

July 2006


 The logo for 'digit' magazine, featuring the word 'digit' in a bold, white, lowercase sans-serif font on a red rectangular background.

YOUR TECHNOLOGY NAVIGATOR

Do You Know What Children Are Exposed To Online?

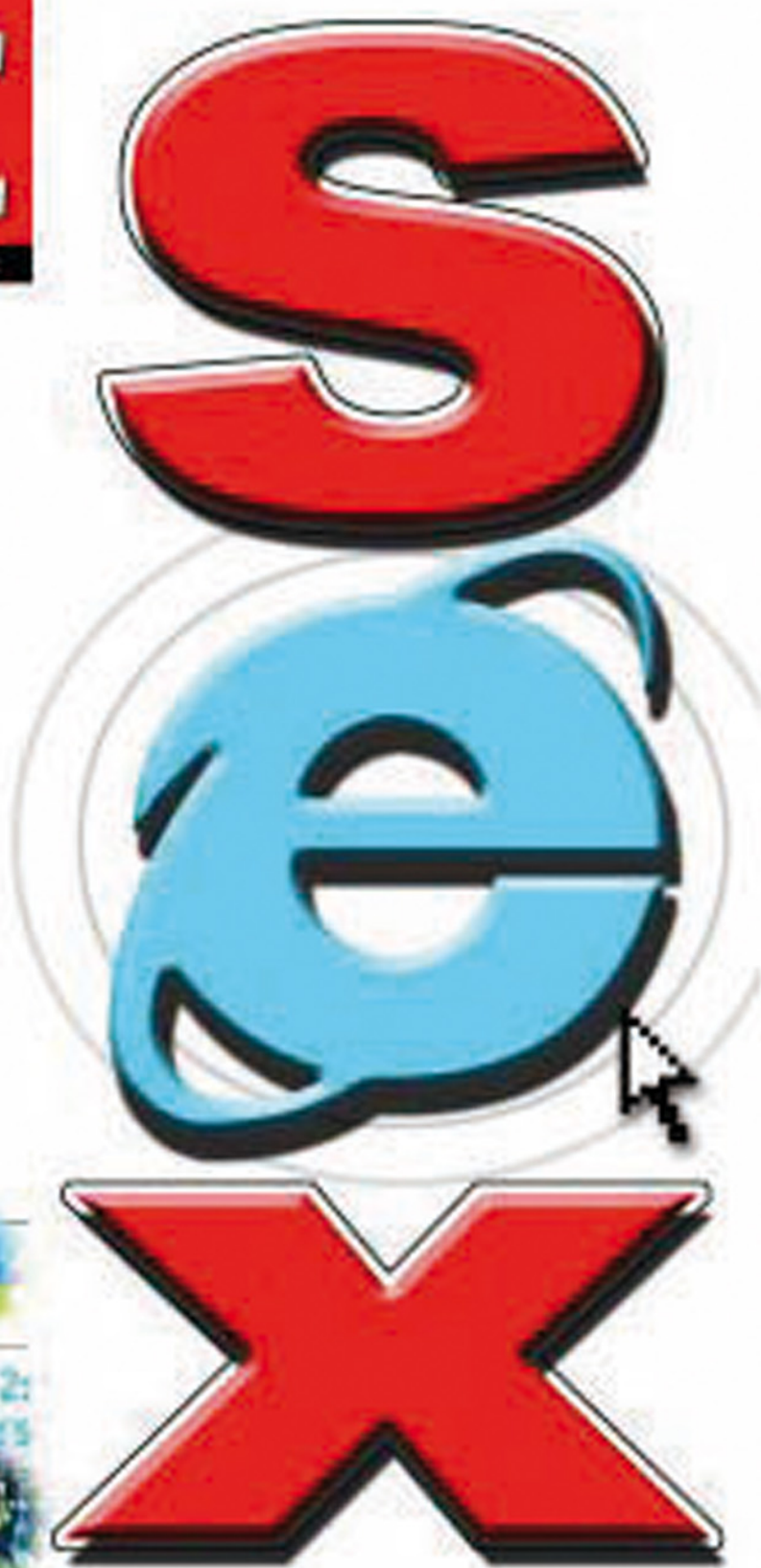
Plus! Nine Best Porn
Blockers Tested

The National Anti-Hack Group
Protecting The Nation's Data

Reviewed! SpellForce 2:
Shadow Wars

Computing For The
Visually Impaired

Talking To Your PC
In The Next Century



Mobile Phone, the unifier

I'D LIKE TO share an incident that set me thinking a little differently about the Digital Divide, especially in reference to our country. A few days ago, close to midnight, I was just about to leave my home and head to office for some late-night finishing-up work. The watchman—a 20-year-old boy!—asked me what time I would return. Concerned about him having to stay awake until I returned, I told him to go to bed. “I might return only at four in the morning, and I’ll wake you up by calling out loud.” To this he shot back, “Don’t bother shouting at that early hour—just give me a missed call.”

“Slightly taken aback” is how I would describe my reaction. It’s not surprising that my watchman owns a cell phone, really—there are plenty of stories about hawkers, auto drivers, and even beggars owning one. But what is unforeseen is that though he earns barely 2,000 rupees a month, he feels the need to spend Rs 1,800 on a second-hand phone, and also Rs 350 for a pre-paid card with a subscription to caller tunes. I later found out that his next plan is to save up a thousand rupees for a “lifetime incoming free” card.

The incident left me with two things to mull over: first, the spending habits of not just the middle-income group, but also of those belonging to the lowest of the income groups, are being redefined. Second, if increasing PC penetration can further the digital divide amongst the different income groups, increasing mobile use will, in contrast, bring them together.

The mobile phone, for me, is therefore a thing of wonder. It has the power to bridge a gap—a dangerous and ever-increasing gap so often called the Digital Divide: a gap between those with regular, effective access to digital technologies and those without. For example, there is a tremendous degree of disparity in the opportunity to access the Internet, and educational and business opportunities are tied to this access. People in countries where access to digital technologies is cheap and more pervasive, naturally gain the competitive edge.

Enter the mobile: a decade ago, India leapfrogged into the computer revolution, and a similar thing will happen now with the mass adoption of mobile telephony. It’s going to be faster this time round: back in the 1990, computers were expensive. It’s still not entirely rosy with mobile phones—like I said, con-



Deepak Ajwani Associate Editor

“If increasing PC penetration can further the digital divide amongst the different income groups, increasing mobile use will, in contrast, bring them together”

nectivity has been a significant investment for my watchman—but we’re getting there. And it’s not limited to the cities—mobiles are entering even the most far-flung rural areas of India.

Change happens slowly in India. People in this country really *do* find it harder to adapt to change. But technology here has gone against the grain. We’re now adapting as fast as anyone else. We can’t say what will happen if what the much-in-the-news Bill Gates said comes true: that hardware will one day be free.

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Disclaimer: For every *Digit* contest, there will be only one winner, unless specified otherwise. In the event of a dispute, the Editor's decision shall be final

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HARDWARE		
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EPSON Stylus C45 Canon Pixma iP1200 Canon Pixma iP1600 Epson Stylus C67 HP Deskjet 460cb HP Photosmart 7838 HP Officejet K550 Pro	Inkjet MFDs 100 Brother DCP-115C Brother MFC-215C Brother MFC-3240 BrotherMFC-5840CN Brother MFC-620CN Brother MFC-410CN Canon MP150 Canon MP450 Canon MP500 Canon MP530 Canon MP830 Epson CX3700 Epson CX4700 HP Officejet 4355 All-in-One	SOFTWARE Parental Control Software ... 35 Child Control 2006 ContentProtect Cyber Patrol CYBERSitter 9.0 iProtectYou Web Filter v7.10 Net Nanny Optenet Web Filter Parental Filter 0.24 We-Blocker 2.0
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Phone: +91 9341829285,
(040) 27894167/55221051

Enter




16 Mrs Iyer... er... Konkona Sen Sharma and her relationship with her gadgets

16 Armageddon is upon us! Gather your supplies, protect your kiddies, and hide in your bunker!

30 Why is everyone fighting for Net Neutrality?

Digital Passion



35 A Sleazy Playground  How do you shield yourself and your family from online smut? **Plus:** Nine parental control programs tested—how well do they protect your child?

50 Inside The Xbox 360 What makes the Xbox 360 tick? Why is it the cat's whiskers for gamers? We take a nosedive into its innards and find out!

55 Act Naturally

We're sick of being tied to the same old keyboard and mouse—why can't we just talk to computers the way we do to people? A look at the future of the fabled Human-Computer Interface



59 The Protectors

Three people from different corners of the country come together to create a community of ethical hackers. Find out what drives them to protect India's Web sites from malicious attackers


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65 Net Gain

Want to send your 200 MB holiday video to your friends, but don't know how to get it to them? Yousendit.com lets you send over even the most massive of files!

66 Shades Of Colour

On the market for a new inkjet printer? Don't leave home without reading about the latest ink-spitters out there! 



76 New & Notable

Showcasing an über-cool Bluetooth headset, a "Football Fever" Web cam, and Corel's latest weapon against Adobe Photoshop and Illustrator

79 Tips & Tricks

Get what you want out of Google with these nifty search tips! Also featuring some all-time favourite Microsoft Office tips



84 30 Minute Expert

Turn your Active Desktop into something useful, then go build a house in Google SketchUp

92 Agent 001

What's a PC if it has no life-force? Agent 001 goes out hunting for the best Power Supply Unit (PSU)—yes, brands matter!

Digital Business

95 #include me_too.please

The Indian Software Industry is one that's making progress—not to mention money—at an obscene rate. And it's not too hard for you to get in, either! Here's the low-down on the road to software heaven



98 Divide And Conquer

Heard a lot about grid computing but don't know what to do with it? For starters, use the Grid to distribute your data storage over your office LAN

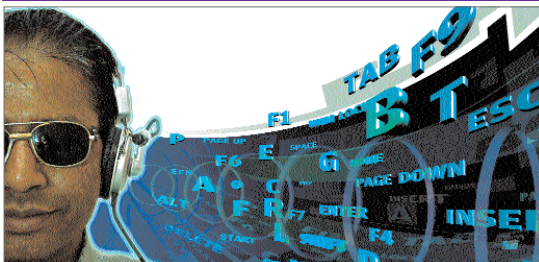


100 One Device Army

Print, fax, copy, scan! We put 15 Inkjet Multi-Functional Devices to the test—which one is right for your office?

July 2006

Digital Leisure



113 Sight And Sound

JAWS need not conjure up bloody images of shark attacks—it's also a software that aids the visually impaired in computing

115 Game On

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118 Digit's Believe It Or Not!

Presenting some of the totally weird products ever cooked up!

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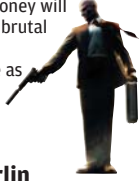


DIGITAL PASSION

GAME

Hitman: Blood Money

Hitman: Blood Money will deliver the most brutal and realistic simulation of life as the world's deadliest assassin



Rush for Berlin

Rush For Berlin is a tactical real time strategy game, set on the European



battlefields of World War II. The player's goal; to capture the German capital, as either the British/US/French alliance or the Red army of the Soviet Union

Titan Quest

The Titans have escaped their eternal prison, wreaking havoc upon the earth. The gods seek a hero who can turn the tide in an epic struggle that will determine the fate of both men and gods. Are you ready for the quest?



