used to control a media player. Incidentally, using this screen doesn't eat up system memory: it has 1 GB of Flash memory all to itself. ASUS is to be commended on the brilliant touchpad and keypad feedback.

LG's X-Note C1 looks neat—it's a tablet-PC-type swivel. This is misleading (fooled us!) as it isn't a tablet PC (no touch-screen). The quality of build is good, and though keypad feedback is very good too, the keypad itself isn't too well laid-out. Still, it was heartening to see this sturdy little contestant sport a Core Duo processor with a gigabyte of RAM and a GeForce 7300 Go graphics solution.

Compaq's Presario B1950 had an ace up its sleeve that some of the costlier HP models couldn't match—its touchpad has a matte finish unlike the smooth finishes on the DV6226tx and DV9223tx, and therefore provides more feedback and greater accuracy while scrolling.

Performance

Although performance is definitely not the forte of ultra-portables, prepare to be shocked when you look at the figures the ultra-thin, ultra-light Sony Vaio SZ 483N chalked up. Sporting a top-of-the-line series T7400 Core 2 Duo and a GeForce 7400 Go solution, this notebook is eminently suitable for all your mobile computing needs. The white LED display is crisp



Sony Vaio SZ 483N/C
The ultimate mobile powerhouse



and clear, and working with Windows Vista Ultimate was a pleasure. Add to the equation a massive 160 GB hard drive under that tiny hood, and you'll learn to overlook that Rs 1,24,990 price tag. The Vaio SZ483N also has an excellent wireless solution, and a bandwidth of 2.36 MB/s is enough for even the heaviest browsing and downloading.

A surprise performer was the tiny 10.6-inch-screen-bearing X-Note C1 from LG. With a Core Duo processor that admittedly isn't in the Vaio's league, and a modest GeForce 7300 Go GPU under the hood, this notebook is a great performer too.

The only other laptop that clung to these two leaders was the ASUS W5Fe, whose tenaciousness has to be seen to be believed, considering the lack of dedicated graphics. The ASUS does outscore the X-Note C1 as storage space goes, however.

Among the performance minnows, the Dimiq 1200 fights a valiant albeit doomed-from-the-start battle against the Presario B1950 and the HCL W9504. It's placed last.

The Conclusion

Our hearts prevailed here. The gorgeous Vaio SZ483N/C wins our Best Buy Gold award by a mile and then some! Seriously, take a look at our tables, and you'll see nothing even comes close to the Vaio in this category: a surefire case of done and dusted. This laptop should be the ultimate weapon of choice for the discerning road warrior.

The next-best thing according to us, and our Best Buy Silver winner, is ASUS' funky and functional W5Fe, at a price of just under a lakh.

If you want something reasonably fast in this category but aren't willing to shell out a penny over 50K, the Compaq Presario B1950 is definitely worth taking a long look at. It's got all the features, it's light, ergonomic, and has a great touchpad—all this in a sturdy body that isn't too hard on the eye.

Though definitely not a showstopper, it gets the job done.

As funky as the LG X-Note C1 is, we don't recommend busting 100 grand on something so frivolous when at 25K more, Digit's Golden Boy can be yours!



ASUS W5Fe
Two screens—we love it!

LIFESTYLE NOTEBOOKS

Ever feel proud driving down an expressway in your new Honda City only to be overtaken and dusted by a two-bit kid in a BMW M3? While we don't earn enough to be in either drivers' shoes, we understand (really!) how either one would feel. For people who really wish to wear their attitude, we've got not one but five of these babies, just in case you happened to be on the losing side of our analogy.

Just ASUS and HP make it to this category, where flaunt takes equal ranking with quality—and, of course, performance. Each of these laptops is different in a big way. They are targeted at different audiences.

Features

The largest, TFT-wise, is the 17.1-inch HP DV9223tx—a massive laptop that looks the proverbial Goliath to the ultra-portable Davids. Top-quality material and build is something we've come to expect from HP now, and this laptop epitomises it all. The black piano finish is classy, and the same, subtle rice-field-style design we spoke about on

the HP DV6226tx is present here. Once again, a set of blue backlit touch controls give a dash of colour to the functionality. In fact, there are more such controls, given the larger surface area HP had to play around with. The speakers are once again Altec Lansing, and once again excellent. The key travel is a little more than we'd like, and the slippery touchpad we have (sigh!) learnt to live with. Once again, a Media Center remote is bundled—couch potatoes, take heed!

ASUS' G1S looks like a large hunk of plastic with a carbon fibre top. This is an all-thrills, some-frills gaming laptop that is very clear about its reason for existence. Though not built on slim, attractive lines, the G1S isn't meant to be so, going instead with the beefy look. Pandering to the frag-happy fraternity is no easy task, but ASUS has been up to the challenge for some time now. The G1S uses a lot of green from the embedded dual fluorescent LED strips down each side of the cover to the very green-looking ASUS symbol for gaming, that for all the world looks like an "eye" to us to liven up things. There's a G2S, too, not tested here, that comes with blood-red lighting and matching colour tones.

That said, the G1S has a lovely, spacious keypad that returns brilliant feedback. The only issue is the misleading markings on the small Shift keys: we kept hitting the wrong key as a result. The matte-finished touchpad returns sweet feedback, and is smooth enough to not fatigue your finger while scrolling around during prolonged use. Equally nice are the play buttons on the front, mounted atop a grey steel bezel. Not so classy is the fluorescent green surrounding the webcam—a little overdone in our collective opinion. Incidentally, the G1S has a terrific set of speakers for a laptop.

The ASUS Lamborghini VX1 has a hood—umm, lid—just like its namesake. Did we mention it even looks like the famous automobile? With excellent materials and build quality, the VX1 is simply stunning, supermodel stuff, but then it has a pedigree to live up to! Once again an excellent keypad layout; brilliant feedback on both the keys and the touchpad make this laptop a pleasure to work with. The material on the palm rest area (some sort of buffed metal) is even better than HP's excellent piano finishes. The screen is a gorgeous 1400 x 1050 pixels, the highest-resolution TFT in this test.




ASUS G1S
Great for gaming, multimedia

ASUS' S6F is as tiny as its brothers are large. In fact, this would make a champion ultra-portable. It's small enough to pass off for a ladies' handbag, and the leather coating simply lulls your senses into believing it's little more than just that—a fancy handbag! Then there are the jewelled hinges and the ultra-attractive indicator LEDs for various functions. We also liked the unique coating on the keypad, and the dark grey really looks good. If any laptop was meant to look like a fashion accessory, this one looks the part. The screen, though tiny, is nonetheless crisp, and the keypad and touchpad work beautifully.

HP's TX1016au looks like it just stepped off a Versace ramp. Decked out in silver and black finery, the TX1016au is a Tablet PC complete with a swivelling screen, a bundled pen (no smudgy fingers on me please!), a wireless remote, and (oh joy!) a biometric device (fingerprint scanner). The swivel is extremely well-built: excellent fit and finish. The keypad is sufficiently tactile, although we didn't like the tiny Shift keys. The touchpad, which is sieve-patterned (heavily dimpled) returns ample feedback, but will result in a sore fingertips after extended use.

Performance

Based around Intel's latest Crestline (965PM) chipset, the ASUS G1S puts an Intel T7300 CPU and 2 GB of memory to proper use. The graphics solution is what any gamer worth his salt will be interested in, however, and with a



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Required

Support Engineers
MCSE, CCNA or RHCE
Networking Experience required

Marketing Executives
MBA (Marketing)
Experience required

Manager (Channel Sales)
MBA (Marketing)
Experienced in handling dealer channel

(above requirements are for all over India)

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Scoreboard

Lifestyle Laptops

BRAND MODEL	ASUS Lamborghini VX1	ASUS G1S	ASUS S6F	HP DV9223tx	HP TX1016au
					
Price (Rs)	177,000	99,000	109,800	89,990	74,990
Comments	+ Superlative in all aspects - Price also superlative!	+ Ultimate configuration - Some keypad quirks	+ Designer looks - Performance	+ A superb bundle - Slightly bulky	+ Value, Performance, Showy - Rough touchpad
Final Score (Out of 100)	64.18	68.51	54.64	68.97	63.53
Features (Out of 47/ 48 for Ultra Portable)	32.04	28.43	28.44	30.40	31.20
Performance (Out of 45/ 38 -do-)	29.09	34.63	21.28	32.57	25.13
Price Index (Out of 8/ 14 -do-)	3.05	5.45	4.92	6.00	7.20
Features					
Component Specifications					
Processor Model No.	Core 2 Duo T7400	Core 2 Duo T7300	Core Duo LV2400	Core 2 Duo T5500	Turion 64 X2 TL-60
Processor Speed	2133 MHz	2000 MHz	1666 MHz	1666 MHz	2000 MHz
RAM (MB) / Type / Speed (MHz)	2048 / DDR2 / 677	2048 / DDR2 / 677	1024 / DDR2 / 533	2048 / DDR2 / 667	2048 / DDR2 / 667
Chipset	Intel i945PM	Intel 965PM	Intel i945GM	Intel i945PM	NVIDIA Geforce Go 6150
Graphics Solution	NVIDIA GeForce Go 7400	NVIDIA GeForce Go 8600GT	Intel GMA 950	NVIDIA GeForce Go 7600	NVIDIA Geforce Go 6150
Onboard Video Memory	512 MB	256 MB	Shared	512 MB	Shared
Audio Solution	AD1986A	Realtek ALC 655	Realtek ALC 660	Cx20549	Realtek ALC 862
HDD Capacity	160 GB	160 GB	80 GB	2 x 160 GB	160 GB
Bundled OS	Windows XP	Windows Vista Ultimate	Windows XP Pro	Vista Home Premium	Vista Home Premium
Characteristics					
Screen Size	15.1"	15.4"	11.1"	17.1"	12.1"
Screen Resolution (Native)	1400 x 1050	1440 x 900	1366 x 768	1440 x 900	1280 x 800
Weight (kg)	3.00	3.10	1.37	3.10	1.40
No. of Ports (USB / FireWire)	4,1	4,1	1,1	4,1	3,1
Connectivity (LAN / Bluetooth / Wi-Fi)	✓/✓/✓	✓/✓/✓	✓/✓/✓	✓/✓/✓	✓/✓/✓
Memory Card Reader / Types of Cards	✓/ SD, MMC, MS	✓/ SD, MMC, MS	✓/ SD, MMC, MS	✓/SD, MMC, MS Pro, xD	✓/SD, MMC, MS Pro, xD
Inbuilt Webcam (✓/✗)	✗	✓	✗	✓	✓
Build (Scale of 10)					
Build Quality (Body)	7.50	7.25	7.00	7.00	7.25
Build Quality (Keypad)	7.00	7.00	7.25	6.75	6.75
Build Quality (Lid, Movables)	7.25	7.25	7.25	7.00	7.00
Ergonomics					
Keypad/Touchpad Tactile Feedback (So 10)	7.00	7.00	7.00	5.75	6.00
Key Layout (Scale of 10)	7.00	5.75	6.00	6.75	6.50
Shortcut Keys / Switches (Scale of 10)	6.50	6.50	6.25	6.50	7.00
Biometrics Login (✓/✗)	✗	✗	✗	✗	✓
Wi-Fi On/Off Switch (✓/✗)	✓	✗	✓	✓	✗
Bluetooth On/Off Switch (✓/✗)	✓	✗	✓	✗	✗
TouchPad On/Off Switch (✓/✗)	✓	✓	✗	✓	✓
Performance					
Synthetic Scores					
PC Mark 2005					
CPU / Memory Score	5236 / 4005	5033 / 4238	3661 / 2588	4173 / 3488	3949 / 3350
Graphics / HDD Score	2623 / 3175	4654 / 4236	1050 / 3270	3876 / 4111	961 / 3297
Overall	4623	4217	2656	3345	3104
SiSoft Sandra 2007					
Drive Index / Memory Bandwidth (MBps)	36 / 4027	37 / 4358	34 / 3570	39 / 3613	35 / 3453
3D Mark 2005	2237	7672	530	3294	897
Display Mate Tests					
Colour Accuracy Test (Avg.) (Scale of 10)	7.00	7.00	6.25	6.75	6.50
Battery Life Test (Hours:Minutes)	2:50	2:10	2:23	3:23	3:34
WiFi Signal Test (Wireless Mon) (%)					
Zone 1 / Zone 2	22 / 15	26 / 15	23 / 14	26/15	24/14
Real-World Tests					
HD Movie Viewing (Scale of 10)	7.00	7.25	5.75	7.25	6.75
Video Encoding (100 MB file) (sec)	101.80	103.46	172.56	126.90	124.50
File Transfer Test (1 GB test file) (sec)	70.00	58.93	86.29	27.73	78.30
DOOM 3 (fps) (800 x 600, medium detail)	60.80	136.80	7.80	93.20	11.50
FarCry (fps) (800 x 600, high detail)	66.31	94.56	3.69	47.05	9.45
Wi-Fi Performance (Zone 2) (MBps)	2.30	2.45	2.15	1.82	2.21

Ultra Portable Laptops

ACI Dimiq 1200	ASUS W5Fe	Compaq Presario B1950	HCL W9504 PMP730	LG X note C1	Sony Vaio SZ 483N/C
					
51,999	99,000	44,990	41,990	99,900	1,24,990
+ Really compact - Hard keypad	+ Novel features - More memory needed	+ Good touchpad - Lower feature set	+ Good value for money - Somewhat thick	+ Very light, fancy looks - Expensive	+ Fast, light, functional - Mushy keypad
50.18	55.00	53.23	52.31	49.37	62.46
23.12	29.39	24.23	21.68	23.22	31.15
16.29	19.95	16.55	17.29	20.54	26.83
10.77	5.66	12.45	13.34	5.61	4.48
Core 2 Duo T5200 1600 MHz 1024 / DDR2 / 533 Intel i945GM Intel GMA 950 Shared Realtek ALC 260 120 GB Windows XP Pro	Core 2 Duo T5600 1833 MHz 1024/DDR2/667 Intel i945GM Intel GMA 900 Shared Realtek ALC 660 160 GB Vista Home Premium	Core 2 Duo T2250 1733 MHz 512 / DDR2 / 667 ATI Radeon Xpress 200M ATI Radeon Xpress 200M Shared Realtek ALC260 80 GB Windows Vista Home Basic	Pentium M 730 1600 MHz 1024 / DDR / 333 Intel G915GM Intel GMA 900 Shared Realtek ALC 655 60 GB Windows XP Pro	Core Duo ULV U2500 1200 MHz 1024 / DDR2 / 533 Intel i945PM NVIDIA GeForce Go 7300 64 MB Realtek ALC883 80 GB Vista Home Premium	Core 2 Duo T 7400 2166 MHz 2048 / DDR2 / 667 Intel i945PM NVIDIA GeForce Go 7400 64 MB Sigma Tel STAC 9872AK 160 GB Windows Vista Business
12.1"	12.1"	12.1"	12.1"	10.6"	13.3"
1280 x 800	1280 x 800	1280 x 800	1024 x 768	1280 x 800	1280 x 800
1.90	1.70	1.80	1.80	1.30	1.69
3,1	3,1	3,1	3,1	3,1	2,1
✓/✗/✓	✓/✓/✓	✓/✓/✓	✓/✗/✓	✓/✓/✓	✓/✓/✓
✓/ SD, MMC, MS, xD	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	✓/SD, MMC, MS Pro	✓/MS Pro, Duo
✗	✓	✓	✗	✗	✓
6.50	7.50	6.25	6.00	6.00	7.00
6.25	7.00	6.50	6.00	6.25	6.00
6.50	7.25	6.50	6.25	6.00	7.00
6.75	7.00	6.50	6.50	6.25	4.50
5.50	6.25	6.00	6.25	5.75	6.75
4.25	7.25	6.00	5.00	6.00	7.00
✗	✗	✗	✗	✗	✓
✓	✓	✗	✓	✗	✓
✗	✗	✗	✗	✗	✓
✗	✗	✗	✗	✗	✗
2288 / 2574 770 / 2654 2067	4596 / 3606 876 / 3678 3532	2567 / 3100 1086 / 3453 2016	3200 / 2756 675 / 3245 2256	3023 / 2400 1850 / 3400 1895	5476 / 4152 2585 / 3320 4436
38 / 2806 416	39 / 3403 549	35/3890 210	34 / 2456 566	24 / 2992 1362	33 / 3380 1654
5.75 2:30	6.75 3:10	6.00 2:40	5.75 3:20	5.75 2:50	7.00 3:10
22 / 14	24 / 15	23 / 13	23 / 12	20 / 12	27 / 15
5.25 225.03 64.56 8.60 3.94 1.59	6.25 118.71 68.76 Failed 6.15 1.86	6.00 189.63 112.30 14.35 9.45 2.02	6.00 156.20 102.50 6.50 5.70 2.14	5.50 136.80 91.50 38.20 31.13 1.90	6.75 92.00 67.80 46.40 46.74 2.36

GeForce 8600GT with 256 MB of integrated DDR3 memory, the G1S ripped through all our game benchmarks. As 136-odd frames in *Doom 3* testify, this laptop can be used for gaming at reasonably high resolutions on most of the current crop of games.

The DV9223tx features the next-best graphics card—a Go version of NVIDIA's GeForce 7600 with 512 MB of video memory. Although not in the G1S' league, this is the second-fastest gaming solution from among all the categories. Both the VX1 and the GS1 feature blazing processors, though none of the other three could be termed *slow*. The only AMD solution was on the TX1016au, a Turion X2 TL 60 that will handle all the processing you can throw at it without breaking into the proverbial sweat. An integrated graphics solution of the GeForce Go 6150 cadre ensure this is no slouch in the multimedia department either. The DV9223tx manages to conceal a whopping 320 GB of storage space in its admittedly large shell.

The ASUS S6F lags behind even the TX1016au, but who's noticing anything behind all that leather anyway? Even though the TX1016au lags behind the group, it's not what you could term a slowcoach. Unless you plan on serious gaming, the TX1016au should pull through most applications.

The Conclusion

There were two very serious inter-brand rivalries throughout our tests as ASUS and HP fight it out, with neither willing to give ground to the other, and any victories won were extremely hard-fought! At the top, the G1S goes the distance with the DV9223tx. What it gains in performance, it loses on features. They end up within 0.5 points of each other. The second battle takes place a couple of rungs lower as the VX1 takes on the TX1016au—these two boys also finish within a point of each other.

The little S6F loses out on performance points, but is nonetheless a powerful mobile platform in a tiny shell.

After some debate, we decided that since it was such a closely-fought contest, there should be two Gold awards, and no Silver. The ASUS G1S (Rs 99,000) and the HP DV9223tx (Rs 89,990) both win the Digit Best Buy Gold award.

If you want something fashionable that is guaranteed to get drool out wherever you go, the TX1016au is something you should seriously look at. Not only is it brilliantly-priced for a dual-core laptop with 2 GB of memory, you get a host of nifty add-on functions—biometric

security, a touchscreen and a tablet form factor (swivel), and a backlit array of touch buttons for media playback.

The ASUS Lamborghini is for those who aspire towards the car but fall short by a million-odd dollars. It's costly, but then you get to flaunt the badge at a tiny fraction of the price. It's fast, too, and extremely functional. We'd have loved to indulge in this sinful fantasy, but at Rs 1,77,000 (the yellow version costs a shade under Rs 2,00,000), even organ-donating won't make up the deficit...

Closing Thoughts

Notebook computers have taken strong steps towards becoming adequate processing powerhouses. While they still aren't in the Desktop league and perhaps will never be—as the yardstick for Desktop performance also keeps increasing—they can easily compete on processing power, be it CPU or GPU, with the best Desktops of three years ago. They've become customisable too, with vendors offering a choice of components.

Intel's current Core 2 Duo based platform, the Santa Rosa, has brought with it a host of new, powerful features—as well as price cuts throughout Intel's older chipset line-up, namely the Napa and Sonoma platforms. Intel has chosen to go the platform way, offering the Centrino as a three-part solution consisting of the processor, the chipset, and the wireless solution. AMD chooses a different path by offering just the processor, and leaving it up to the vendor to choose the chipset and other components. With the current range of Core 2 and Core processors, it seems Intel's platforms are suddenly formidable, and if sales figures are any indication, Intel has been steadily encroaching on AMD's notebook market share ever since the Core 2 Duo. Santa Rosa offers a staggering number of features, which includes wireless 802.11n support, Vista-supporting display adapters, and an 800 MHz bus with low power states. (Santa Rosa is also known as Centrino Pro.)

Further on the horizon lurks Montevina, scheduled for a 2008 second quarter release, and support for the upcoming Penryn range of processors with power consumption figures in the range of 29 W on the 45nm fabrication process.

AMD has been cooking up the successor to their Kite and Kite Refresh platforms in the form of their upcoming Turion platform, which will feature more energy-efficient Turion X2 processors, possibly on a smaller fabrication. Support for the emerging 802.11n, HyperFlash, and Hybrid Hard Drive support, along with support for faster memory, is also on the cards. AMD's Fusion processors are also expected in 2009, and this should also cause a chipset overhaul.

With Vista and its heavy Aero interface already being bundled with most notebook computers these days, and the ever-increasing army of resource-hungry applications emerging, we'll soon need every bit of processing juice manufacturers can muster. ☒

michael_browne@thinkdigit.com



HP DV9223tx
Full-fledged entertainment

Contact Sheet		Laptops	
Brand	Company	Phone	E-mail
ACI	ACI Technologies	022-40607000	sales@aci-asia.com
ASUS	ASUS Technology Pvt Ltd	022-6676 8800	media_india@asus.com
Compaq	Hewlett-Packard India	1800-425 66 99/0124-2838700	tapoti-t.tipnis@hp.com
HCL	HCL Infosystems Ltd	9818989875	product.lab@hcl.in
HP	Hewlett-Packard India	1800-425 66 99/0124-2838700	tapoti-t.tipnis@hp.com
Intex	Intex Technologies (India) Ltd	011-30888906/07	sanjay@intextechnologies.com
Lenovo	Lenovo India Pvt Ltd	080-22108490	buy@in.lenovo.com
LG	LG Electronics India Pvt Ltd	0120-2560900/940 Ext 245	salvi@lginia.com
Sony	Sony India Pvt Ltd	66006600 / 1800-11 11 88	sonyindia.care@ap.sony.com
Zenith	Zenith Computers Limited	022-28377300 Ext 377	sgulvady@zenith-india.com



Genius Traveler 355 Laser

A unique notebook mouse

When we unpacked the Genius Traveler 355 Laser, it looked like any other notebook mouse—small and pretty, but with a blue light where the scroll wheel would normally have been. We discovered the middle button is no



longer just a clickable scroll wheel. It has an optical scanner that tracks the motion of your finger over it, and lets you scroll in any axis. It still functions as a button. This is a good, unique feature: you'll no longer have a roller getting spoilt after a few

months of use.

The mouse supports resolutions of 800 and 1600 dpi. The only way to switch between them is to press all the three buttons together—we tried this, and found no indication of what dpi we were switching to or using, on-screen or in the drivers!

Left-handed users should have no problem using this one. The mouse is small and lacks curves and ergonomic shape, though. Still, overall, the comfort level is OK.

The mouse tracks well, and thanks to its lightness, it slides well on most surfaces. The optical scroll we talked about tracks vertical movement well, but horizontal movement seems a little sluggish.

Build quality is pretty OK, but the cable is definitely a concern. It is really thin—almost half the thickness of that of a typical desktop mouse.

The software CD installs the drivers by itself and the software for the mouse. Installed were some 15-odd processes, which ate up 60 to 65 MB of memory! Other than the standard tasks like changing sensitivity and scroll speed, setting the action for the middle click is about the biggest thing you can do with the drivers.

RATINGS

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

You're better off using the default Windows drivers.

The one good thing we could agree on was the mouse itself—performance was more than satisfactory. It is really small and pretty light, which makes it suitable for any laptop user.

The price tag of Rs 1,800 is a wee bit high—wired notebook mice would be cheaper. For the additional price, you get unique features like the optical scroller, and pretty good performance. Buy this mouse if it fits your budget, but keep away from the drivers!

Specifications

USB interface; resolutions: 800 / 1600 dpi; Vista compatible

Contact: KYE Systems India Ltd
Phone: 011-41580611
E-mail: sales_india@geniusnet.com.tw
Web site: www.geniusnet.com
Price: Rs 1,899

Logitech diNovo Edge

An expensive keyboard for the style-conscious

The diNovo Edge is Logitech's costliest offering from its keyboard line-up. It is thin and sleek—just around 1 cm tall.

The frame is sturdy; it has a layer of Plexiglas on top, which gives it a nice, glossy finish. The downside, however, is that you're bound to get scratches and fingerprints on it. It won't go down too well with users with sweaty hands either. But there's no denying it looks great. There's a brushed metal panel to complement the glossy Plexiglas.

With the short key travel, this feels like a laptop keyboard. A circular touchpad acts as a mouse. Moving your finger around the edges lets you scroll vertically and horizontally. The touchpad is pretty small, though, and is a little cumbersome to use. It can be turned off if you'd like.

There is no numeric keypad, and many of the keys have been made smaller to accommodate them in the small, sleek form factor. The touch slider for volume control is a good addition. Indicators light up when you press some of the keys. Pressing the Function key [FN], for example, lights up the multimedia buttons, which are coupled with the function keys ([F1] through [F12]). There are buttons for putting the PC into



standby, for opening the default media player, and for muting system sound.

The wireless Bluetooth connection worked perfectly fine with no glitches from 20 ft or so. Also, we should mention that you get a chic charging dock to go with the looks of the keyboard itself.

Sleek and elegant it may be, but the feel of the keys really lets the diNovo Edge down. The high price tag of Rs 15,995 is another major downside. Other keyboards from Logitech with more features—such

as the G11 and the G15—are priced at half that much or less. Those are a lot bulkier, and are meant for gaming. The only saving grace for the diNovo Edge is its looks.

Specifications

Dimensions: 11 x 410 x 210 mm; weight: 940 gm; Bluetooth 2.0; inbuilt 950 mA Li-ion battery

Contact: Logitech India
Phone: 022-26571160
E-mail: kavita_nath@logitech.com
Web site: www.logitech.com
Price: Rs 15,995

RATINGS

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



Razer pro|tone m250

Slightly overpriced

Razer is all over the gaming market. Mice, mouse pads, keyboards—they have it all covered. They've now diverted some of their focus towards regular consumers, and the latest

themselves are sturdy, but the cables are pretty thin and can be easily damaged. The cable is short as well, which may be good for your portable MP3 player, but not so good if you plan on using it at home on your PC. The

clips for the headphones



are the Razer pro|tone m250 portable clip-on headphones.

Like all Razer products, the m250s look great. The backs have a brushed metal finish. The headphones

have a layer of rubber, which makes them comfortable for long sessions even if they're clipped on tight.

Coming to quality and performance, the m250s

are really loud. The treble is overpowering, while the bass is very low and sounds flat. Frequencies between 2.5 and 10 kHz are the most prominent. There was no distortion at the insanely high volumes it reached, though. The disappointing bass response is mainly because of the frequency range—which starts from 50 Hz, instead of around 20 Hz like with most headphones. There is no noise isolation.

The Razer pro|tone m250 costs Rs 3,399, which is very expensive, but then you need to keep the performance in

mind too. The device would be used for mobile entertainment, and there happen to be quite a few cheaper alternatives that offer better audio quality. Some canal earplugs cost around half what the m250 costs give better bass, and offer noise isolation! If you're a Razer fan, you could make this part of your collection; if you're not, look elsewhere.

Specifications

Weight: 38 gm; frequency response: 50 Hz ~ 20,000 Hz; connector: 3.5 mm; cable length: 1.15 m, Maximum Sound Press Level: 105 dB; impedance: 32 ohms

RATINGS

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

Contact: Net Place Technologies P Ltd

Phone: 022-40053901

E-mail: sales@netplacetechnologies.com

Web site: www.razerpro.com

Price: Rs 3,399

Sony NW-A805

Performs well; slightly expensive

The Sony NW-A805 player's format and style resembles that of many compact phones, only this one comes with three big buttons. There are four other direct buttons to navigate through the interface displayed on the crisp 2-inch colour LCD screen.

The player has 2 GB of internal memory, and no expansion slots. You can play audio and video, and view images on it. Certain audio enhancement features—DSEE (Digital Sound Enhancement Engine) and VPT (Virtualphones Technology)—are built into the player. DSEE is supposed to enhance quality, and VPT

means you get virtual surround sound. A feature called Dynamic Normalization helps balance out major volume jumps between tracks.

The player comes with canal earphones, which isolate noise pretty effectively. Speaking of earphones, the cord is really short; thankfully, an extension cable is provided. We also used the Bose 321 Series in-ear phones as a standard to gauge quality. Bass was decent, and so was the treble. Using the Bose earphones over the Sony ones gave us just a tiny improvement in quality—meaning the Sony earphones themselves are pretty decent, and you won't have to go hunting for separate ones.

You can use the player as a storage device. The transfer rates were around 1.29 MB/s while transferring files

directly onto the embedded memory.

Charging takes a little under three hours, and the charge easily lasts for more than a day with the volume set to 50 per cent—really good.

Similar to the Apple players, all the media that goes onto the player has to pass through Sony's software—SonicStage and Image Converter. The media is converted to the supported formats. The software lacks an attractive interface, but gets the job done. You get two extra pairs of caps for the earplugs, and a stand to place the player on.

Rs 9,990 is not exactly cheap for a 2 GB player. You do get a video player and an image viewer, but neither of which are very exciting on the tiny 2-inch screen. It's not extremely compact either. For the same price, you'd be better off getting a



media player with a larger storage capacity.

Specifications

Dimensions: 43.8 (W) x 88 (H) x 9.1 (D) mm; weight: 53 gm; inbuilt memory: 2 GB

Contact: Sony India Pvt Ltd

Phone: 66006600

E-mail: sonyindia.care@ap.sony.com

Web site: www.sony.co.in

Price: Rs 9,990

RATINGS

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

D-Link DSL-2640T Wireless G ADSL2+ Router

Decent for a small network

The D-Link DSL-2640T is a three-in-one device—an ADSL modem, a 4-port router, and a wireless access point all packaged in stylish silver-grey plastic.

The D-Link DSL-2640T is just what you need if you have more than one computer and need to share your ADSL broadband connection. It is ADSL2/2+ compliant, and is therefore capable of theoretical download speeds up to 24 Mbps. 802.11 b/g wireless capability allows it to transmit data at up to 54 Mbps. The 4-port fast Ethernet switch lets you connect four computers to it, and you can also add a few laptops to your home network using the integrated Wi-Fi access point.

You can set up the DSL-2640T in a jiffy. The easy-to-understand browser

interface has a Wizard that puts you in the driver's seat and lets you configure the router the way you want. Security has not been neglected either, with support for enhanced wireless security using WPA and WPA2. The integrated firewall with NAT, SPI, and DoS capabilities further strengthen the safety of your PC from hackers. You can even block out offensive URLs or complete domains.

Though we could not test the ADSL performance, we tested the Wi-Fi capabilities of the device. Scores were average compared to the other two ADSL routers we tested earlier this year. It could transfer sequential files at a rate of 1.22 MBps in the closest zone, while it managed 0.55 in the farthest zone, putting it a shade

ahead of the ASUS WL-600G but a step behind the Netgear DG834G as far as overall performance is concerned.

D-Link has provided an ADSL splitter so you can connect the telephone line to the router and still not miss a call. The accompanying CD contains a manual and a Wizard that are good enough to ease any of your worries about installing the device. In sum, this is a decent ADSL router for



setting up a small office or home network.

Specifications

ADSL/ADSL2 compliant; Ports: 1 x ADSL RJ-11 for 24/26 AWG twisted pair telephone wire, 4 x 10/100 LAN RJ-45; Wi-Fi standard: 802.11b/g

Contact: D-Link India Ltd
Phone: 022-30616666
E-mail: sales@dlink.co.in
Web site: www.dlink.co.in
Price: Rs 4,300 (plus taxes)

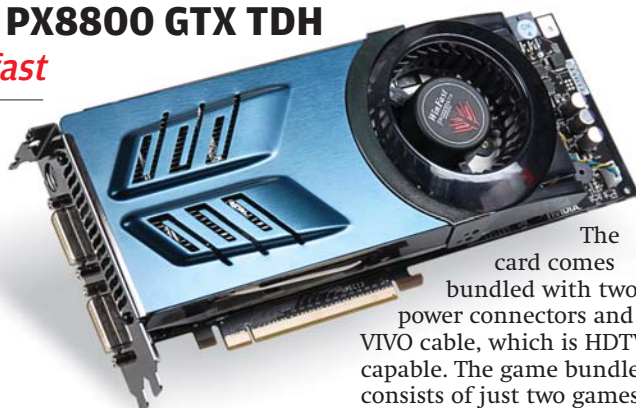
RATINGS	
Performance	★★★★☆
Features	★★★★☆
Ease of Use	★★★★☆
Value for Money	★★★★☆
Overall	★★★★☆

Leadtek WinFast PX8800 GTX TDH

Fast, and we mean fast

Keeping up with its regular production cycle, NVIDIA has added one more powerful performer to its roster—the GeForce 8800 GTX. Manufacturer Leadtek was one of the first to secure it, launching the WinFast 8800 GTX. A full DirectX 10 part, this promises unprecedented performance under Vista.

Leadtek has built the card using NVIDIA's reference design. The heatsink does a pretty good job at cooling, and is not noisy. The card is long, and we mean long: its 10.5-inches exceeded the width of our D945XB2 motherboard by over an inch! Not many cabinets will accommodate this card. It requires two Molex power connectors, so you should make sure you have an appropriate power supply. There are two SLI connectors on the card,



which essentially double the SLI bandwidth for to-and-fro data transfer.

The G80GTX core features the Unified Shader Architecture, which has the capability of doing physics computations on the chip, so the CPU is not much of a bottleneck. There is 768 MB of 384-bit wide GDDR3 memory at 900 MHz, yielding a (huge!) bandwidth of 84.4 GB/s. This is more than enough for any game out there, with enough headroom for future games.

The card comes bundled with two power connectors and a VIVO cable, which is HDTV-capable. The game bundle consists of just two games—*SpellForce 2* and *TrackMania Nations*.

The card delivers what it promises, gauging from our test results. The performance difference between this card and that of its lesser siblings was not much at the lower, CPU-limited resolutions, but as we went up, cranking up

the sliders, this was the only card that held its own against the barrage of our benchmarks. It scored 10879 in 3DMark06, and did 83 fps in F.E.A.R. at 1600 x 1200 in its full glory. Though a shade slower than the stock NVIDIA 8800GTX, this is still one of the fastest cards out there, and with exceptionally good image quality.

Price at Rs 33,000, the card offers relatively good value for money. DX10 is not yet out, so we'll have to wait to look at the card's DX10 performance.

Specifications

GPU: NVIDIA GeForce 8800 GTX; memory: 384-bit 768 MB GDDR3 @ 900 MHz (effective: 1800 MHz); GPU clock (Geometric): 576 MHz; GPU clock (Shader): 1350 MHz; memory bandwidth: 84.4 GB/s

Contact: TopNotch Infotronics
Phone: 9323546190
E-mail: mushtaq@zebronics.info
Web site: www.leadtek.com
Price: Rs 33,000

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

Cooler Master X Craft 250

A cool data companion!

External casings are widely used with laptop hard drives as portable data transfer solutions. The X Craft 250 is an eSATA/USB casing from Cooler Master; it promises to keep high-capacity laptop hard drives cool.

Crafted in aluminium, the core design objective, like we said, is good thermal dissipation. The meshed screen running along two sides takes care of ventilation. The white paint provides a quality finish, as also decent fingerprint resistance.

Power-hungry laptop drives are addressed by the use of split USB cables. The eSATA connectivity makes for a high 3Gb/s transfer rate.

The USB cable or the 5V DC jack is used to power

the case in the eSATA mode.

Cooler Master provides rubber grommets for attaching the hard drive to the PCB—a nifty touch; it also provides shock resistance. Mounting the hard drive is quite easy; also, Cooler Master has been generous enough to provide a little screw driver, screws, and the grommets.

For our test, we used the WD SATA 250 GB 2500BEVS as the internal drive. The results were quite competitive. A 0.7 ms access time in SiSoft



Sandra, along with a 17.8 ms random access time in HD Tach, highlights the fact that the internal

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

controller will not be a bottleneck in the drive's throughput. In the real-world 1 GB assorted test, the drive took 63 / 47 / 89 seconds (to / from / within). In the case of sequential 1 GB single-file transfer, the drive took 45 / 36 / 84 seconds (to / from / within). Transferring 1 GB of assorted files simultaneously to and from took 83 seconds.

The package bundle consists of the drive, a nice pouch, and the necessary backup software. We think it's a good buy.

Specifications

Dimensions: 81 x 19 x 136 mm (W x H x D); weight: 140 gm; interface: USB 2.0/1.1; eSATA

Contact: SMC International

Phone: 98100 26658

Email: himanshu@

amigointernational.biz

Web site: www.coolermaster.com

Price: Rs 1,560 (plus taxes)

Bose Companion 5

Class on your desk

The satellites on the Bose Companion 5—hereon referred to as the BC 5—look like a prop from a *Star Wars* film set. However, the long subwoofer looks a little like a largish UPS. The matte-finished black and grey looks elegant, and the stylish satellites and classy control pod all add up to a killer designer-desk!

A word on the round control pod—a tap on the middle and the speakers switch on, another tap—off. The volume control operation is also ultra-slick. It also features a headphone jack and an auxiliary in (for portable media players, for example).

The BC 5 connects via USB and not a 3.5 mm jack. And this is the good and the bad part of this set (you decide which!). Good: you've got an inbuilt sound solution (no sound card required), which doesn't even require a driver under Windows XP. This, coupled with the proprietary TrueSpace surround digital processing, gives you virtual surround sound from a stereo speaker set. Bad: if you have a good sound card capable of better sound.

We listened to a few of our favourite tunes and the mandatory test tracks on the BC 5 for a day. The first gripe is the subwoofer—the bass is “boomy,” too much so for our liking. Second, the bass doesn't have that classy wooden feel to it. On a positive note, the satellites are definitely punchy, and will happily outdo the bundled bass unit if allowed to.



The sound from the satellites is particularly mellow in the mids.

DVD movies will benefit from this kind of bass; audiophiles with their music will hate it. The sound really does seem to surround you; whatever acoustic technology Bose has put to work is evidently doing its job—though it's not as good as a discrete 5.1 setup.

At Rs 21,000, the BC 5 is costly. You get indisputably great looks and sometimes disputably good sound. Bose builds lifestyle products for

the flamboyant, who pay as much for the show as for the go. If you fit the bill, and can stomach it—buy the BC 5. If you're not part of that minority, skip this one.

Specifications

Amplified 2.1 system; interface: USB; wired control pod unit; auxiliary in and headphone connects

Contact: Bose Corporation India

Pvt Ltd

Phone: 1-800-11-2673

E-mail: NA

Web site: www.boseindia.com

Price: Rs 21,900

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

TurboLinux Wizpy

Everything's portable

The Wizpy—the first venture into hardware territory by Japanese company TurboLinux Inc.—looks like an MP3 player, but is much more: you can boot right off it!

Encased in a beautiful white polymer casing with fine silver speckles, the player is sturdy and scratch-resistant. A black version is also available, and looks equally impressive. The device is sleek enough to be and easily slips into any pocket. The interface, however, is not very intuitive, but you can get along after a few minutes.

This is the first MP3 player that can boot into an OS; you can take your office with you wherever you'd like. Any computer that supports USB booting can boot through the Wizpy into TurboLinux Fuji, residing on its 1 GB partition. This is a full-fledged operating



system that comes with its office suite, and which even lets you surf the Internet and check mail. This partition is inaccessible through other OSes, thus providing security for your data. If you do not have USB 2.0—or the ability to boot this way—you can use the accompanying mini disc to

boot into the OS. The problem is that you can only read NTFS partitions; you can't write to them. Instead, you save your work on the Flash memory of the Wizpy. This will be a handicap when large files are involved.

The Wizpy plays several music formats—such as MP3 with ID3 and lyrics, and OGG—and video formats such as AVI. Audio quality is excellent at medium volume levels, and the accompanying headphones are good enough. (At higher volumes, the bass tends to distort the mid and high notes.) The 1.71-inch OLED 262K colour display is vivid. You can read text files using the inbuilt e-book reader. FM Radio is there,

but it has a weak tuner when compared to other MP3 players. The Li-ion battery lasts for up to 14 hours of music playback—fairly good.

The Wizpy comes in 2 and 4 GB versions; we tested the 4 GB. Of this, 1 GB is used by the OS.

The price tag reads Rs 11,900, which might seem high, but for the functionality it provides, we think it's just right.

Specifications

Capacity: 4 GB (3 GB storage); display: 1.71-inch OLED with 262K colours; OS: TurboLinux Fuji; 7-band audio equaliser; file formats: audio: OGG, MP3, WMA, AAC; video: AVI, DivX; image: JPEG; FM radio; text e-book reader; interface: USB 2.0; bundled: TurboLinux Fuji Mini CD, earphones, USB and line-in cables

Contact: TurboLinux India Pvt Ltd
Phone: 0124-4570300
E-mail: bd@turbolinux.co.in
Web site: www.wizpyindia.com
Price : Rs 11,955

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

Creative Stone 1 GB

Apple vs. Creative—again

This is yet another nonsense digital music player from Creative. It is squarely aimed at Apple's Shuffle.

Dimensions-wise, the Stone is small; it will comfortably rest in your palm. Finished in glossy piano black, it looks good, and the rounded edges add in that "cute" factor. Like the Shuffle, the stone is devoid of a screen.

The controls—Play, Pause, Next, Previous, and volume—are placed on a round crested dial (similar to that on the Shuffle) that fits flush with the player's surface. Ergonomically, the dial could have been raised a little, and that's about the only gripe we have.

A little slider on the side allows toggling between repeat modes. The same slider can be used to skip an entire folder. The player hooks up to a computer via



USB and gets detected as a Flash drive. Thankfully, there are no software hassles when transferring files (a pain with the Shuffle). File transfers are quite fast.

The player did commendably well in our

performance tests. The bundled earphones, though low on bass, have a good mid and high frequency response; in fact, it's really good. We also tried the player using our reference Bose earphones, and fidelity was right up there. The volume level isn't particularly high, though. Battery life, at eight hours, is relatively good.

It's quite strange to see that Creative didn't

integrate a voice recorder or FM Radio in the Stone. That said, the Stone should be appropriately priced—read affordable. The one we got was a press sample; pricing will be disclosed in July. Like we said, Creative definitely has the Shuffle in the crosshairs, but we do think the Shuffle has an edge.

Specifications

1 GB; USB 2.0 interface; Repeat All and Shuffle modes; ¼-inch earphone jack; blinking battery indicator LED

Contact: Creative Technologies Ltd
Phone: 9833596972
E-mail: india.getcreative@ctl.creative.com
Web site: <http://in.creative.com>
Price: Approx Rs 3,500

O&O Defrag 10 Professional

Heavy on features, light on resources

Defragmenting your drive is an important part of maintaining your machine, and it's synonymous with Windows' Disk Defragmenter. We take a look at a solution from O&O—Defrag 10 Professional.

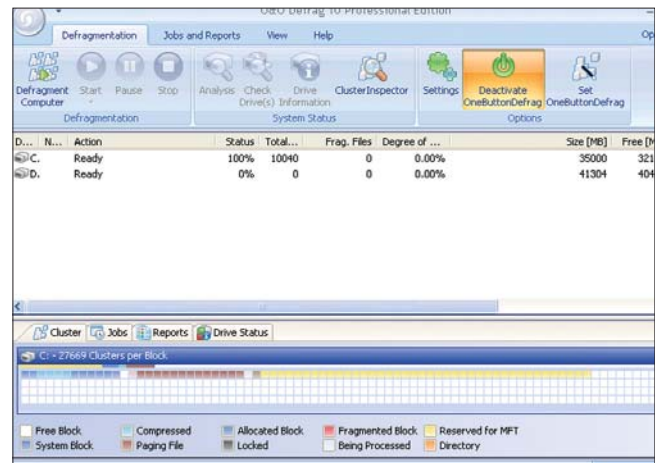
The interface is very clean, colourful, and Office 2007 themed. The icons in the toolbar give an explanation of the features when you move the mouse pointer over them.

Defrag 10 Professional starts by asking you whether you want it to manage your defragging settings—it asks questions like the type of machine and what it's used for: work, gaming, home, etc. It then creates suitable schedules and defrag modes for it. You can always choose to manually defrag your disks. An interesting feature called offline defragmentation defrags your disk before the OS boots up. You can set offline

defragmentation to run at every bootup.

Like most system maintenance utilities, this one too lets you set schedules for defragging. You can set what type of defrag you want for each drive, and even choose to defrag multiple drives at once to save time. Defragging can be stopped when the system is running in battery mode. Detailed reports for the tasks are generated in HTML.

You can choose from one of the five types of defragging. The COMPLETE / Access Method puts often-accessed programs and files at the end of the partition and the least-accessed at the beginning, so future defragging will be far more optimised and will require the least amount of movement. Other modes allow you to defrag by file names, recently modified, or just plain space optimisation.



Defrag 10 Professional is really light on the system, taking only around 15 MB of memory while running. The CPU utilisation depends on the type of defragging you select. The full-fledged defrag mode made the CPU utilisation spike between 5 and 40%. Defrag 10 Pro even

lets you set a limit on the amount of resources.

Documentation is in the Windows Help format, with steps and explanations of the features with screenshots.

This is one very good defragging utility. The Windows defragger doesn't come close to O&O Defrag 10 Professional in features or looks. \$44.95 (Rs 2,000) is quite worth it.

Web site: www.oo-software.com
Price: \$44.95 (Rs 2,000)

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

Mundu IM V4

An all-in-one IM for your mobile device

Mundu IM will fulfil all your instant messaging needs—when you're not in front of a PC, that is. It is an instant messenger that runs on mobile devices and smartphones running Palm and Windows Mobile. Mobile instant messengers might not be used widely in India, and Mundu IM is just one of many all-in-one messengers available. So we decided to try one: we used Mundu on an i-mate SP5m running Windows Mobile 5.

The interface is initially rather plain, but lightens

up with colourful status icons similar to those you'd find on the full-blown versions of the messengers on a Desktop PC. The software supports six protocols—MSN, Yahoo!, Google Talk, AIM, ICQ, and Jabber, which should cover almost all the commonly-used ones. We faced trouble connecting to MSN and Yahoo!. Yahoo! wouldn't show the contact list once connected, but messages freely came through. An online update quickly rectified this issue, but the MSN connection trouble persisted. Further updates will have to be made to fix this.

You get the standard features such as contact adding, removing, and blocking, and groups support. Chatting using a



phone and a tiny keypad can be a pain, so Mundu has a feature called Quicktext, which lets you send text presets such as greetings. You even get a buzz feature like in most Desktop messengers, only here your mobile device vibrates!

E-mail alerts are available as well. We were able to get alerts for Gmail, and even a small preview of the mail, but Yahoo! Mail didn't show up in the e-mail alerts. When you click on the mail preview, it opens up a browser taking you to your mail account.

Like we said earlier, there are many other all-in-

one IMs available, and you're bound to come across some that are costlier, and some that have a time-based subscription. Mundu IM will only require you to shell out a one-time fee of \$11 (Rs 500), which is very good value for money. The only real cost you bear is of your mobile service provider's GPRS charges.

Contact: Geodesic Information Systems Ltd
Phone: 022-28311849 / 28306837
E-mail: enquiry@mundu.com
Web site: <http://messenger.mundu.com>
Price: \$11 (Rs 500)

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

External Portable Hard Drives

WD Passport Portable (Black)

- ⊞ Excellent performance, good value
- ⊞ None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 6,500



Internal DVD-Writers

Lite-On LH-20A1P

- ⊞ Fast, 20x writing to DVD+R and DVD-R
- ⊞ None in particular

Contact Mediatech India Distribution Pvt Ltd

Phone 022-26361111
E-mail digit@mediatechindia.com
Price Rs 2,095



Digital Cameras (High-End)

Sony CyberShot W50

- ⊞ Excellent image quality, vibrant colours
 - ⊞ Trouble focusing in low light
- Contact Macro Photo
Phone 022-22618639
E-mail macro.photo@gmail.com
Price Rs 15,000



Graphics Cards (High-end)

NVIDIA GeForce 8800 GTX

- ⊞ Blistering-fast
 - ⊞ Runs slightly hot
- Contact Rashi Peripherals Pvt Ltd
Phone 022-67090810
E-mail navinderc@rptechindia.com
Price Rs 41,000 + taxes



Internal SATA Hard Drives

WD Caviar SE16 WD3200AAKS

- ⊞ Value for money, good performance
- ⊞ None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 4,500

Internal SATA Hard Drives

WD Caviar SE16 WD5000AAKS

- ⊞ Fast transfer speeds
- ⊞ None in particular

Contact Champion Computers Pvt Ltd

Phone 011-26214751
Web site www.championindia.com
Price Rs 7,500

Linux

SuSE Linux Enterprise Desktop 10.1

- ⊞ Good software bundle
- ⊞ A little resource-heavy

Contact Novell India

Phone 022-28342244
E-mail apanjwani@novell.com
Price Rs 2,650

Graphics Cards (Mid-range)

XFX 8600GTS

- ⊞ Best of the mid-range cards!
- ⊞ Could do with more memory

Contact Rashi Peripherals

Phone 022-67090909
E-mail navinderc@rptechindia.com
Price Rs 16,000



The A-List



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

Wi-Fi Access Points

Linksys WAP54G

- ⊞ Great performance
- ⊞ None in particular

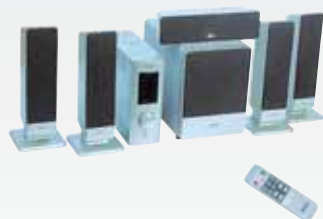
Contact Ingram Micro India Pvt Ltd
Phone 9323112279
E-mail sunil.z@ingrammicro.co.in
Price Rs 3,816

5.1 Speaker Sets

Artis S6600R/FM

- ⊞ Good performance, radio
- ⊞ None in particular

Contact Kunhar Peripherals Pvt Ltd
Phone 022-66345758
E-mail mail@kunhar.com
Price Rs 8,500



MP3 Players up to Rs 4,000

MobiBlu DAH-2100

- ⊞ Good performance
- ⊞ Tiny screen for video

Contact J.J.Mehta & Sons
Phone 022-24306356
E-mail info@jjmehta.com
Price Rs 4,000

MP3 Players up to Rs 10,000

Sandisk Sansa e250

- ⊞ Good performance, feature-rich
- ⊞ Tacky scroll wheel

Contact Rashi Peripherals Pvt Ltd
Phone 022-67090909
E-mail navinderc@rptechindia.com
Price Rs 8,150



Processors

Intel QX6700 Core 2 Extreme

- ⊞ Extreme performance
- ⊞ Expensive

Contact Intel Corporation
Phone 080-25075000
E-mail saranya.rustagi@intel.com
Price Rs 52,000

Projectors

Acer PD726W

- ⊞ Great overall performance
- ⊞ No remote sensor at rear

Contact Acer India Pvt Ltd
Phone 9880544226
E-mail alankar_s@acer.co.in
Price Rs 1,50,000



LCD Monitors (19-inch)

AOC 1975

- ⊞ Good looks and performance
- ⊞ Gloss finish catches smudges

Contact AOC India
Phone 1800-425-4318
E-mail info@in.aocmonitor.com
Price Rs 12,000



LCD Monitors (17-inch)

AOC 177V

- ⊞ Good performance
- ⊞ None in particular

Contact AOC India
Phone 1800 425 4318
E-mail info@in.aocmonitor.com
Price Rs 9,800

AMD AM2 Motherboards ASUS Crosshair AM2

- Great bundle and performance; accessories for the enthusiast
- None in particular

Contact ASUSTeK Computer Inc
Phone 022-40058888
E-mail media_india@asus.com
Price Rs 15,400



Intel High-end Motherboards Foxconn 975X7AB-8EKRS2H

- Inexpensive, good performer
- None in particular

Contact Mediatech India
Distribution Pvt Ltd
Phone 022-26361111
E-mail info@mediatechindia.com
Price Rs 10,750



Home Inkjet MFDs

Canon PIXMA MP160

- Good performance
- No memory card reader

Contact Canon India Pvt Ltd
Phone 1800-345-33-66
E-mail info@canon.co.in
Price Rs 5,999

Office Inkjet MFDs

HP Photosmart C4188 All-in-One

- Good print quality
- No fax

Contact HP India Sales Pvt. Ltd.
Phone 0124-2566111
E-mail kakuni.mahto@hp.com
Price Rs 7,999



PCI TV-Tuners

Leadtek Winfast PVR2000

- Excellent video quality and software
- Expensive

Contact Topnotch Infotronics (India)
Pvt Ltd
Phone 044-42042565
E-mail naqui@zebronics.net
Price Rs 5,500



AMD 939 Motherboards ASUS A8R MVP

- Good performance
- Skimpy bundle

Contact ASUSTeK Computer Inc
Phone 022-40058888
E-mail media_india@asus.com
Price Rs 8,700

Intel Mid-range Motherboards Gigabyte GA-965P-DQ6

- Good build quality and performance
- Expensive

Contact GIGABYTE Technology
India Ltd
Phone 022-26526696
E-mail sales@gigabyte.in
Price Rs 16,000

Mono Laser Printers

HP LaserJet 1020

- Good combination of speed, print quality, and warranty
- A bit slow (relatively)

Contact Hewlett-Packard India
Sales Pvt Ltd
Phone 0124-2566111
E-mail kakuni.mahto@hp.com
Price Rs 6,999

Premium Cell Phones

Sony Ericsson CyberShot K550i

- Excellent camera and UI
- Sub-par reception

Contact Sony Ericsson Mobile
Comm. Int. AB
Phone 022-39011111
E-mail questions.in@support.sonyericsson.com
Price Rs 11,995



Flash Drives

Transcend JetFlash 150 1 GB

- Fast
- Poor package bundle

Contact Mediaman Infotech Pvt
Ltd
Phone 022-23828100
E-mail santosh@mediamangroup.com
Price Rs 1,500

Mice

Logitech MX Revolution

- Flywheel
- Expensive

Contact Logitech Electronic
India Pvt Ltd
Phone 022-26571160
E-mail response@logitech.com
Price Rs 8,000



Basic Camera Phones bleu 651X

- 2 MP camera, webcam
- No Bluetooth

Contact Pratham Telecom
Phone 022-28769381
E-mail avinash@sagemindia.com
Price Rs 8,299

Mono Laser MFDs

Samsung SCX-4521F

- Good performance and quality
- Low input tray capacity

Contact Samsung India
Electronics Pvt Ltd
Phone 011-26431313
E-mail vikram.negi@samsung.com
Price Rs 21,990



PC Webcams

Tech-Com SSD-641-MP

- Good image quality, inexpensive
- No software bundle, poor build quality

Contact Shree Sagarmatha Dist
India Pvt Ltd
Phone 011-26428541
E-mail contact@techcomin-india.com
Price Rs 549

Value Laptops

Compaq Presario v3225AU

- Great looker, good performance
- Sticky touchpad

Contact Hewlett-Packard India
Phone 0124-2838700
E-mail tapoti-t.tipnis@hp.com
Price Rs 32,990

Performance Laptops

HP DV6226tx

- Funky looker, cool features
- Needs better graphics

Contact Hewlett-Packard India
Phone 0124-2838700
E-mail tapoti-t.tipnis@hp.com
Price Rs 56,990



Q&A

Your Questions, Our Answers

Slow burns, no burns and missing help! *Digit* to the rescue again!

Gone For Good?

Q After I installed Vista, my DVD-ROM drive disappeared. I tried several ways to get it to work, but it doesn't. What can I do?

Ankush Shah

A This happens when an incorrect driver was installed for the DVD-ROM. There are two solutions you can try.

Method 1: In the Control Panel, double-click System. Click on Device Manager in the Hardware tab. Click the drive with the question mark next to it. Click Uninstall in the Action menu and click OK when prompted for confirmation. Click "Scan for hardware changes" on the Action menu. Your drive should get automatically detected. If this does not happen, try Method 2.

Method 2: Open the Registry editor and go to the following key:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Class\{4d36e965-e325-11ce-bfc1-08002be10318}

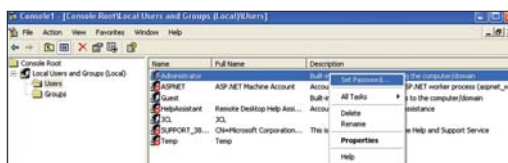
Click Export on the File menu, type "backupkey" in the file name dialog box, and click Save. This will help you revert to the original registry settings for this key, in case you make an error. Now delete the values LowerFilters and UpperFilters in the right-hand pane and restart your PC.

Password Poser

Q I have Windows XP Professional SP2. I need to change the administrator password, but when I log on as Administrator and double-click User Accounts in the Control Panel, the Administrator account does not show up. So how do I change my admin password?

Rasick Patel

A Go to Start > Run, enter "mmc" and hit [Enter]. This will start the Microsoft Management Console. Select File > Add/Remove Snap-in. Now click on Add and select the "Local Users and Groups" snap-in



Change the Administrator password using MMC

from the list, and click Add. Then click on Finish, Close, and OK. Expand Local Users and Groups and select Users. Right-click on Administrator in the right pane and click Set Password. Click Proceed in the dialog box that comes up, and type and confirm the new password. Click OK.

No Option...

Q There is an option "Folder Options" under the Tools menu in Windows Explorer, but it isn't there on my PC. What can I do to bring back the option?

Karmit Singh

A Open the Group Policy Editor by typing in gpedit.msc in the Run dialog box. Navigate to the following location:

User Configuration\Administrative Templates\Windows Components\Windows Explorer

On the right side, set the "Remove the Folder Options menu item" from the Tools menu to "Not Configured", by double-clicking it and setting the appropriate option.

If you are using Windows XP Home, you will not be able to run the Group Policy Editor, and you will need to use the Registry Editor method, as follows.

Open the Registry Editor. Browse to the following key:

HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer

Find the NoFolderOptions key and change the value to 0, assuming you have this key. If you don't, just create it. Restart your computer.

Plug-N-Play

Q I installed a certain program that disabled the CD Autoplay feature. How can I re-enable it?

Rajesh Kumar

A Open the Group Policy Editor by typing in gpedit.msc in the Run dialog box. Go to Computer Configuration > Administrative Templates > System and double on Turn Autoplay off in the right pane. The default is "Not configured". Set it to Disabled. This only works with Windows XP Professional.

If you have XP Home Edition, open the Registry Editor and navigate to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CDRom.

Double-click the DWORD "AutoRun" in the right pane and set its value to 1. Close the Registry Editor and restart your computer.

Poof!

Q I use Yahoo! Mail. I received some important mails, then accidentally deleted them. Can I get them back?

VSujan Rai

A There is no way to retrieve mail that has been deleted from the Yahoo! Mail "Deleted Items" folder. Yahoo! clearly states: "Messages in

Get Help Now!

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

Safe And Sound—And Secure

Q I currently have Windows XP Professional, and I want to reinstall XP. I have many files encrypted in my NTFS partition, and I want to be able to access them after reinstalling Windows. How do I do this?

Sarvesh Tonk

A Many people commit the blunder of encrypting files in an NTFS partition and then installing Windows afresh. There is no way of recovering the encrypted files once this is done. Therefore, making a backup of the encryption certificate is of utmost importance.

In the Run dialog box, enter `mmc` and click OK. This will start the Microsoft Management Console. Select **File > Add/Remove Snap-in**. Now click on **Add** and select the **Certificates snap-in** from the list, and click **Add**. Then

click on **Finish**, **Close**, and **OK**. Go to **Certificates—Current User > Personal > Certificates**. Click the certificate that displays the words **File Recovery under Intended Purposes**. Right-click the certificate, point to **All Tasks**, and then click **Export**. Follow the instructions in the **Certificate Export Wizard** to export the certificate and associated private key to the **Personal Information Exchange** or **.pfx** format. Make sure you **deselect Delete the private key** if the export is successful. You will be asked to password-protect your keys (to verify when importing later on). Save this **.pfx** file to a floppy disk or to some other secure location.

Now, when you format, or if your keys get damaged, all you need to do is double-click on the exported key and follow the Wizard. You should get access to your files.



Illustrations Harsho Mohan Chatteraj

your Trash folder are subject to deletion at any time.” Mail that is deleted can only be retrieved for sure during the session in which it was deleted; it could be lost forever after you log out of the session.

Try and contact Yahoo! Customer Care at <http://help.yahoo.com/help/us/payforcare/payforcare-01.html>. We would like to state that you need to be a paid subscriber to get help from here.

Pirates Burning (In) Hell!

Q I installed Nero 7 on my Windows XP computer and registered it successfully. But after a few days, it suddenly started functioning in trial mode, and when I tried to enter the registration code, it said the code was incorrect. I uninstalled and reinstalled the application, but to no avail.

Shamit Kumar

A This happens when you use a blacklisted key to register Nero. It may work for a few days, and it will stop functioning when Nero finds out that the key is blacklisted. If you haven't purchased this copy of Nero 7, please do so at www.nero.com—it costs \$79.99 (Rs 3,250). If you do own a legitimate copy, please get in touch with Nero support at <http://support.nero.com>.

Frozen Frame

Q I have a Pentium IV 3.0 GHz, 512 MB RAM, 128 MB graphics card (NVIDIA GeForce FX 5200), and Windows XP SP2. When I play games like *Cricket 2005*, *Need for Speed: Most Wanted*, and more, the games freeze after 10 to 15 minutes. Some older games also freeze. Why is this happening?

Pugalenthini Iniabarithi

A It is highly probable that your computer is overheating—either the CPU or the graphics card. Open the cabinet and look to see whether the CPU fan is functional. Check if all the fans in the cabinet as well as those in the power supply are working. If possible, remove the CPU heatsink, clean the contact surfaces of the CPU and heatsink with a clean piece of cloth, apply a thin coat of thermal paste such as Arctic Ice, and replace the heatsink on the CPU. Neatly arrange and tie up all the wires and cables to allow free airflow. If possible, purchase a rounded IDE cable and install it in place of the flat ribbon cable.

Refer to *Going With The Flow* featured in our January 2007 issue for more about cabinet ventilation.

If the problem persists, the fault lies with your graphics card, and there is little that can be done except downloading (from www.nvidia.com) and installing the updated drivers for your card. If that doesn't help, you'll need to get a new one.

Switch Glitch

Q I have an Intel 915G based motherboard running Windows XP. When I try to play *The Sims 2*, I get the following error.

“The ialmrt5 display driver has stopped working normally. Save your work and reboot the system to restore full display functionality. The next time you reboot the machine a dialog will be displayed giving you a chance to upload data about this failure to Microsoft.”

Manav Gowda

A Download and install the latest Intel graphics drivers for your onboard graphics from www.intel.com. If the problem persists, do the following. Right-click on the *The Sims 2* shortcut



Compress Videos And Add Audio Tracks

Add commentary to your videos, and compress them effectively

Rossi Fernandes

The vacations have come to have an end, and there's a large pile of videos from your camera and camcorder lying around, clogging up your drive. Almost no digital cameras—and only some camcorders—use compression for videos. Compressing these large videos using the right formats and codecs can help bring down the size without having to sacrifice on quality, which we'll show you how to do. We will also show you how you can have multiple audio streams in a video.

One of the easiest ways to encode videos is to use MediaCoder (<http://mediacoder.sourceforge.net/>). You will also be required to install Firefox (<http://www.getfirefox.com/>), since MediaCoder uses Firefox in certain windows and interfaces. We've chosen MediaCoder for many reasons: it doesn't require you to manually download the codecs and tools required. It lets you queue up multiple files or complete folders in a couple of clicks. You won't need to use command line programs and parameters. And finally, it's free!