Macromedia Dreamweaver 8

Macromedia Dreamweaver 8 is the industry-leading web development tool, enabling users to efficiently design, develop and maintain standards-based websites and applications



LINUX

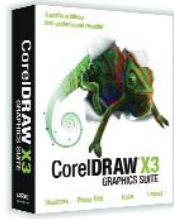
- Alien Arena 2006 Uranium Edition
- Bbweather 0.6.3
- CACAO 0.96
- Gdm
- Libxml2 - Library offering a XML parser.
- Linux Kernel 2.6.16.20
- MyOODB 1.7.3
- MySQL 5.0.22
- DotDefender 2.16
- Nessus 3.0.3
- OXygen XML Editor & XSLT Debugger -
- Java-based XML Editor.

DEV TOOLS

- CoffeeCup Free HTML Editor
- DirectX SDK - (April 2006)
- EasyMod Php
- EasyPHP 1.8
- CoffeeCup Button Factory 7.0

DIGITAL TOOLS

CorelDRAW Graphics Suite X3



Transform ideas into professional results!

Ulead DVD Workshop 1.2

Ulead DVD Workshop is a powerful, yet flexible DVD authoring software designed for creative video professionals and enthusiasts



Photo Collage Studio

Wondershare Photo Collage Studio is a digital photo collage utility that assembles favorite photos into an artistic compilation



MULTIMEDIA

- Super Duper Music Looper XPress 2.0
- Adesign
- DVD Photo Slideshow
- DVD Slideshow Builder V1.1.5
- ImTOO DVD Ripper Platinum
- ImTOO MOV Converter v3.1

INTERNET

- AV Webcam Morpher 1.0.66
- FireFox Extensions
- Yahoo! Messenger 7.5
- IMGiant Instant Messenger 3.0
- Active WebCam 7.2
- VCam 1.0.5
- Internet Download Manager 5.03
- HiDownload Pro 6.9 Beta 3
- Safe Chat Universal Messenger With Parental Controls 1.8.4



SYSTEM

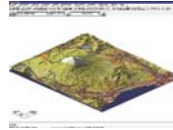
- Autopatcher XP April 2006 Update
- Autopatcher XP May 2006 Update
- Cobian Backup 8.0.0.121
- DirectX 9.0c Redistributable June 06
- Partition Logic 0.62
- Peter's Flexible Renaming Kit 1.65
- SiSoftware Sandra Lite 2007.6.10.98
- Directory Compare and Synchronize



DIGITAL BUSINESS

IntelliCAD 6.1.19.2

IntelliCAD is the intelligent choice for architects, engineers, designers - virtually any professional who creates or uses CAD drawings



AllyCAD Freeware

AllyCAD is a powerful and user-friendly 2D CAD package that has established itself as the best of its breed



ArchT 2007

ArchT architectural software is the result of partnering with individuals and firms the world over to create



powerful, easy-to-use yet affordable architectural software for IntelliCAD and AutoCAD

PRODUCTIVITY TOOLS

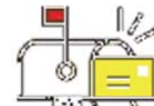
- Advanced ID Creator Personal 5.12.30
- ART-SHOP X-Lite by MASTER-DESIGN
- Columbus
- GridBlocks DISK

MOBILE APPS



- Image Explorer 0.3
- Best Screen Snap 1.01
- DAVA Picture Viewer 2.0.5
- Photos2Resize 2.0.1
- Aileron Mail 5.1.45

Aileron



- Handy Expense for UIQ 2.06
- Softick Audio Gateway 1.06
- SplashPhoto for Smartphone 4.41

Bluetooth Audio Gateway



Stream to: Remote Internal

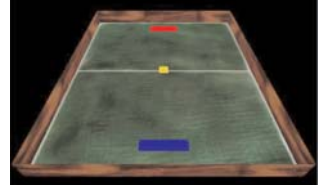
Configure Test

DIGITAL LEISURE

SMALL GAMES

3D UltraPong 1.5

3D UltraPong is the classic pong game with amazing 3D graphics



- 5 Days A Stranger
- God of Thunder
- Helicopter Cacophony 2



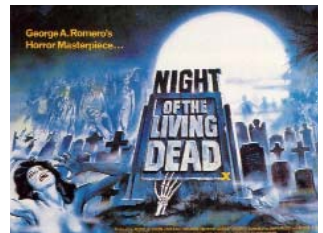
- Hobo Soccer
- Karting Race
- Ozzie and the Quantum Playwright

MOVIES

Elephants Dream



The film tells the story of Emo and Proog, two people with different visions of the surreal world in which they live



Zombie Muffin Munchers!!!



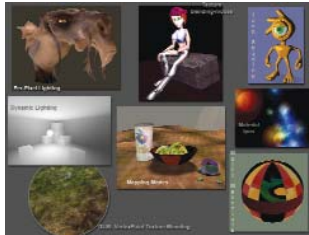
DIGITAL PASSION

First Page 2006 3.00

Create, edit and deploy Web sites with First Page 2006. The integrated tools empower Web developers to develop standards-based Web documents



Blender 2.41



Blender is the open source software for 3D modeling, animation, rendering, post-production, interactive creation and playback

ImageMagick 6.2.7-8

ImageMagick is a package for display and interactive manipulation of images for the X Window System



DEVELOPER TOOLS

- AceHTML Freeware build 9
- Alleycode HTML Editor 2.16



- C++ Server Pages 1.6
- CodeJack 3.0
- Advanced Virtual COM Port 2.3.3
- Code to Chart 2.0
- FTP Voyager Software Development Kit 12.3.0.1
- HotHTML 3 Professional 1.5.3000
- LopeEdit Pro 5.0
- Source Editor 2.4.2.0

LINUX

- FSlint
- GAV 0.9.0
- GCfilms 6.2
- GTK2 - GUI Toolkit.
- Phorum 5.1.13
- Predict 2.2.3
- Sylpheed 2.2.5
- Sysstat 6.1.3
- @Mail 4.4



DIGITAL TOOLS

3D Sci-Fi Movie Maker 2.04



3D Sci-Fi Movie Maker is a multi-purpose creative tool. It can be used to produce scenes for inclusion in home made machinima movies

CA eTrust PestPatrol Anti-Spyware

Spyware Removal with of CA eTrust PestPatrol Anti-Spyware!



MULTIMEDIA

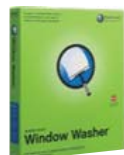
- AVS DVD Player 1.6
- BSPlayer 1.41
- Zwei-Stein Video Editor 3.01
- ABC DVD Copy 2.01
- AutoRun 3.1.4
- J. River MEDIA CENTER 11.0
- MIS Info Video 2.2.0
- MP3 Rectifier 1.0
- VCDEasy 3.1.0

INTERNET

- 12Ghosts Popup-Killer 8.05
- AbsoluteToolbar
- Celestia 1.4.1
- Chat with Me Now 1.0
- Express Dial 1.11
- GroupMail Free Edition 5.0.0.818
- Magitime 6
- Spyware Doctor 3.2
- Auto Reply Manager for Outlook
- CounterSpy 1.5.82

SYSTEM

- DSynchronize 2.23
- Easy Burning 1.89d
- Edit Pad Classic 3.5.3
- JustZIPit 130.33a
- MetriScope (with Windows Pack) 3.0.3
- Microsoft Windows Malicious Software Removal Tool
- TrID 2.00
- Quick Starter 2.8
- Window Washer



ESSENTIALS

- .NET Framework 1.1
- Avast Home Edition 4.7
- Digit Software Archive 2006 Beta
- Foxit PDF Reader 1.3 build 0104
- Irfan View 3.98
- K-Lite Mega Codec Pack 1.53
- Opera 9.0 Beta 2
- Spybot Search and Destroy 1.4
- Spybot Search and Detection updates
- VLC Media Player 0.8.5
- Winamp 5.22
- WinRAR 3.60 beta 4
- ZoneAlarm 6.5.7



DIGITAL BUSINESS

SmartMovie 3.21



The tools you might need to have that music video, film or home-movie playing on your handheld device in a couple of minutes

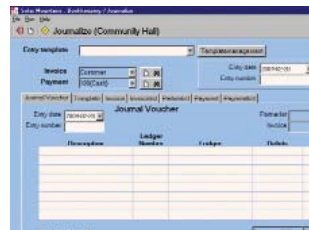
Pocket DVD Wizard 4.6

The Pocket DVD Wizard will allow you to convert standard DVD content, Mpeg and AVI files into Windows Media Player files suitable for your Pocket PC



PRODUCTIVITY TOOLS

- 1-4-all Account lite 1.3.5
- AnyCard: Credit Card Processing Software 3.12
- Controlling Your Business 4.0
- Elohai Free Accounting 2.0
- EMS SQL Manager 2005 Lite for SQL Server 2.3
- Optimik 2.36c
- PDF Reader 2.4
- Star EZ Inventory 1.10
- Senomix Timesheets 2.61
- DipTrace 1.23
- Drill-Down Tally 2006 3.136
- I-Navigation 3.2



MOBILE APPS

- IPCheck Mobile GUI 2.0
- Nyx Password Storage 1.21
- Allok Video to PSP Converter 1.2.2
- GPRS Remote Control 4.0
- Mobile Admin 3.2
- Spb Backup 1.1
- Time for Life Pocket PC 1.1



DIGITAL LEISURE

SMALL GAMES

Alien Clones

Take on foreign predators. This game requires you to be fast and accurate



Badaboom

Clear as many balls as possible.



Blooming Gardens



Bush Shoot-Out

UFO Joe



Big Kahuna Reef 2

Brickshooter Egypt

Baseball



VIDEOS



Online



By Demand

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

Ulead DVD Workshop 1.2

Size: 242 MB

Autopatcher XP May '06

Size: 67.8 MB



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The Amazing Tomatoboy! A Bangalore kid makes games "for his friends," but we liked his tomato-centric game tool! Meet this bite-sized creator of good, clean fun!

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Move Over, Silicon | Spreading The Word

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

Digit Reader Poll

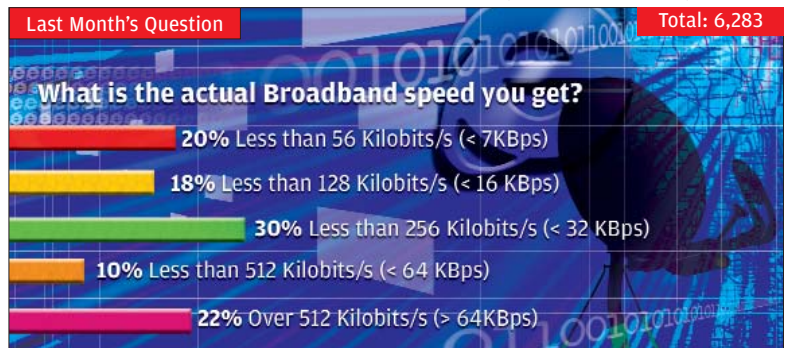
This Month's Question

You are exposed to online porn mostly from?