1 Adding Videos

You start by adding the videos you want to encode. With the program open, click **Add File** or **Add Dir** on the toolbar. Choose the files or the folder and click **Open** or **OK**. Do not attempt to encode already-compressed videos—you'll end up with larger files and extremely high encode times.

2 Video Encoding Parameters

For encoding the video, you need to decide upon the codec and format. The codec is the software that will encode the video. The format is like a container that will store the data. AVI is one of the more commonly-used containers; XviD and DivX are codecs.

In our case, we'll use the MP4 container and the x264 codec. (x264 is

an open source implementation of H.264). x264 has an edge in quality over XviD, which is more commonly used. The disadvantage with using x264 is the encoding time, which can be quite a bit more than with other codecs.

After adding the videos to the queue, click on the **Video** tab. Choose the Backend as MEncoder. Set the Source as Default. Then choose the codec as H.264 and the format as MP4. Set a suitable bitrate or quality setting. For most digi-cam videos, 800 Kbps is good enough for the standard 640 x 480 resolution.

We've chosen MP4 because of features like multiple audio streams. You're free to choose other containers, but certain containers and codecs may not be compatible with each other. Play around a bit to see what works.

3 Audio Encoding Parameters

Click the **Audio** tab. Set the source as MPlayer, and the encoder as LAME MP3. LAME is a free encoder that comes with MediaCoder, and MP3 is flexible enough to support a wide range of quality settings—also, it's compatible with most media players. In the panel on the right, click on the LAME tab to set the quality for the audio. Choose the rate as CBR (Constant Bitrate) if the source audio bitrates are low. VBR makes more sense when you have higher bitrates. The bitrate should suit that of your video. A minute of audio at a CBR of 320 Kbps will take around 2.5 MB, whereas 128 Kbps (which

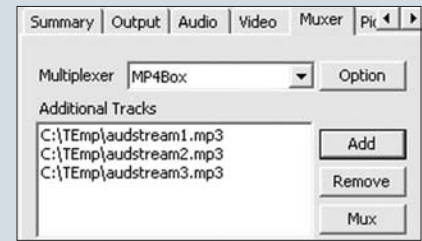


Setting up the audio encoder parameters

isn't too much of a quality drop compared to 320) will take around 1 MB. Also, remember that if the audio was recorded by your camera at 64 kbps, it isn't going to make it sound any better if it's encoded at 128 kbps.

4 Adding Multiple Audio Streams

To add multiple audio streams—for example, to add a commentary—click on the **Muxer** tab in the left panel, choose the multiplexer as MP4Box, click **Add**, and point to the



Adding multiple audio tracks using Muxer

audio files you want to add. Then click **Mux**, and choose a temporary location for the multiplexed file to be dumped to.

5 Encoding

Click on the **Output** tab and set the **Output Folder**. Finally, click **Start**. The time taken for encoding is mainly dependant on your system configuration, the quality and size of the video, and on the codec you've chosen.



Encoding in progress

You'd probably want to send your encoded video to friends. For formats such as MP4 and codecs like H.264, the viewer would need to install ffdshow (<http://ffdshow-tryout.sourceforge.net/>), or use a player such as VideoLAN (<http://www.videolan.org/>).



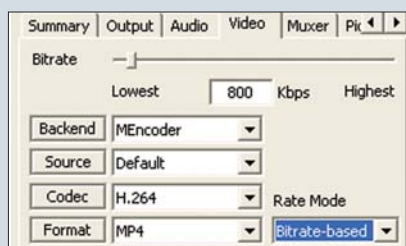
GSpot gives information on formats and codecs.

An interesting and useful application is

Gspot (www.headbands.com/gspot/). It gives you information on pretty much every format and the codecs being used, along with information such as the number of streams and their bitrates.

You can even encode videos to compact Flash files with MediaCoder and the steps we've just shown you. ☐

rossi_fernandes@thinkdigit.com



Configuring settings for the video encoder

on your desktop and select Properties. Add a space and a “-w” at the end of the target field so that it looks something like this:

“C:\Program Files\EA GAMES\The Sims 2\TSBin\Sims2.exe” -w

The path may, of course, vary depending on where you installed the game. Click OK and try and run the game.

Connection Negation

Q I have a 3 GHz Pentium 4 with 1 GB of RAM on Windows XP SP2. I want to connect to the Internet using my Soft V92 Data Fax Modem. When I try to do so, I find that the “Connect using a dialup connection” and the “Connect using a broadband connection” options are disabled.

Mohit Budhrani

A There are a number of reasons for this to happen. First, make sure that the Remote Access Connection Manager service is Started, and that its Startup Type is set to Manual. On XP, you can check this by going to Control Panel > Administrative Tools > Services. If this doesn’t seem to work, one the following methods will do the trick.

Method 1

Open the Registry Editor. Locate and click the following key:

HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Telephony\Cards

Delete **NextID** in the right pane. Exit the Registry Editor and restart the computer. Start the New Connection Wizard, and then create a new dial-up modem or PPPoE connection. If the issue is not resolved, try this:

Method 2

Open the Registry Editor. Locate and click the following key:

HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Telephony

Delete the key. Exit the Registry Editor. Perform an in-place upgrade of Windows XP, that is, a repair installation of Windows XP as follows. Boot using your Windows XP CD. When the system prompts you to press [R] to run the recovery console to repair Windows, do not do so. Choose to install a new version of Windows instead. The setup program will then proceed and detect the old copy of Windows. Now it will tell you to press [R] to repair it or [Esc] to install a new version. Press [R]; setup will then proceed to re-install Windows over the old version while retaining all programs, settings and data files. If this does not solve your problem, proceed to Method 3.

Method 3

Open the Control Panel and under Phone and Modem Options, set the area code and other desired settings. If the My Location item has not been created, the New Connection Wizard to create it should automatically appear. You can use this Wizard to enter the area code and other settings. When you’re finished with the Wizard, restart the computer. The Connect using a dial-up modem option should now be available to you.

Virus Hell

Q I installed Norton Antivirus 2005 and it detected the virus Infostealer.Banker.D, but is not able to remove it.

Vidya Charan



A Follow these steps to remove the virus. First disable System Restore. To do this, open System from the Control Panel, click on the System Restore tab, and check the box next to “Disable System Restore on all drives”.

Update the virus definitions and the anti-virus itself, then run a full and thorough system scan.

Delete the values created by the virus in the Registry: in the Registry Editor, delete these keys:

```
HKEY_LOCAL_MACHINE\Software\Helper\“D
Name” = “[ENCRYPTED STRING1]”
HKEY_LOCAL_MACHINE\Software\Helper\“D
om” = “[HEX VALUES]”
HKEY_LOCAL_MACHINE\Software\Helper\“G
UID” = “[ENCRYPTED STRING2]”
HKEY_LOCAL_MACHINE\Software\Classes\C
LISD\“[TROJAN_BHO CLSID]”
HKEY_LOCAL_MACHINE\Software\Microsoft
\Windows\CurrentVersion\Explorer\Brow
ser Helper Objects\[TROJAN_BHO CLSID]
Exit the Registry Editor. If for some reason
you are not able to open the Registry Editor,
download and run the tool developed to remove
these keys from :
http://securityresponse.symantec.com/
avcenter/venc/data/tool.to.reset.shell
lopencommand.registry.keys.html or
http://tinyurl.com/yrotz.
```

Explorer Error

Q I use Windows XP Pro with SP2, and I recently installed Internet Explorer 7 Beta. It was working fine, but last week I found that IE wasn’t opening. An error message is showing up, stating this:

“iexplorer.exe—Entry Point Not Found : The procedure entry point InternetGetSecurityInfoByURLW could not be located in the dynamic link library WININET.dll”.

Chandan Munshi

A To fix the problem, do the following:
a Uncompress the IE7 installer file to a directory like C:\IE7Inst

- ☐ Restart your computer and use any live OS CD such as WinPE or Ubuntu Live to boot your computer.
- ☐ Copy wininet.dll and urlmon.dll from the IE7Inst directory to %windir%\System32\
- ☐ Reboot your computer. ☑

Do It Yourself (And Don'ts, Too)

Prakash Ballakoor

Forget registration forms. Open padlocks. And in nine seconds, get someone to stay at your site. Cryptic? Read on!

www.bugmenot.com

You know how frustrating it is when you come across sites that require you to register even to browse through them. And what about downloading stuff? Sure, many sites don't require you to register, but think of sites like Adobe.com. There you are, intending to download the Adobe CS3 trial from Adobe's Web site. Go ahead, register! Spend five boring minutes! And all for nothing in return, and we're not even talking about un-checking all the newsletter subscription boxes.

Worse are sites that show up on Google and you find you need to subscribe. Say you want to read through the Times Of India e-newspaper, and there's again a daunting registration process. Then there are some questionable sites where you just don't want to give away personal information. Or even make up stuff... because your imagination just isn't working as you're waiting to see the page! You're probably now just as frustrated with this rant...

Bugmenot.com offers respite. Just type in a Web site address in the text box at Bugmenot.com, and you'll see a list of usernames and passwords, along with the success rates for each of them. You can actually use these and login to the site you want to go to, and voila—no need to register!

Bugmenot has accounts for about 1,50,000 sites. You too can do your bit for bugmenot.com by registering using a non-personalised username and password and added it to the site for someone else to use. Bugmenot also provides instant, disposable e-mail addresses when one requires an instant address to receive at least one mail from a site (read registration responses). This keeps spammers at bay. E-mails gotten from Bugmenot stay for 24 hours. Just think of a name and address and send it to Bugmenot. For example, dontbugme@bugmenot.com.

To access this account, you just type in the address you gave, and click "Read e-mail" at <http://email.bugmenot.com>! Incredibly useful, no?

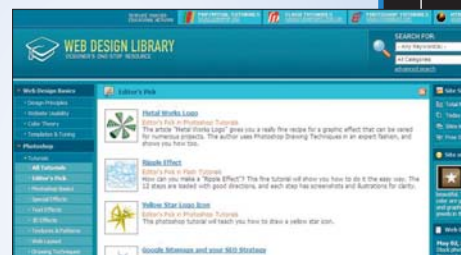


Bugmenot takes the headache out of online forms

www.webdesign.org

A Web presence is necessary for many businesses. It's like an identity. But identity is just not enough to get noticed; one's Web site needs to be designed well to stand out from millions, as you know very well. The attention span of a casual surfer is nine seconds (according to BBC News, the Science / Technology division), within which one decides if the site is worth spending time on. We've done a *Fast Track* to Web design in our July 2006 issue; this site gives you more resources.

Webdesign.org teaches you all the theoretical and practical aspects of an effective and attractive Web presence. This site covers Web Design basics such as design principles, colour theory, templates, and tuning, which are essential knowl-



Webdesign.org—handy advice for your site

edge for any Web designer. There's a tutorial section on Adobe Photoshop, and a section on vector graphics covers tutorials on CoreDraw and Adobe Illustrator.

Animation adds dynamism to a site. A section on Flash and Swish teach one how to get started on animation. The site also carries tutorials on 3D graphics, HTML and CSS, and Web programming—PHP, ASP, and JavaScript. The tutorials don't stop at this: site maintenance topics like Web promotion, domain registration, and hosting services are also taken care of. Then there are the little things like showcasing Web design, and a site of the day and month. Well worth a visit or two—or three or four or more!

www.instructables.com

DIY allows you to use your creative abilities (along with available tools, of course) to give vent to your creative desires. Step-by-step instructions makes any complex DIY a piece of cake... but you don't want it to be a piece of cake every time you take up a DIY. Ideally, one just needs a helping hand; comments and criticism can go a long way in making a DIY project more enjoyable.

That's what instructables.com is all about—it provides a platform where people can share what they're doing, how they're doing it, and learn from and collaborate with others. The site has some of the coolest projects—from a night-vision webcam to a rechargeable LED flashlight powered by magnets, how to open any padlock, and more. (We're sure that padlock bit has already gotten you interested.)



Find the craziest of projects at Instructables

Projects are aided by photos and videos, with less of an emphasis on text. Registering at the site allows you to upload your own DIY and collaborate with other projects if you can contribute. The layout, as is the case with every site we feature in this space, is easy to grasp. Comments on the pages allow one to visualise how others reacted to the project—whether it was good or a waste of time or whether there was a better method to achieve the same results.

Overall, one wonderful site for those who like to do things themselves—but please don't go about opening padlocks. Don't even think about it. ☒

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Tips & Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

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OUTLOOK 2007



Illustrations Harsho Mohan Chatteraj

Mail clients have become rendered much less useful with all the new online mail services, and Microsoft's Outlook seems like the only one being updated at every MS Office release. It's much more than just a mail client, as you probably know. In the past, we've given you some tips on the other applications in Office 2007. Let's now take a look at mail-related as well as some not-so-obvious features of Outlook 2007.



Automatic Formatting For Calendar

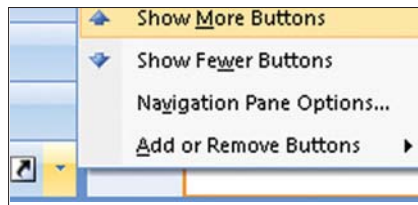
The Calendar in Outlook allows you to set colours to tasks according to keywords you enter, which can make grouping and

marking of tasks easy. This feature is called Auto Format. We need to use the Day/Week/Month view to see this feature in action. Select View > Current View > Day/Week/Month or Day/Week/Month with AutoPreview. Then right-click on any empty field and click Automatic Formatting. Click Add to add rules, and enter a name for the rule. Click on the Condition button, and enter any keywords that you want to find in the tasks. Click OK and choose a colour for that keyword. Press OK again, and the tasks with the keywords you've chosen will get highlighted with the colour.



Showing All The Navigation Pane Buttons

The navigation pane at the left is the easiest way to access the various components of Outlook 2007. By default, the number of items is limited to only the two or three prominent features. To show all the features buttons, click on the drop-down icon in the Navigation Pane at the left. Click on Show more buttons, and an item will



Enable all of Outlook's features in the navigation pane

appear on the Navigation Pane. Follow the steps over and over till all the items you need are added.



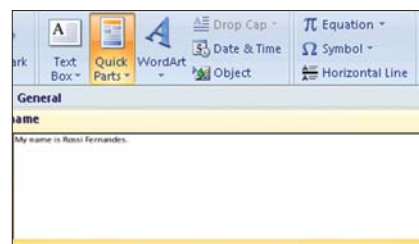
Additional Views And Features

Some of the more advanced views don't have icons on the toolbars: part of Microsoft's goal is to simplify the interface of their applications. For example, to choose the different views of the features—Calendar, Notes, Tasks, etc.—you need to select View > Current View and choose the view of your choice. The easier way to access these views is to enable the Advanced toolbar. Right-click anywhere on the toolbar and click Advanced. With the Advanced toolbar in place, you can easily access the other views using the drop-down menu.



Avoid Repeating Text

You probably have our own little ways of saying Hello or Goodbye, or maybe a casual signature, which you follow when you compose mails. Knowing that you use that same set of sentences over and over again, Outlook 2007 has a feature called Quick Parts, which lets you save such sentences so you can use them later. While writing a mail, highlight the text you want to save. Click the Insert tab on the Ribbon. Click on Quick Parts and click "Save selection to Quick Parts gallery". To access any of the selections you saved, click on the Quick Parts button again and choose a selection.



Quick Parts lets you add commonly used sentences to mails



Setting Up Multiple Signatures

Sometimes you require to use different signatures for different purposes. Outlook allows you to create and switch between signatures with a couple of clicks. Click on the Insert tab on the Ribbon, and click on the Signature button. Here, click on the signature of your choice. If you have no signatures created, click on Signatures... Click the New button to create a new one. Give a name to the signature and then enter the signature details, and use the formatting tools made available. Once done, click Save, and click New again to create more signatures. Click OK to save them and return to the mail composing window.



Translating Selections

Microsoft Office has resources like encyclopaedias that let you quickly

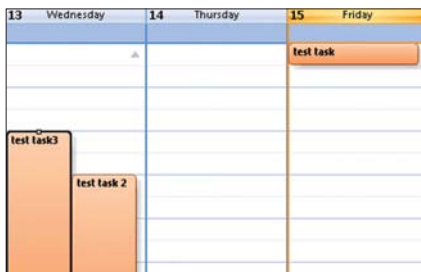
access large amounts of information. One such resource is the language translator. Outlook 2007, like other Office 2007 applications, allows you to translate text in mails to another language without you having to visit language translation sites. Highlight the text in the mail you want to translate, right-click, and select **Translate > Translate**. In the pane that opens, you can change the language you want to translate to.

Allot Tasks To A Day

Certain appointments or tasks sometimes have to be delayed. You don't have to re-enter the task to make the change. Simply drag the task from the **Tasks** window to the date in the **Calendar** in the **To-Do** pane at the right. Make any other changes required to the task in the window that pops up, and click **Save**, then **Close**.

Changing The Time Period For Tasks

When you create new tasks using the text field in the **Task** window, the task is set for a default time and date. To extend the task period from the default amount of time, you can always double-click the task and make all the necessary changes there.

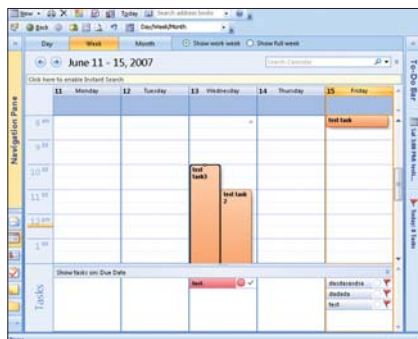


Easy altering of time periods for tasks

An easier and interactive alternative is available. First switch to the **Day/Week/Month** view from **View > Current View**. Here, you will see tasks as highlighted blocks. Click the outer edges of the blocks and drag it till the time you want the task or appointment to be set.

Hide Panels

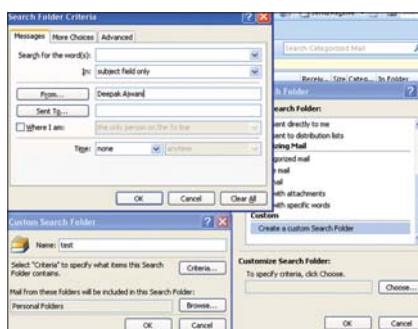
Outlook has traditionally been short of working space due to all the features. Outlook 2007 combats that by allowing you to quickly hide panels that are not required. The **To-Do** bar and the **Navigation** panel, which take most of the space, can slide away to a minimal bar with just icons when you click the **Minimize** arrow icon on each pane. All the features can still be accessed by clicking the little icons in the pane. Clicking the headings for the panes now only brings the panels out temporarily; they automatically go back when you click on something else.



Hide panels to maximise your work area

Creating A Search Folder

Outlook has a feature called **Search Folder**, which filters mails according to the criteria you set. You no longer have to manually search for a



Creating search folders allows real-time filtering of mail

certain set of mails; instead, just access the **Search Folder** by clicking on it in the **Navigation** pane. To create a **Search Folder**, right-click on the **Search Folders** icon in the left pane. Click **New Search Folder**. Scroll down and select the **Create a custom Search Folder** option, and click **Choose**. Start by giving a name to the **Search Folder**. Click on the **Criteria** button to add keywords. Enter the necessary details and click **OK**. Click **OK** twice and the new **Search Folder** will be created.

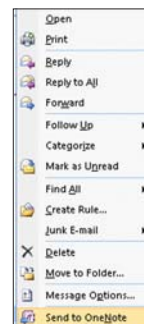
Import And Export News Feeds

Outlook 2007 comes with an inbuilt **RSS** reader, which allows you to keep track of changes made on sites without your having to visit them. Click on the **RSS Feeds** folder in the left pane. A Web page will load with some recommended feeds. You can click on the links to add any of these feeds to Outlook. To add your own feeds, right-click on the **RSS Feeds** folder, and click **Add a New RSS feed**. Enter the URL for the feed and click **Add**. If you've been using other **RSS** feed readers and want to get those feeds into Outlook, first export the feed list to the **OPML** format using your usual **RSS** feed reader. In Outlook, right-click on the **RSS Feeds** folder and click **Import an OPML file**.

Click **Choose** and point to the **OPML** file. Click **Next**, and choose the feeds you wish to import into Outlook. Click **Next** again and then **Finish** to finish the import process.

Sending Mails To MS OneNote

Certain mails contain some information you'd like to note down for later use. Microsoft **OneNote**—an application that comes with some editions of Office 2007—is meant to do just that, take down notes. To send a mail to **OneNote**, right-click on a mail in Outlook and click **Send to OneNote**. **OneNote** will automatically open with the mail in it as a new Note.



Take down rough notes of important mail

Creating And Attaching Business Cards

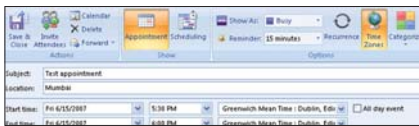
Business cards in Outlook 2007 are like real business cards. They contain designations and other details regarding one's work profile. Outlook 2007 lets you create and attach business cards to your mails. Business cards can be created in the **Contacts** section of Outlook. Business cards are typically created for contacts you've added to your contact list.

To add new contacts and set business cards for them, click on **Contacts** in Outlook, right-click in the main area, and click on **New contact** to make a new contact. You can also double-click on existing contacts to make any changes to the details of those individuals. Click on the **Business Card** button in the **Ribbon** and you can make changes to the format of the card and the contact details it holds. Click **OK** and then **Save** and **Close** from the **Ribbon** to save the changes. Then, while writing a mail, click on the **Insert** tab. Click on the **Business Card** icon and the business card you wish to attach to the mail.

Time Zones

Planning appointment times becomes a little confusing when you're handling contacts outside India, in a different time zone. When you have an appointment at 5 PM Hong Kong local time, you need to find the time difference and then calculate the time here. The **Time Zone** feature in Outlook does this for you.

Start a new appointment by going to **File > New > Appointment**. Click on the **Time zones** button in the **Ribbon** on top. A new field for location will appear next to the start and end time for the appointment. Use the drop-down



Make Outlook handle time difference calculations for you

and set the location. Click **Save** and **Close**. In the **To-Do** pane on the right, the appointment will be visible in your local time.



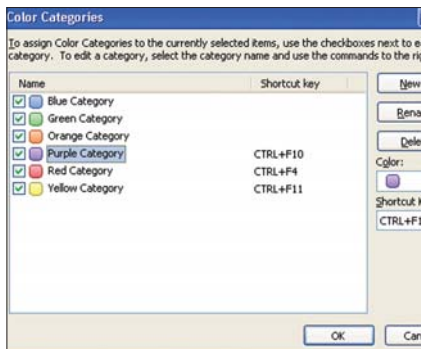
Force Spell Check

Outlook can force-check your mails for spelling before they are sent out. Go to **Tools > Options**. Click on the **Spelling** tab, and check the box for **Always check spelling before sending**. Now when you write a mail and press **Send**, Outlook will run a spell check and prompt you to fix any errors before sending out the mail.



Setting Colour Categories

Creating colour categories is an easy way to filter out mail and mark mails for reference. To set a colour category, click in the blank checkbox



Setting color categories helps marking and sorting mails effortlessly

next to a mail under the **Category** column. A default colour will be set to the mail. To change this colour, right-click on a mail, click **Categorize** and choose a colour. Quick Click lets you quickly set colours to multiple mails after the other. The feature can be found by right-clicking in the mail window and then on **Categorize**. Select a colour and left-click on all the mails you want to set the colour to.

You can also set shortcuts to colours, which makes setting colours even easier. Right-click on a mail and choose **Categorize > All Categories**. Select the colours you'd like to use. Click on each of the colours, and choose a shortcut for each colour from the drop-down menu on the right. Now you can simply select one or more mails and use the shortcut you've chosen for the colour to assign the colour category to the selection.

TORRENT CLIENTS



µTorrent

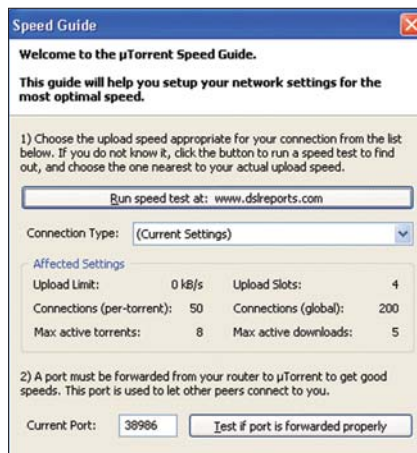
µTorrent (written as uTorrent because the special character isn't the easiest to type) has made a name for itself as being one of the best torrent clients for Windows. Its size is under 200 KB, and it is filled with features to compete with programs some 20 to 30 times its size! We look at some features, tips, and tweaks to get the most of your bandwidth and make life easier.



Optimum Bandwidth Settings

Most people tend to ignore their bandwidth settings and keep the allotted download rates high and extremely low upload rates. BitTorrent, like most other P2P applications, require you to set a good upload rate to get proportionate download speeds.

The **Speed Guide** in µTorrent is an easy way to set a right upload and download speed, and other parameters. Press **[Ctrl] + [G]** or go to **Options > Speed Guide**. Choose your



Using the right bandwidth settings can speed up downloads

connection speed, or the closest connection speed, from the **Connection Type** drop-down. Click **Use Selected Settings**. The maximum number of connections and other settings will be automatically applied.



Setting Up Ports

One of the main issues most people face is with open ports. With BitTorrent, it's even more essential as you won't get sufficient download rates if people can't access your machine and receive data from you.

Some ISPs and routers block ports. If you use a router, set it up to forward the ports that you plan on using in µTorrent. The **Speed Guide** is useful in checking if the ports are open or not. Go to **Options > Speed Guide**. Enter a port under **Current Port** and press the **Test if port is forwarded properly** button. A Web page will open, telling you if the port is open or not. If the port is blocked, try using a different port and check again. Some ISPs only have a certain number of open ports, such as port 80, which is used by the HTTP protocol.



Encrypting Network Data

Some ISPs try to limit bandwidth to P2P applications like BitTorrent. Some of the clients—like µTorrent—have **Protocol Encryption**, which makes detection and limiting by ISPs harder.

You can enable protocol encryption by going to **Options > Preferences > BitTorrent**. Here, choose **Enabled** or **Forced** from the **Outgoing Protocol Encryption** drop-down.



Removing The Connection Limit For XP

Note: This tip involves modifying and replacing a system file. Proceed at your own risk, and back up TCP/IP.SYS if needed. If you're using Windows XP SP2, your "maximum half-open connection limit" is most likely set to 10, as part of an attempt to limit security issues. There are patches that have been made that remove this limitation, so many more connections can be made which can give you a boost in speed. One such patcher is **Event ID 4226 Patcher**, which can be found here: www.lvllord.de/?lang=en&url=downloads.



Using The Web Interface

µTorrent has a feature called **Web UI**, which allows you to control µTorrent remotely and locally through a browser. This is useful when you aren't at home and you still want control over downloads. The Web UI allows you to do pretty much everything you can with the program itself.



Rossi Fernandes

Desktop Overhauling With Blackbox

Go ahead, have some fun. Change Windows' look and feel!

Windows Vista may rule when it comes to modern interfaces, but there are some who think Linux still has an edge over Windows in the looks department. Now, window managers are software that change the look and feel of your operating system. Wouldn't it be nice to have the functionality of Windows we're so used to, coupled with the clean look that most Linux window managers provide?

Blackbox is a minimalist and highly customisable window manager. It has been developed on a wide range of *nix-based operating systems. There are variants like Fluxbox for Linux that have branched from Blackbox. The well-known ones for Windows are bbLean, Xoblite, BB4Win, and Bluebox. The functioning and theme support for these variants are pretty much the same.

We used bbLean for this demonstration where we show you how to get up to speed with Blackbox quickly, but the steps should be the same for any of the variants that you might use.

Setting Blackbox As The Default Window Manager

Download any of the Blackbox variants (bbLean: <http://bb4win.sourceforge.net/bblean/>). Installing is done by simply unzipping the archive to a folder. To make Blackbox the default window manager, in a Run window, enter the location of the Blackbox executable followed by the `-install` parameter, for example, `C:\Blackbox\Blackbox.exe -install`. A confirmation window will pop up, followed by a prompt asking whether you want all the users of the OS to use Blackbox. Click No if you only want your account to be set to use Blackbox. Reboot your computer for the changes to take effect. When you reboot and log in, Blackbox will load up instead of Windows' Explorer.

At any point, if you wish to remove Blackbox as your default window manager, follow the same step, using `-uninstall` as the parameter. You can also right-click on the Desktop and select Blackbox > Install > Uninstall.

Installing Styles

Themes—or styles—in any software enhance the way it looks; Blackbox has good style support. Adding styles to your Blackbox installation is simple. It

involves copying of a few files here and there. You normally get a set of themes with any Blackbox flavour, and you can easily find many more themes on the Internet at Blackbox community sites such as Boxshots (www.boxshots.org), Deviantart (www.deviantart.com), and Lostinthebox (www.lostinthebox.com). Blackbox themes are extremely compact when it comes to download size. Two thousand themes can be compressed to within 2MB! You can find one such theme pack at Boxshots. Download the themes and unzip the archives if any. Copy the files into your Blackbox\Styles folder. Now right-click on the Desktop, click on Styles, and then on the Style of your choice. It will be applied immediately.

Customising Menus

Once installed, Blackbox automatically creates shortcuts to commonly-used folders such as Programs, Quick Launch, drives, Control Panel, and so on. To create any new shortcuts in the menu, edit the `menu.rc` file in the Blackbox folder using Notepad (or any other text editor).

- ❑ To create shortcuts to programs, add new entries using the `[exec]` keyword. For example, `[exec] (Notepad) {c:\windows\notepad.exe}` (without the quotes) will create a shortcut with the name "Notepad" pointing to `notepad.exe` in the Windows folder.
- ❑ Using the `[path]` keyword will let you browse a path through the Blackbox menu itself. For example, `[path] (Games) {c:\Games}`.
- ❑ Using the `[submenu]` keyword adds a submenu to the Blackbox menu. For example, `[submenu] (Applications)` adds a submenu called Applications. All further entries that you add to the file will fall under the submenu you just created. Adding the `[end]` keyword ends the submenu.

Installing And Configuring Add-ons

Similar to adding skins, Blackbox has add-ons developed by the community that adds new features to the software. To add plugins to Blackbox, unzip the plugin to the Blackbox\plugins folder. Now to make the plugin load every time Blackbox loads, open the `plugins.rc` file in the Blackbox folder using a text editor. Here, add a new entry for the plugin in this format: `plugins\plug-`

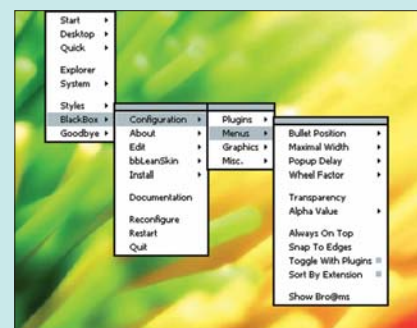
`inname\plugin.dllfilename.dll`

An example would be `plugins\bbRun\bbRun.dll`. Restart Blackbox by right-clicking on the Desktop and clicking Restart under the Blackbox submenu.

Settings For Blackbox

Not all the settings need to be changed using a text editor. Some of the more basic settings can be accessed by right-clicking on the Desktop and then selecting Blackbox > Configuration. Here, you can change the options relating to menus and looks. Then right-click on the Desktop, then on Blackbox, and select Restart to restart Blackbox so the options are applied.

You can also alter Blackbox settings by making changes in the `extensions.rc` file in the Blackbox folder using a text editor like Notepad. Settings for any plugins that you may install can be modified by editing the `.rc` files in their respective folders. In fact, the themes in Blackbox, too, are text files that can be modified to change the

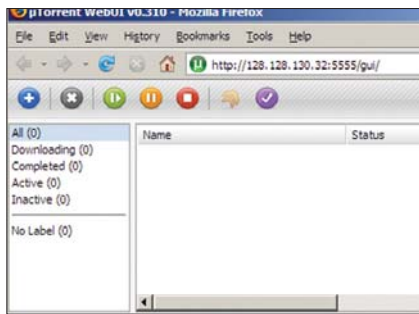


Quick access to settings in Blackbox

look of the theme.

Many a time, colours need to be altered within Windows so they better suit the themes in use. You can do this by right-clicking on the Desktop and clicking Properties. Click the Appearance tab and then on the Advanced button. Here you can change colour properties of some items. If you want more control over the colours of the items than Windows provides, you can use a program called Jasmin Color Changer (<http://jote.pai.net.pl/jn/3dcc/>).

Blackbox is great fun if you want to customise Windows' looks. Blackbox also adds functionality such as virtual Desktops, detachable menus, foldable windows, and more—without sacrificing system resources. Have lots of fun hours tweaking Blackbox! ☑



Easy control over µTorrent through your browser

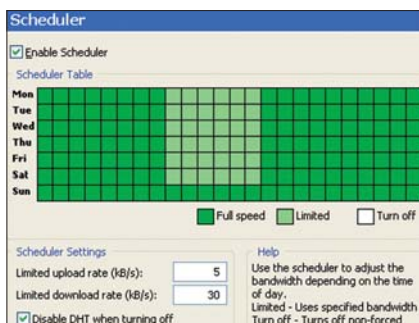
To enable the WebUI, go to Options > Preferences > Advanced > Web UI. Click Enable Web Interface. Enter a username and password. You can download the Web interface itself from <http://forum.utorrent.com/viewtopic.php?id=14565>. Download and uncompress the RAR file, and copy the ZIP file and the sortable folder from it to the Documents and Settings\ [your username]\Application Data\ µTorrent folder.

If you can't see the path, you probably need to enable showing of hidden files and folders.

Internet Explorer isn't said to work for this, so to access the Web interface, use Opera or Firefox. Open the URL http://MACHINE_NAME_OR_IP:PORT/gui. For example: <http://127.0.0.1:5555/gui>. Remember, you need to use the same port as the one you chose for µTorrent.

Settings Download Speed Schedules

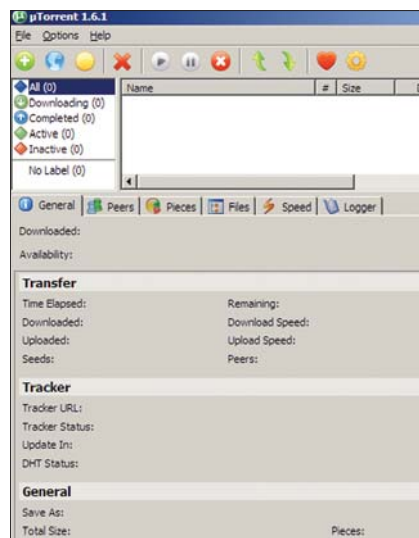
µTorrent has a scheduler that allows you to turn downloads on and off, as well as speed limits during certain periods of time. Go to Options > Preferences > Scheduler. Click Enable Scheduler. Set the upload and download rate for when the schedule is to be enabled. The blocks in the scheduler view are hours of every day of the week. Clicking on a block once makes it light green and enables the speed limits for that hour. Clicking it again makes the block white, which means downloads will be turned off for this hour. Clicking it yet again will turn it to dark green, and the uncapped speed will be restored.



Setting download speed schedules in µTorrent

Applying Skins

Like many other apps we use today, µTorrent lets you change themes and skins. In the µTorrent preferences, however, you will not find the option. You can find a good collection of skins at www.utorrent.com/skins.php. Download and copy the toolbar.bmp to Documents and Settings\ [your username]\Application Data\ uTorrent. Restart µTorrent, and you will find the new, skinned toolbar in place. To revert to the default themed toolbar, delete the toolbar.bmp file. Follow the exact same steps to set skins for the status and tab icons.



The µTorrent UI supports skins—not in the traditional sense, though. You can only change the icons on the toolbar

Creating New Torrents And Adding Them To Trackers

Torrent clients aren't meant for only downloading torrents; they also allow you to create your own and upload them to trackers. (More on this in just a bit.) Select File > Create New Torrent. Choose Add File or Add directory to add a file or folder. Enter the address of the tracker that you want to upload to and a comment if necessary. Click the Create and Save As buttons to save and upload the torrent. Give a name to the torrent file you just created and click Save. You can then pass on this torrent to friends for them to download.

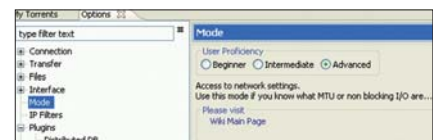
You need a public torrent tracker to upload your torrents to. There are quite a few legal torrent trackers, and some communities related to a particular topic—a game mod or Linux distro, for example. The address for the tracker can be found at the respective sites. Note that it's the same with creating and uploading torrents with Azureus.

Azureus

Many would say the next-best client after µTorrent is Azureus. Some would say Azureus is too much of a resource hog which could be mainly because it runs on Java. Azureus' ability to use plugins to improve functionality is its biggest plus point. In this section we dig through Azureus 3.x to find the better features from the lot and ways to try and reduce the amount of resources used.

Advanced Mode

Azureus initially asks you to choose what mode you wish to run—Beginner, Intermediate, or Advanced, and some other network settings. Most of the options and features are locked away until you switch to Advanced mode. Some of the tweaks and tips require you to use



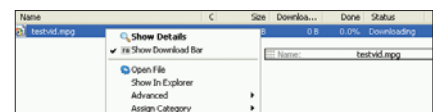
Advanced mode allows access to hidden options

modify some of these options. To enable it, click on the Advanced button in the toolbar. Select Tools > Configuration Wizard. Click on English, then Next. Choose Advanced, and complete the remaining steps related to network settings. You can also just change the mode of the program by selecting Tools > Options. Click on Mode, and you can click the Advanced mode radio button. Click Save, and restart Azureus.

Enabling Download Bars

It can be painful to keep opening Azureus from the system tray to check the download status. Azureus allows you to have a bar for each download that sits on top of other applications.

To enable the download bar for a download, switch to Advanced mode.



The Download Bar keeps you updated on download status

Right-click on a download and click Show download bar. You can then move the download bar to the location of your choice. You'll notice it automatically snaps to the edges of the desktop.

Ports And Connection Speed Settings

Earlier, we've explained why ports and connection rate settings are important. The port settings in Azureus can be accessed by selecting Tools > Options in Advanced mode, and then clicking

Connection in the side menu. The upload and download speed options are visible in the Transfer menu.

Enabling Transport Encryption

We've talked of transport encryption earlier. Azureus, too, gives you the option of encrypting data. In Advanced mode, select Tools > Options. You will find Transport Encryption under Connection. Check the box "Require encrypted transport". Also check the boxes to enable non-encrypted incoming and outgoing connections.

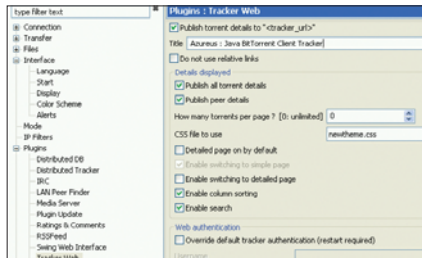
Disabling Plugins

Azureus may use plugins to add new features to the program, but these plugins also burden the system. You can disable most of the plugins you don't use.

Click on Advanced to the right end of the toolbar. Select Tools > Options. Click on Plugins and uncheck the plugins you don't use. Note that some of the plugins may be shared with other plugins or Azureus itself, so avoid disabling those. (In the Type column, you can see if a plugin is shared.) Click Save and restart Azureus.

Enabling The Torrent Tracker's Web Interface

Azureus has an inbuilt torrent tracker. In Advanced mode, go to Tools > Options, and under Plugins, click "Tracker Web". Make sure the Public torrent details to <tracker_url> box is checked. You can now view information on the torrents uploaded to your tracker. You can alter other settings like setting separate ports for the Web page, and CSS themes for the Web interface. You can find settings for the tracker itself under Tracker > Server.



Enabling the Web interface for Azureus' tracker

Create Torrents In Azureus

Now that the tracker itself is running, you can also create new torrents to share with others over the Internet. Go to File > New Torrent. Click on the "Use an external tracker" radio button and enter the URL for the tracker. Choose whether you want to upload a single file or a folder. Click Next. Here you can enter multiple trackers. Click Next, and choose the path of the file or folder of which a torrent is

to be created. Click Next, and enter the path where you want the torrent file to be created. Choose from the appropriate checkboxes for whether you want to open the torrent for seeding once the torrent is created and if you want to use the inbuilt tracker to host the torrent.

Accessing Azureus Through A Browser

Some plugins allow Azureus to be accessed through a browser. This is particularly useful when you're away from home and want to check on download status and add or change downloads. Swing UI is a plugin for Azureus that lets you do that. Download it from http://azureus.sourceforge.net/plugin_list.php. Download the ZIP file, and unzip its contents into the Azureus\plugins folder. Next, in Advanced mode, go to Tools > Options. Then select Plugins > Swing UI. Here, select the port for the interface and the protocol to be used. We use port 5555 and the HTTP protocol. You can also set a username and password to make access limited to yourself. Click Save and restart Azureus. Now use a browser (preferably Firefox) and load the URL <http://YOURIP:PORT>. (You can find your Internet IP by visiting a site like www.whatismyip.com. Those with ISPs that use PPPoE (PPP over Ethernet) can find their IP address by double-clicking on the Internet dialup adapter's network icon in the system tray. Using services like DynDNS (<http://tinyurl.com/bte78>) is also a good idea if you don't want to keep remembering your IP.) If you set a username and password, you will be asked to enter it. You can now monitor and control your downloads.

Using RSS For Starting Downloads

A useful feature that can help automate downloads are RSS Feed downloaders. These plugins download regular updates from your favourite sites and then pick up torrent files from them and automatically download the files depending on how you set the filters. One of the plugins you can use is RSSFeed Scanner. Find it at http://azureus.sourceforge.net/plugin_list.php.

Download and unzip the file into the Azureus\plugins folder. Start Azureus, and you can configure the feed downloader by going to Plugins > RSSFeed Scanner. First add feeds to the list by clicking the "+" icon in the Feed URL panel. Enter the URL for the RSS feeds and the location where you want the torrents to be saved. You can also choose to add filters so Azureus will only download files of the specified criteria. ☐

LINUX

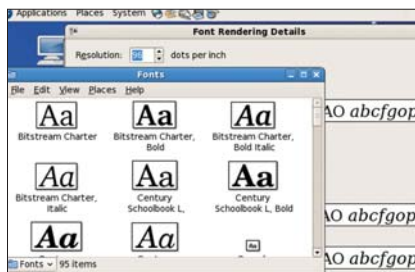


On this month's DVD, we've given you Fedora 7. We'll be using Fedora to demonstrate the tips that follow, but we're pretty sure you can do the same with other distributions.

Note: Some of the tips we are about to show you might require you to be logged into root.

Adding Windows Fonts To Linux

Many of us are used to Windows so much that the sight of Linux's fonts is unbearable. It is possible to install Windows fonts on Linux. Go to System > Preferences > Look and Feel > Font. Click on the Details button and then on the Go to font folder



Copying Windows fonts into Linux's fonts folder

button. In the window that appears, copy and paste the Windows fonts. Restart or re-login to be able to use the fonts.

Advanced Command Line Traceroute

Those who wish to find the route to a remote server are used to the traceroute command. There is an advanced version of traceroute called mtr available on Fedora and some other distributions. mtr not only shows the route, but refreshes pings to all the nodes up to the destination machine, and also lets you choose from different ways of showing statistics. To use mtr on Fedora, go to



Virtual Machines

Get operating systems to run on your operating system!

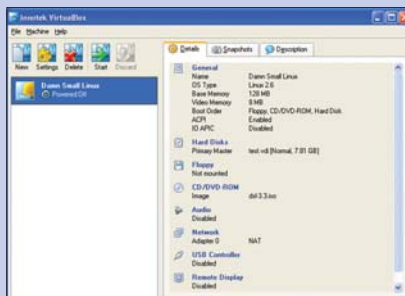
Rossi Fernandes

Some of us get into that weird state of mind where we want to just install a software to play around with it a bit. When you're thinking of it, there's that bit of hesitation when it comes to Linux, thanks to the general fear of partitioning and formatting of drives. What we're about to do is, get a Linux distribution running without a single boot and without a single drive partitioned or formatted. Impossible? We'll show you how!

VMWare has made a name for itself in the virtualisation software business. Of late, an open source virtualisation program called VirtualBox has been making waves. The way virtualisation works in VirtualBox, like in VMWare software, is that virtual components are created. First, download VirtualBox from www.virtualbox.org and install it.

Creating A New Virtual Machine

Remember, you can install multiple operating systems on VirtualBox. VirtualBox won't just let you install an



Damn Small Linux, ready to run off a Virtual Machine

operating system, it'll also allow you to run Linux LiveCDs without having to reboot. Either way, you need to create a virtual machine.

Click on the New button on the toolbar. Click Next and give a name to the operating system and the type (Windows XP, Linux, etc.) you plan on using. Click Next. Here, you choose how much RAM you want dedicated to the virtual machine. In the case of large OSes, keep a fairly large amount of memory.

Next, you choose the size of your disk drive; in the case of a virtual machine, you choose the size of the image. Click New to create a new image. Click Next

and you can choose from a fixed or an expanding image. A fixed image will allocate space in advance—so if you have limited hard drive space to offer the new OS, choose this. In the case of an expanding image, as the demand for space increases, the image file will increase in size, so you need to keep tabs on it to avoid running out of space on your hard disk. Click Next and enter a name for image file itself, and the size for it. Follow the next two steps to complete the procedure.

Using An Image To Install

Every time you download a Linux ISO, you have to burn a DVD or CD and install it. There's usually no other way to go about it. VirtualBox allows you to install off the ISO using emulation—the same way Alcohol 120% works.

Assuming you have the disk image parameters set up, click the virtual machine and click the Start button. This is similar to powering up a real computer by pressing the power button. A window will appear asking you to select the source to be used to install the OS on our virtual machine. Click Next, and choose whether you want to use the CD / DVD drive or a floppy or even an image, which is what we are using. To choose an ISO image, click the Image file radio button under Media source and point to the location of the image on your drive. The virtual machine will then boot using the data from the disc image. You can simply run the LiveCD (if you're using a Live CD image, of course) or install the entire OS.

Saving And Restoring States

Save a machine state so you can continue from where you left off. Hibernation in Windows is a feature that stores the current state of the operating system, which can be restored at a later time. The Snapshots feature in VirtualBox does the same thing. To save a session, close the



Save a machine state so you can continue from where you left off

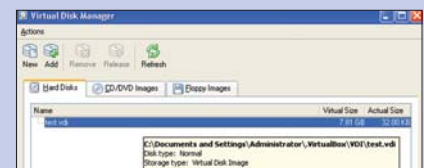
window for the virtual machine in use. Instead of choosing "Power off the machine", click "Save the machine state". The next time you power on the virtual machine, it will resume from the state you left off at.

Adding Extra Hard Drives To A Virtual Machine

In virtual computing, adding virtual hard drives isn't going to cost you anything. If you run out of space on the main image you created, you can increase your virtual disk space by adding additional images.

Click on the virtual machine and then on the Settings icon on the toolbar. Click on Hard Drives and choose Primary Slave or Secondary Slave. You can choose from one of the created images, or click on the Select icon to the right. Here, click New to create a new image, and follow the same steps you used in the creation of the virtual machine.

You can, at any time, change storage space resources by using the Virtual Disk Manager. Select File > Virtual Disk Manager. Here you can add, remove, and release hard disk, CD / DVD images, and floppy images.



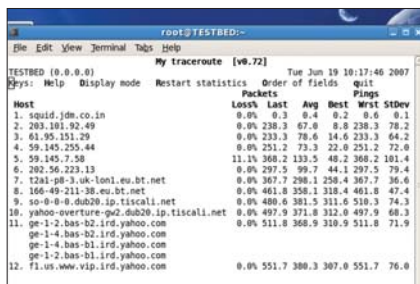
Handling of images can be done by using the Virtual Disk Manager

Running Full-screen Mode

Running an OS in a window mode just doesn't seem right. Set up the resolution in the operating system properly and you can switch to full-screen mode by pressing [Right Ctrl] + [F]. To switch back to window mode, press [Right Ctrl] + [F] again.

For this demonstration, we used Damn Small Linux, but you can use always full-fledged distributions like Fedora (from this month's DVD) or Ubuntu. You can even run another instance of Windows on VirtualBox, or run a Windows virtual machine on Linux! There are plenty of things you can use VirtualBox for without having to worry about messing around with your current OS. ☑

rossi_fernandes@thinkdigit.com



my traceroute [v0.72] Tue Jun 19 10:17:46 2007

Host	Loss%	Latency	Seq	Stdev	Min	Max	Stdev
1. squid.jde.co.in	0.0%	0.3	0.4	0.2	0.0	0.6	0.1
2. 203.101.92.49	0.0%	238.3	67.0	0.8	238.3	78.2	0.2
3. 61.95.151.29	0.0%	233.3	78.6	14.6	233.3	64.2	0.2
4. 59.145.255.44	0.0%	251.2	73.3	22.0	251.2	72.0	0.2
5. 59.145.7.58	11.1%	368.2	133.5	48.2	368.2	301.4	0.2
6. 202.56.223.13	0.0%	297.5	99.7	44.1	297.5	79.4	0.2
7. 1281-p8-3.uk.lon1.eu.bt.net	0.0%	367.7	298.1	258.4	367.7	36.6	0.2
8. 106-49-211-38.eu.bt.net	0.0%	461.8	358.1	318.4	461.8	47.4	0.2
9. so-0-0-0-dub09.ip.tiscali.net	0.0%	480.6	381.5	311.6	510.3	74.3	0.2
10. yahoo-overture-gw2.dub09.ip.tiscali.net	0.0%	497.9	371.8	312.0	497.9	68.3	0.2
11. ge-1-2-bas-b2.ird.yahoo.com	0.0%	511.8	369.9	319.9	511.8	71.9	0.2
ge-1-4-bas-b2.ird.yahoo.com							
ge-1-4-bas-b1.ird.yahoo.com							
ge-1-2-bas-b1.ird.yahoo.com							
12. 71.us.www.vip.ird.yahoo.com	0.0%	551.7	388.3	307.8	551.7	76.0	0.2

mtr—a feature-packed traceroute application

Applications > System Tools > Terminal. Enter mtr followed by an IP or name of the remote machine, for example, mtr www.thinkdigit.com.

Mounting Windows Shares

Let's face it—too many people use Windows, so you're going to have to access Windows network shares some time or the other. Samba is what Linux uses to host shares and access remote ones. To do this, go to Applications > System Tools > Terminal. Create a location where you want to mount the network share by typing in mkdir /mnt/netshare, where "netshare" can be replaced by the name for the mount. Then type in mount -t cifs //MACHINEIP/SHARENAME /mnt/netshare. Press [Enter], and you might be asked for a password. The mount -smbsfs should work, but in Fedora, you need to use the -cifs parameter instead. Adding the -o username=myusername,password=mypassword set of parameters to the mount command authenticates password-protected shares. This parameter needs to be added between the mount command and the share location. (CIFS is short for Common Internet File System.)

To have this network share auto-mounted on bootup, go to Applications > Accessories > Text Editor. Open /etc/fstab. At the bottom of this text file, make an entry: //MACHINEIP/SHARENAME /mnt/YOURMOUNTLOCATION cifs password=yourpassword 0 0

Accessing NTFS Partitions

Just like Windows shares will have to be accessed through Linux at some point or the other, you will require access to Windows' NTFS file system too to move files around. Accessing NTFS partitions in Fedora or other RPM-based distributions can be done using the ntfsmount command. Start a terminal by going to Applications > System Tools > Terminal. Create a location to mount the NTFS partition, for example, mkdir /mnt/ntfs. Next, type in ntfsmount /dev/NTFSpartition /mnt/ntfs. This will mount the NTFS partition to the /mnt/ntfs mount point, and you

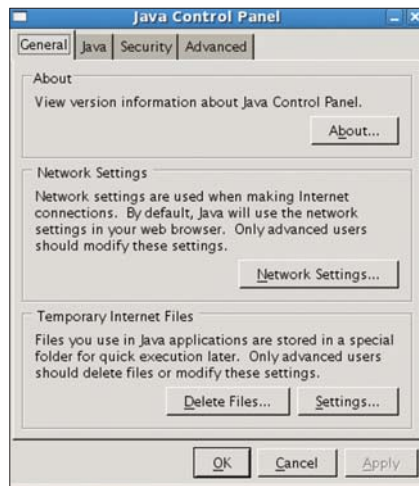
will be able to read and write from and to the partition.

You can have this NTFS partition auto-mounted on bootup using steps similar to those you used for auto-mounting network shares. Open the /etc/fstab file in a text editor and add the following entry at the end of the file:

```
/dev/NTFSpartition /mnt/ntfs
ntfs-fuse
```

Installing Java

Fedora doesn't come with Java installed; you're going to have to download it and install it yourself. Download the latest RPM of the Java



The Java Environment installed and running on Linux

Runtime or Development Kit from <http://java.sun.com/javase/downloads/index.jsp>. Next, go to Applications > System Tools > Terminal. Navigate to the location of the downloaded file. If you downloaded the self-extracting .bin (like we did), run it using ./filename.

Mounting ISO Images

ISO images are disc images of CDs or DVDs. In places where you need to access data on the images when there is no DVD drive available, you can mount the ISO as a filesystem in the same way Windows users would using software like Alcohol 120%.

First create a new folder where you'll be mounting the ISO. Go to Applications > System Tools > Terminal. Navigate to the location of the ISO image. Use the command mount -o loop -t iso9660 ISONAME.iso /location.

Setting Up A Network Proxy

For machines that are behind proxies, it doesn't allow vital programs like yum to access repositories over the Internet. To enable a network proxy, go to System > Internet and Network > Network Proxy. Enter the details for

the different protocols and click Close. You can enter an Automatic Proxy Configuration address so the program can pick up all the proxy details from there. This network proxy configuration should work for all applications supporting proxy servers.

Disable Loading Of Modules

After a period of time, you'll end up having loads of processes starting on bootup. There are many which most of us don't really require. You can disable these to save loads of memory while also reducing bootup time.

Go to System > Administration > Services. Under the Background Services tab, uncheck the boxes for the services you do not want loaded at startup. Click Save to close the window. You can also start and shut down the services from this window: click on a service and click the Start, Stop, or Restart button.

Installing And Using Wine

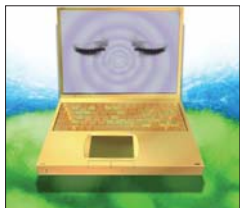
Wine stands for "Windows Emulator", and can run quite a lot of Windows applications on Linux. Wine doesn't come with Fedora, so you need to install it using yum. Start a terminal and type in yum install wine. Once it's installed, use the File Browser to browse through your Windows partition or to the location of the Windows binaries if you already know where they are. Right-click on the executable and click on Open with Wine Windows Emulator. You can also alter the Wine settings by going to Applications > Wine > Wine Configuration. Here you can choose which version of Windows you want to mimic, and set paths of important Windows folders.

Extract RPM Files To A Particular Folder

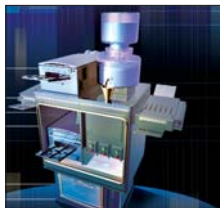
RPM is a packet manager was developed by Red Hat Linux. You can extract the contents of RPM files into a directory of your choice than just installing it. Start a terminal by going to Applications > System Tools > Terminal. Navigate to the folder to where you want to extract the RPM file. Type in rpm2cpio rpmfile.rpm | cpio -idmv, and the RPM will be extracted.

Let Yum Auto-update Fedora

Updating Fedora can be done by a single command. yum will connect to the Internet, and download and install all the updates. Go to Applications > System Tools > Terminal. If you are already root, type in yum update. Use this command carefully: users with limited download connections could have a problem, since there can be quite a few updates. ☐



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How Technology Can Help Your Organisation

Tech Careers

Be The Game

From playing games to creating them... level up!

Samir Makwana

If you've seen the best real-time strategy games like *Warcraft III*, thrilling first-person shooters such as *Half-Life*, and have had multiplayer fun with *Counter-Strike* and *Quake 3 Arena*, you love them. Have you ever, though, given a serious thought towards actually making a game? Will it fetch you money, fame, and success? It can. A career in games is a lucrative option.

Gaming is a no more a niche market. According to the latest reports from IDC India, India is one of the fastest growing markets for computers. Here, the PC ownership ratio is 1:50, amounting to 22 million installations. In the past five to six years, India has grown as a potential market for the global game development biggies.

The Internet and Mobile Association of India recently conducted a study on online gaming. It found that the online gaming industry here is worth Rs 210 crore. The study also found that youth in the age group of 17 to 25 years are the key drivers of the online gaming segment. Yet, the industry faces issues—high cost of enabling proper infrastructures in accordance with international standards, recognition and support of game develop-

ment and related courses, and negative perception among parents.

"The global game development market is expected to grow to \$42 billion (Rs 1.9 lakh crore) by 2010 from \$21 billion in 2006—a CAGR (Compound Annual Growth Rate) of 18 per cent. India is becoming an outsourcing hub for animation and game design and development," says Raman Madan, regional manager—Media and Entertainment Software (APAC), AutoDesk, who are into the business of software technologies for the simulation, animation, media, and entertainment domains.

Since 2002, game development in India has picked up. Earlier, a number of India-based studios and companies were involved in developing and testing game projects for companies in the west. But in the past few years, gaming behemoths like Electronic Arts, Gameloft, and FXLabs, along with the Indian players like Jump Games, Dhruva Interactive, Trine Game Studios, Lakshya Digital, Game Shastra, and others have been active in the game business in India.

"The Indian gaming industry is fairly nascent, and immense opportunities are available for game





With prestigious international developers setting up development centres on Indian shores, the scope of opportunities is simply vast"

Ninad Chhaya
Executive vice president
Operations and production
Jump Games

artists, game programmers, and for related tasks as the development studios continue to grow rapidly in India," says Tony Garcia, CEO, FXLabs Studios.

It's All About Growth

India is looked upon as a talent-hunter's paradise by companies into animation and gaming. The game development industry also hires animation professionals from that industry. According to a NASSCOM report, *Animation and Gaming India 2007*, about 16,500 animation professionals were employed in the animation industry in 2006. This figure is expected to exceed 26,000 by 2010.

Even so, finding highly-skilled professionals to match global standards still remains a challenge. There are different areas in the gaming industry, such as design, development, testing, and distribution. Game development borrows a lot from the animation industry—the growth of the gaming industry is closely tied with that of the latter.

Game Development: This involves the conception and nurturing of a game, starting from an idea and finally to a working game. "A person seeking a career in game development can pursue a bright career in the different functions, which might be creative and/or technical," says Reena George, general manager, human resources, India Games.

Within game development lie sub-segments such as design, programming, production, visual arts, and audio.

Game Testing: Testing is part of the general game development process, but quite a few companies and studios in India offer testing services exclusively for games to western countries. Those passionate about games and who have good power of observation might want to choose this option. A game tester plays games, observes its working, and finds graphical, audio, and bugs related to the programming. Although the job profile of game testers appears rosy and has lots of fun packed in, they are required to play games for long hours. This might cause physical strain to the eyes, numbness in the fingers, and more!

Business And Distribution: People from the business studies and marketing management domain fit this work profile best. Game distributors promote gaming content. Distribution strategies, dealing with content providers, identifying target audiences, customer feedback and management, etc. fall under this job description. They share information with client companies about gaming habits, tastes, and the preferences of the target audience.

Let's go on to the job functions to be performed at each level within game development.

Loading Stage...

Each function in the industry has levels of hierarchy. For a few of the common designations and sub-segments in game development, refer the table *Teams and Designations*.

Design: A game designer is a jack of all trades. He has a variety of interests and understands the technical side—programming and graphic design. An understanding of psychology and its implementation can be helpful. Knowledge of Artificial Intelligence (AI), too, helps. Tasks here include conceptualisation of a game, design documentation, and working closely with other teams so as to see whether the game is being developed in accordance with the concept. The game design team has a lead designer, who usually evolves by working as a graphic designer or game programmer.

Programming: Graphical elements such as animated characters, game levels, background textures, and sound effects are coded to work together with the game engine. Good coding skills with command over programming languages such as C++, Python, Java, Flash, and other software used in game programming are required.

Being well-versed in programming with OpenGL and DirectX is essential. Knowledge of physics and AI is very beneficial. A programmer should have a balance of technological and creative abilities. "Gaming is about technology, action scripting, animating, etc., but equally, it is about game play, creativity, and an understanding of consumer likes and preferences," informs Carlton D'Silva, creative director, Hungama, who are into the media and entertainment business—viz. gaming portal hungama.com—and also promotions marketing.

Visual Arts: Candidates from the fine arts, animation, and the visual arts / visual communication fields are best suited for the visual arts team. Character and background designing and 2D / 3D modelling and animation are the major activities in this segment. This team works towards constructing the visual elements and the user interface for a game. Students trained on animation software packages also get recruited into this segment. Knowledge of software packages meant for graphics like AutoDesk Maya, 3ds Max, Motion Builder, Adobe Photoshop, Corel Paint, and others makes up the technological side of the equation. For more about animation, turn over to *Life @ 24 fps in Digit*, April 2006.

Teams And Designations

Functional Area	Job Title
Design and Creative Programming	Game designer, level designer, technical designer, script writer Game programmer, AI programmer, network programmer, R&D—engineering programmer, physics programmer, tools programmer, graphics programmer, animation programmer, technical writer, software architect
Visual Arts	Concept artist, texture artist, material specialist, environment artist, storyboard artist, 2D/3D modelling specialist, texture specialist, 2D/3D animator
Production	Game producer, executive game producer, line producer, localisation producer, network game producer, multiplayer producer, advertising producer
Audio	Musician, SFX (sound effects) artist, sound engineer, sound programmer
Business and Other	Sales, marketing, and other top management profiles such as chief executive officer, chief operating officer, vice president— design, programming, production
Testing	Game tester, platform specialist (PC, console, mobile phone, handheld)

Production: At the core, a project is lead by a producer who supports the project. Like a typical project manager, the production manager's tasks involve budgeting, meeting the requirements of various departments, documentation of reports, and keeping track of project progress. Knowledge of and exposure to design, programming, and visual arts help in their work.

Audio: Professional music composers, candidates with a sound engineering degree, and SFX artists can work in an audio and sound effects team. The background score and the special effects are added to match the graphics, gameplay, and storyline of the game. Sound engineers and artists should have had hands-on skills working with software like Sound Forge, Cubase, Bink, Miles, and such.

We've already spoken about game testing. It is very similar to software testing and validation. Individuals from a software testing and validation background would be a perfect fit for this segment.

Candidates with a business management or management studies degree are the ideal choice for business functions within the gaming industry. Besides activities towards growth and expansion of the business nationally, they look at international tie-ups.

Essential Gear

Many game development companies encourage their employees to play games in their free time, or even during office hours. "The gaming industry firmly believes that those who don't play games can't visualise for better game ideation," says Rohit Sharma, CEO, Zapak.com, a casual gaming portal.

"Passion for gaming is treated as a value-add in reference to the specific function in game development. A good balance between a passion for gaming and the capability to perform the assigned task helps bring out the best", adds George.

We've already spoken about the required educational backgrounds. "Surprisingly, the game masters come from varied backgrounds—from microbiology to commerce," says Naveen H, national manager for gaming, Sify, an online portal that also offers Web domain services and runs game-dromes.

A graduate degree or a diploma is essential for any professional segment. If you're looking at a serious education in gaming, several universities in the US, the UK, Australia, and other countries offer specialised degree and diploma courses in specific aspects of game development.

"Producers could benefit hugely with an all-round knowledge of art, programming, and design along with project management," informs Sharma.

Certification

The demand-supply gap in the industry is very wide as of now. "No exposure, lack of knowledge about gaming as a profession, and unavailability of good training schools are the factors that affect the demand-supply gap in the gaming industry," says D'Silva.