- Internet
- Links from Friends/Colleagues
- e-mail
- Online Chat



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taste technology at www.thinkdigit.com

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

Starting this month, we will feature one member tutorial from the forum

[Click here to go back to](#)



AJAX Tutorial

29-05-2006, 11:55 PM

Chapter 1: The grounds of our app

Let's first start with a generic XHTML page:

```
Code:
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en"
xml:lang="en">
<head>
<meta http-equiv="content-type" content="text/html" />
<title>My first AJAX page</title>
</head>
<body>
<p>Hello world</p>
</body>
</html>
```

Now, let's create a script object for inserting the AJAX code. Here is the modified <head> section of our HTML page:

```
Code:
<head>
<script type="text/javascript">
<!--
//Our code comes here
//-->
</script>
</head>
```

Now, we come to the server-side. Here is the generic php code for outputting a simple string "AJAX was here":

```
Code:
<?php
printf("AJAX was here");
?>
Now things are setup, we can go into AJAX.
```

Chapter 2: The XMLHttpRequest() object

The XMLHttpRequest() is a JavaScript object. It has the following methods:

```
Code:
XMLHttpRequest.abort() -> Abort the XMLHttpRequest request
XMLHttpRequest.getAllResponseHeaders() -> Get all the headers from
XMLHttpRequest request to the server
XMLHttpRequest.getResponseHeader() -> Get only the 'status' and
'readyState' headers from XMLHttpRequest request to the server
XMLHttpRequest.open() -> Open(Initialize) a XMLHttpRequest()
XMLHttpRequest.send() -> Execute the XMLHttpRequest()
```

It has the following event(s):

```
Code:
XMLHttpRequest.onreadystatechange -> Event executes whenever the
request is available.
```

P.S: Actually, onReadyStateChange is a property of the object which has the value of the function which is to be executed when the request is available.

For the full tutorial (and many more) visit: <http://www.thinkdigit.com/forum/showthread.php?t=29134>

[rohan](#)

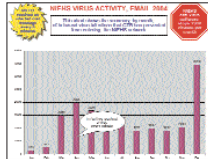
Broken In



Join Date: Mar 2004
Location: Baroda
Posts: 133

E-mail: The Good And The Bad

The proportion of e-mails that contain malware has fallen for the first six months this year compared to the same period last year. About one in 91 e-mails contained a virus or other types of malware, far less than the 1-in-35 figure of a year ago.



Designed In California, Made In China

British newspaper *The Mail* has claimed that iPods are made in Chinese factories under “slave” conditions. The paper alleged that one particular factory employed 2 lakh workers, working 15 hours a day for a monthly pay of \$50 (Rs 2,300). Foxconn Electronics has sternly denied the allegations.



Enter

Konkona Sen Sharma
Actress

Although she was introduced as the daughter of actor/director Aparna Sen, Konkona made a niche for herself with her very first feature film *Mr and Mrs Iyer*. She went on to wow audiences in films such as *Page 3* and *15 Park Avenue*.

Technology to you is....

... what makes us sit up and take notice of our surroundings everyday. I mean, with every new innovation, we actually wonder “Wow! What next?”

What are your favourite gadgets?

I don't have any particular favourites especially since technology is such a double-edged sword. For example, my cell phone, a Nokia 6100, is undeniably an instrument I cannot make do without. But it can sometimes be intrusive. However, I'm curious about new innovations and do keep myself informed.

What do your online activities entail?

As an actress, work takes up much of my time, and I don't find the time for more than surfing and e-mail. But e-mailing is a key activity; I handle a lot of my work through it.

Any particular incident where technology came to your rescue?

No major life-saving incident, but technology brings small mercies to everyday living. Even with my cell phone, for example: I can actually recognise an alien number and not take the call if I don't wish to—and call back later. Isn't that a boon?

THE CORE WARS

A Giga-Core Processor By 2020?

A research director at Gartner has recently said that the move from single- to dual-core processors has broken a certain barrier: “We're now in a multi-core world—there's no looking back.” The core wars have begun. If you were only just getting used to the idea of dual-core, prepare to expand your imagination.

Intel officials have indicated that chips with dozens of cores might be possible by the end of the current decade. In 10 years, chips with hundreds of cores might emerge, they say. And as a natural progression, we might use the words “kilo,” “mega,” and “giga” to refer to the ~ number of cores ~ in a processor!

Intel is planning to ship quad-core chips later this year to computer manufacturers. Not to be left behind, AMD, of course, will possibly ship quad-core chips in early 2007.

It seems Intel will have the lead, in terms of both performance and energy efficiency. Speaking at a conference in mid-June in New York, Dileep Bhandarkar, architect at large for Intel in Santa Clara, said that when Intel's quad-core “Clovertown” is released in the first half of 2007, it will be a single package of two dual-core chips, and that the chips

will not have the memory controller integrated into the chip. Bhandarkar did admit that integrating the memory controller directly into the chip would improve performance with some workloads. Intel officials,

multiple cores will need to be built, and they will. It's not clear how the chip giants are surging ahead with their plans for multi-core desktop computing in the absence of software that can use them, but that's always been the story: software follows hardware follows software. Something like Windows Vista's hardware requirements!

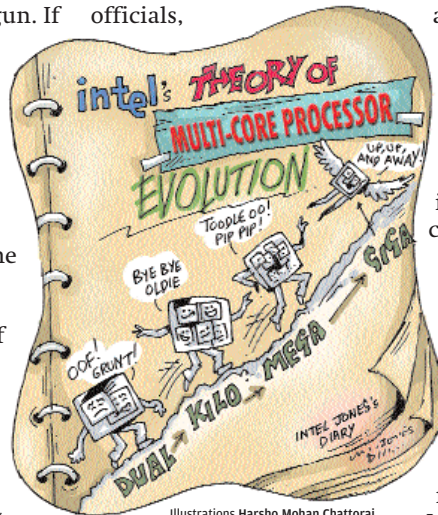
But Clovertown aside, is a giga-core processor conceivable? No-one knows, of course, but you can never tell with nanotechnology. What's confusing is the variety of approaches to increasing performance. What exactly will the computer of 2020 look like? Will it be based on multi-core silicon chips?

Will something replace silicon? Will it be alternative computing paradigms, such as quantum and DNA computing? Will it be something exotic, like reversible computing? We live in an exponential age.

PARANOIA

Error 417: End Of World

Experts are warning that EIT disasters could be a threat to the human race. The Bulletin of the Atomic Scientists (BAS)—known for its Doomsday Clock, which



Illustrations Harsho Mohan Chatterraj

however, think it is more important to bring a quad-core processor to the market before AMD does. Intel expects to beat AMD by a quarter or two.

According to Bhandarkar, Intel doesn't stand to lose much in the way of performance by having a multi-chip package for the quad-core processors, as opposed to AMD's design—a single piece of silicon with four cores. The Clovertown chip's performance will be helped by having independent front-side buses dedicated to each processor.

Naturally, applications that take advantage of



Security Watch

Internet Explorer Vulnerabilities

The Problem

Mid-June, Microsoft released 12 security updates to fix at least 21 vulnerabilities in Windows and other software, including 12 flaws labelled "critical." At least eight different flaws—four of them critical—have been found in IE. A problem has also been found with Microsoft's implementation of JavaScript: the baddies have been known to use JavaScript flaws to install bad programs. Then there's a flaw in almost every version of Windows Media Player, and a host of other problems have been found as well—including a security hole in Word 2000, XP, and 2003; a critical flaw in PowerPoint—and more!

The Damages

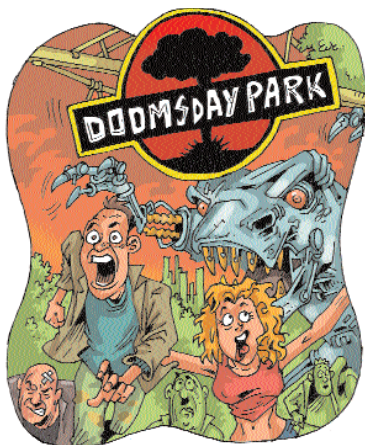
Microsoft calls a vulnerability "critical" if attackers could exploit it without any action on the part of the victim. Critical flaws in IE are especially dangerous because they expose users to the risk of having their computer completely hijacked by visiting a malicious site.

The Solution

You need to immediately install the patches. All the required patches are available via the Microsoft Update Web site (windowsupdate.microsoft.com), or you can activate Automatic Updates on your computer. Office 2000 users will need to also visit Microsoft's Office Update site to download the Office patches separately.

is now at seven minutes to midnight—is holding a series of "doomsday reconsidered" meetings to look at future threats to civilisation. Executive director Kennette Benedict told a radio station that they would be taking stock of the threats that might be catastrophic to humans.

New threats will be investigated at the meeting in addition to those of



atomic weapons and such. Benedict said, "We'll also be looking at new developments in life sciences, in synthetic biology, for instance, and some of the emerging technologies, nanotechnologies, and how these may converge with life and developments in biotechnologies, and we'll also look at information technology and the vulnerabilities of civilian infrastructure."

The BAS has a Web page: www.thebulletin.org.

Scott Borg, the director and chief economist of the US Cyber Consequences Unit—which gives the US

government risk assessments of possible cyber attacks—also recently warned that criminals or terrorists could target IT systems. A key target could be supervisory control and data acquisition systems in power plants and such. Borg told the newspaper *The Independent*, "Think of the control systems for chemical plants, railway lines or manufacturing facilities.

Shutting these systems down is a nuisance. Causing them to do the wrong thing at the wrong time is much worse."

So could IT bring about the end of the world? That might be fatalistic thinking, but GNR (Genetics, Nanotechnology, Robotics) technologies are something to reckon with when thinking along these lines. Experiments are

currently on that merge human genes with those of goats and other such animals, recalling images of Greek mythical creatures. Nanotechnology conjures up the image of "grey goo"—swarms of nano-robots spread all over the atmosphere. And as for robotics, we've mentioned elsewhere in this issue that experts are already warning of safety concerns as robots increasingly enter homes and offices.

Technology enables—but it just might destroy. But all this could, of course, be just plain, uninformed, old-fashioned paranoia.

HOT YouTube

The interface here is neat, and videos can be rated. You can save videos to your favourites, add them to groups, and share and blog them. Along with a thumbnail of the video, you also see when the video was posted, its rating, category, and more.

Google Video

Here you can't comment on videos, and you can't mark a video as a favourite. The interface is clumsy compared to that of YouTube... and there are other little niggles: no view count, and no ratings.

PATENT, WAIT, SUE... AGAIN

Net2Phone And Skype In Silly Legal Spat

Internet phone company Net2Phone, which was a popular paid service in the old days (read 2000) has filed a patent infringement lawsuit against Skype Technologies and its parent company eBay. Net2Phone alleges that Skype has infringed on its VoIP patent, which it applied for in 1995 and which was issued in August 2000.

Skype uses P2P technology for its VoIP service, whereas companies such as AT&T use a system

One Silly Question

"Whom would you compare your computer's IQ to?"