Gaming is about technology, action scripting, and so on, but equally, it is about gameplay and creativity"

Carlton D'Silva
Creative Director
Hungama

No courses focusing specifically on game development are available. "India could definitely benefit from courses for game-related functions, especially if they are well-structured and offer an insight into how games are developed, how technology enables the industry, and also provide a background into the industry and the career options within it," says Raman.

What's required is collaboration with international animation and gaming institutes, along with government recognition of curricula for graduate and Masters programs meeting global standards.

Rewards And Credits

Any rewards and/or credits, like in any other occupation, are given on the basis of individual performance as well as performance in a team effort.

Here is a snapshot of how much you can expect to earn. Though it is a niche market of about 50 employers, the remuneration varies across organisations. The ranges mentioned below are aggregated, indicative, and on a per-month basis.

Approximate Remuneration Matrix (per month)			
Department	Entry Level	Middle Level	Top Level
Design	Rs 10,000–30,000	Rs 30,000–45,000	Rs 45,000 and above
Production	Rs 12,000–25,000	Rs 25,000–40,000	Rs 40,000 and above
Programming	Rs 15,000–35,000	Rs 35,000–60,000	Rs 60,000 and above
Visual Arts	Rs 12,000–30,000	Rs 30,000–50,000	Rs 50,000 and above
Audio	Rs 10,000–15,000	Rs 15,000–30,000	Rs 30,000 and above
Business development and allied operations	Rs 6,000–20,000	Rs 20,000–45,000	Rs 45,000 and above
Testing	Rs 10,000–30,000	Rs 30,000–50,000	Rs 50,000 and above

These figures can be expected to go up by 10 to 50 per cent on the basis of the market situation and demand-supply ratio.

Future Prospects

Gaming is expected to be the next big thing in the entertainment industry. "India, with its cost-effectiveness and availability of skilled resource pool, is already a preferred destination among the global players. Now, with prestigious international developers setting up development centres on Indian shores, the scope of opportunities is simply vast," says Ninad Chhaya, executive vice president—operations and production, Jump Games, who offer game content development services. According to the NASSCOM report, *Animation and Gaming in India 2007*, the Indian gaming industry for the year 2006 was nearly Rs 48 crore, and by 2010, it is expected to surpass Rs 424 crore.

With all three major gaming consoles now available in India, the three companies producing the consoles will look for local game developers who can work on projects at a global scale.

Industry stalwarts and the available figures say it out loud—game on, people. Grab your controllers! ☒

samir_makwana@thinkdigit.com

No-nonsense Notebook

You're the professional on the move. You need a hassle-free platform to go about your daily business. Will it be Vista, Mac OS X or Linux? Read on

Nimish Chandiramani

While the world's waited for Vista, the alternatives—Linux and Mac OS X—have had the time to garner some attention; fans of those systems have lost no opportunity to tempt you to forsake Microsoft and join their ranks.

In light of these developments, it's about time we took a look beyond all the hype, the cheeky advertisements and the fanaticism, and found out which of these systems wins the productivity war. More professionals are going mobile these days, so we'll be looking at how they fare as laptop platforms. A lot of things will hold true for desktops as well, naturally. In the ring are Windows Vista—any new laptop you buy today will come with it; OS X Tiger on a MacBook Pro; and SUSE Linux Enterprise Desktop (SLED—a paid distribution, or distro), as well as Ubuntu, which is widely regarded as the best free Linux distro. You can also buy support for Ubuntu in India—we're looking at solutions where people get paid to solve your problems.

Our Methods And Madnesses

We spent a couple of weeks with each platform, and went about our daily business—surfing the Internet, e-mailing, creating and editing documents, tinkering with new applications, and generally getting our lives organised. And so it begins...

Into The Interfaces

Working in Vista isn't too different from working with XP, though it's better in many ways. There's a taskbar item for *everything*, so no more using [Alt] + [Tab] to hunt for dialog boxes that lost focus. Buttons are more indicative—the confirmation dialogs in Vista say "Perform Action" and "Don't Perform Action" (depending on the action, of course), so you don't need to read a lecture.

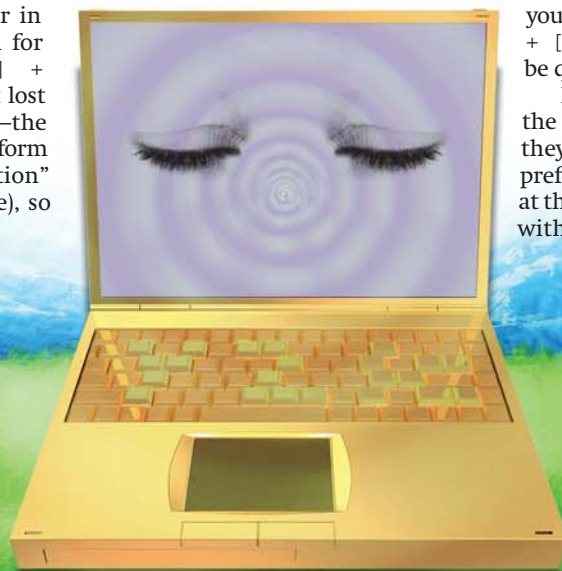
You no longer need to hold down [Ctrl] or [Shift] to select multiple files—you can enable checkboxes in Explorer's Folder Options, and do exactly what that implies: check the files you want to select, or use the checkbox at the top to select all files. [Alt] + [Tab] is bigger, and features application thumbnails. If you have a graphics card that can handle it, there are pretty effects too.

Mac OS X delivers a substantial culture shock to first-timers. Desktop icons are to the right of the screen, the control buttons have gone over to the left, and application menus have moved to the top of the screen rather than within the window itself. Then there's the Dock, a Quick Launch toolbar and taskbar rolled into one. Application icons jump when it is starting or if it has a message for you.

Still, after a couple of hours of poking and prodding, OS X's design becomes easy to work with. Some things continue to bother us, though—most notably the fact that selecting a file and hitting [Enter] *renames* it! To run the file, you have to use [Command] + [O] or [Command] + [Down Arrow].

OS X isn't the most keyboard-friendly platform either, so we found ourselves using the touchpad more often than we'd like. We're used to using [Alt] + [letter] combinations to get to menu items, but you can't do this with OS X: you have to access the menu bar using [Ctrl] + [F2] first ([Ctrl] + [Fn] + [F2] on a MacBook or MacBook Pro) and then use the arrow keys to navigate to the menu you want. While its *Finder* function has support for drag-and-drop, you can't use shortcuts like [Command] + [C] to copy files. These instances can be quite frustrating.

Both SUSE and Ubuntu are based on the GNOME Desktop Environment, but they've customised it differently. SUSE prefers the Windows-style look—taskbar at the bottom of the screen, a start menu with your favourite applications that





This is a pretty silly thing to have to deal with in OS X—if you have minimised many documents of the same type, the only way to tell them apart is by hovering your mouse over them—more undesirable trackpad activity

even responds to the Windows key. There's a search text box in the start menu *à la* Vista, though searches aren't "live" (as you type). There aren't any cascading menus: your applications are presented to you, neatly categorised, in a window. There's even a search box to filter your selection; effectively, you have two-click access to all the items you need.

Ubuntu, too, takes the two-click approach. Applications are only a sub-menu away, though preferences and administration options are two steps away.

GNOME's Nautilus File Manager is very Explorer-like, just lacking eye-candy. GNOME also features taskbar buttons for every item on the screen. Overall, we prefer the taskbar-button approach that Windows and Linux have.

Pretty Pretty

OS X was the first to woo potential customers with shiny graphics, and "ooh"-inducing transitions; Microsoft followed suit with the Aero effects in Vista, and Novell started its own XGL project for 3D effects in Linux. Cool effects can make working slightly more pleasant, but does all this fanciness really help?

One of the supposedly utilitarian features of Vista's Aero is Flip 3D, which "uses the dimension of visual depth to give you a more comprehensive view of your open windows, helping you sidestep chaos even as you juggle myriad open files and programs." After starting Flip 3D, you scroll through open windows like a Rolodex. But remember that Flip 3D causes entry-level graphics cards (NVIDIA's 6600 and thereabouts) to stutter a bit.

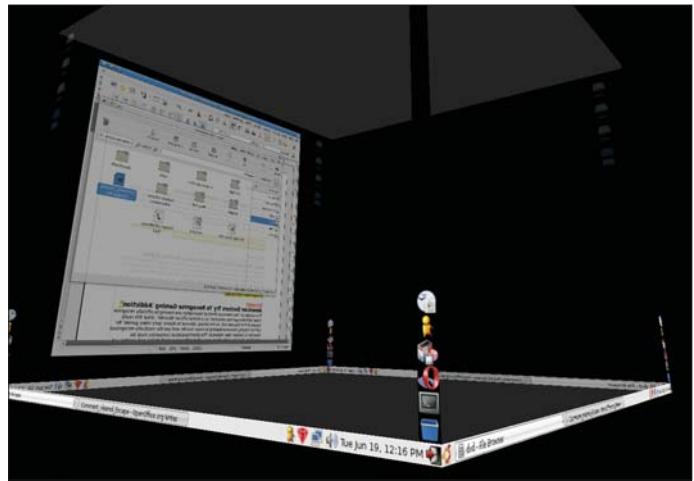
OS X has a good number of tricks up its sleeves; moving over the icons in the Dock enlarges them and the surrounding icons proportionately, making your desired icon easier to click on. Hit [F11], and all windows slide into the edges of your screen, revealing the Desktop. Hitting [F9] starts Exposé, which arranges all your windows on-screen—hover over them to find out what they are, and click on them to switch. On a MacBook or MacBook Pro, you'll have to hold down the [Fn] key and then hit [F9]—quite off-putting.

With SUSE and Ubuntu, you can either enable Desktop Effects from their respective administration menus, or install Beryl, a window manager built specifically to take advantage of all that XGL has to offer (the default used otherwise is Compiz). In all cases, workspaces are arranged on a 3D cube. If you hold down [Ctrl] + [Alt], click on the Desktop and drag, you can view the cube as if you were holding it in your hand—

imagine an actual rotating cube, with one window on the left, a document window on the top, and so on! Before XGL, you would switch between workspaces by moving your mouse cursor over the Workspace Switcher and using the scroll wheel—no keys to hold down, and considerably less mouse movement.

The verdict on the experience: in descending order, it's OS X, Vista, and Linux. The effects in OS X feel like a part of the OS, as opposed to the "slapped-on" feel of the other two. Apple developers know exactly what hardware the OS is going to run on (viz. the latest iMacs, MacBooks, etc.). Vista and Linux need to run on anything from a Pentium 4 to a Core 2 Duo system, so the option to turn off effects is a must.

Graphics aren't everything, though.



When you install Beryl on Ubuntu, you get to use the "transparent cube" to see all your applications. It's nice, but still not a great boost to usability

They Call Me The Seeker

Integrated search is a very handy thing to have on your PC—let's look at our contenders' offerings.

Vista's new Start Menu is commendable—no more infinitely cascading menus; menu items expand and collapse in the left pane of the Start Menu, and perhaps the most important addition is the Search box. Type in the first letters of the application or file you want, and Vista will search for it as you type, and display the results right there. It even supports searching for the first few letters of each word—"win me pl", for example, will bring up Windows Media Player. This has almost completely replaced Start > Run for us. The search box is also present in Windows Explorer, so instead of navigating through folders, you just enter the filename in the search box and Windows searches for the file in real-time. You can also search by document content, and add "tags" to files (like "vacation goa" for your Goa photos) to enable quicker searches. All very nicely done, though the indexing service does sometimes suck up resources.

The thing that started it all was OS X Tiger's Spotlight, which indexes all the files on your Mac. It's accessible through a simple shortcut ([Command] + [Space]); remember, we're on a laptop and don't want too much touchpad activity). You can also add "Spotlight Comments" to files—the precursor to Vista's tags—for quick searches.

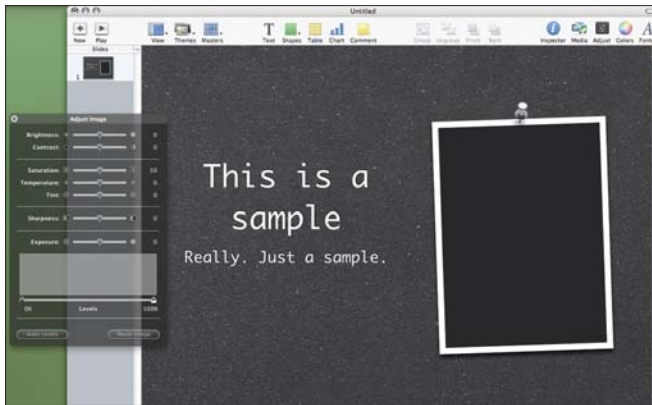
SUSE comes with Beagle Desktop Search pre-installed, and there's a search box in the start menu as well. While Beagle is a competent tool—it indexes your files, e-mail, address book, and even sticky notes—it doesn't give you results as you type. You need to install Beagle separately in Ubuntu—the pre-installed search tool is about as fast as XP's default search.

And now to the heart of the matter.

The Applications

You have an OS, and it naturally follows that applications must exist for it. With Vista, the question doesn't arise—so we'll talk about OS X and Linux.

That there aren't applications for OS X and Linux is a myth, but the likelihood that you won't find a Mac or Linux version of your essential tools is quite high. There's often an alternative, but



Keynote is one of those “killer apps” on the Mac. It's a brilliant alternative to PowerPoint, and is much easier to use

then you need to assess the quality of that alternative before making a switch.

In the office suite department, you can opt for either Microsoft Office 2004 or OpenOffice.org for the Mac (the latter for Linux, too). If you're used to the Office 2007 interface on Windows, however, it's like going back in time, so we'd recommend waiting till Office 2008 releases for the Mac later this year. Read about more software for OS X in this month's *Fast Track*. Applications for the Mac—especially the paid ones—feel tightly integrated with OS X and are quite easy to figure out.

You can also run Windows applications on OS X and Linux using CrossOver—we recommend this option over Wine because you pay for the support, and if you're working with applications that handle critical data, you want a minion who's paid to solve problems you encounter. On the Mac, you can also use BootCamp or Parallels desktop to run XP or Vista, so you can run Windows-only applications when you need to, and switch back to OS X for the rest of your work.

Weighing these alternative methods to run Windows applications against the alternatives depends on how many Windows-only applications you can't live without. You'd feel like quite the jackass if you bought a MacBook Pro for over a lakh only to find yourself using Windows XP on BootCamp more often than OS X. Ditto for Linux—you'll rest easier running Windows applications on Windows.

Getting Them, Throwing Them

On Windows, applications leave traces behind, and there's the task of removing those traces—like cleaning your Registry. What do OS X and Linux offer?

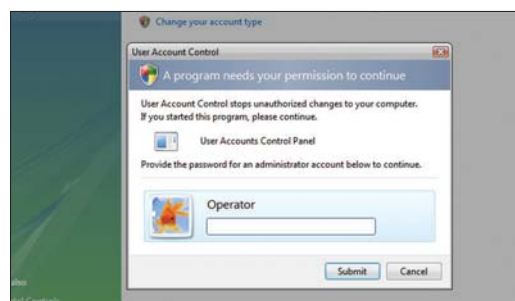
To install an OS X application, you just download a .dmg (disk image) file, mount it by double-clicking, and drag the application to the Applications folder to your hard disk—that's it! Some applications come with installers, but the former is what you'll encounter more often. When you're done with an application, just drag it to the Trash and it's gone! All this sounds too good to be true, and it is. The application as it appears to us—a .app file—is actually a folder, much like the application folder in your Program Files directory—complete with executables, settings and so on. There's no system registry, so when you delete the .app file, the application is gone. However, a lot of applications store information—particularly user-specific settings—in the Library/Application Support folder (the OS X equivalent of the Documents and Settings folder in Windows), and these files remain even when you've deleted an application—you'll have to manually remove these.

With SUSE and Ubuntu, you can install software through online repositories. This works better than installing through downloaded packages because of the evil of dependencies. Application A won't run if you haven't installed library B, and library B is incomplete without libraries C and D. Both distributions have their own official repositories, but they aren't configured with the SUSE install, because the software available isn't part of your support contract. You have to add the OpenSUSE repositories manually, and this isn't pleasant—it took us many tries to even get a connection to the server, and the operation would fail even then. Ubuntu is much better—you can start installing applications seconds after your first login, and the selection is vast.

In both cases, dependencies are automatically installed—the flip side is that you need a fairly fast Internet connection and a large download limit.

The Security Angle

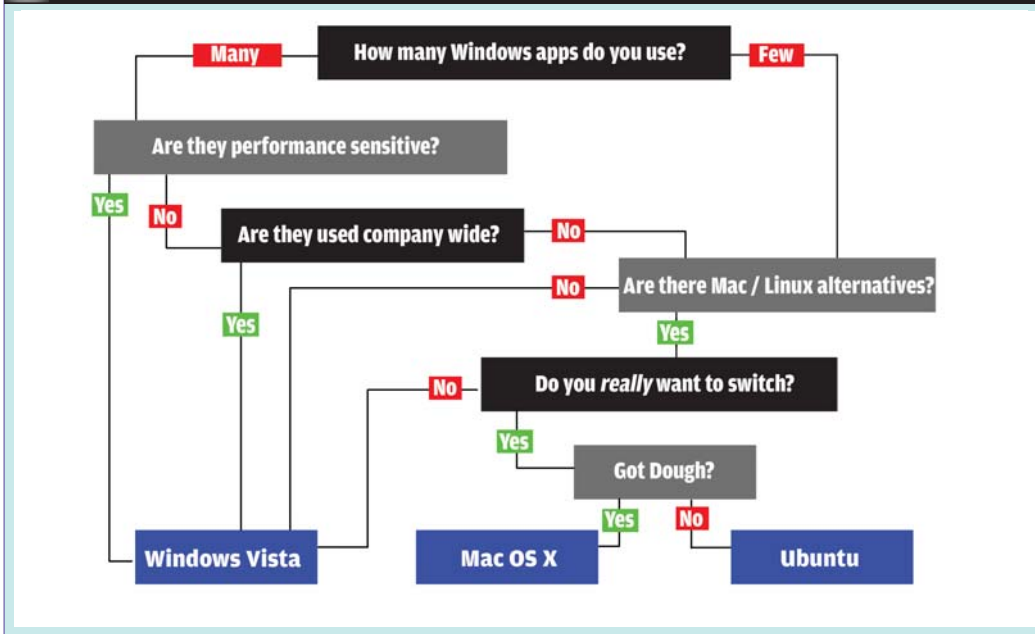
Security has been a priority in Vista's development, we've been told time and again, but the number of exploits mushrooming for the new OS says a lot more. True, it takes security a bit more seriously—users aren't logged in as Admin-



Vista even makes you authorise its own Control Panel applets before they make major changes. UAC isn't fool-proof, and it can get on your nerves but it's a good thing to have regardless



Decision Maker



istrator on the first run, and User Account Control (UAC) ensures that every application making changes to the system is authorised to do so. UAC can be a bit of an annoyance sometimes, and the fact that there's an option to turn it off is its first flaw. In Linux and OS X, any application that's making modifications to the system needs you to enter the root password, so even if malicious code does enter your machine, it can't do anything without root access.

The *nix architecture—on which both OS X and Linux are based—is inherently more secure. Nobody can argue with that. If you're going the Vista way, don't forsake your anti-virus and anti-spyware tools anytime soon.

The Laptop Experience

Most of what we've talked about thus far applies both for laptops and Desktops, but there are a few things exclusive to laptops. If you own, or plan to buy, a tablet PC with Vista, you're in for a treat. Tablet support has been built into Vista from scratch, so it doesn't feel like the hack that Windows XP Tablet PC Edition felt like. You can use your handwriting to enter text in any field that accepts it—the handwriting dialog is always waiting in a corner of the screen. Handwriting recognition is impressive to start with, and gets better as it learns your nuances. You can also assign "Pen Flicks" for common tasks like copying text or executing a keyboard shortcut.

When you go the Mac way, you get to enjoy the great touchpad features. The touchpad driver responds to touches from two fingers as well, so while you can use a single finger to move the mouse cursor and tap to click, using two fingers lets you scroll and tapping with two fingers becomes a right-click. As you start getting used to this, the single click button at the bottom of the touchpad starts to seem redundant.

Linux users have some respite, though—there is a Linux driver written for Synaptics touchpads (nearly all laptops use them) that lets you use multiple fingers—find it at http://tuxmobil.org/touchpad_driver.html—assuming your hardware supports it.

The Bottom Line

Just like on Desktops, Vista is the safe choice. It's Windows, so it's familiar territory, applications are in abundance, you'll get it pre-installed on a nice, reasonably-priced laptop today, and the tablet PC experience is another feather in its cap.

Between the two Linux distributions, we recommend Ubuntu, with paid support to help you through your growing pains (find the Indian support firms at <http://www.ubuntu.com/support/commercial/marketplace/asia>). It's quite gentle on the first-time user, but you need to tweak a lot of options to make it suit your needs—too many—and sometimes even simple things like installing PostScript fonts to work with a Windows application under Wine can turn out to be mammoth tasks. When things go wrong with Linux, they usually go horribly wrong.

In terms of the overall experience, OS X on a MacBook or MacBook Pro comes up tops. You don't have to worry yourself about the latest viruses (unless there's a new Mac virus), you don't have to "spring clean" if it starts to get sluggish—which it doesn't, regular format-reinstalls will be a thing of the past, and the touchpad experience sets it apart from the competition. It's quite the idiot-proof OS as well—and it still stands strong. The only trouble is the price—an entry-level MacBook costs Rs 67,000, and the MacBook Pro starts at Rs 1,15,800. If you've got the money and have no Windows-only applications tying you down, head to the nearest Apple retailer. ☒

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One Thing Too Many

Want to print, scan, fax, copy all at once? Enter the Jacks of all Trades; join us as we search for the Master



Jayesh Limaye

We had assumed last year that inkjet MFDs would soon be on their way out in the face of the falling prices of laser devices; turns out this wasn't to be. In fact, the market teems with as many inkjet devices as it did a year ago. Inkjet printers still rule the photo-printing roost: laser printers can only dream of coming even close.

For our test, we divided the contenders into Home, Office, and Professional, based on their price and the features they offer.

HOME MFDs

"MFDs are not really meant for home use": that's what you're told. But with prices rivalling those of inkjet printers, we do see MFDs making their way into homes.

The MFDs in this first category cost below Rs 6,000, and lack features such as fax, since this is not of much importance to home users. We selected five MFDs here—from Brother (the DCP-130C), Canon (the PIXMA MP160), Lexmark (the X1270), and two from HP (the Deskjet F380 and the Photosmart C3188).

Features Printing

An MFD's primary and most important function is printing. The Brother MFD uses piezoelectric technology to fire ink drops onto the paper surface, as against the thermal technology employed by Canon, HP, and Lexmark.

The Brother and Canon MFDs come with four separate ink cartridges—one each for black, cyan, magenta, and yellow. This is economical if you end up emptying the tank of one colour. With a two-cartridge system (one black and one for all three colours), you'll have to replace the one colour cartridge even if the other colours haven't been spent.

Barring the Canon PIXMA MP160, which has an input tray paper capacity of just 20 sheets, the other MFDs accommodate 100. Though this is not very important for home use, a higher capacity certainly doesn't hurt.

Scan, Copy, Fax

All the MFDs feature 48-bit flatbed scanners capable of scanning A4 size documents. A scanning resolution of 600 x 1200 is the most common, but the HP MFDs have better resolutions of 600 x 2400 and 1200 x 2400—the Deskjet F380 and the Photosmart C3188 respectively.

You can scan directly to a destination on your PC—like an e-mail or image management application—from the Brother DCP-130C and Lexmark X1270, something the rest of the MFDs in this category can't. These two devices also come with image editing and OCR software.



Canon PIXMA MP160
Performance plus good value

Copying is a breeze with all the MFDs supporting colour as well as black-and-white copying. Except for the Lexmark, all the MFDs support multi-copying. The Brother DCP-130C supports 99 copies in this mode, the highest among the MFDs across all categories.

Fax and Automatic Document Feeding (ADF) are absent on all the MFDs, but they will not be missed much.

Build Quality And Other Features

The Canon MP160 has a delicate scanner lid, which therefore seems easily susceptible to damage. The Lexmark didn't seem too sturdy either, but the scanner lid is a tad better than the Canon's. The Brother and HP have commendable build quality. It is relieving that none of the MFDs have trays sticking out, so there's no possibility of breaking one.

The Brother DCP-130C has the smallest footprint and is very compact, but is still the heaviest.

While the HP F380 and the Lexmark do not feature any LCD interface, the Canon MP160 has a

7-segment display—something is better than nothing! The Brother has a one-line LCD display that provides you with all the necessary information, while the HP Photosmart C3188 has an icon-based display, also very easy to understand.

The Brother DCP-130C comes loaded with media features such as support for a variety of memory cards and PictBridge. The HP Photosmart C3188, being a proper photo MFD, has buttons to reprint photos as well as proof sheets. Interestingly, it features memory card slots but not PictBridge!

Performance Printing

The Canon PIXMA MP160 prints really fast—our normal-quality text document printed in 9.3 seconds flat. It was also the fastest in printing our combi-document at normal quality. Even while printing at the highest speeds, it prints exceptionally well. The edges of the text are crisp, and the ink doesn't blot the paper even at high quality.

When printing at the best quality, the HP F380 and Lexmark are the slowest. The Lexmark is the slowest at photo printing as well. The Canon MP160 and HP C3188 have excellent photo print quality, but the Brother produced a print that looked faded—its "photo MFD" title doesn't reflect in its quality.

Scanning And Copying

While 200 dpi black-and-white scan times is around the same for all the devices, the difference becomes more evident at higher resolutions and in full colour. The Lexmark slows down the most in this case, while the Canon is the least affected.

The scans produced by both



HP Photosmart C3188 All-in-One
A value photo MFD with good features

How We Tested

The Test Rig

Our test machine is fairly entry-level—an Intel Pentium 4 560 3.2 GHz processor on a Gigabyte GA-965P-DQ6 motherboard with 1 GB of 533 MHz DDR2 RAM, an NVIDIA GeForce 7600GT graphics card, and a 120 GB 7200 rpm ATA IV Seagate Barracuda hard disk. We used Windows XP with SP2 as the OS.

Media used

Text/combi-document printouts: 100 gsm (grams per square metre) paper from Berga (A4 size)

Photo printouts: 160 gsm glossy photo paper from Novajet (A4 size)

Features

We look for features such as PictBridge, memory card readers, fax, input tray capacity, number of cartridges, and so on for the device in general. For the scanner, we consider the maximum scan resolution, bit depth, scanner type, and the presence of automatic document feeders (ADF). For the copier aspect, we look for the ability to work as a standalone device, the maximum number of pages that can be printed in multi-copy mode, reducing or enlarging a copy, and more.

The Printer Tests

We use a text document to test the raw print speeds of the printers of the MFDs. To test the ability of the MFDs to handle the various aspects of a regular document, we create a combi-document with a mixture of black text, graphs, and images. We

test print quality at Normal and Best quality for the combi-document, and only Best for photo prints. We also clock the time taken in each case.

The Scanner Tests

To test the scanners for speed, we scanned an A4-size image five times and average the time taken for each scan—the scanners start out cold, so we need to compensate for the warm-up time.

We imported the same image at 150 dpi and 600 dpi in Adobe Photoshop CS2, and scanned a full text document in black-and-white at 200 dpi. The scanners then underwent a test to determine colour differentiating abilities using the Kodak IT8 card with different shades of colour—each a little different from the preceding one. Next, we used the resolution chart—a chart with five boxes with parallel lines packed very close, and each subsequent box with lines packed more densely. We scanned the resolution chart at 300 dpi. This test gives us a measure of the scanner's capability to capture minute details—whether it's able to discern between the lines or not. Last was an OCR test to check the scanner's ability to differentiate light and dark areas: a print article was scanned into ABBYY Fine Reader Pro 8.0 PE, and checked for wrongly - interpreted letters. We counted the number of mis - spelled letters in each case.

The Copier Tests

Here we copied the text document in black-and-white, and the combi-document in colour, and rated the MFDs on their speed and print quality.

the HP MFDs seemed to have problems distinguishing between adjacent shades in the light and the dark colours. The rest produces scans of acceptable quality.

The copy quality of the Canon is the best, followed by the HPs. All in all, none of the MFDs are particularly disappointing, and copies are good enough to save you a trip to the photocopy centre in a crunch situation.

OFFICE MFDs

MFDs have always been used more in offices, where space-saving is important. It is therefore no wonder that half the number of MFDs we've tested fall under the Office MFD category.

All falling in the price range of Rs 6,000 to Rs 10,000, nine MFDs feature in this segment: two from Brother (the DCP-330C and MFC-240C), the Canon PIXMA MP460, four from HP (the Officejet 4355 All-in-One, Officejet 5610 All-in-One, Officejet 5680 All-in-One, and Photosmart C4188 All-in-One), and the Lexmark X4270.

Features Printing

The HP and Lexmark MFDs have two ink cartridges, while the

Brother, Canon, and Epson have four each. The input paper tray capacity for all of them is 100, and this is more than enough for a moderate-size office with moderate workloads.

Scan, Copy, And Fax

For the price, the HP Officejet 4355 and Lexmark X4270 pack in a lot of features. The 4355 boasts of a good scan resolution of 1200 x 1200 dpi. The Lexmark X4270 is a direct competitor, but has a lower scan resolution of 600 x 1200 dpi. The gripe in both cases is that these feature a sheet-fed scanning element and are therefore slower than their flatbed counterparts. There is



HP Photosmart C4188 All-in-One
Performance matches features

also the chance of documents getting crumpled inside the scanner. Fax, complete with handset, is also part of the parcel in these two MFDs. The HP 4355 can create up to 200 copies, the largest number in this entire test.

The HP C4188 and 5610 feature high-resolution scanning at 1200 x 2400 dpi, enabling them to pick up even fine print from documents. The Brother DCP-330C and HP C4188 have flatbed scanners, while the HP 5610 has the option of a sheet-fed scanner too. A sheet-fed scanner, in conjunction with an automatic document feeder (ADF), relieves you from the task of feeding a number of pages to be scanned—simply stash the paper in the ADF and the device will automatically pick the papers one by one, and scan them in proper order.

The Epson MFD doesn't have fax, and the Canon PIXMA MP460 has neither fax nor ADF.

Build Quality And Other Features

The HP Officejet 4355 and Lexmark X4270 are extremely compact. They are built ruggedly overall, but the trays that protrude out of them are a little





Scoreboard – Home Inkjet MFDs

BRAND MODEL	Brother DCP-130C	Canon PIXMA MP160	HP Deskjet F380 All-in-One	HP Photosmart C3188 All-in-One	Lexmark X1270
* So10 = Score of Ten					
Price (Rs)	5,940	5,999	4,999	5,999	3,900
Comments	+ Rugged build - Faded colour prints	+ Good performance - No memory card reader	+ Good print quality - Slow print speed	+ Good photo quality - No PictBridge	+ Inexpensive - Slow photo print speed
Final Score (Out of 100)	61.15	61.76	53.16	61.64	53.53
Features (Out of 30)	16.42	10.53	10.39	15.11	10.64
Performance (Out of 50)	32.91	39.53	28.72	34.83	24.88
Price Index (Out of 20)	11.82	11.70	14.04	11.70	18.00
Features					
Printing					
Printing Technology	Piezoelectric	Thermal	Thermal	Thermal	Thermal
Input Paper Tray Capacity	100 sheets	20 sheets	100 sheets	100 sheets	100 sheets
Number of Cartridges	4	4	2	2	2
Scanning					
Maximum Optical Resolution	600 x 1200 dpi	600 x 1200 dpi	600 x 2400 dpi	1200 x 2400 dpi	600 x 1200 dpi
Bit Depth	48-bit	48-bit	48-bit	48-bit	48-bit
Scanner Type (Flatbed/Sheet-fed/Both)	Flatbed	Flatbed	Flatbed	Flatbed	Flatbed
"Scan to" Option (✓/✗)	✓	✗	✗	✗	✓
Automatic Document Feeder (✓/✗)	✗	✗	✗	✗	✗
Copying					
No. of Copies In Standalone Mode	99	20	9	50	1
Fax					
Handset Provided (✓/✗)	NA	NA	NA	NA	NA
Build Quality					
Ruggedness of Flaps (So10)*	6	4	6	6	5
Overall Ruggedness (So10)	6	4	6	6	6
Menu Ease of Use (So10)	5	3	NA	5	NA
Weight	7.1 kg	6.3 kg	4.5 kg	5.08 kg	4.4 kg
Dimensions (W x D x H)	398 x 360 x 150 mm	445 x 381 x 183 mm	440 x 259 x 170 mm	434 x 290 x 162 mm	496 x 396 x 244 mm
Display Interface Type	Mono LCD	7-segment LCD	None	Icon-based Mono LCD	None
Memory Card Reader	CF, MS, MS Pro, SD, MMC, xD	None	None	SD, MMC, SM, MS, MS Pro, xD	None
Network Connectivity	✗	✗	✗	✗	✗
Other Features (if any)	PictBridge	PictBridge	None	RePrint & Proof Sheet buttons	None
Performance					
Printing					
Speed Tests					
Text Print (Black) Normal / Best	33.3 / 66.8 sec	9.3 / 35.7 sec	26.4 / 125.2 sec	21.1 / 41.2 sec	19.5 / 158.7 sec
Combi Document Normal / Best	38.1 / 81.9 sec	33.1 C80/ 90.3 sec	67.7 / 144 sec	48.9 / 95.6 sec	123.3 / 320.8 sec
Photo Printout (Best)	330 sec	235 sec	408.3 sec	426.8 sec	483 sec
Image Quality Tests (So10)					
Text Quality / Aliasing (Black, Normal)	6/5	7 / 8	3 / 5	7 / 7	6 / 6
Text Quality (Black, High)	6	6	5	6	5
Image Quality (Combi-Document, Best)					
Colour Saturation / Aliasing	6 / 8	8 / 8	5 / 8	6 / 8	5 / 6
Highlights On Fruit / Shade Gradations	5 / 6	6 / 8	7 / 7	7 / 8	4 / 4
Quality of Photograph	6	7	7	7	5
Text Readability	8	8	5	8	5
Yellow Text on Black Background	8	8	8	8	8
Photo Image Quality					
Colour Reproduction / Fine Details	5 / 8	6 / 8	6 / 6	6 / 8	5 / 4
Specular Highlights / Contrast	6 / 5	7 / 7	7 / 7	8 / 7	5 / 6
Reproduction of Textures	7	7	6	7	5
Scanning					
Black Scan at 200 dpi	14.1 sec	17.9 sec	14.1 sec	15.5	14.1
Colour Scan at 600 dpi	51.2 sec	34.3 sec	78 sec	73.8	125.4
Copying					
Black / Colour Copy Speed	29.2 / 40.5 sec	24.6 / 69.1 sec	34.3 / 84 sec	24.8 / 55.4 sec	26.2 / 243.1 sec
Black / Colour Copy Quality (So10)	6 / 6	8 / 8	7 / 7	7 / 7	6 / 6
Warranty	1 year	1 year	1 year	1 year	1 year



Scoreboard – Office Inkjet MFDs

BRAND MODEL <small>* So10 = Score of Ten</small>	Brother DCP-330C	Brother MFC-240C	Canon PIXMA MP460	Epson Stylus CX3900	HP Officejet 4355 All-in-One
					
Price (Rs)	8,690	9,900	9,995	6,799	6,999
Comments	+ Fast at scanning – Slow printing performance	+ Dual-type scanner – Slow performance	+ Good performance – No fax, yet expensive	+ Fast in B/W scanning – No fax or ADF	+ Fax with handset – Slow at photo printing
Final Score (Out of 100)	62.19	62.41	66.32	57.67	60.20
Features (Out of 30)	16.56	17.66	14.81	12.88	17.77
Performance (Out of 55)	35.08	35.48	42.33	31.29	29.31
Price Index (Out of 15)	10.56	9.27	9.18	13.50	13.11
Features					
Printing					
Printing Technology	Piezoelectric	Piezoelectric	Thermal	Piezoelectric	Thermal
Input Paper Tray Capacity	100 sheets	100 sheets	100 sheets	100 sheets	100 sheets
Number of Cartridges	4	4	4	4	2
Scanning					
Maximum Optical Resolution (dpi x dpi)	600 x 2400 dpi	600 x 1200 dpi	1200 x 2400 dpi	600 x 1200 dpi	1200 x 1200 dpi
Bit Depth	48-bit	48-bit	48-bit	48-bit	48-bit
Scanner Type (Flatbed/Sheet-fed/Both)	Flatbed	Both	Flatbed	Flatbed	Sheet-fed
"Scan to" Option (✓/✗)	✓	✓	✓	✓	✓
Automatic Document Feeder (✓/✗)	✗	✓	✗	✗	✓
Copying					
No. of Copies In Standalone Mode	99	99	99	99	200
Fax					
Handset Provided (✓/✗)	NA	✗	NA	NA	✓
Build Quality					
Ruggedness of Flaps (So10)*	6	6	5	5	4
Overall Ruggedness (So10)	6	7	5	5	5
Menu Ease of Use (So10)	6	5	6	NA	5
Weight	7.3 kg	8 kg	7.1 kg	5.8 kg	5.5 kg
Dimensions (W x D x H)	398 x 360 x 150 mm	398 x 370 x 180 mm	445 x 419 x 264 mm	430 x 345 x 172 mm	417 x 203 x 330 mm
Display Interface Type	Swivel Colour LCD	Mono LCD	Swivel Colour LCD	None	Mono LCD
Memory Card Reader	CF, MS, MS Pro, SD, MMC, xD	CF, MS, MS Pro, SD, MMC, xD	CF, MD, MS, MS Pro, MMC	None	None
Network Connectivity	✗	✗	✗	✗	✗
Other Features (if any)	PictBridge	PictBridge	PictBridge	None	None
Performance					
Printing					
Speed Tests (Seconds)					
Text Print (Black) Normal/Best	33.9 / 67.3 sec	33.8 / 63.7 sec	9.5 / 31.1 sec	30.4 / 42.1 sec	20.7 / 129.2 sec
Combi Document Normal/Best	36.4 / 81 sec	37.3 / 80.6 sec	33.1 / 92.8 sec	93.3 / 133.1 sec	69.3 / 145.2 sec
Photo Printout (Best)	326.7 sec	325.5 sec	215.1 sec	322 sec	402.5 sec
Image Quality Tests (So10)					
Text Quality / Aliasing (Black, Normal)	6 / 7	6 / 7	7 / 8	5 / 5	5 / 6
Text Quality (Black, High)	7	7	7	5	5
Image Quality (Combi-Documents, Best)					
Colour Saturation/Aliasing	6 / 8	6 / 8	8 / 8	7 / 8	6 / 8
Highlights On Fruit/Shade Gradations	5 / 6	5 / 6	6 / 8	5 / 6	7 / 7
Quality of Photograph	6	6	7	7	7
Text Readability	8	8	8	6	5
Yellow Text on Black Background	8	8	8	8	8
Photo Image Quality					
Colour Reproduction/Fine Details	5 / 8	5 / 8	6 / 8	5 / 6	6 / 6
Specular Highlights/Contrast	6 / 5	6 / 5	7 / 7	7 / 4	7 / 7
Reproduction of Textures	7	7	8	7	6
Scanning					
Black Scan at 200 dpi	13.4 sec	13.8 sec	16 sec	13.5 sec	17.3 sec
Colour Scan at 600 dpi	51.5 sec	51.3 sec	70.1 sec	126.9 sec	94.3 sec
Copying					
Black / Colour Copy Speed	29.5 / 41.2 sec	29.4 / 40.7 sec	24.1 / 67.6 sec	36.6 / 103.2 sec	36.3 / 87.6 sec
Black / Colour Copy Quality (So10)	6 / 6	6 / 6	8 / 8	6 / 6	7 / 7
Warranty	1 year	1 year	1 year	1 year	1 year

HP Officejet 5610 All-in-One	HP Officejet 5680 All-in-One	HP Photosmart C4188 All-in-One	Lexmark X4270
			
8,999	9,999	7,999	7,500
+ Fax with ADF - Expensive	+ Fax with handset - Expensive	+ Superb print quality - No fax or ADF	+ Fax with handset - Below-par print quality
56.22	59.68	67.34	57.24
15.49	19.09	15.44	16.83
30.53	31.42	40.43	28.17
10.20	9.18	11.47	12.24
Thermal	Thermal	Thermal	Thermal
100 sheets	100 sheets	100 sheets	100
2	2	2	2
1200 x 2400 dpi	1200 x 2400 dpi	1200 x 2400 dpi	600 x 1200 dpi
48-bit	48-bit	48-bit	48-bit
Both	Both	Flatbed	Sheet-fed
✓	✓	✓	✓
✓	✓	✗	✓
100	100	50	30
✗	✓	NA	✓
5	5	6	4
6	6	6	6
5	5	7	5
5.9 kg	6 kg	5.4 kg	3.87 kg
435 x 418 x 235 mm	435 x 418 x 235 mm	434 x 290 x 162 mm	546 x 370 x 248 mm
Mono LCD	Mono LCD	Swivel Colour LCD	Mono LCD
None	None	SD, MS, MS Pro, SM, MMC, xD	None
✗	✗	✗	✗
None	None	Photo Paper Cassette	4-Port USB Hub
17.3 / 129.8 sec	17.1 / 123.8 sec	16.2 / 38.8 sec	15.1 / 171.1 sec
65.4 / 144.6 sec	65.6 / 141.9 sec	32.9 / 91.7 sec	130.3 / 354 sec
392.8 sec	390.9 sec	221.3 sec	1130 sec
7 / 7	7 / 7	7 / 7	5 / 5
6	6	6	5
6 / 4	6 / 8	6 / 8	4 / 6
7 / 7	7 / 7	7 / 8	4 / 4
7	7	7	4
6	6	8	5
8	8	8	8
6 / 6	6 / 6	6 / 8	5 / 4
7 / 7	7 / 7	8 / 7	5 / 6
7	7	8	5
16.5 sec	17.1 sec	9.3 sec	9 sec
111.7 sec	182.8 sec	71 sec	176.2 sec
31.2 / 68.7 sec	32.8 / 68.5 sec	24.7 / 37.3	15.3 / 150.7 sec
7 / 7	7 / 7	7 / 7	7 / 7
1 year	1 year	1 year	1 year

flimsy. Unlike the 4355, whose trays can be folded when not in use, the tray of the Lexmark has to be dismantled and stored separately—a bit of a pain. The Epson is also built fairly well, though its scanner lid is a little fragile. The Lexmark comes bundled with a 4-port USB hub.

The HP Officejet 5610, Photosmart C4188, and the Brother DCP-330C are all built very well—good enough to bear the rigours of office use. However, the HP 5610 has protruding trays that, though not flimsy, get easily dislodged from the MFD with the slightest of force. The HP 5610 is a no-frills, rugged office MFD with a mono LCD, while the C4188 is a photo MFD with special features such as a memory card reader, the reprint function, and a special side input tray to store 4 x 6 photo papers. Both the HP C4188 and the Brother DCP-330C have a swivel colour LCD. The C4188 has a Photo Fix function, which lets you apply effects to images on memory cards and digicams to improve print quality.

One feature we like about all the HP and Brother printers is that their cartridges replacement compartments are

conveniently placed on the front left corner, so you don't need to poke your hands about inside the bay. This is a good design



CANON PIXMA MP460
Quick copies, crisp prints

improvement, and we might well see an increasing number of printers and MFDs incorporating such a design.

The Brother MFC-240C and HP 5680 have Mono LCD screens, while the Canon MP460 has a swivelling colour LCD that lets you view photos from a memory card or camera connected to the PictBridge port, and even resize them. Just like the HP 5610, the 5680 is a no-frills MFD just for office use, and therefore does not feature a memory card reader or PictBridge.

Performance Printing

The Epson CX3900 is one of the slowest at black-and-white, normal-quality text

prints, but it takes the same time at the best quality, leaving the HP 4355 and Lexmark lagging behind. The Lexmark is the slowest of all the MFDs at photo printing, taking an agonising 18 minutes! These three, the lowest-priced in the lot, display black text print quality at par with each other, while in the colour print department, the HP and Epson are better. The Lexmark produces prints that appear sprinkled with ink droplets.

Amongst the Brother DCP-330C and the HP C4188 and 5610, the HP MFDs are the fastest at normal-quality text printing, but the 5610 is the slowest of the three once you enable colour and turn up the quality. Text prints are good with all the MFDs, but the HP C4188 is the best with our combi-document and photos. The Brother MFD does print well, but the colours appear faded—as with all MFDs from Brother.

The Canon PIXMA MP460 is clearly the fastest, and even manages excellent photo quality in that time. This one is probably more suited for a small photo studio rather than for an office. It doesn't disappoint with text and combi-document printing, either.

Scanning And Copying

The Lexmark X4270 scans really fast—taking just 9 seconds for black-and-white—but is one of the slowest when it comes to colour scans. The HP 4355 and Epson were slower than the

Lexmark in the black-and-white scans.

The HP C4188 scans fast in black-and-white, but is a little slow at colour. Still, it captures the shades of the colours on the IT8 card very well. The scanner on the Brother DCP-330C is also good, and the HP 5610 falters while distinguishing between adjacent shades in the dark and light colours.

The HP 5680, though looks similar to the 5610, takes up to twice the time to scan a full-colour photo at 600 dpi. The fastest among the 5680, Canon PIXMA MP460, and the Brother DCP-240C is the Brother, taking just 13.8 seconds for a black-and-white scan. It also captures the most detail in the scanner test among the above three, followed closely by the MP460.

The MP460 copies at good speeds—though not at the fastest—and the quality of the copies is so good, it's difficult to distinguish between the original and the copy at first look! The rest copy with acceptable quality, and none of them elicit any complaints. The Epson and Lexmark are the slowest at colour copies, so they aren't suitable for making copies of your colour presentations if you're in a hurry.

PROFESSIONAL MFDs

The MFDs in this category sport special features such as the ability to print photographs at professional quality, networking, and more. Prices typically start at around Rs 15,000 and can go

up to Rs 25,000 and beyond. Naturally, these fall outside the realm of SoHos and small businesses.

The heavyweights here are the Brother MFC-440CN, Canon PIXMA MP600, Epson Stylus Photo RX650, and the HP Photosmart C6188 All-in-One.

Features Printing

Two of the MFDs, the Brother and the Epson, feature piezoelectric printing, while the HP and Canon MFDs are based on thermal inkjet printing technology. The Brother and Canon have



HP Photosmart C6188 All-in-One
Master of all trades!

the usual four (Cyan, Magenta, Yellow, Black) ink cartridges each, but the HP and Epson have six (Black, Cyan, Magenta, Light Magenta, Cyan, Light Cyan, Yellow). The extra cartridges should increase the accuracy of colour reproduction, and our tests will verify if this is indeed the case.

Scan, Copy, And Fax

The Brother MFC-440CN is expensive—probably thanks to the network feature and the huge 400-page fax memory, which lets you receive faxes even when you run out of paper. It has a scan resolution of 600 x 1200 dpi, which is the lowest of the lot. The HP C6188 boasts of a high scan resolution of 4800 x 4800 dpi, while the Epson scans at 3200 x 6400 dpi. The fax MFDs—the HP and the Brother—feature ADFs and both flatbed and sheet-fed scanners, while

Footnotes

This is not about any particular category of MFD, but about all the MFDs in general and our experiences with them.

HP has a Dial-a-Cartridge system in many cities. If you run out of ink, you can dial a toll-free number and order a cartridge, which arrives at your doorstep.





A general nuance about HP MFDs is the long time they take to install the software. On our test rig, it took us 15 minutes on average for all the HP MFDs in the test. Though this is a one-time affair, HP needs to pay some attention to this—it's plagued us for a few years now.

Brother MFDs are good for offices—that's what they're meant for—but a peculiar thing we noticed is a seeming Obsessive Compulsive Disorder: they waste around two minutes cleaning the cartridge every time they're switched on for a photo print. And *despite* that, the colours are faded—we're left wondering what kind of cleaning was done. Another issue we faced with Brother was that none of their MFDs could pick up the 160 gsm photo paper, so we had to replace it with the lighter 110 gsm paper to get things moving.

All the MFDs come with software suites that include photo editing as well as OCR software. These are more than sufficient for general need.



Scoreboard – Professional Inkjet MFDs

BRAND MODEL	Brother MFC-440CN	Canon PIXMA MP600	Epson Stylus Photo RX650	HP Photosmart C6188 All-in-One
* So10 = Score of Ten				
				
Price (Rs)	14,850	17,995	25,799	15,999
Comments	+ Network-ready - Slow	+ Excellent print quality - No fax or ADF	+ Can manipulate images - Expensive	+ Good performance, Photo Fix - None in particular
Final Score (Out of 100)	64.55	73.62	58.86	75.50
Features (Out of 35)	23.80	21.16	21.13	27.47
Performance (Out of 55)	31.75	45.04	32.55	39.68
Price Index (Out of 10)	9.00	7.43	5.18	8.35
Features				
Printing				
Printing Technology	Piezoelectric	Thermal	Piezoelectric	Thermal
Input Paper Tray Capacity	100 sheets	150 sheets	80 sheets	100 sheets
Number of Cartridges	4	4	6	6
Scanning				
Maximum Optical Resolution	600 x 1200 dpi	2400 x 4800 dpi	3200 x 6400 dpi	4800 x 4800 dpi
Bit Depth	48-bit	48-bit	48-bit	48-bit
Scanner Type (Flatbed/Sheetfed/Both)	Both	Flatbed	Flatbed	Both
"Scan to" Option (✓/✗)	✓	✓	✓	✓
Automatic Document Feeder (✓/✗)	✓	✗	✗	✓
Copying				
No. of Copies In Standalone Mode	99	99	99	50
Fax				
Handset Provided (✓/✗)	✗	NA	NA	✗
Build Quality				
Ruggedness of Flaps (So10)*	6	7	7	7
Overall Ruggedness (So10)	7	7	7	8
Menu Ease of Use (So10)	6	8	7	8
Weight	8.4 kg	10.1 kg	9.3 kg	12.99 kg
Dimensions (W x D x H)	398 x 370 x 180 mm	450 x 389 x 194 mm	450 x 414 x 210 mm	450 x 385 x 247 mm
Display Interface Type	Swivel Colour LCD	Swivel Colour LCD	Swivel Colour LCD	Swivel Colour LCD
Memory Card Reader	CF, MS, MS Pro, SD, MMC, xD	CF, MD, MS, MS Pro, MMC	CF, MS, MS Pro, MS Duo, MS Duo Pro, MD, SD, MMC, xD	CF, MD, MS, SD, MMC, xD
Network Connectivity	Ethernet	✗	✗	Wi-Fi, Ethernet
Other Features (if any)	PictBridge	PictBridge, IrDA	PictBridge, IrDA	PictBridge, Photo Tray
Performance				
Printing				
Speed Tests				
Text Print (Black) Normal/Best	33.8 / 67.1 sec	7.8 / 33.5 sec	29.9 / 77.7 sec	26.1 / 36.2 sec
Combi Document Normal/Best	37.1 / 82 sec	19.7 / 45.2 sec	33.1 / 83.4 sec	29.5 / 97.3
Photo Printout (Best)	333.3 sec	113 sec	289 sec	128.8 sec
Image Quality Tests (So10)				
Text Quality / Aliasing (Black, Normal)	6 / 7	7 / 8	5 / 6	7 / 8
Text Quality (Black, High)	7	8	6	7
Image Quality (Combi Document, Best)				
Colour Saturation/Aliasing	6 / 8	8 / 8	7 / 8	5 / 8
Highlights On Fruit/Shade Gradations	5 / 6	7 / 8	7 / 7	7 / 8
Quality of Photograph	6	7	7	7
Text Readability	6	8	6	6
Yellow Text on Black Background	8	8	8	8
Photo Image Quality				
Colour Reproduction/Fine Details	5 / 8	8 / 8	5 / 6	8 / 8
Specular Highlights/Contrast	6 / 5	8 / 7	8 / 6	8 / 7
Reproduction of Textures	7	8	8	8
Scanning				
Black Scan at 200 dpi	13.7 sec	19.2 sec	22.4 sec	9.1 sec
Colour Scan at 600 dpi	50.9 sec	53 sec	181.6 sec	69.2 sec
Copying				
Black / Colour Copy Speed	33.1 / 39.9 sec	15.6 / 32.1 sec	36 / 35.9 sec	17.9 / 29.8 sec
Black / Colour Copy Quality (So10)	6 / 6	8 / 8	6 / 6	7 / 5
Warranty	1 year	1 year	1 year	1 year

the non-fax MFDs—the Epson and the Canon—have only flatbed scanners.

Needless to say, all support multi-copying: the Brother, Canon, and Epson can do 99 copies each, while the HP stops at 50.

Build Quality And Other Features

All the MFDs here are very ruggedly built. The only chink in the armour of the Brother MFC-440CN is its weak input tray. Brother MFDs have been the heaviest in the other categories, but in this category, it is the lightest (though by no means *light*) at 8.4 kg. The HP is the heaviest at just under 13 kg. The weight is a pain only during the initial setup and isn't a problem later, since these MFDs are not likely to be moved around. Each MFD features a swivelling colour LCD screen that lets you preview images and even apply effects to them.

The control panel on the Canon MFD is hidden under the LCD screen, and also has a unique rotary control wheel (similar to that on the iPod), which we found very intuitive.

The HP Photosmart C6118, a photo MFD, has the reprint function, which lets you restore and make copies from an original photo. The Epson RX650 is the only one that also supports creation of photos from negatives. The HP also has a Photo Fix function, which can apply effects like red-eye reduction to scanned photos, and photos from memory cards and digicams, before printing.

PictBridge and memory cards were standard fare, though the Epson RX650 supports more memory card standards. The Canon and Epson feature IrDA, so you can print directly from an infrared device like your camera phone. Bluetooth would have been better, since this is *de facto* now,

and faster and more popular than infrared. The HP and Brother feature Ethernet ports. HP goes one step further and supports Wi-Fi (802.11g) that bestows upon Laptops and PDA phones the convenience of wireless printing.

Performance Printing

The Canon MP600 seems to have an insatiable hunger for paper—sheets went in, and normal-quality black-and-white prints popped out in just 7.8 seconds! The slowest is the Brother. The others fall in between.

The print quality of all the

colour scan—quite obviously the slowest.

As before, the Canon MP600 is the fastest and best copier—it reproduces even the finest of details with great accuracy.

Which One To Buy?

In the Home category, the Canon PIXMA MP160, with the best print, copy, and scan quality, and fast at that, is the Digit Best Buy Gold winner. With its print quality, memory card reader, and Photo Reprint function, but no PictBridge, the HP Photosmart C3188 All-in-One takes the Digit Best Buy Silver in that category.

The populous Office category was the most competitive. The HP Photosmart C4188 All-in-One has photoprinting features like a photo paper cassette and a colour LCD and memory card reader, and also performs well—especially in photo printing. At Rs 7,999, this one gets the Digit Best Buy Gold. With its speed and excellent print quality, the Canon PIXMA MP460 takes the Silver, let down only by its stiffer Rs 9,995 price tag.

It's ironic that the winners don't have fax—if that's essential, we recommend the Brother DCP-330C and MFC-240C. The Lexmark X4270 and HP 4355 are good if you're on a budget, and if your workload is moderate; the HP 5610 and 5680 will handle bigger workloads better.

Photo printing, Ethernet, Wi-Fi, memory card reader, fax, you name it—the HP Photosmart C6188 All-in-One has it all. Performance matches features, here, and at Rs 15,999, it is a very attractive choice for anyone setting up a photo studio. Without a doubt, this is the Digit Best Buy Gold winner in the Professional category.

The Canon PIXMA MP600 is stylish, and specialises in photo printing. It produces life-like photo prints—better than those by any other MFD in this test. This one manages to deliver excellent results at the fastest speeds. With a very intuitive interface, this MFD gets the Digit Best Buy Silver in the Professional category. ☒

jayesh_limaye@thinkdigit.com



Canon PIXMA MP600

Amazing, life-like photo prints

MFDs here is exceptional except for the Epson. This one's photo prints are clear and sharp, but overall, the prints have a yellow tinge.

The Canon and the HP are the best in terms of print quality across the tests, and should be every professional photographer's dream come true.

Scanning And Copying

All the MFDs here are good at scanning, but the HP Photosmart C6188 is exceptionally so. It produces the best scans we've seen in this test, and takes just 9.1 seconds for a black-and-white scan.

The Epson Stylus Photo RX650 is the slowest, taking over 22 seconds for the same job. It also took over 3 minutes to complete a

Contact Sheet—Inkjet MFDs

Brand	Company	Phone	E-mail
Brother	Brother International (India) Pvt Ltd	40988900	info@brother.in
Canon	Canon India Pvt Ltd	1800-345-33-66	info@canon.co.in
Epson	Epson India Pvt Ltd	1800-425-00-11	sales@eid.epson.co.in
HP	Hewlett-Packard India Sales Pvt Ltd	0124-2566111	kakuni.mahto@hp.com
Lexmark	Cyberstar Infocom	9343661888	sangeeta.nandy@cyberstarindia.com



Basant Rajan
Chief Technology Officer
Symantec Corporation, India

Logging is a great tool for communication and collaboration. It can be used by domain experts to communicate with customers and the world at large, as we do with the Symantec security Weblog. It can also be used by employees to collaborate as we do with our internal blog. Then, most employees at Symantec use wikis or Microsoft SharePoint for collaboration within or across groups.

Social networking sites help our employees keep in touch with individuals or groups both inside and outside the company, and to continue to make new and useful contacts that will ultimately help them in being more productive.

Web 2.0 technologies are very productive when used appropriately, but as with any technology, there is always the possibility of misuse. It would be prudent to be watchful, and we are. There are a number of policies that govern the exchange of information and the monitoring thereof.

Still, our employees enjoy considerable flexibility in terms of how they use their computers, the Internet, and the intranet. Everything we do at Symantec is ultimately about enabling people to work and play freely in a connected world.



WEB 2.0 AND

From a business perspective, is blogging and social networking of any value—to a company? Should employees be *encouraged* to indulge in these “Web 2.0 activities”?



Santosh D'Souza
Chief Technology Officer
Sun Microsystems, India

The goal of providing a blog-space for employees has been to ensure that people become part of conversations occurring around the industry. Sun employees, through their blog posts, are now participating in dialogues, be they about technology or otherwise, in a way that transcends geography and time.

Sun's effectiveness at knowing what its community is saying has been improved immensely by the blogging process. Blogs serve as a good tool for internal communication as well. For the top management, blogging can be a powerful and highly credible tool to communicate with employees. Blogging serves as an effective tool to attract talent. With companies vying with each other to attract the best talent, we have to prove we are a more vibrant, interesting, and open company. These blogs reflect the quality of the people and that's the quality of the company. Blogs have authenticated the Sun brand as much as or more than a billion-dollar ad campaign could have done.

Blogging allows employees to get to know each other better, to gain a broader understanding of their co-workers.

Sun has embraced other Web 2.0 means, like YouTube videos, podcasts, and Second Life, to get the message across about our solutions.



Jay Pullur
Founder and CEO
Pramati Technologies

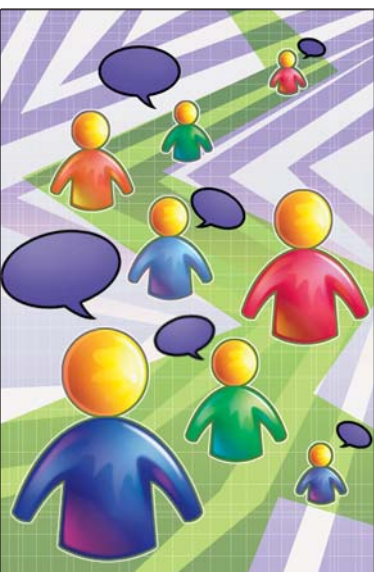
Blogging and business social networking are crucial parts of business today, particularly in the hi-tech industry. It would be wise for companies to use the movement to their benefit. We want our employees to be smarter, well-read, articulate, and well-connected. Web 2.0 helps this cause.

There would certainly be part of employees' time going into non-productive purposes. However, when companies encourage blogging and tell them what areas would help business and the branding cause, at least a reasonable part of the time spent could be productive.

Social networking including professional networking can open up the minds of employees. Traditional channels like conferences and seminars provided opportunities for people to connect with related people. Online communities, technology forums, and special-interest groups all form various social networking opportunities. The value of such social networking is manifold—the most important for us is branding.

Small and medium companies should see blogging and social networking as an equaliser, because on the Web, no-one knows the size of your office. Bigger companies can also benefit, but they probably have the need for regulatory mechanisms.

BUSINESSES



Bhavin Turakhia
CEO
Directi

At Directi, blogging has enhanced the communication give and take among various audience verticals. Employee blogging manages to reach out to a larger credible audience, and allows employees to express themselves in the most creative of ways.

A blog by a company employee gives an inside view of the company and would hence positively affect the company's brand image. At Directi, we have employees who write blogs for creative expression, and others who try to address technical and soft issues they face in their work domain. This transforms a nameless and faceless organisation into one with a personal and very live face.

Negative comments about companies on blogs should be accepted in the right spirit and an attempt must be made to mutually understand issues and correct them.

Social / Business networking, too, most definitely works for us. It helps in popularising products and services to the right target audience. Moreover, social networking gives a much-needed personal side to business deals and also opens up thousands of prospective sales leads. Companies must encourage employee social networking.



Rajul Garg
Vice president
Corporate and People
Development,
GlobalLogic

We as a company are firm believers in the individual's power of expression. It's liberating to be able to speak your mind and have others comment on it. Personal trust and responsibility are integral parts of our culture and blogging has helped us spread that.

The policy of allowing blogging by employees has re-enforced our culture of personal trust and responsibility. Hence, at a macro level, it has helped.

We do not have a formal monitoring mechanism for employee blogs. We may have the need in the future as it gets bigger in scale.

Regarding access to social networking sites for professional purposes, we are working on creating a business community partnering with a popular social networking provider. We think this will act as a social glue and help people relate to each other more as people.

We are big believers in the power of collaboration and how the new, new Web makes it possible. It ties in very well to breed innovation, which is our fundamental need.

As told to Prakash Ballakoor (prakash_ballakoor@thinkdigit.com)

Smart Training

Tired of seeing your trainees dozing off at training sessions? Maybe you're going about it the wrong way. Here's presenting some radical new ways to impart training

The Advantages

Avatar-based training can pool in all the resources and experience of human trainers and deliver an identical training session every time, thereby ensuring the optimal training experience in every session—something even the most experienced trainers are not capable of achieving. Another advantage of avatar-based training is that the training module can be run at the convenience of the trainee's time, and can be viewed over and over for reinforcement. The training can also be used in large organisations, where employees are scattered across continents.

Accenture is developing various avatar-based training modules, and recently deployed one at British Telecom, the UK's largest telecommunications provider. The programme helped train 4,500 salespeople in just four weeks, as opposed to the eight weeks a traditional training program would have taken. Then, a training module developed for NASA allows the trainee to observe living and working conditions in the polar regions of Mars, with an avatar explaining various details of the conditions on-screen.

Avatars can be made to identify with the trainees, in terms of ethnicity and age—so soldiers can be trained by a military avatar, and a younger audience can have a teenage avatar. With powerful off-the-shelf graphics technology available, military and space exploration training avatars move and look a lot more realistic than ever before. However, animating an entire training module could cost anywhere between Rs 50,000 and lakhs of rupees right now. With an increased demand for these services, however, costs should fall rapidly.



Avatar-based training is touted to be the future

Imaging Shrikishna Patkar
Photograph Jiten Gandhi

Asfaq Tapia

In most organisations, training is usually one-sided: you have a trainer teaching a skill-set the company deems important, while most participants happily dream of quitting time and martinis. Fortunately, there is a quiet revolution taking place. Companies are exploring innovative ways to make training interesting, which means value for the money they spend on training.