"Laloo Prasad Yadav"
Avit



"Abdul Kalam"
Poojan



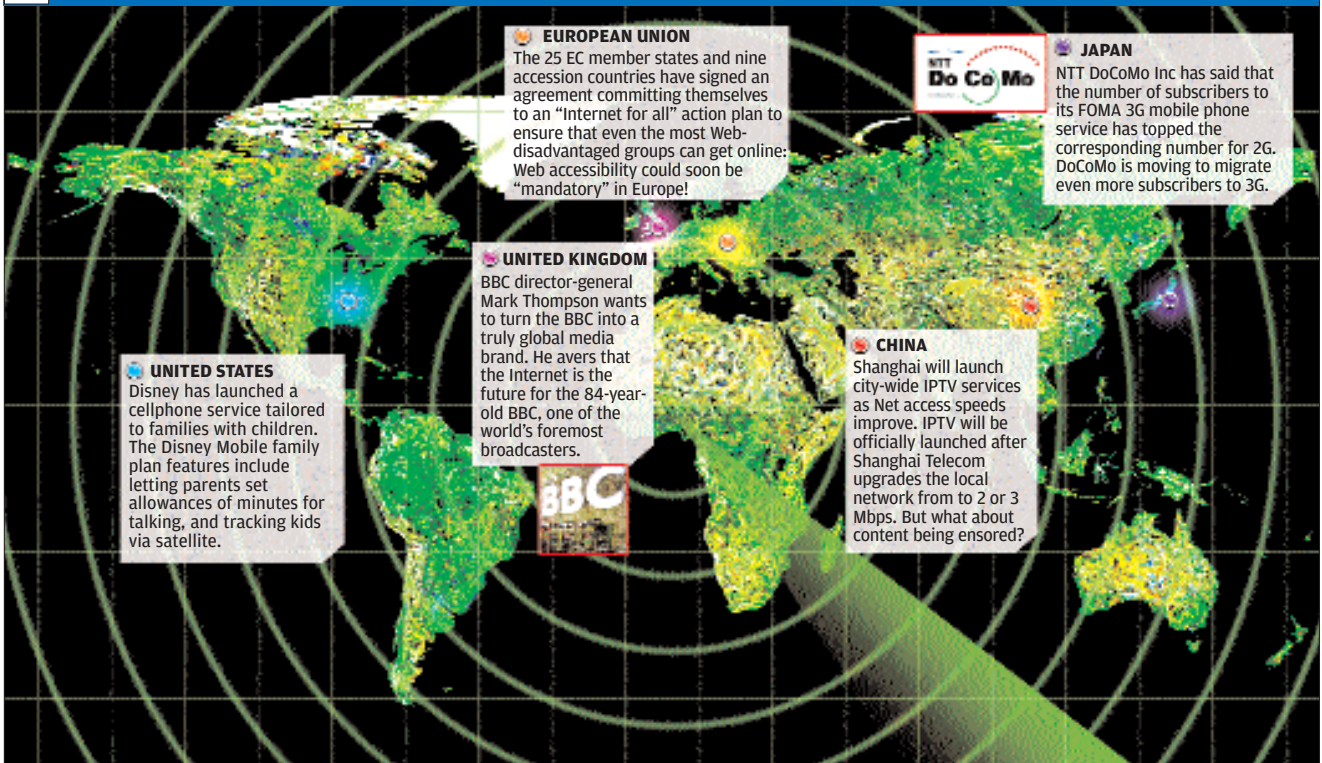
"An ostrich!"
Deepal



"Bill Gates!"
Basuri



"The Space Shuttle..."
Pranav



UNITED STATES
 Disney has launched a cellphone service tailored to families with children. The Disney Mobile family plan features include letting parents set allowances of minutes for talking, and tracking kids via satellite.

UNITED KINGDOM
 BBC director-general Mark Thompson wants to turn the BBC into a truly global media brand. He avers that the Internet is the future for the 84-year-old BBC, one of the world's foremost broadcasters.

EUROPEAN UNION
 The 25 EC member states and nine accession countries have signed an agreement committing themselves to an "Internet for all" action plan to ensure that even the most Web-disadvantaged groups can get online. Web accessibility could soon be "mandatory" in Europe!

CHINA
 Shanghai will launch city-wide IPTV services as Net access speeds improve. IPTV will be officially launched after Shanghai Telecom upgrades the local network from to 2 or 3 Mbps. But what about content being ensored?

JAPAN
 NTT DoCoMo Inc has said that the number of subscribers to its FOMA 3G mobile phone service has topped the corresponding number for 2G. DoCoMo is moving to migrate even more subscribers to 3G.

that is centrally managed to transfer calls to a traditional phone network.

The case is interesting because it seems so frivolous. The patent in question is the "point-to-point IP" patent, which details the "exchange of IP addresses between processing units in order to establish a direct communications link between the devices via the Internet."

First thoughts: the above seems so ambiguous, it describes almost every data transaction on the Internet! How could Net2Phone have been granted this patent? They could sue anyone on this basis! The Internet is all about two IPs communicating with each other, and at first sight, Net2Phone seems to have copyrighted the Internet!

Now, when one reads the patent abstract, it doesn't seem as general as all that, but it still seems to describe all P2P and IM systems. We haven't read the entire patent, but in all probability (American lawyers certainly aren't

stupid), the patent is probably much more complex.

The question, however, raises its head: why wait so long? Why not sue when Skype started off? This is almost identical to the situation we reported last month in this space, with Creative suing Apple for a patent on a *user interface*. Net2Phone seems to have waited for Skype to be acquired by a large company before making their move.

Perhaps we'll see a new law that bans suing so late in the day! But the question we're asking now is, will Skype sue back? Will Skype win? Or will the case be dismissed on grounds of frivolity?

IN THE UK AND SOUTH KOREA

Mobile TV Trials

Is the time ripe for mobile TV, and will DAB work? That's what providers in the UK and South Korea are going to

Three Incredibly Useful Sites
 A Library, Straight Dope and

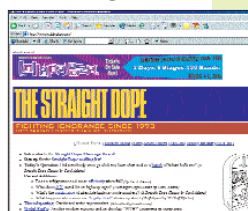
www.ipl.org



The Internet Public Library

Visit this site to get an idea of how much information you can access! The pane at the left is infinitely expandable—hover your mouse over a heading and you get 10 categories, with sub-headings. With categories such as Almanacs, Dictionaries, Science & Tech, the site links to hundreds of sites, and is comparable to the old directory-style Yahoo!.

www.straightdope.com



The Straight Dope

"Fighting ignorance since 1973." The Straight Dope answers such questions as "How do you donate your body to science?" and "How do they get beer into cans?" OK, these might seem silly, but imagine that you can get answers to almost any weird question, and you have the ultimate trivia site at your fingertips. What does "OK" stand for? What is a mojo? Go ahead, it's all searchable!

www.lifehacker.com



Lifehacker

The site calls itself the "Productivity and Software Guide." A humongous homepage boasts of an eclectic collection of, well, links and articles. Back up your mac the smart way. Download of the Day: Gmail Remote Command. The Daily news roundup. Save your aching wrists; switch your mousing hand. Eclectic, like we said. You need to take a look. We loved it.



Photograph Kawaldeep Singh

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 15th of this month.

Beat That!

Digit Caption

“Research shows CEOs getting younger every day”

Last Month's Winner!

Manushree Gangwar
176 Ravindra Garden, Sector-E,
Aliganj, Lucknow-226024, UP
“MulTEAprocessing”



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

C# Programming
by Burton Harvey,
Simon Robinson

Published by
WILEY-INDIA



try and find out. A forthcoming six-month trial will cover the London area in the UK, and will see broadcasts from the BBC, the Cartoon Network, and ITV, amongst others.

DAB stands for Digital Audio Broadcast. Two variants of DAB, which is a broadcast standard that can be used for mobile TV, will be tested in the trial.

There are two ways of delivering video and multimedia services to mobile devices via DAB. The first is DMB (Digital Multimedia Broadcasting), which uses the MPEG-4 coding system via “stream mode” over DAB. The other is via an IP application, called DAB-IP.

Having a choice of methods is a key advantage for DAB, since it offers flexibility and options for network operators.

DAB multimedia services work with both GSM and CDMA networks. Korea has had DMB broadcasts since 2005, with 2 million TV phones to be sold by the end of this year.

Amongst the issues the project will investigate are content protection, coverage, how the receivers perform, and chipsets. Many biggies have already expressed their interest in mobile TV, but barriers stand in the way of mobile TV becoming mainstream—including regulations and rights questions.

However, John Whittingdale MP, chairman of the culture, media and sport select committee, said the industry should not be overly threatened by them: “These are all relatively minor matters. I hope these minor difficulties can be resolved soon.”

Minor difficulties these may be, but who exactly wants to watch mobile TV? Several analyst reports have already questioned the viability of this new medium.

There still isn't much evidence that people actually want TV on their mobile phones. Those involved with this project, however, seem to simply assume that it's obvious

that everyone wants TV on their phones.

Some aver that most people on the go won't be watching television—for the obvious reason: they're on the go, doing something—not just sitting around where they can watch TV. (If they're at home, they have a much better way to watch it.) Until holographic projection phones come in, we're talking about tiny screens. Then there's the question of interruptions from phone calls.

However, Anders Jensen of Vodafone and Thomas Ekman of Tele2 believe that giving people news and other content whenever and wherever they want is the big benefit of mobile TV. “Mobile TV lets you kill five minutes whenever you have them,” Jensen says. “There is a convenience factor to watching mobile TV and, in our society, a convenient service has great potential to become a good business opportunity.

“What people see on regular TV, they'll want to watch on their mobiles.”

LOTS OF MONEY TO BE MADE

3G For The Developing World

Will we actually soon see widespread 3G in India? Members of the GSM Association (GSMA) approved, on June 13, a programme called “3G for all”—sponsored by the Hutchison Group—that could help bring mobile Internet access and third-generation multimedia services to more people in poor nations, including India. More than 72 million people worldwide use 3G GSM technology, mostly in the developed world. The GSMA said they want to see this number grow to include folks in underprivileged nations.

Through the “3G for all” programme, the GSMA plans to establish a set of common requirements for 3G handsets, in an effort to help mobile phone suppliers quickly bring

GENDER

Anuradha vs. Bhuvan



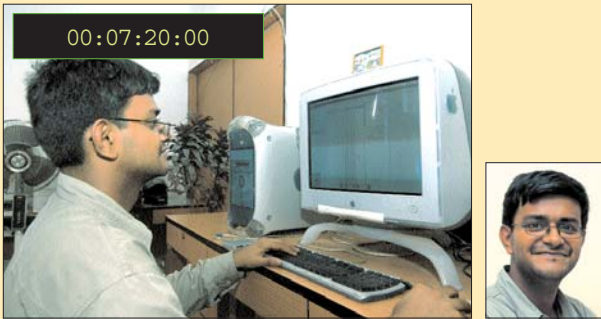
How Many English Pages Can You Access On The Web?

00:06:15:43



Anuradha's cerebral cogs and wheels got into action when we told her about the task. She headed to Google.com and typed in "English +Web Pages". The count? 63 million. Not figuring where to find the answer, she opened each result successively, without realising that the result count is displayed just below the search tab. We gave her a hint. With renewed energy, she rephrased her search term to "English" and then "number +English" to get 4.5 billion. And that was the end of that.

00:07:20:00



When we told Bhuvan what he needed to do, he seemed very confident indeed. All smiles, he Googled "Web Pages +English". He rephrased his terms a couple of times but didn't get a decent answer. Then thought a different search engine would give better results. Alltheweb.com didn't help either. We gave him the same clue we gave Anuradha. Bhuvan used his first phrase to see the count he had missed—872 million—a far cry from 26 billion, which is what you get when you Google "+the". Anuradha wins—for time and for getting closer to what we wanted!

down the cost of manufacture. "Our 3G handset initiative will allow... people to take advantage of the video clips, mobile music, Internet access... now enjoyed by... users in the developed world," said Rob Conway, chief executive of the GSMA.

The programme will encourage phone suppliers to compete to design 3G

handsets that meet the mobile operators' common requirements. The GSMA will endorse the winning handset, which will then be widely deployed by mobile operators participating in the programme.