Avatar Training

Traditionally, we have always had human trainers teaching a class. These days, however, avatars are assuming the role of imaginary coaches, co-workers, or customers in computer-based training modules designed to teach specific skills.

An avatar is a computer-generated simulation of humans that may be photo-realistic, or a cartoon character with head-and-shoulder views that come and go as the computer-based training module runs its course.

Simulated Training

Most of us have played or heard of *The Sims*, a computer game that allows a gamer to create virtual characters that interact amongst themselves to reach a common goal. As if giving credence to its fun factor and its popularity (it remains the largest-selling PC game of all time), companies are gradually looking at simulated approaches to creating training modules, wherein participants enter a virtual world to learn skill-sets with a replica of themselves interacting with other participants to perform a certain task or objective.



A scene from the very popular *The Sims 2*

A recent IBM study found that 56 per cent of customers lacked the skills to combining IT technical understanding with business process acumen. (IBM refers to this as “T”-skills). Based on this data, they have designed a 3D educational game simulator, called Innov8, which bridges the gap between IT engineers and business leaders in an organisation.

Innov8

The Innov8 simulation gives the participant the feeling of playing a game, but also teaches events or processes such as business operations. It has proved to be a very successful method of retraining or developing new skill sets. The game is played with a joystick controller and allows participants to visualise how an end-product will function in the customer’s organisation. While playing the game, participants can literally see how the business processes will function, identify bottlenecks, and explore alternative scenarios before the Service Oriented Architecture (SOA) is deployed.

Naveen Gupta, VP, technical sales and support, Software Group, IBM India, says, “Innov8 is a reflection of the way people learn today—it’s got to be interactive, visual and fun. At the end of the game, players are assessed with a score on how well they did, so it’s competitive as well.”

Innov8 is a prototype right now—IBM expects the final version to be completed by September 2007. IBM plans, when it is ready, to deploy the platform over a wide array of industry sectors. It predicts that Innov8 could be used to train middle- or top-level management on Business Process Management and SOA concepts. It can also be used in Higher Education to assist students develop T-shaped skills, thereby making them better managers.

Companies are gradually looking at simulated approaches to creating training modules



Visual role-playing in training helps build skill-sets faster

Since it is a game, Innov8 is extremely interactive. Players must achieve certain tasks before they can get to the next level. Completing each task gives them a better understanding of business processes. In the future, IBM plans to make online versions for gaming environments such as *Second Life*, where trainees can participate simultaneously in one session from all across the world. IBM plans to release Innov8 as a free download, so anyone can start playing.

Networking Magic

Another method large organisations are employing is to network their teams working in various parts of the world for better communication during product development. As a result of this networking, skill-sets across various teams and geographic locations can be honed and shared by all teams across the board.

Jazz (www.jazz.net), a joint project between IBM Rational and IBM Research, is designed to build an “open-commercial community” platform that is scalable and extensible based on project requirements, and helps programmers seamlessly integrate tasks across the software lifecycle. In simple words, Jazz allows programmers to build software more effectively while making the entire process of developing software more fun!

How Jazz Works

Most code written for a project is tagged with an author’s name using Jazz. It’s easy to identify which programmer needs assistance: all code can be viewed in real-time by all the teams involved in the project. Once the author is identified, he can be put through a training module to improve the skill-sets he lacks. The training thus happens in real-time. Jazz also integrates messaging protocols into the platform, thereby enabling easy communication between teams.

Since Jazz is in its early stages right now, access to it is only open to employees of IBM Rational’s customers and partners, and a few select others by invitation. The final release date for the platform is yet to be announced.

In the future, IBM plans to use Jazz internally to regulate its own software development lifecycle. It also plans to take a community approach to building various plugins and enhancements for Jazz, so as to make it universally usable, and not just restricted to customers in the IT sector.

Online Virtual Simulations

The popularity of online virtual worlds like *Second Life* (www.secondlife.com) has opened up an unforeseen avenue for training. Increasingly, a large number of corporate businesses are harnessing this avenue to open shop online.

Second Life is a virtual world—a 3D space on the Internet totally created and evolved by its users. The inbuilt content creation tools let you make almost anything you can imagine, in real-time or in collaboration with others. *Second Life* uses Linden dollars, a form of currency, which can be bought with real-world money. The ability to design and resell 3D content, be it virtual land plots or digital art, etc., means you can build a real business entirely within *Second Life*.

Training?

Companies have already started harnessing *Second Life* to advertise their products and showcase their content on their individual islands there, but what could be done in the future is use *Second Life* as a training medium to impart skill-sets to a wide audience from varied geographic locations. Alternatively, companies could start using *Second Life* as a testing ground for employees—monitoring their selling or running of the business to see how they perform in the virtual world, before giving them a promotion that would see them doing the same in the real world.

Using *Second Life* as a lower-cost testing ground could see venture capitalists trying out new business ideas online instead of risking large sums of real money. Perhaps we're not too

Companies could start using *Second Life* as a testing ground for employees—monitoring their selling or running of the business to see how they perform



A scene from *Second Life*

far away from the day when senior management interviews would consist of a three-month tryout period in *Second Life*.

Feasibility

As of today, there are only a few pioneering companies leasing out their virtual land to conduct goal-specific training for corporate trainees. Not many companies in India are delving into the virtual world for a variety of reasons. Paramount among them is the prohibitive costs of high-speed Internet access, which is required when playing any online virtual simulation game. Currently, avatar training holds the most promise, but with time and “free” or cheaper broadband, who knows... Perhaps the time is ripe for the pioneers amongst you to invest in a “Second Life Employee Training Corporation.” ■

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Digital Leisure

Technology Beyond Work

GOD OF WAR II

When you've conquered Olympus and become a God—complete with castle in the skies—what else is left? Why, taking over the Heavens, of course. *God of War 2* (*GOW2*) continues the story of Kratos, the hard-nosed Spartan who, the last time we saw him, had worked his way up and defeated Ares to become the new God of War. Unfortunately, Zeus doesn't appreciate Kratos' designs on his throne, and betrays him into becoming a mortal again. Kratos must now seek the Sisters of Fate, and exact his vengeance upon Zeus. It's no modern classic, but *GOW2*'s story is still one of the most entertaining we've seen—hate, vengeance, divine politics and blood. Lots of blood.

I am, I must admit, one of those Unfortunate Souls who haven't experienced the original *God of War*. That said, the sequel makes no assumptions—you're still trained to learn Kratos' various moves and abilities, and right at the beginning of the game, you get to use all of his godly powers—only to have them stolen from you by Zeus, of course. You also don't need to know too much of the story—just the bit that you read in the first paragraph.

Where other action / adventure games are content with starting small, *GOW2* throws you into the action right away, and you get to face off with the first boss—the Colossus of Rhodes—rather quickly. The action varies between intense and insanely frenzied, and is gloriously gory and brutal. You'll also have to work through a few puzzles, but they aren't too tough and don't get on your nerves the way they do in so many such titles.

It's not just the action that's amazing—what takes you in with *GOW2* is how *big* everything is. The environments are expansive, ranging from the insides of huge statues to having to command a fleet of horses the size of Everest. Most of the bosses are insanely huge—as are the battles with them—and the satisfaction of watching something 3894529345234 times your size crumble at your feet can't be described in words.

God of War 2 takes the first ever 10/10 I've dished out—it's hard to find a flaw with this game! While many in the genre are competent, this was the only one that didn't keep me running around aimlessly for ten minutes trying to figure out what to do next. The graphics and soundtrack are brilliant and load astonishingly fast on the PS2—even saving a game isn't the torturous experience it's become in other PS2 titles. The action is more fun than you could imagine, and even the fixed camera angle doesn't get in the way of enjoyment. PS2 owners, take note—if you don't play this game, you'll be missing the best thing to happen to the PS2. Ever.

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Rating: 10/10
Platform: PS2
Developer: SCE Santa Monica
Publisher: Sony Computer Entertainment
Distributor: Milestone Interactive
Contact: sales@milestoneinteractive.com
Price: Rs 1499/-



Rating: 9/10
 Developer:
 Gas Powered Games
 Publisher: THQ
 Distributor:
 E-Xpress Interactive
 E-mail:
sales@e-xpressindia.com
 Price: Rs 699/-

SUPREME COMMANDER

While every other title that comes out these days throws around the term “genre redefining” quite loosely on their boxes, Chris Taylor’s *Total Annihilation* literally created the 3D Real-time Strategy (RTS) genre long before *Blizzard* and *StarCraft* came along to steal their thunder. Ten years and a handful of RPGs later, Chris Taylor returns to the genre with *Supreme Commander*, a game that is, like its predecessor, years ahead of its time.

Set in the distant future, with three opposing factions, as usual, warring for control, *Supreme Commander* takes a radical yet fun turn by letting the three single-player campaigns stand alone, instead of using them to tell a single connected story, as in *StarCraft* or *Command & Conquer 3: Tiberium Wars*. But what really sets the game apart is its sheer scale, and a unique ability to use multiple monitors to manage your war-

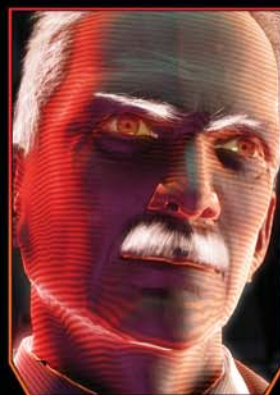
mongering. However, you are forced to constantly manage every little detail on the battlefield—juggling mass and energy resources, getting hapless engineers out of harm’s way, and repelling the huge armada that decided to wreak havoc on your sea units. *Supreme Commander* is one game where you cannot expect your missions to start and end in a five-minute Blitzkrieg, à la *Tiberium Wars*.

For such a complex game, *Supreme Commander* manages to provide excellent controls that allow you to queue up multiple tasks for units, direct them along complex routes to their destinations and set up complicated attack manoeuvres, all with a few mouse clicks and the omnipotent Shift key. Unfortunately for you, however, the enemy AI can and does the same and more often than not, you will suddenly find yourself being attacked on every front by hundreds of artillery units that soften

your base up for the rampaging Experimental Unit to come and finish you off.

The sheer scale of the game, however, does take its toll on system performance, and playing the game at the highest settings can bring frame rates down to a pathetic crawl if you zoom into the battlefield in the middle of a serious firefight. This is the only RTS that has managed to bring an Intel Core 2 Duo / 8800 GTS system to its knees at the highest settings, and most players would have to tone down the quality and split the screen in half in order to play properly. But if you are one of those with pockets deep enough to afford two widescreen monitors and a high-end Core 2 Duo / DX10 SLI powerhouse, there’s no better strategy game than this one. For the financially and tactically challenged, however, there’s always *Tiberium Wars*.

Krishnan Rajagopal



DIGIT'S GAMING PC

XFX GeForce 8800GTX,
 Intel Core 2 Duo E6600,
 4 GB RAM, Windows
 Vista Ultimate x64, WD
 250 GB (x2) - RAID 0



Rating: 7/10
Developer: Eden Games
Publisher: ATARI
Distributor: Milestone
Interface Software Ltd
e-mail: sales@
milestoneinteractive.com
Price: Rs 999/-



TEST DRIVE
Unlimited

ALOHA, RACERS!

Racing simulations? I'm game! But what's this... *Test Drive Unlimited* (*TDU*)? Nooo!!! Yet another arcade racer where you go around racing cars like a madman with a hundred gazillion decals supposedly for street cred? Not quite so with *TDU*. Stick around for a bit and we'll see if this highly-anticipated racer is any different.

To be honest, you'll normally find me playing simulations like *Live For Speed*, *GTR2*, *Richard Burns Rally*, *rFactor*, and such. I've played pretty much every *Need for Speed*, but haven't been very impressed with the releases post the *Porsche Unleashed / Hot Pursuit 2* era.

TDU is really quick to get going with. There aren't any formalities to complete. Select a character, get a base to run store your priceless rides a.k.a. a home. Then buy yourself a car that fits your tight budget and you're off.

The game is based in Hawaii, on an island that seems to have no boundaries. There's a good mix of landscapes—you get to drive through little residential areas, towering buildings and long highways passing

through densely-vegetated areas. You come across race events while roaming around, and you can always use the map view to jump to those locations.

The cars feel a little sluggish and refuse to turn in easily. The acceleration and braking isn't over-exaggerated. Unlike the newer *NFS* titles, *TDU* actually has a proper cockpit view, which gives it a bit of an authentic feel. You even get to ride two-wheelers—but unlike in real life, the bikes here have a complementary “reverse gear,” and it works!

The typical gameplay in most racing games can still be found—lap-style races, sprint races, against the clock, etc. No drifting and drag racing though. The AI is fairly easy to beat. There are cop chases as well. The cops don't seem to mind you driving at three times the allowed speed limit, though, but crash into other motorists and you've had it.

It appears bits and pieces of *Crazy Taxi* have made their way into *TDU* as well. Random top models are to be given rides to their destination. Drive ruthlessly or reach your destination late and you're going to get a brief sounding from them.

The game does look—it could well be one of the best-looking racers for the PC today. The only other PC racer that looks better would be *Colin McRae Rally: Dirt*. The models are well-detailed, and the textures are pretty decent considering the size of the environments. There's no excess radial blur and flashy effects you find in *NFS*, although you can pump up the blur a bit from the settings.

Performance isn't too great. At 1280 x 1024 with maxed-out details and 4x FSAA on a GeForce 7900GTX matched with a Core 2 Duo X6800, I got around 35–40 fps. The detailed models and textures may be good, but the game doesn't feel very refined—there are quite a few graphics glitches.

The car sounds are decent, and the horns honk like the ones you would find in cars from the '60s. You also get a radio with multiple stations to give you company when you're cruising down long highways.

Test Drive Unlimited is, ultimately, a fun game. It's one of those

games you can jump into for half an hour and then go back to whatever you were doing. The recent *Need For Speed* releases are focused on style, customising your rides, and fancy presentation. The new Pro Street announcement seems to suggest they'll still follow that path. In *Test Drive Unlimited*, it's just plain nonsense racing, the way it's meant to be. It can't be called a hardcore arcade racer, but it's no simulation either by any means. It's somewhere in between, inclining towards the arcade bit. Now if you'll excuse me I'm in a hurry: there's a passenger in my McLaren F1 waiting to be dropped someplace...

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VIRTUAL WEAPONS IN REAL LIFE

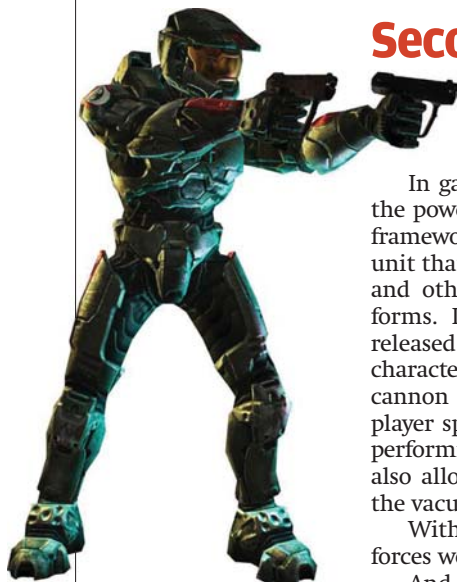
Video games have always had over-the-top weapons. Is there anything similar in the real world?

Asfaq Tapia

If you're reading this magazine, you've probably played video games at least once in your life, be it on those old Sega controllers or on today's mean consoles. Over the years, games have evolved from the simple but highly addictive *Dave to Contra* and on to today's near-realistic-physics-and-animation games and massively

multi-player online (MMO) games like *Gears of War*. As these games have developed, so have the weapons: from the simple "gun" in *Dave*, we've evolved to the "Big F***ing Gun" in the *Quake* series, and the "Gravity Gun" in *Half-Life 2*. We thought we'd dig into classified data to see if any real-world weapons in development today are similar to those in video games. Could these have been... inspired by the games? In any case, without further ado, our expert findings:

Second Skin



A Command & Conquer soldier in full armour

Homo sapiens isn't the swiftest creature on Earth. Most of us are limited by how much weight we can lug around.

In games such as *S.T.A.L.K.E.R.* and *Half-Life 2*, the powered exoskeleton is an external skin-like framework attached to a soldier. It incorporates a unit that supplies energy for physical movement and other functions that the exoskeleton performs. In the *Metroid* series of video games, released in stone-age 1986, Samus Aran, the lead character, wears an exoskeleton enhanced with a cannon attached to the arm. The suit gives the player special abilities like rolling into a ball or performing very high spinning jumps. And yes, it also allows the player to stay underwater or in the vacuum of space almost indefinitely!

With this thing around, joining the armed forces would be so much cooler...

And now, the United States Defense Advanced Research Projects Agency (DARPA) is investing \$50 million to develop an exoskeletal suit for ground troops. Imagine turning ordinary soldiers into super-troops who can leap tall objects in a single bound and run at high speeds (unsaid reference to Superman purely coincidental). The details of this program are "blacked out" and classified, and information about these wearable machines is hard to come by. However, DARPA has set some expectations for these exoskeletal machines. Here's what they are expected to do for soldiers:

Increased strength: This one is a no-brainer... We're excited about the prospect of soldiers being able to remove large obstacles from their paths without using heavy machinery. In the future,

the exoskeletons will include heavier body armour and protection from ballistic explosions from grenades and rocket launchers too. Coincidentally, in the 1960s, GE in collaboration with the US military jointly developed an exoskeleton named "Hardiman," which made lifting 300 pounds feel like lifting 15 pounds!

Increased speed: Akin to making our bots run around like rabbits on an unknown map, soldiers are often expected to carry up to 150 pounds of supplies in their backpacks over long distances. Even the most hardened of troops can't get very far carrying that much on their backs... It's not yet clear as to how fast DARPA's exoskeleton will be able to traverse over different terrain, but an independently-developed body amplifier, christened the "SpringWalker," has been tested to move over terrain at speeds faster than 16 kmph (the average walking speed is 3.5kmph)!

Leap great heights and distances: Imagine a marching legion of troops wearing these exoskeletons, jumping over a wide crevice in a mountain, and moving forward relentlessly!

It's yet unclear as to just how far or high soldiers will be able to jump, but officials would like the exoskeleton to give soldiers these Superman-like abilities.

Communications integration: The exoskeletal machines will also feature sensors and GPS receivers. In the future, every soldier on the battlefield will have mission-centric information like the terrain they are crossing and how to navigate their way to specific locations in the war zone right inside their helmets. DARPA is also rumoured to be developing fabrics that could be used with the exoskeletons to monitor heart and breathing rates so any health-related issues can be detected on time. Of course, instant medkits haven't been developed yet...



Just one example of what the future soldier might look like

Run And Gun

If you've played games like *Halo 2*, *Command & Conquer: Generals*, or *Ghost Recon*, you've doubtless marvelled at the aircraft in the battle scenes. These planes are supposed to be flying at speeds of over Mach 10!

"Force Application and Launch from Continental United States" (a.k.a. the Falcon Program) is a research and joint development program of DARPA and the United States Air Force for a high-speed strike vehicle capable of attacking *anywhere on the planet* in less than two hours! Operating at Mach 11 and a cruise altitude of 90,000 ft, this mean machine is going to be a reusable two-stage system comprising an unmanned boost vehicle used to take off at high speeds, and a manned hypersonic aircraft used in the second stage for the strike.

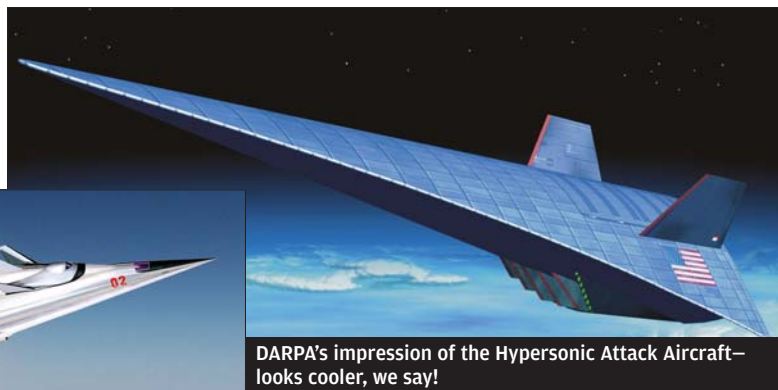
The unmanned boost vehicle has a gas-fuelled turbine engine. It requires a conventional runway and accelerates the strike vehicle, which is attached to the boost vehicle, to Mach 4 and 60,000 ft. Once this altitude and speed is reached, the manned strike vehicle then



An artist's impression of the Hypersonic Attack Aircraft

detaches itself from the primary boost vehicle and uses a scramjet-technology-based engine to reach its final cruise condition of Mach 11 at 90,000 ft. Schumacher just developed a complex... and with good reason!

The total range of the system is a purported 10,000 nautical miles. The hypersonic strike vehicle has an un-refuelled range of 5,000 nautical miles, which *very* impressive—Mumbai to Singapore in less than half an hour! The hypersonic attack aircraft has the capability of engaging a target very accurately, using precision-



DARPA's impression of the Hypersonic Attack Aircraft—looks cooler, we say!

guided missiles from a distance of 1,450 nautical miles away.

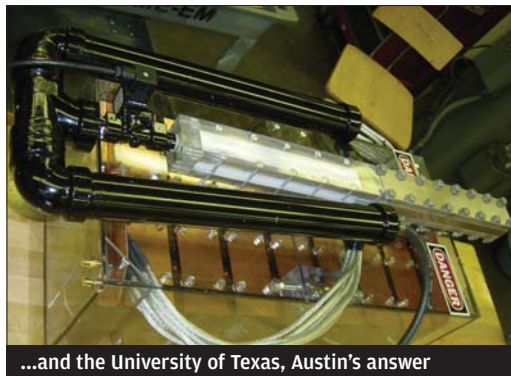
Expect to see it developed by end of 2007, and a demonstration by 2009.

Instant Gratification

This weapon was made famous in the *Quake* genre, which allowed players a one-shot-kill on opponents at the speed of light... now who wouldn't want this baby?

The concept behind the Rail Gun in *Quake III Arena*, in case you're still wondering, is about firing a bullet that travels at the speed of light to zap your opponents instantly.

We can already hear cries of "Crap!" from the physics majors, but get this: a weapon like this is being worked on. DARPA has been researching



...and the University of Texas, Austin's answer

this for 10 years, and work continues. They are working on projectiles that do not contain explosives, but have extremely high kinetic speeds, which would, in theory, make their kinetic energy superior to the energy output of a shell filled with explosives of greater mass. This would then enable soldiers to carry more ammunition and also make the carrying of weapons on tank or fighter craft or boat safer. By firing their shells at far greater velocities, DARPA's "Rail Gun" will have greater range—and will not be affected by wind drift. Read: bypassing the physical limitations of conventional firearms.

Then get this: there is a working prototype at the University of Texas at Austin's Institute for Advanced Technology, capable of delivering tungsten-armour-piercing bullets with kinetic energies of nine million joules—that's like ramming a one-ton truck into a wall at 80 kmph! The only problem is that since the shells are fired at an extremely high velocity, the rail of the gun suffers from extreme damage, and has to be serviced after every shot.

Nevertheless, we can't wait to see this one in action!



Quake 4's Rail Gun...

Laser Tag!

Right since the days of the first video games, directed energy weapons have captivated our imagination like no other form of weaponry out there. What fun would a game be if you had to shoot planet-destroying aliens with a .32 Beretta?

Almost all first-person and third-person sci-fi games use directed energy weapons like lasers as standard fare. There are pro-gamers in games like the *Quake* series (OK, this is our last mention of *Quake*!), the *Halo* series, *Gears of War*, and *Command & Conquer* who specialise in the use of these weapons. In these games, a directed-energy weapon zaps energy in a particular direction instead of like a projectile, for the desired blood and gore effect.

The story so far in real life, however, is different. Almost two decades since its inception in video games, these “lasers” have remained in the realm of the *Star Wars*



Some wonderful moments with laser guns in *Halo*



Some wonderful moments with laser guns in Israel

movie category. The only worldwide program that comes close is the Tactical High Energy Laser (THEL), which was designed and built by the Israeli government and is now being funded by the US Army Space & Missile Defense Command. The THEL is a high-energy laser weapons system that uses a heady mix of laser beam generation technologies and beam-

focusing technologies to merge with existing radar sensors and communication networks to provide a new defence theatre to ground-level, immobile assets. It can fire up to 60 shots without reloading, and if it meets design specification goals, the probability of kill of an absolute 100 per cent at a range of 4 km is guaranteed!

There is also talk of a mobile version of the THEL, conveniently baptised the M-THEL: the Mobile Tactical High Energy Laser, obviously, which can be mounted on an artillery vehicle and moved to forward posts if required.

Can't Touch This

Would you like to go into battle without any armour? No? Surprising—we feel the same way! However, the force-field type protection systems are going to do just that in the near future.

The force-field / force-shield concept has been floating around in academia for ages. It has been showcased in the *Star Trek* series, and more recently, *Halo 3* featured this protective system wherein a soldier could shield himself / herself (who says girls can't be soldiers?) from attack by forming a protective “bubble shield,” as they call it, around them.

Taking a cue from this, the RAFAEL Armament Development Authority of Israel, together with Israel Aircraft Industries' Elta Group, have developed the TROPHY Active Protection System (APS)—essentially a shield system for the armoured vehicles that protects

against incoming attacks. TROPHY intercepts and destroys incoming missiles and rockets with a blast similar to a shotgun-like explosion just before they hit the asset. Specifics of the materials and mechanics used in this explosive interceptor device are not available, but TROPHY is designed to form a “beam” of fragments that will intercept any incoming missile threat that gives off a lot of heat, like rockets, at a range of 15 to 35 metres from the targeted platform.

Since this system was designed to work in an urban environment, the direction, formation, and energy of the fragments used are made to ensure low collateral damage, and the lowest possible risk to nearby troops. The TROPHY system can simultaneously engage in multiple threats arriving from different directions, and is effective on stationary or moving platforms. The development program of TROPHY proposes an updated countermeasure unit to be available in the future, to protect against threat perceptions that only rely on kinetic energy to inflict damage against a traditional heat-based propulsion system.

As of April 2007, the TROPHY-APS has been deployed on tanks such as the Israeli Merkava Mk4. The developers claim that a system like TROPHY would reduce or eliminate the need for heavy armoured protection for combat vehicles.



The Bubble Shield in action in *Halo 3*



The TROPHY-APS System incorporated into a battle tank

Mecha-medical!

Playing games like *Command & Conquer* and *Age of Empires* would never have been possible without those mobile repair stations at the battlefield.



An artist's impression of the Mobile Asset Repair Systems of the future

Plasma Rifle

A constant source of enjoyment in any game—from the BFG10k gun in *Doom II* to those used in *Unreal Tournament*, and *Quake* (sorry, we couldn't resist!), plasma rifles are the absolute future in weapons inventory, and are normally accompanied by bulky-looking guns spewing out obscene amounts of green or blue pulses of energy in a game.

Plasma-based weaponry is theoretically any group of weapons designed to use highly charged, energy-rich ionised gas or "plasma". The idea behind the plasma rifle is that the energy is aimed not directly at the target but a little ahead of it. Since the beams would travel at the speed of light, they would, in theory, be able to intercept any target flying at sub-sonic or even hyper-sonic speed. A cloud of highly-charged ionised air forms at the target focus area. When it enters the cloud, any object—such as a missile or airplane—is deflected from its current course and breaks



An artist's impression of the Shiva Star System

down due to the large air pressure differences between the outside atmosphere and the interior of the flying body. So much for the *Star Trek* nay-sayers!

In real life, however, the plasma gun has only come as close as the Shiva Star, an ongoing project for a high-powered plasma beam, with plans of it being used as a tactical weapon in the Strategic Defence Initiative used

to protect the USA from nuclear ballistic missiles. It has been in research since the early 1990s at Kirtland Air Force Base in the US. The Shiva Star is a system that can presumably be mounted on a satellite or spacecraft in order to shoot down incoming missiles with projectiles of plasma travelling at very high velocities, thereby damaging the missile's guidance sensors. Work on this has languished, though: costs are running high.

With all these technologies in place, we can imagine an army recruiter in the future asking what games you've played. But then again, who needs humans if researchers take a cue from the *Worms* series and clone the ultimate Ninja Sheep, capable of throwing explosive Ninja stars across vast distances! Nukes suddenly seem so passé...

asfaq_tapia@thinkdigit.com



The Plasma Gun in all its glory!

"Branded" Mobiles

Hummer launched a range of phones a while ago, and now Levi's has announced a mobile phone. Designed by Mode-Labs and built of steel, it will match the clothier's apparel range. Specs remain secret, but with the phone will be offered a chain to hook it up with, of course, jeans.



Baby Monitor Picks Up Unlikely Signal

In the past, people have gotten hold of radio stations and broadcasts from neighbours' baby monitors. Now, recently, a Palestine mom got quite a shock when her baby monitor started picking up broadcasts from NASA's International Space Station. Hawking's "baby universes"?



Escape

HEROINWARE

Gaming Now Officially A Disease!

The shrinks at The American Medical Association are moving to officially recognise "Internet/video gaming addiction" as a disorder. What this means is that lawyers will, in the future, attempt to blame "gory video games" for crimes ranging from eve-teasing to mass murder, and use the medically-recognised disorder to bolster their defences. The pharmaceutical companies must be smacking their lips right now, what with a new product line and another set of different coloured pills to pump into unsuspecting bodies.

When it comes to complaints, the online multiplayer game *EverQuest* tops the charts, with relatives of gamers complaining that playing that game is far too addictive to be safe among teenagers. Some people are

even referring to it as "EverCrack"... Disgruntled spouses of *EverQuest* players have actually set up a group to voice their concerns and share their experiences! The description of their group says, "EverQuest Widows is a forum for partners, family, and friends of people who play *EverQuest* compulsively. We turn to each other because it's no fun talking to the back of someone's head while they're retrieving their corpse or 'telling' with their guild-mates as you speak." In paranoid America, there have been centres set up to "treat" gamers with video game addiction. Sites like On-Line Gamers Anonymous (www.olganonboard.org) are solely dedicated to providing help to gamers who cannot prioritise their daily responsibilities vis-à-vis their game playing

needs.

However, Sony Online Entertainment, the company behind *EverQuest*, denies any wrongdoing, stating: "I guess our standpoint is the same as all kinds of products—you have to be responsible in using it. You don't see disclaimers when you get in a car saying 'Don't run over people.' People have to exhibit their own good sense, and if they have kids, they need to pay attention to what they're doing."

What is still baffling us is: is it possible to become completely dependent on a game? And if so, exactly what are the symptoms of sudden video game withdrawal?

What can we say... gamers will be gamers, Americans will be Americans, and shrinks will be shrinks. That's about it.

Whatever Happened To...

Dialpad.com

We dug up an article on the Net dating back to July 2000, which begins thus: "The old adage goes 'There ain't no such thing as a free lunch.' Long distant phone carriers may be wishing the same thing could be said about long distance phone calls. Menlo Park-based Dialpad.com offers free long distance phone calls to any telephone number in the United States, via your computer and the Internet."

Yes, back in 2000, speaking to someone using the Internet (!) was a brand new thing. Dialpad only let you call numbers in the United States, but from anywhere, and people flocked to the site in droves to register and call, call, call, even just for the fun of it. (There was Net2Phone back then as well, but they charged.)

And then VoIP took off in a big way. You know the rest. IMs began integrating voice chat. Skype happened, including cheap calls to phones. Today, type anything VoIP-related into Google and you'll see ads upon ads upon ads: "Worldwide Internet Calls. Low Rates. Sign Up Today." "Internet Phone Calls at Low Rates. Inexpensive, High-Quality Service." The companies are running out of sensible domain names.

We never noticed: Yahoo! acquired the company in 2005. Now, dialpad.com redirects to Yahoo! Voice, Web 2.0-themed and all. Few remember Dialpad.

Win! My Desktop

Last month's winner is **G Arun Bala**, Kalavakkam

How he did it:

"I got inspired for this design from Digit 6th anniversary issue's CD/DVD interface. Unlike others using some freebie tools' themes, widgets and object docks built by third party while earning credit themselves for the work of mere application of tools, the passion for making a desktop became a near reality when I saw your CD/DVD interface. The cool Web 2.0 graphics with Vista look made a great impact. Rather customising and using a desktop, why not create one—which in my perception holds high, and thus I designed this from scratch."