This latest initiative builds on the success of the GSMA's earlier Emerging Market Handset (EMH) programme, which created

a new segment of ultra-low-cost phones with wholesale prices of less than Rs 1,400 for entry-level handsets. The GSMA has said that the availability of such handsets has telecom-enabled millions of people. In India, the EMH programme has helped bring the wholesale cost of GSM handsets down by more than 25 per cent since last year.

Despite such a fall in prices, the GSMA estimates that there are about a billion people worldwide who won't be able to afford a handset for the foreseeable future. The GSMA, through its Development Fund, is looking at how to extend the benefits of mobile communications to this segment. To this end, the Fund is financing a series of pilot projects in Africa and Asia that enable locals to set up payphone businesses or Internet cafes; it has helped Airtel launch a pilot project in UP that equips entrepreneurs with handsets specially adapted to function as payphones.

In regards to 3G, the Press Trust of India quoted telecom minister Dayanidhi Maran as saying, "The Government has to make some money out of it (the 3G spectrum)... (and) make it very competitive and does not want people to sit over spectrum." He did not mention how 3G should be priced, leaving it to the TRAI. "Government will take a decision after TRAI comes out with its recommendations." Let's see how soon that happens.

MICROSOFT TO END SUPPORT

Death Knell Sounds For Windows 98

Come July 11 and Microsoft Corporation will be formally ending support for the Windows 98 line of operating systems—Windows 98, Windows 98 SE and Windows ME. You probably sit at a much faster machine, but PCs on the lower side of 128 MB RAM and a 400 MHz CPU still work best with this dated OS.

After the termination of support, no new security patches, bug fixes or updates will be available. This does not mean the end of the world—one just needs to be extra careful when surfing high-risk sites, opening unknown .exe files, and so on. A firewall is a good idea.

Extensive help can be found on forums. If you get a Win98 error message, you can type in the error into a search engine and follow the links to forum threads. Two particularly helpful forums are www.computing.net and www.annoyances.org.

Microsoft had announced the end of support for Win98 and ME earlier, and had pulled back that decision; this, according to research analyst firm Gartner, was due to fears of users migrating to Linux. Win98 therefore got a new lease of life, but this time it seems to be for real. The real concern is for small corporates who cannot be lax about security, and who will be forced to upgrade.

Google Spreadsheets

Encroaching further on Microsoft's territory, Google has a new online spreadsheet offering—cleverly named Google Spreadsheets—and everyone's talking about it. The interface is intuitive, and you can work on a spreadsheet as soon as you log in to spreadsheets.google.com. About the unique features: you can choose who can edit or view a spreadsheet you created just by typing in their e-

mail address. Multiple people can view and edit a spreadsheet online simultaneously. You can view who's accessing your spreadsheet, who's editing it, and chat with them right there! Google auto-saves your spreadsheet, freeing you from the worry of power failures and system crashes. You can also save spreadsheets on your system in formats such as XLS, CSV, and HTML.

Buzzword
of the MONTH



Network Neutrality

What is Network Neutrality?

Network Neutrality is a policy that aims to equalise the Internet, basically stating that network providers should treat all Web sites equally and serve them to users the best they can. The aim is to enable users to choose sites based on content rather than how fast they receive them from servers.

Who is fighting for it?

In his paper *Network Neutrality, Broadband Discrimination*, Columbia University Professor Tim Wu talks about the eerie idea that network operators could decide which sites open faster for you based on how much they pay the operators. There is also the "Save the Internet" Coalition that aims to unite the world in an effort to protect Network Neutrality.

Why are they fighting?

The US Congress seems all set to pass a law that will send Network Neutrality packing. Operators will then be able to sell their best services to the highest bidder—pay more, and your site will open faster. Web hosts will become like your local *cablewallah*—deciding what you should see based on what's profitable.

How does it affect me?

Imagine a situation where your competitor pays a network provider like Sify to optimise performance for their site, and not for yours. Corporate sabotage will go through the roof, and you, the user, will suffer the worst. Your very freedom to surf whatever you want will be threatened: eventually you'll end up patronising the sites your operator wants you to.

When did this madness start?

On June 8, 2006, the US House of Representatives passed the "Communications Opportunity, Promotion and Enhancement Act of 2006" (COPE)—an act that has no protection for Network Neutrality.

Where can I find more info?

To read Tim Wu's paper, visit http://papers.ssrn.com/sol3/papers.cfm?abstract_id=388863 To find out more about the Save the Internet Coalition, visit www.savetheinternet.com.

MADE IN INDIA

IIT IDC DDS?

The Industrial Design Center (IDC) at IIT Bombay showcased the design talents of their graduating batch at the Design Degree Show (DDS) 2006 on June 10 and 11.

Technology was clearly a key point at the show, with students' designs going from the wild and improbable to ideas that we might end up seeing in our daily lives before we know it. Among such intriguing works was Susheel Kewalay's interactive device for traffic policemen, allowing them to effectively "wear" traffic signals on their hands—no more frantic waving!

We were also drawn by Abhishek Chitranshi's mobile phone for the elderly—complete with big buttons and an emergency button should ol' gramps need some immediate assistance finding his dentures (or just want to annoy you). Of course, the idea isn't new—a similar idea debuted at CeBIT this year, but Abhishek points out the brilliance of the phone's camera: since the elderly have trouble holding their hands up for very long, which results in shaky photos, the camera is designed at an angle, so one can take a photo without raising one's arm much.



#1 DAYTIME MEDIUM

Web High Up In Media Rankings

Now, in a first-of-its-kind study, it has been found that the Web is the predominant information medium in the workplace, is the #1 daytime medium, and is #2 in the home. This was documented in a report from the Online Publishers Association (OPA).

Further, the study says 17 per cent of all media is consumed via the Web. This is a conservative estimate, and other researchers have placed the 17 per cent figure even higher.

These figures were reached via a research project by Ball State University's Center for Media Design. It tracked, every 15 seconds, how 350 people in the US used the media. The genders were represented about equally, and each person was monitored by another person for 80 per cent of the waking day.

"Someone actually came into their homes and workplaces and had a handheld computer, every 15 seconds registering their media consumption and life activities," Pam Horan, president of the OPA, told CNET News.com. This is a first-of-its-kind study because in all earlier studies of this sort, people were simply questioned about media usage via phone surveys and such.

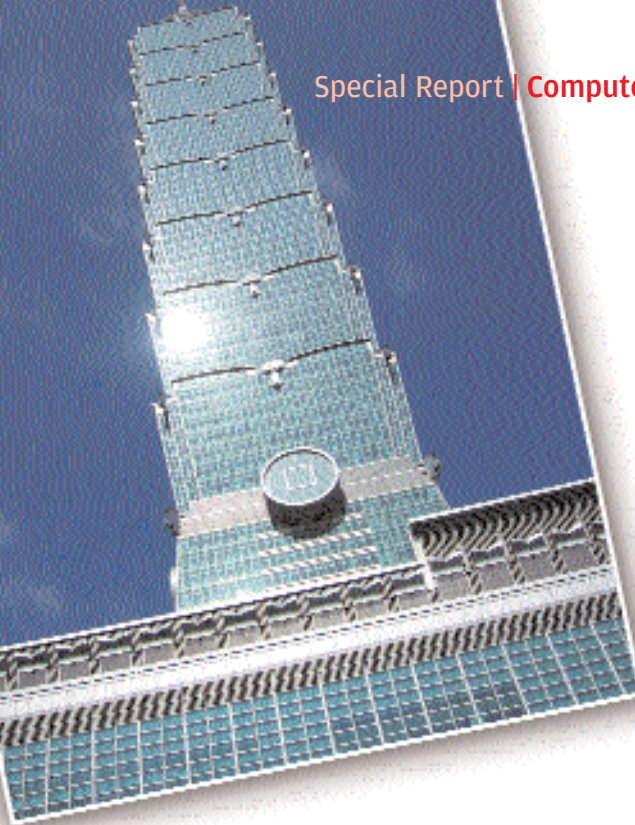
The study used census data to determine the spending habits of the 350 monitored subjects. Web-dominant consumers' annual retail spending averaged \$26,450 (Rs 12 lakh), while TV-dominant consumers' spending averaged considerably lower, at \$21,401 (Rs 9.8 lakh). Despite this, only about 8 per cent of all advertising is done on the Web, according to other studies.

"I hear more and more from marketers that they have shifted their business to be more responsive and realign. There is an active movement by traditional advertisers to be able to explore platform strategies," said Horan, who believes research studies are attracting the attention of advertisers, and may result in a faster shift in ad spending to match the actual statistics of consumer media usage.

Interestingly, the researchers conducting the OPA study found a direct correlation between Web traffic and offline referrals to Web sites. For example, when PBS—the US public broadcasting network—told people they could find more information on PBS.org about the topic being discussed, people do go to that Web site; the same was found for print referrals to publications such as The New York Times (NYTimes.com).

Most of this comes as no surprise: Internet penetration is ever-increasing, and the growth and popularity of broadband is driving more people to the Web. However, it remains to be seen whether advertising on the Web can be made more effective, since it is so easy to click away from ads on the Net. Perhaps we'll soon be seeing more intrusive methods of online advertising, such as having to view an ad before moving on to a news article.

The 17 per cent figure—which we can conceivably augment to 20 or 25 per cent, since that's a conservative estimate—is significant. The finding also corroborates with the fact that in countries with high Internet penetration, print is going out of fashion. Online ad spending can only increase, partly because as this and other studies have found, Web surfers are richer and spend more on the average. ■



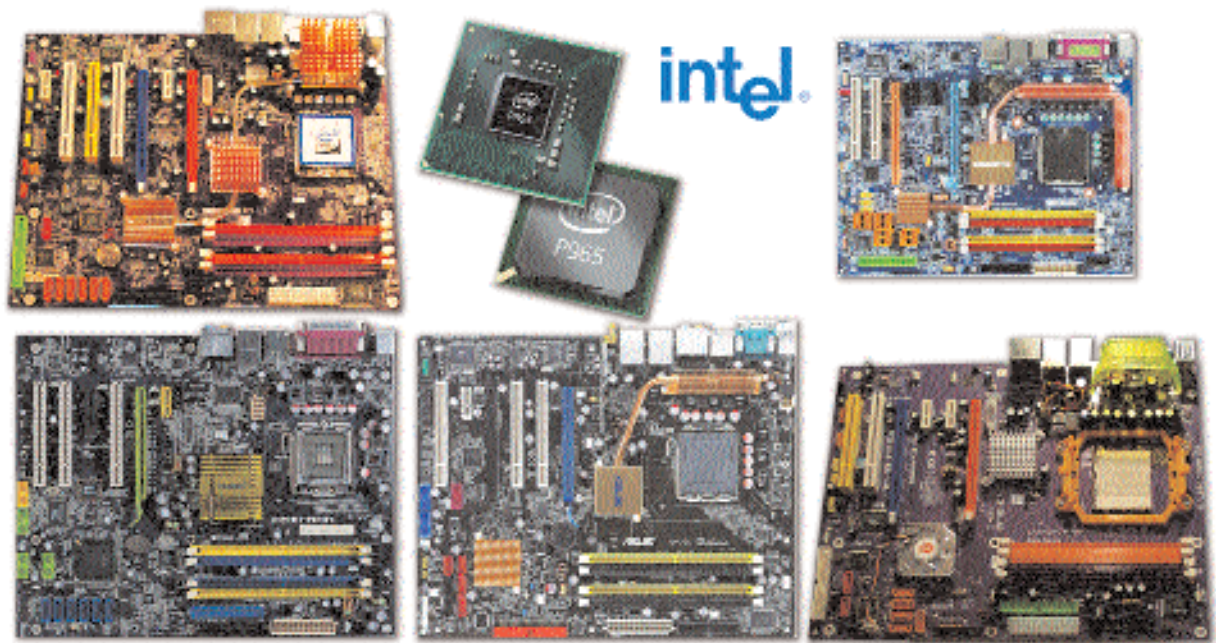
Our quest to be your technology navigator saw us at Computex '06, between the 6th and 9th of June in Taipei, Taiwan. This was *Digit's* first ever trip to Computex, and a memorable one too—we were also one of the exhibitors, peddling our wares to the world.

For those living under the rock, Computex is an annual IT exhibition held in the capital city of Taiwan—Taipei (why not Venice?). Well, most IT hardware products—Motherboards, VGA cards, memory modules, routers, etc. are manufactured by Taiwanese companies, hence Taiwan.

After CeBIT, Computex is the second largest technology exhibition in the world and its popularity is growing year after year, attracting more exhibitors not only from Taiwan but also from other nations. While CeBIT is the place for showcasing of new technology, Computex is more an exhibition of products set to hit the market in coming months from all major Taiwanese companies—ASUS, MSI, ECS, Foxconn and more. Though the event is more for hardware resellers, it's *the* place to take a sneak peek at the products of tomorrow.



The Colours of Computex! (Clockwise from left) Reception ceremony in traditional Taiwanese fashion, The mascot pays a visit to our booth, Beauties running on Segways distributing flyers and last our decorated booth in the Media area of Computex.



▲ Motherboards

The biggest show-stopper at Computex 06 was the launch of Intel's P965 chipset—one that will support the much-hyped Intel Conroe processor. As always, the 965 Express chipset has two other variants, the G965 and the Q965. While the G965 with integrated graphics is targeted towards home users, the Q965 is targeted at businesses. Shown above are motherboards from Foxconn, ASUS, MSI and Gigabyte. What's notable is the use of heat pipes to cool the Northbridge and Southbridges—on high end boards, of course. Also expect to see lot of bundled accessories in the final box pack.



▲ Personal storage

If you thought personal storage was boring, here are glimpses of things to come! 1. great looking USB drives from Transcend available upto 2GB, just beside is the stylish incarnation from Apacer. 2. The elegant MP3 player from Apacer with OTG functionality. 3. That dinky MMC card has an astounding 4GB— enough to transform your phone into an MP3 player. 4. A sleek 3mm Aluminium case harbouring 8GB of storage space and 5. A USB flash drive from PQI with an integrated memory card reader.

▲ Flash On Steroids

Flash memory seems to have caught everyone's fancy. Hard drives based on flash memory aren't light years away—they were right there at the Computex. The first one is a Transcend 8 GB IDE flash drive. The Second packs 32 GB, and the Third is a 1 GB DiskOnModule (DOM) with standard USB interface. With these drives, you will see lower power consumptions, and better yet— instant start-ups!



▲ Small Form Factor And Home Theatre PCs

If you thought Windows Media Centre Edition has gone the dodo's way, surprise! Every Taiwanese company worth its salt were out there with an HTPC. Aopen was first to the market with the mini PC to rival Apple's Mac mini. Based on 945 chipset the new mini PC looks stupendous in the black brushed aluminium casing (Extreme Right).

Shuttle had a rather smaller design up its sleeves, not confirmed yet for producing it is damn small and beats Aopen's mini PC to its game. Shuttle was also displaying its top of the line home theatre PC M1000 (Top Centre), an elegant living room PC with low decible design. Its unfortunate we won't be able to get out hands on the Shuttle, due to lack of distributors.

ESC, a major player in motherboard and VGA also had some great HTPCs on display. The P60 (Extreme left) was the slimmest that we came across. Running on Intel Pentium M low voltage

▼ Chassis

Coolermaster, Thermaltake, Foxconn, Asus etc had various chassis designs targeted at enthusiasts and gamers. While some designs were elegant, others were simply wacky. All were expensive, but undeniably desirable. Shown below (From left) The new Coolermaster Mystique, Foxconn Red riding hood and the Coolmaster Stacker

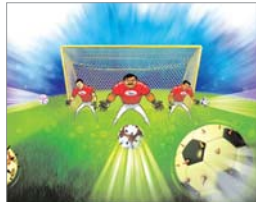




50 Inside The Xbox



55 Act Naturally



59 The Protectors

Digital

Passion

Fuelling the pursuit of technology knowledge

Lead Feature

A Sleazy

Content is becoming more and more mature, especially so on the Net. Are parents and kids prepared?

Agent 001

My day begins with checking my mail along with my morning cup of coffee. Despite the spam filters, my Gmail account always seems to contain spam: strangers commenting about the size of my unmentionables, or claiming the power to make me a sexual god—provided I click on *that* link of course! Then there's the whole slew of mails I receive every now and then about the sexual escapades of women who are actually men (or is it the other way round?)!

Some of you reading this might be muttering, "Chee chee, what rubbish he's talking about!" Others might just be saying "How can you say such things—my kids/little brother/sister/parents also read this magazine." However, I'm willing to bet the majority of you know exactly what I'm

talking about—some of you might be even saying, "Yeah, so? What's the big deal?"

Let's all get off our moral high horses, forget our so-called conservative Indian culture, and leave the sex-is-taboo attitude at the door for the short duration it will take to read the following. Talking about it (or *not* talking about it, for that matter) isn't going to change the harsh reality that will hit you in the face every time you or your kids go online! The Internet has no morals, it has no culture, no age limit, and no governance—there is no moral high ground for it to take. Pornography is everywhere, and anyone who's been online has encountered it.

Sex Does Sell

Let's not judge whether it's right or wrong, but I'm sure we'll all agree that this is true! I'm willing to bet that quite a few of you picked up



this magazine because of what was on the cover, flipped past the initial pages, and came directly to this story. Whether you'd like to admit it or not, sex really *does* sell; it rouses our curiosity and plays to the voyeur in us all. It's like reading the sex advice columns in tabloids—you may not have any of those problems, but the curiosity that killed the proverbial cat gets the better of you.

Take a look at the content on most TV channels today, from the ads to the soaps—everything is laced with sex and double-meanings. We're not here to debate whether that's bad or good, and we'll leave it to the public, the moral police and campaigning politicians to sort it all out amongst themselves, but what we see on TV is quite sanitary compared to what's online.

With Internet penetration increasing by the day, and people moving from dial-up to "broadband" across the country, the demographics of the Indian Internet populace is changing by the minute. Kids and grandparents alike now get online, and almost every urban Indian has access to the big bad Net from either home or office, or both.

Back to the point: Sex sells! Sexy ads all try to appeal to our sexual personas. Being sexy is a requirement today, and ads make you "want to be" even more. At least there's a governing body for television, and this prevents the content from getting too wild. The Internet, however, is another story altogether, and it's not so much about sex here as it is about pornography. Because of the freedom the Net affords, there's no need to be subtle: content there ranges from the mildly titillating to the horrendously explicit.

Who Am I?

On the Internet, no one except *you* knows that for sure—and sometimes even you will not. Anonymity is the ultimate aphrodisiac, the

Because of the freedom the Net affords, there's no need to be subtle: content there ranges from the mildly titillating to the horrendously explicit

battering ram for our moral barriers, and the stripper of our inhibitions. Perhaps that's why there is so much of a market for pornography—child pornography included. It's because most of the people who buy or trade illegal pictures and videos do so knowing that it will be hard, if not impossible, to track them down.

It's not just to pornography that anonymity lends a helping hand, but also to hacking, warez trading and more. Most of us have done something illegal online—but what's more important is that none of us care, or need to worry about getting caught.

The Truth About Your Kids

We're raising a generation of tech-savvy kids who know how easy it is to get absolutely any type of content online. Kids today don't need to hide dirty *magazines* under their beds like earlier generations did. I remember a friend in school who had a lingerie catalogue smuggled in from the US—that's what we considered pornography in the late '80s. Today, almost every teenager who goes online has a folder on his hard drive that's full of *hardcore* (very explicit) pornographic images and videos. Depending on his parents' knowledge of computers, this folder might be in plain sight, hidden, or even encrypted.

Most porn is targeted at men—or boys! If you have a son who goes online, he has in all probability been exposed to pornography. If not through e-mail, then through friends, chat buddies, while surfing, and from Web searches. Look at the bright side though: you don't have to have that talk with him about the birds and the bees—the Internet gave him a full audio-visual presentation!

The Talk

Most surveys show that parents are too uncomfortable to talk to their kids about sex. Schools and colleges have started sex education (or whatever is the politically correct name for it), but those classes are more like biology lessons than anything else. Kids don't need biology lessons! Do they really need to see poor cross-sections of the human anatomy? Especially when you consider that they can get more practical, close-up pictures of said anatomy being *used* in 15 seconds flat if you give them a computer and an Internet connection—which you already have, incidentally!

"Women = Meat." That's what many experts say is the popular perception boys and men have, thanks to pornography. Interestingly, this is *less* true in sexually liberated cultures, like in Western countries. In India, where saying the word "sex" is likely to get you slapped, most men have nothing but pornography to help form their opinions and aid in the sexual growth from teenager to man. This is where your "talk" comes in. You don't need to explain sex to your teenager—they already know *that!* What experts are pleading for is that parents teach their kids the value of love and the methods to prevent against diseases like AIDS. With India having recently overtaken South Africa to become the country with the most HIV+ people, you'd better start talking soon!

The Pornographers

Pornographic sites are dominating the Net, but they're being a little more careful about how they distribute their content. The credit card age verification process that a lot of them have adopted is proof of that. Though this tactic is being used by a few to charge your cards surreptitiously, a lot of them actually use this method to verify age. Some sites also put up large warnings that say "You must be 18 or older to enter." All of them proclaim that all their "models" are 18 or older, and direct you away from their sites if you say you're not 18.

However, like everything else, this is a business, and ethics are a pipe dream. You will still get spam in your e-mail from such sites, and often, opening one of them pops up more and more of their sister sites.

There was this whole ado about .xxx domains: pornographers didn't want to be limited to one domain suffix, even though that would make them easier to address their target audience. It would reduce their business, because content would be so easy to control—all you would have to do is block .xxx sites and you could be sure that your children are safe. For the pornographer, this would mean that most search engines would just block .xxx sites from being displayed in results, unless the searcher specifically asked for them. This would cut back on the amount of people who stumble across sites while surfing—a fairly large number.

A site is global, and access to it has absolutely nothing to do with where in the world it's hosted—while laws have *everything* to do with where it's being hosted—that's the ambiguity of Internet law! Since the Internet belongs to no country, there are no laws that can govern it. Even when countries do make laws, the people who want to do so find loopholes or just move shop to a more sympathetic country.

Back To The Net

I apologise for that little diversion, but it was necessary. For all of you parents out there who are reading this article in disbelief, and those of you who are saying “My son/daughter would never do/talk about that!”, I have a simple path towards the light.

Many of you have kids who use instant messengers such as Yahoo! Messenger, MSN Messenger, and others. Here’s what to do:

1. Get access to a computer away from home, or in your own room.

2. Sign-up for a Yahoo! account—only, *don’t do it with your real name*. Fill in a girl’s name, and put your age at 15.

3. Make sure your login name reflects that you’re a girl.

4. Get Yahoo! Messenger—a very popular instant messenger.

5. At the time of day when your son/daughter usually uses the Net, go to one of the chat rooms in the regional group “India.”