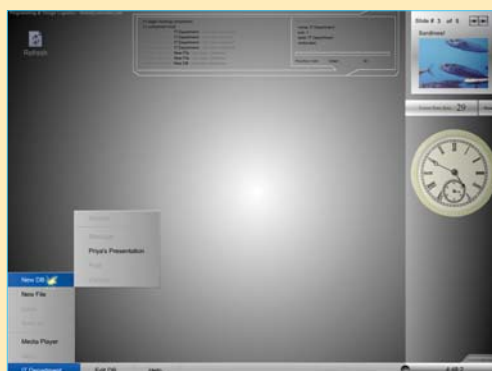
Participate in this contest and win next month

Software Architecture

by Frank Buschmann

Published by

WILEY-INDIA



Send in your Desktop with a description of how you made it to mydesktop@thinkdigit.com with the subject "My Desktop", and tell us your postal address, too.

DigiPick of the month

Airwaves Afloat!



Last month's winner:

Utkarsh Arora
Gurgaon

Participate and win next month:

**Professional
XNA Game Programming**
by Benjamin Nitschke



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.

RETIRED HURT

Wii Causes "Wiiitis"

Sales notwithstanding, there have been quite a few reports about how Nintendo's Wii has been the cause of a number of untoward incidents. First there were the straps that got broken all the time, causing you to insure everything in the house (including yourself). Then came the candle-stick hack that tickled our ribs, and now it's got its own medical condition—"Wiiitis."

For once, Nintendo is well out of the controversy. Dr Julio Bonis of Boston in the US woke up one fine morning to a very sore shoulder. What surprised the doc was that he had done absolutely nothing physical in the days prior to the injury, and had been a complete couch potato. That's when he remembered his new Wii. Bonis, it turns out, had been playing Wii Tennis for hours on his darling console. When he diagnosed his problem, he

decided it wasn't tennis elbow he was dealing with.

The doctor dashed off a letter to the New England Journal of Medicine explaining the injury and its symptoms, and suggesting a remedy for the case: "The treatment consisted of ibuprofen for one week, as well as complete abstinence from playing Wii video games. The patient recovered fully." He also suggested the injury be labelled more specifically as "Wiiitis."

Well done, Dr Bonis, you warm the cockles of our shoulder... err... hearts.

ROYAL MAIL

Spam Queen

We all have relatives who couldn't care a damn about computers. Some amongst us also have relatives who discovered computers and the Internet, like them, and now seem addicted! Imagine how irritating it can be when your uncle or aunt starts sending you forwards you read two years ago! We look upon with pity at the plight

of Princes Henry and William when we discovered that the Queen, aged 81 when this was written, has taken to the Internet with full gusto, and regularly bombards the inboxes of the young princes along with the rest of her immediate family.

In true blue-blooded fashion, the Queen dictates her e-mails instead of writing them. Having said that, the monarch is pretty tech-savvy: she owns a mobile phone and an iPod. Just last year she made her annual Christmas Day message available for the first time as a podcast. We just hope, for the princes' sake, that she lightens up on those forwards...

An aside: it's "Queen's English," meaning her own. So does she use spell check?

I SEE LITTLE PEOPLE

Lilliputians On Vista DVDs

A Spanish blogger, Kwisatz, was supposedly the first to spot a photograph of

People Who Changed Computing

The C Evangelists



Ritchie



Kernighan

Brian Kernighan and Dennis Ritchie wrote *The C Programming Language* in 1986. The version described in that book became a sort of standard, and was even named "K&R C". Developed in 1972, C is the most widely-used language in application and OS development even today.

Ritchie, a researcher in the Software and Computer Science Laboratory at Bell Labs, once wanted to be a physicist, but his undergraduate experience convinced him otherwise. Following in his father's footsteps—he'd written a significant book on switching circuits—Ritchie joined Bell Labs. Soon after, he wrote a compiler for ALTRAN, a language and system for symbolic calculation, and a key program in the creation of UNIX. Subsequently, he helped Ken Thompson with UNIX. He then added data types and new syntax to Thompson's B language, which evolved into C.

Kernighan studied engineering physics as an undergraduate. With his first computer, the IBM 650, he learnt a bit of FORTRAN, which got him hooked to programming: we've read that he was a terrible programmer! His thesis was titled *Programming in artificial intelligence*, and he went on to attend graduate school. After that, Kernighan worked at Bell Labs with Thompson and Ritchie, and contributed significantly to UNIX, which is written in C. In 1983, Ritchie was awarded the Turing Award for generic OS theory.

Bluff

YOUR WAY THROUGH

Codenames

Passing off these names in a conversation will make you look like you're in on the inside information of some of the hottest products today!

Zephyr: The codename of the recently-released Xbox 360 Elite edition, the all-black Zephyr is an update over the Xbox 360, sporting an HDMI port and a hard disk bumped up to 120GB.

FASN8: The recently-announced Quad FX platform from AMD, the FASN8 (pronounced "fascinate") is the first AMD Silicon Next-gen 8-core platform from the company. It promises to put in eight physical cores of 2-Phenom FX processors on a single motherboard that supports HyperThreading.

F3: Sun's new open source product family, JavaFX, consists of JavaFX Script and JavaFX Mobile. This environment has the ability to run under any browser or operating system that supports Java. The reason it's so interesting is that JavaFX Script focuses on user experiences with interfaces that have rich animated media, while other scripting languages are more oriented towards building Web pages.

Bearlake: Intel's next-generation chipsets, the P35 supports 65 nm process nodes, the most advanced semiconductor fab technology. Due to this, the chipsets use lesser power and are more economical. The P35 chipsets will support DDR3 RAM, too.

Parivartan: A project by our Government to network towns and villages by making all vehicles function as free Wi-Fi nodes. The more the traffic, the faster the network becomes!

Usage: I love my *Zephyr*. Life will be rosy when I can browse the Net with *F3* on a *FASN8* or *Bearlake* system. Doing all that on the road sound too good to be true—let's pray that *Parivartan* takes off!

Wild Wild Web

Splat.. biff... poop!

Here's the end to your hair-ripping frustrations over stupid Web sites: horrible layouts, pesky ads, and all the other stuff that makes you go wild. Head to www.netdisaster.com, a fantastic place to vent your fury.

Here's how it works: enter the URL of a site you detest, and you'll immediately be able to crucify it visually. Spray-paint the page black. Call upon a dinosaur to stomp on it, fry eggs on it, and what-not from the "Disaster" options. Check out the "Massive" and "Self-repair" options—these allow massive damage to be done to the page, and repair the damage

you've already inflicted, respectively. Also use the sound effects for the ultimate site-disaster experience. And yes, don't miss out on the "Dirty disaster" options: make a cow drop dung or a dog poop on the page. Gross, but it's out there, and we thought we should let you know.

I/O Microsoft has stooped to the level of putting up a spoof iPhone video on YouTube... believe it. But still, you've got to admit it's funny. At the MEDC 2007 (Mobile and Embedded DevCon), the company unveiled their new "iPhone killer" mobile phone video. The video went on

about a phone named "oFone": a circular display, three keypads, the facility to place keys anywhere you like, and a lot more.

Mel Sampat, who happens to be a program manager at Microsoft, claims that even "a four-year-old" can program APIs for the oFone. The thing has three separate keypads, so three people can game simultaneously. And when you get bored of that, it can act as a decent boomerang (it looks like one). Besides going about their serious business of making M-dollars, the folks at Microsoft do have a decent sense of humour. The iPhone spoof is at <http://tinyurl.com/2rhe59>.



three faces embedded in the hologram on new Vista DVDs. What's special about the photograph is that it's only a square millimetre in area, making it too small to see without magnification. The picture shows three guys standing together, smiling at the camera.

Following the announcement, conspiracy pundits immediately went into overdrive, proclaiming it an Easter egg. Some state they have inside information that Microsoft is running an internal enquiry regarding how the image got there, which meant that this wasn't known until now, and wasn't approved, and some heads are going to roll.

Unfortunately, all the

excitement was put to rest when Microsoft's Nick White posted about it on the Vista team's blog—"Conspiracy theorists will be disappointed, the photo is only one of multiple images contained in the hologram design, all of whose inclusion serves to make it more difficult to replicate a Windows Vista DVD."

The three lucky men in the photo, said White, are members of Microsoft's anti-piracy team who had worked on the holograms for the Vista OS. There are other images too in the hologram, some of them belonging to art masterpieces in the public domain, added White.

ENHANCED CHARITY

Surgeons Against Silicone

In the beginning was a Web site called MyFreeImplants.com, asking the fairer sex, "Have you ever wanted bigger breasts? But couldn't afford the expensive costs of

surgery? Here is your opportunity to earn Free Breast Implants!"—and enticing men with "Help the girl of YOUR dreams get the body of her dreams. Develop a connection with a girl of your choice and help her earn Free Breast Implants!"

Then, the British Association of Aesthetic Plastic Surgeons (BAAPS—if only they knew we'd be reading this in India) found out, and all hell broke loose.

The BAAPS states that the whole process of asking for donations for breast implants is demeaning, and takes away the important considerations and decisions that need to be taken into account before going in for the surgery. BAAPS president Douglas McGeorge says, "This is a wholly inappropriate way to proceed with what should be a serious decision made by a fully informed patient. The site's promise that there are 'no right or wrong' cases is frightening—clearly there is no proper medical assessment of candidates, which at best could lead to disappointment, at worst, to someone's health being endangered."

We agree with BAAPS—aside from the medical complications, we can't begin to imagine the complications that could arise from a loony donor getting unrestricted access to someone's profile and all their personal details. The site allows donors to "purchase any personal products the ladies may have for sale" and even "receive custom photos of your favourite girls (you may even request specific outfits)," which makes the process even scarier.

Still, from what we know of America, young women there save up for boob-jobs as though it were a routine procedure. So strictly speaking, men sponsoring the thing shouldn't create too much hubbub. What's interesting is that it's happening on the Net—sign of the times, we say.

MECHA-MARRIAGE

Best Bot

A robot recently presided over the marriage ceremony of a couple

Obituary: Mayur Bhatia

Nothing shocks one quite as much as the passing of someone right in the midst of one's group. The death of Mayur—due to an internal organ dysfunction—has shaken us not only because it was so unexpected, but also because he was such an extremely gentle, soft-spoken, shy, lovable little guy.

Mayur was the youngest amongst us. When he joined our team, he seemed a misfit because he'd speak only when spoken to—and we mostly spoke to him about work. What a surprise, then, that we found he was a gamer—an avid one who could kick anyone's butt at *Quake 3*. In general, he'd be engrossed in his work to an extent that people had to physically shake him by the shoulder to get his attention! Ultra-focused,

lost, and technologically very knowledgeable describe him best.

Yes, he was exceptionally knowledgeable—specifically about system tweaking, networking, and, of course, gaming. His after-hours were generally spent on the Sify LAN in Thane (near Mumbai); he was well-known in the gaming circles there.

Always eager to try his hand at new things, be it a feature article or a game review or a product review, he was quite the ideal worker—perhaps a little *too* ideal. We now wish we could have gotten to know him better, that he could have opened up a bit, felt a little less stiff while around us...

We can only take our comfort in the idea that God takes young those He loves the most. Rest in peace, Mayur.

DIGIT DIARY

in South Korea. Believe it.

The bridegroom, Seok Gyeong-Jae, is one of the engineers who designed the robot for Hanool Robotics. The firm brags that after its marital duties were completed, the robot was "upgraded" to perform other duties. Details of these "other duties" are sketchy, but we can only imagine that the bot must have been busy socialising with guests at the drinks table or setting

the dance floor afire with a partner.

If you don't need Tiro (the robot in question) administering your nuptials, he is also available for hire as a robot Master of Ceremonies (MC), complete with "sweet female voice," for rent at a mere \$215,000 (Rs 88 lakh).

Now, we definitely didn't see this coming, but just so things like this don't surprise us in the future,

let's predict where we might see robots. Delivering a sermon... what kind of God would they speak about? A funeral service... what kind of death would they refer to... dead batteries? How about news anchors...? That one's a possibility—only, they'd sort of look funny in those formal outfits.

Actually, let's leave it to the Koreans and the Japanese to figure all such things out. ☒

Blog WATCH

The iPhone, Safari for Windows, Leopard. Predictable topics, interesting posts.

Paul Stamatiou

<http://tinyurl.com/27nhst>

iPhone on 29th June, But Not for ME

Yesterday,... Geoff Ramsey, CEO of eMarketer's funniest remark was when he told us that the "Fear of Google" was so prevalent that it even had a three-letter acronym: FOG. Anyway, I've been hearing more and more about FOG all weekend... Here's a few examples:

Why did the stock market drive shares of Yahoo! up so fast on total rumors that Microsoft was buying Yahoo!? Easy, we wanted it to happen. "We" being journalists who are living in FOG land. Bloggers who'd like to see Microsoft be interesting again... Several people on the boat were hoping that Microsoft would buy Yahoo! simply to keep competition going in the advertising market...

Matt Mondok

<http://tinyurl.com/yro8ac>

Microsoft, Mozilla execs respond to Safari on Windows announcement

For companies like Microsoft and Mozilla, Safari coming to Windows means that one more competitor will be thrown into the Windows browser battlefield. While neither company has expressed dismay with Apple's decision to put

Safari on Windows, on Monday executives from both Microsoft and Mozilla expressed a lack of concern for their new (Windows) foe.

Mozilla vice president of engineering, Mike Schroepfer, said that he'd like to see Apple push open standards for the web.

"We are excited to see the resurgence of interest in browsers. We encourage Apple to put their weight behind open standards and the open Web to help ensure all browser users, regardless of operating system or browser, can enjoy the best possible Web experience."

David Chartier

<http://tinyurl.com/36jdjm>

Leopard's new menu bar is hideous

I've been spending (time) looking through the other new features of Leopard. After I found that non-transparent menubar mod, however, I can't get over how hideous that new menubar really is. I also hate to say it, but Apple's secrecy with this UI change until now screams 'Cupertino borrowed one of Redmond's photocopyers' (the new Windows Vista, for those who haven't seen it, contains what many—including myself—consider to be a literally dizzying overabundance of transparent window borders and menus).



June 2007

A Four-point Agenda

Dear Team Digit,
Congratulations for hitting a Sixer, and I wish you guys will definitely break the record of Herschelle Gibbs one day (I wish you guys will hit more than a 100 sixes in a row), but please do be aware of the Shane Warnes and Muttiah Muralitharans.

Thanks for coming up with the idea of such a fantastic magazine, and the *Sixth Sense* section rocked! Wikipedia, at such a time when I had to complete my school assignments, was such a help I'm sure I'll get an A grade with it. You guys are doing a really good job by letting people opt for freeware instead of going for pirated stuff. It doesn't only sound nice, it is really working.

Your reviews of the latest PMPs has really helped me in selecting the right one for me, both pocket-wise and feature-wise. But I would like to make a few suggestions for your mag:

1. Folks, it's India, an agriculture-dependant and developing country, you guys have to admit that there are techno crazy people like me who read *Digit*, are comp crazy but neither avail a computer system and broadband, that's a Mercedes for a daily-wage worker.

2. I would request you to come up with a *Fast Track* on 3D animation, Photoshop, and Visual Basic. For school students like me, a *Fast Track* on core languages such as C, C++, and Java would be really useful.

3. A RAM review.

4. Please give product reviews of inexpensive hardware for those who cannot afford higher price stuff.

Best wishes, 'n' keep the good work going!

Harsh Kumar
Jharkhand

Dear Harsh,
Thank you so much for your mail, appreciation,

and also your suggestions. It does make us aware that our magazine reaches far-off places, and we need to be sensitive to the needs of people like you too. We have taken note of your suggestions. Do keep us sending your valuable feedback.

— Executive Editor

DVD Demands

First of all, a big thank to you for producing one of the best computer magazines in the world. Hats off to your articles, your products review, and for everything. All are best—your CDs and DVDs (now dual-layered, thanks for this, but the DVD was not detected in my combo). Just a couple days before I bought the *Sixth Sense* edition, I was pleased to see the contents, although the cost was beyond my range, I bought it as you are simply the best. Seeing *Fast Track To Vista* was simply superb. But as from my side I also want you to listen some of my wishes:

1. Please start a regular tutorial on some of the software and programming languages from the beginning. It can be quite helpful to many of us.
2. Provide some fun clips like those from miniclip.com and more. This can help me who is not a regular Net visitor and many more like me.
3. Can you provide us Bollywood wallpapers?
4. We would like to get some more games. Please provide some Indian songs also. Old songs can also work.
5. Finally, please add a few pages in *Fast Track* in explaining about the software you provide on the CD/DVD.

A Great Thanks.

Sujay Rakesh

Hazaribag, Jharkhand

Dear Sujay,

Glad to know that you did like our sixth anniversary issue. The dual layer DVD is +R, so check whether your drive is +R compatible. Try and run it on other computers or a DVD player. If you still face a problem, then send an e-mail to help@jasubhai.com with your complete postal address and PIN code, and we will send you a working DVD.

Thanks also for all your suggestions—they do give us an idea of what our readers expect from us.

— Executive Editor

Cantenna For The Homesick

Hi! I am an electronics engineer, a regular *Digit* reader, computer enthusiast, and an avid gamer having "all night" gaming sessions in my college hostel. As I have recently moved out of the hostel I am

missing out on a lot of gaming. I had almost given hope on gaming with my friends, then I read your do it yourself article on a Wi-Fi antenna (*Digit*, June 2007)... I live about one to one and a half kilometers from the hostel, and was wondering if the range could be extended further by means of some other antenna design and by using an amplifier. Just wondering if it could work.

Prem

Dear Prem,

One and a half kilometres is too much. We really don't think it's possible. If you do find a way to do this, don't forget to write in!

— Executive Editor

Recycled Irony

I think you guys really have a "sixth sense." You really know what to pack, and how to pack in your special issues. Including the *Don* DVD was a good idea. With today's genuine DVD titles costing as less as Rs 35, you can very much afford to pack a title now and then, just use paper covers for the month's disc's plastic. Perhaps you could start printing the mag on recycled paper. If you already do, place a "Recycled" logo on the cover (the logo is those cycloid arrows seen on the Windows Recycle bin).

Tarun Balraj

Adilabad, Andhra Pradesh

Dear Tarun,

We share your concern for the environment, but believe it or not, recycled paper is actually *more expensive* than regular paper in India—magazine-quality, that is. The process of recycling itself is quite expensive, so using recycled paper will just have us emptying our pockets—something we wouldn't like to do at this time.

The packaging is a constant battle—if we go the environment-friendly way and use paper for the DVDs, then we risk them being damaged on their way to the stands or subscribers, and then they abuse us. If we use plastic, we aren't being environment friendly...

Your suggestions are duly noted, however, and we'll see what we can do.

— Executive Editor

Who needs a form?

My answer to questions:

Q: What do you want to read more in *Digit*?

A: Some study related articles for students of BCA, BCS, Computer Science etc. *FastTrack to Web Design* was simply awesome. I'm not joining any classes

Write to the Editor

E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul Navi Mumbai 400 706

Digit will publish the best letters on these pages. Letters may be edited for clarity. Please include your complete address in all communication.

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Inbox

LETTER
OF THE
MONTH

because I have that issue.

Q: What needs to be improved in content of *Digit* CD and DVD?

A: The games, because many people don't have a high PC configuration. If I have 50 friends, 45 out of them don't have a graphics card, so how can they play such games?

Q: Describe *Digit* in 10 words: (Prizes NOT dependent on this)

Demand
Information &
Get
Information
Today.

Saurabh Sawant

Dear Saurabh

Thank you for your feedback, and I hope you've sent in your form besides e-mailing us. Given your concerns about the games, I think you should enjoy this month's content—the games will run on any PC that's less than three years old.

We'll keep the student article suggestion in mind as well.

— Executive Editor

Unhappy Penguin

Dear Team Digit

I have been reading *Digit* from May 2006 and would congratulate you for including Ubuntu Feisty Live CD in your June issue (which I am using).

The June issue was overall good but last year's was better. There is one mistake in your issue—the TQ section. The question about which distro is Dell preloading. You've given the answer Gutsy, but the correct answer is Feisty. It is great that *Digit* is going dual-layer from now on, and I hope you include at least one Linux distribution if not more. I hope you would include MEPIS in your August issue (I know you may not in July).

We Linux users face a peculiar problem with *Digit*. We hardly bear fact that *Digit* on average has less than half a page about Linux and there have been no tips and tricks for Linux for months now. The Linux applications included are fine, but there are no instructions on how to use them in case the user is a newbie and faces problems. What is more irritating that the *Digit* interface is unable to run in Linux. Yes you have done great work in it but for Linux users it is null.

I tried running your interface in Linux with WINE (which is a Windows

Emulation Layer in Linux, in case you do not know), but ended up in white screen with nothing on it (I had Flash installed!). Even the *Digit* icon appeared in the notification bar but there was no further going. I have tried and managed to run even the miniclip games as well as the flash.exe in my other CD in WINE but not the *Digit* Interface.

There was no help available anywhere. Can you tell me how to fix the issue? If there is a way to run *Digit* in Linux, would you please tell me and publish it in your magazine.

In my understanding, the Flash.exe are based on SWF files (I may be wrong). I believe the SWF files can be opened in Firefox with Flash installed, and if indeed there is no way to run digit.exe, then at least you can include an alternative Web page with the Flash interface embedded in it. Perhaps this may be technically impossible, but we need the explanation why as well.

The Linux users will be happy even by THREE reserved pages per issue! Even TWO! Even ONE! HALF! At least a QUARTER! The long faces stare into the darkness...

Anurag Panda

P.S.: I know my letter will not be replied to. As for publication: IMPOSSIBLE!!!

Dear Anurag,

First of all, ha! Your letter has indeed been published. Second, you're not the only one to complain about our lack of Linux articles, so we're remedying that. Read our DIY to making a Linux distro this month, and if you're having trouble with Fedora (get it off the DVD), take help from our *Tips and Tricks* section. We'll be continuing on this vein in the coming months, so your long faces shouldn't be staring into darkness for too long.

As regards the interface, digit.exe isn't just a Flash EXE like the Miniclip games—we use another software to compile the SWF files and a miscellaneous amount of code into the EXE. A lot of this code is Windows-specific, so the chances of this particular interface working in Linux are slim, if not non-existent. That said, we won't discount an HTML interface, or at least something that will work for Linux users—but this will take time.

— Executive Editor

Problems Beyond Borders

This is Ashok Gelal all the way from Nepal. I'm a *Digit* addict, and you can't even imagine how much pain I take to get a copy of your magazine. The mag is not easily available in my locality, so have to rush to the Indian border, which takes about Rs 200 for travelling expenses only. Though your mag is good with the *Fast Track* being the best, I often have complaints regarding the CDs and DVDs. I always expect the special issue discs be wrapped in a special case, but it couldn't happen till date. The special issue discs are of great use but as they are not wrapped in a good case holder, they often get scratched very soon. All these cannot be excused this time.

I was so excited to have a grab on the Sixth Anniversary Issue. The CD's and DVD's content looked promising, but I found both DVDs not working. Initially I thought my drive wasn't reading the discs—take some notes here, the dual-layer discs given by other IT magazines run smoothly though—but after trying other drives, I concluded the discs were corrupted. After going through the forum, I found many other readers are also going through the same problem.

One last query: are people really interested in watching *Don*? It would have been better if you had given some documentary movies or some Oscar non-English winners. My suggestion: don't always turn your ear to your financial advisors, it can really ruin your image.

Ashok Gelal
Nepal

Dear Ashok,

Thanks so much for your mail. I do understand your problem of the non-functioning DVDs. Please send us your postal address (with PIN code) and we'll try to send you a replacement. However, we've found that the postal system often doesn't deliver our CDs to Nepal due to security concerns—we hope that won't be the case this time—but we'll try to ensure that you get your replacements. I am amazed at the pains you take to grab a copy of *Digit*... your mail makes me feel proud, and also gives me an assurance that we are indeed worth it.

Thanks once again for all your efforts to write to us and give us honest feedback.

— Executive Editor

DOS And The Little Disk

1 Which company first produced the 3½-inch floppy disk?

- a) IBM
- b) Microsoft
- c) Philips
- d) Sony



2 The Palm Foleo is a new...

- a) Laptop
- b) PDA
- c) Mobile Companion
- d) Portable media player

3 TCP port number 80 is usually reserved for...

- a) E-mail
- b) HTTP
- c) FTP
- d) Telnet

4 Which doesn't belong in the list?

- a) Santa Rosa
- b) Merced
- c) Napa
- d) Puma

5 In what year was DOS created?

- a) 1987
- b) 1981
- c) 1973
- d) 1967

6 Who were the two rival company heads to have recently been on stage together?

- a) Jonathan Schwartz and Samuel Palmisano
- b) Azim Premji and N R Narayana Murthy
- c) Steve Jobs and Bill Gates
- d) Howard Stringer (Sony) and Satoru Iwata (Nintendo)

7 Error 500 in your browser means...

- a) Request Timeout
- b) Site Access Forbidden/Password Protected
- c) Internal Error/Server configuration problems
- d) Bad File Request/Syntax error

8 What was the first ARPANET message?

- a) "lo"
- b) "hello world"
- c) "Test"
- d) "Hi"

9 According to Intel, "MMX" in their Pentium MMX chip stood for...

- a) MultiMedia eXpanded
- b) MultiMedia eXtensions
- c) Matrix Manipulation eXtensions
- d) Nothing

10 There is now an Internet2 link spanning the US. What speed?

- a) 100 Gbps
- b) 2000 Gbps
- c) 10 Gbps
- d) 2 Gbps

Did You Know?

The highest amount paid for a domain name was for business.com: \$7.5 million. This is followed by AsSeenOnTv.com at \$5.1 million. Third was Altavista.com, at \$3.3 million.

Answers

1. (d) Sony, in 1981	2. (c) Mobile Companion	3. (b) HTTP	4. (d) Puma - an AMD platform	5. (b) 1981	6. (c) Steve Jobs and Bill Gates
7. (c) Internal Error/ server-configuration problems	8. (a) "lo"	9. (d) Nothing	10. (a) 100 Gbps	mobile games	

Got an interesting question? Send it in with the answer to TQ@thinkdigit.com Mark "TQ" in the subject area.

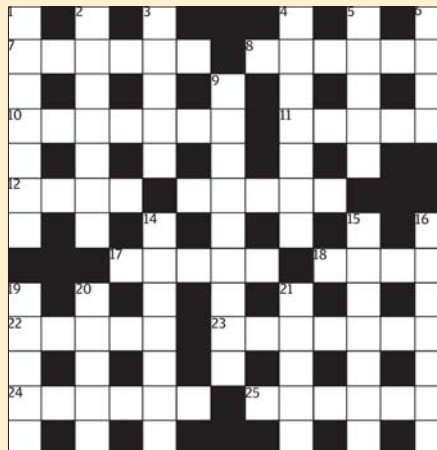
Crossword

ACROSS

7. Largest distributor of the GNU / Linux operating system based in North Carolina (3,3)
8. Portable computer (6)
10. -----space- space on hard disk drive dedicated for temporary storage (7)
11. Device that joins a balanced line to an unbalanced line (5)
12. American National Standards Institute(abbr) (4)
13. A picture as opposed to text (5)
17. -----box- a TV streaming device that enables consumers to remotely view their PVR (5)
18. ----tooth-connect and exchange information between devices (4)
22. -----ware- software distributed on trial basis(5)
23. Not a licensed software (7)
24. Computer controlled machines that perform jobs automatically (6)
25. Area on a monitor usually made of glass (6)

DOWN

1. 1. Glassware made of quartz (7)
2. E-mail----- -helps to ensure messages reach the correct person (7)
3. Cut and ----- - scissors and glue method of document production (5)
4. Computer scientist Charles----- (7)
5. Static photograph (5)
6. To start or launch a computer application or software programme (4)
9. Graphic or image made smaller to display multiple images on a single Web page (9)



14. Computer programmes that request data (7)
15. Contributor to an online journal (7)
16. Used to transfer information between Linux kernel modules and user space processes (7)
19. Online audience (5)
20. A free suite of programmes which implement the Server Message Block protocol (5)
21. -----hat--malicious hacker(5)

June's Winner:
Amit Gawde, Pune, Maharashtra

Send in your entries to TQ@thinkdigit.com on or by 20th of this month. One lucky participant will win **Introducing Autocard 2008** By George Omur



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Last Month's Solution



Crossword by Nitta Jaggi

Tabloid TECH

People And Events That Grabbed The Headlines—For Better Or For Worse

Apple-MS Merger Imminent



Ha ha! Funny joke! Well, the closest to that merger we've seen in recent years is the on-stage interview, at the D: All Things Digital conference, with Steve Jobs and Bill Gates. It's been in the news a bit: they actually were on the same stage at the same time, and that's newsworthy enough for it to be in the public memory for several years to come.

Now both men are congenial as well as witty by nature, so no one expected an on-stage fistfight. No fistfight happened, either. It seems to have been a nice session, with jokes having been cracked, and the two talking about the future of computing. Not only the future, but also the past: ah, nostalgia... The two companies' efforts to work together many years ago—Microsoft's first software for Apple was BASIC for the Apple II—and other such things. Like

the recent Mac vs. PC ads. (Actually, if we remember right, Gates was a little pissed at the ads when they happened—we're wondering how he pulled off the ha-ha-ha face at this point.)

It wasn't all jokes and jibes. Gates and Jobs did speak about the future. There was no particular focus, just general talk of how we're going to go beyond keyboard and mouse—you get the idea. Quite the neutral topic, because all the rivalry is about keyboard and mouse computing.

And so, even as tech scribes focus intensely on Apple-MS competition, the men behind the madness are, apparently, good enough friends. God's in his heaven and all's right with the world, but all just might not have been right with the world if it were Ballmer in Gates' place. We think. Would have been much more fun, really.

The Crowds Have Spoken

TMZ.com is a rather popular celebrity gossip site. Now, after Paris Hilton was incarcerated luxury-class, site traffic jumped to all-time-high levels. Well, not quite. She-who-must-not-be-mentioned (oops—we just did!) has generated, in the past, even more traffic at TMZ. This is according to Internet traffic monitor Hitwise.com. There's a page there that details traffic to gossip sites and blogs with interesting names like

HollywoodTuna.com.

The question now is, why are we cluttering this page up with something about Paris Hilton, about whom you doubtless no longer care—even if the poor thing has been imprisoned? Well, it's because we wish to report the sad state of affairs. According to blog pulse meter Blogpulse.com, the news that Hilton was going to jail put her above President Bush in the blog realm. Ah, the wisdom of crowds.

Tips & Tricks

In an interview with Tim Ferriss, who is a lot of things (www.huffingtonpost.com/tim-ferriss), celebrity tech blogger and technology evangelist Robert Scoble explains how he keeps his thousands upon thousands of mails organized. (It's also been reported that he reads 622 RSS feeds each morning, which, as you know, is impossible.)

'Keep all .PST files under 2 GB to optimise speed and prevent crashes. He goes on: "Creating a new .PST file is not intuitive. Tools > Options > Mail Setup > Data Files > Add." Mr Scoble, it seems, has three separate .PST files as folders in his left-hand Outlook view, which he's classified into "Old", "Middle / Someday", and "Hot". These are in addition to the "Inbox", which he considers his

"working set", Mr Ferriss tells the world.

'Remove infrequently-used .PST files: "right-click and 'close' infrequently-used .PST folders and other folders." Turns out this doesn't delete them, so you can still use Google Desktop Search to search for those messages.

'Respond to fewer mails (duh). Scoble has said that "based on his analytics over time," each e-mail he replies to produces between 1.5 and 2 additional mails in return. Sending mail multiplies the mail you receive (duh). Replying to more people more often actually creates more work instead of cutting it down (duh).

There you have it—Outlook tips from The Scobleizer himself to supplement this month's Tips & Tricks section!