6. Announce that you are a 15-year-old girl from <your city> looking to make friends.

7. If you have a Webcam, turn it on and wait for the solicitations for cybersex (sexually-oriented, titillating chat) to come pouring in.

Do the above. You’ll get a first-hand experience of what your son and/or daughter might be exposed to online every day!

No More Internet For You!

I know that’s the strong reaction many of you would likely have, but that would be wrong on just so many levels! First off, the Internet is a lot more help than it is destructive—think of all the useful information your kids have access to. Secondly, you can’t cage your kids up forever, and they’re going to start working soon enough; knowing how to use the Internet productively is almost a job requisite now—so let them learn! Finally, kids are almost *immune* to this sort of stuff. You wouldn’t believe the kind of stuff that your kids *don’t* get shocked or scandalised by! You may be appalled at what you see, especially if you did the little exercise I mentioned above. But your kids will just take it in their stride. They are a lot less susceptible to being fooled, duped, conned, lured, etc., than *you* are online!

The Tables Have Turned

Parents are no longer the all-knowing keepers of secrets. Today, the younger generation knows a lot more about computers than anyone else, especially those who are growing up with it. Take my parents for example: I write for the country’s premier technology magazine, but my parents know nothing about computers, and quite honestly, they couldn’t care less. Had I been 10 years younger, and up to the mischief that is part and parcel with teenagers, I’d be doing a lot of things my parents would *tch-tch* at!

It’s the older generations that need to take on the responsibility of learning enough about the technology that is ruling the lives of the younger ones. Some would go so far as to say that it’s not the sex education of the young ones we need to worry about, but the *tech education* of the elders.

It’s the older generations that need to take on the responsibility of learning enough about the technology that is ruling the lives of the younger ones

The Tech Education

On the Internet, as we’ve mentioned earlier, we’re exposed to adult content through several avenues. The most common is e-mail spam. Since we have an unwritten “free” software policy in India—not the freeware type, the *freeware* type—almost all of us go searching for cracks, serials, key generators and the like. Unfortunately, almost all warez sites have ads from pornographic Web sites. Teenagers often end up clicking these links, and are promptly exposed to the most explicit of adult content.

Chat rooms are another source of exposure to adult behaviour—even from 15-year-olds. In the exercise I mentioned earlier, I asked you to pretend to be a 15-year-old girl; that was to show you that although trying to solicit a 15-year-old for sex is a crime in almost every country in the world, it will still not stop people from trying to find out your address and your phone number, and convince you to have cybersex with them.

Doing that in real life with a 15-year-old would most definitely land them in jail, but on the Internet, who cares? Besides the sexual predators, there are bots—automated programs—spread across almost every chat room online, which display URLs to adult sites, a form of advertising almost all porn sites indulge in.

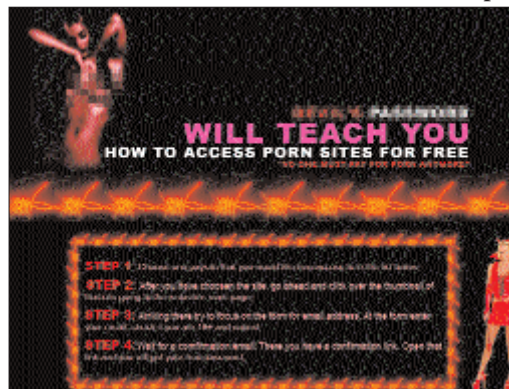
Another area where you will come across pornography is when using a search engine—your son or daughter might just do a search on the word “sex” or something similar, out of curiosity—and will be bombarded by links to pornographic sites. And apart from this, even casual surfing will land you at an adult site sooner or later—such is today’s Internet.

The Sex Education

There are a lot of evils that teens and pre-teens need to be wary of when online. Whether or not you visit porn sites is purely your business. It is only for you, your parents, relatives, and society to decide whether this is wrong or not. However, be warned that a lot of adult sites will dupe you into spending money or compromising your security. Let’s take a look at the most common traps set out for you.

Diallers: You will find thousands of sites that advertise free porn provided you use their dialler to connect to them. They charge you per minute in dollars for any calls you make, and this is *not* counting the ISD charges of connecting to the US. Make sure you never install diallers from porn sites: they might even contain Trojans or worms.

E-mail: A lot of sites offer free hardcore pictures in the form of e-mail newsletters. Almost all the time, this is just a ruse to get you



An example: a site that claims to teach people how to get porn for free! We got this link via spam e-mail, but it’s also popular on warez sites

to give them a valid e-mail ID so they can sell your information—usually to a spammer. So you should either never give out your e-mail address to porn sites, or be prepared for thousands of spam mails a day. You could always create an e-mail ID meant only for spam, and use that to sign up, if you must.

Credit cards: “Free” content is offered by several porn sites, which urge you to enter your credit card information to “verify your age.” You need to stay away from doing this, and go looking for free sites with the content you want instead. Your credit card information could be leaked, and you could get some strange bills. Even at “trusted” (read notorious) porn sites, you have to read the fine print before you go about entering your credit card number. Very often, the word “free” is misrepresented: if you read the fine print, you’ll see that the content is only free for the first three days or so, after which your card is automatically charged for a month’s worth of access. This could be for a shorter or longer duration, but you *will* be charged. If you’re using daddy’s credit card, you’re going to have a lot of explaining to do.

Chat rooms: People are almost never really who they claim to be in chat rooms. That 16-year-old girl you think you’re falling for could well be a 61-year-old male. Don’t give out any personal information online, such as your telephone number or address. Girls and women need to be especially careful about who they fraternize with online!

Web cameras: This is the age of broadband, and everyone now seems to have a Webcam. Yahoo! Messenger is especially popular for its chat rooms and liberally-used Webcams. A lot of people use pre-recorded feeds from some pornographic Web cam site to pretend to be women, and in turn will ask young males to turn on their Webcams and indulge in “cam sex.” Either they’re trying to get you to pay to see more, to cam with a real woman, or they’re recording you and selling your video to homo-sexually-oriented porn sites. The bottomline is that if you think you’re getting digital sex and get naked on camera, you’re probably getting digitally exploited!

The analogue generation of yesterday seems shocked by technology and the way it is—or can be—used by the digital generation of today

Sites: Many pornographic sites are fronts for hackers, who use malicious Web-based code to try and extract personal information. Just by visiting a site, you are exposing yourself to spyware and Trojans.

P2P: Another very common way of getting porn as well as viruses. Many people share virus or Trojan-infected files renamed to look like pornographic pictures or videos.

What Can We Do?

This is the question most parents are asking. The answer is simple: you need to first educate yourselves. Only then you can go about protecting your children. The simplest solution is to use content blockers, popularly referred to as porn blockers or parental control software. These content blockers will restrict your children to the “clean Web” and block all pornographic sites, images and videos from being viewed on your home computer.

The settings for such software are protected by passwords, so children cannot bypass the rules you set. Of course, there are chances that some safe content will also be blocked, but I think this is a risk most of us would willingly take.

Some software, which we’ll get to shortly, also let you set various levels of filtering, depending on the age of your kids. So use a “paranoid” setting for your 10-year-old, and a “low” setting for your 17-year-old.

In Conclusion

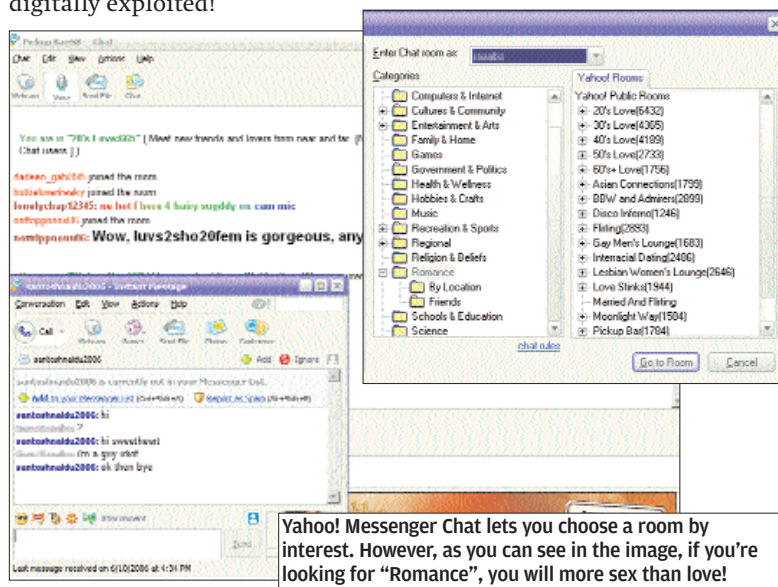
It’s scary! A majority of the parents we spoke to for this piece had no real knowledge about adult content and how it can be controlled or blocked. A lot of these people, not named here for reasons of privacy, have no real clue about how to use computers, or, more importantly, how their *kids* use computers. Perhaps we really are to blame for all those MMS scandals, simply because most of us don’t know enough about the technology!

The analogue generation of yesterday seems shocked by technology and the way it is—or can be—used by the digital generation of today. The rapid growth of technology and the way it’s woven itself into our lives seems to have caused more of a continental drift than just a generation gap.

Thankfully, the kids of today will not be as shell-shocked by whatever technology comes in tomorrow, so *right now* seems to be the worst. The only plausible solution to the porn problem is to get yourself a content blocker, and make sure your kids or younger siblings are not exposed to content online that may adversely affect their outlook in the most defining years of their lives.

Don’t worry—we will all weather the storm. All we need to do is be positive, be open to conversation about the subject, and be strict! I just hope this article opens more eyes than it closes!

Enough theory; let’s take a look at some of the software that’s available and how they performed when I actually used them. I stress-tested the software by trying to find porn with them running. I will talk about each software individually, in alphabetical order.



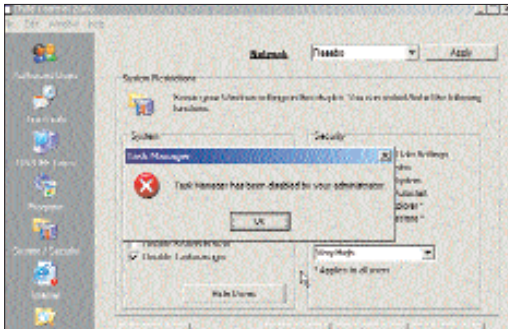
Content Blocking Software

Child Control 2006

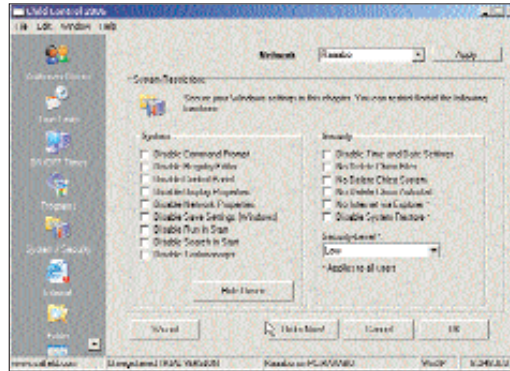
You can get this software at www.salfeld.com. It's just a 5.3 MB download. Installation and configuration are a breeze, as is the case with almost all the software in this test. I used the 30-day trial, which is not limited in any way in terms of functionality.

As soon as I was done installing, I got a very useful configuration screen. I found that I could disable the Command Prompt, Registry Editor, Task Manager, Control Panel, Display Properties, and many more controls by which a really geeky teen could attempt to disable the program. The software allows you to control/filter Internet content that deals with a variety of subjects, such as pornography (obviously), violence, alcohol, gambling, weapons, and drugs. It can even block chat!

I started with a Google search for some "bad" words, and was immediately shown a page that told me such content was banned. I then navigated to a well-known porn site, and I was blocked again.



Child Control 2006 blocks the Task Manager so that your kids cannot just End Task the application



Child Control 2006 gives you a list of security options

Next, I went to a not-so-famous porn site and found that, despite all the dirty words on the page, it loaded. Child Control 2006 (CC06) was definitely not doing a smart job here, and was just reading from a database.

I then raised the protection level and found that the software was doing a much better job.

However, there was still no image blocking, and our "Innocuous Site" test (see box *How I Tested*) seemed to easily thwart it.

Overall, Child Control 2006 did about as well as anyone would expect it to, and the cool features of disabling all backdoor ways of bypassing it make it a good choice. Another very handy feature, which has nothing to do with content filtering, is the software's ability to enforce *your* rules in the house regarding PC usage. You can specify how many hours a day your children can use the computer, and until what time. So there's no need to keep looking in on them and telling them to "turn off that computer at once"; just configure the software and then rest easy knowing that your kids will *have* to go to bed early on school nights!

Child Control 2006 costs \$29.90 (Rs 1,350). It happens to be the cheapest paid software in this test.

How I Tested

I chose nine content filtering software based on popularity. Seven of these were the most popular choices, and two were freeware tools that I felt people would want as options to the paid software. The test procedure was simple: install the software, configure it, and then try and find ways around it. I didn't attempt any Registry hacking or ultra-geeky ways of bypassing the software's protection because I wanted to keep the test real. If you have an über-geek for a child, no software is going to stop him or her from finding what they want online.

My test system was an AMD 64 3000+ with 1 GB of RAM and an 80 GB SATA hard drive, running Windows XP Professional with Service Pack 2 installed. All the latest drivers for the hardware were installed, and apart from Internet Explorer, I installed Mozilla FireFox 1.5.0.4, and already had Opera 9.00 beta (build 8367) installed.

After installing the content blocking software, I first navigated to Google, and used its Web and Image searches to try and find keywords that would bring up adult content without being blocked. I then had a few sites that had very innocuous-sounding URLs, but contained a lot of nudity. This was to test if the software was actually scanning images, looking for a lot of flesh, based on colour. Sadly, I can report right now that none of

the software I tested here actually do this—all of them failed this test miserably!

Apart from this, I also navigated to sites that I know contain a lot of text about sex and violence, and checked if the software would block that. Right at the outset, it seemed that most of the software were only blocking based on their databases rather than actually looking at the text or images on the pages. I tested each software with the normal and a higher protection level (if it was available). The results of the highest protection setting are noted in the table, but are not deciding factors for me. I chose to only pit each software's default setting against the other.

I obviously cannot provide you with the links to the sites that I tested the software on, but I mainly tried to fool each software using Google's search results to find adult content.

Since it's obvious that the most important thing for parents would be how the software performed, Performance scores got a 50 per cent weightage in my decision. I gave Ease of Use and Configuration a generous 10 per cent weightage: not too many parents would be able to configure the advanced settings on their own! We in India love our "free" software, so I decided that price would be 20 per cent of the deciding factor. Finally, the Features of a software merited 20 per cent of their overall tally.

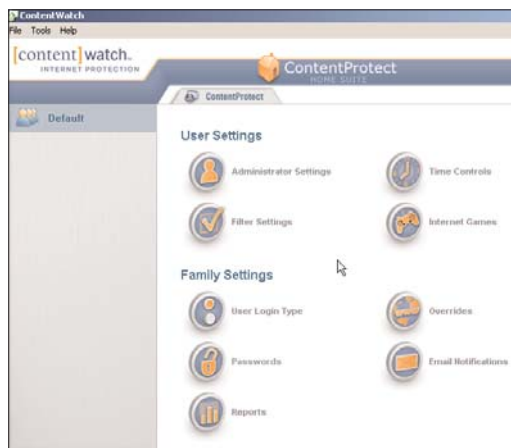
ContentProtect

This is the most expensive of all the software I tested, and will set you back by \$39.99 (Rs 1,800). The first thing I found was that it took me a while to track down the download on www.contentwatch.com, and I was given a serial key even for the trial version. At 5.15 MB, this was another decently-sized download.

Installation and configuration took just 45 seconds. This was the first software I came across that had two passwords—one to uninstall it and one to override the settings. I then found that you could force users to log in to connect to the Net—a very good thing!

This software has additional features such as e-mail notification and the option to disable IMs and chatting tools. One terrible thing is that it doesn't disable the Task Manager, so closing down the application without the administrator password is literally child's play!

ContentProtect did an excellent job of blocking sites, and even stopped me from navigating any further from my innocuous test sites. Google images seemed to be blocked on the basis of the ALT text or filename rather than the image itself, which resulted in quite a bit of flesh peeping through my Web page.



ContentProtect is a good blocker, but without any Task Manager disabling feature, bypassing it is a little too easy for my liking! It blocked some innocuous URLs based on the content

The software logs IM chats though, which is good for the paranoid parent. Here again, "Time Control" was a feature, and lets a user decide how much time on what day of the week his kids should be allowed to use the Net.

Overall, ContentProtect loses badly because it has no way of stopping a kid with basic Windows knowledge from *End Tasking* it! For really little kids, however, this is a decent investment to consider.

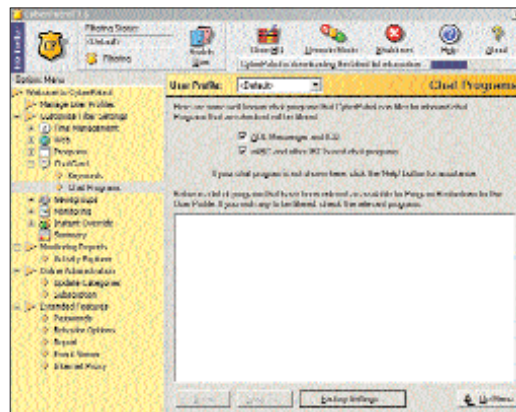


Cyber Patrol

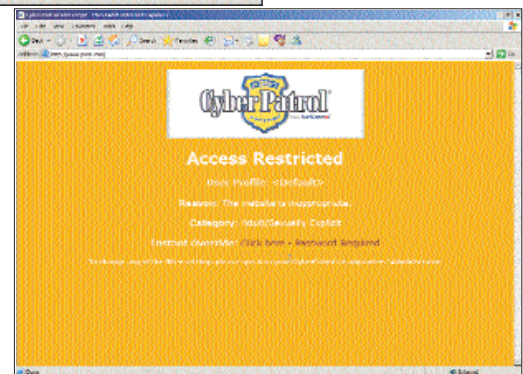
Cyber Patrol (www.cyberpatrol.com) is quite a big download at 12 MB. At \$39.95 (Rs 1,800), it's not exactly the cheapest solution to figure in this test. Add to that the fact that this is a recurring annual subscription cost, and you have one of the most expensive content filters out there.

Installation and configuration was easy, and one good thing about the installer is that you configure as you install. While setting it up, I got an option to select whether I was a home or office user, and to select the age demographic of the users of the computer. I chose "young teen" and then went through the installation.

I had to reboot to finish the setup. I use Opera as my default



Cyber Patrol is not exactly secure, and the bugs I faced when using it soured my opinion of it



browser, and immediately browsed to a very obvious porn site. To my surprise, it just opened up! I then tried Firefox and IE, and the same thing happened. This program just refused to work. I then uninstalled it, re-installed it, rebooted again, and this time it got it right.

It blocked every obvious adult site easily, bringing up a default page. It could not block the Innocuous Sites I threw at it.

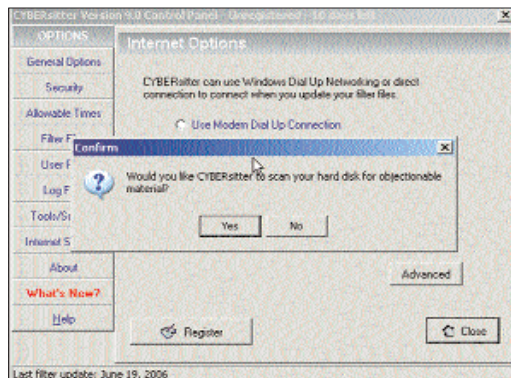
Without a Task Manager blocker, this program is easy to bypass for anyone who knows a little about Windows XP. I found three processes, each easily identifiable by their names, and ended them. What shocked me was that when I tried to restart the program, it just brought up an error, telling me to reboot in order to get it working again. I persisted, and on the third attempt to launch the program, it started up again!

Overall, this is a decent software, and blocks dirty stuff pretty well, but there's nothing special about the way it blocks it. The bugs in the way it works are unforgivable. Being one of the most expensive, it certainly didn't live up to my expectations. Personally, I would never spend \$40 a year on this software!

CYBERSitter 9.0

This is a very popular software today, and at 2.36 MB, it's the smallest download of them all. At \$39.95 (Rs 1,800), it's not the cheapest though!

Installation and configuration were a snap, as we've come to expect from all these software—all Windows software actually! A nifty feature was that when installing, CYBERSitter offers to search your hard drive for "objectionable material." I don't have any, so I didn't scan, but it's nice to see something a little different amongst such software. I have also read that this "scan" finds spyware and porn diallers as well, though I had none on my fresh install of Windows XP Pro.



CYBERSitter can scan your hard drive for pornography

While installing, I left the default values for all the various checkboxes I saw, but noticed that you can choose to filter e-mail content as well! It cannot filter chat programs, but can block them outright—good if you have pre-teens around the house.

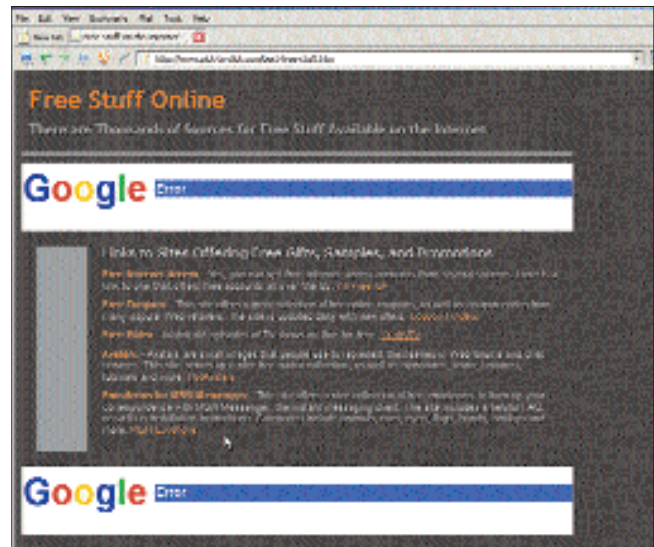
In this 10-day trial version, password protection is disabled, and you'll have to buy the software to get that very important feature. However, since this is not brain surgery, I don't foresee any problems with password protection in the full version!

While installing, you can select the type of content you want blocked, and then "Update Filters"—which basically means you update the program's database of blocked sites. The software lets you disable access to the Registry Editor, Task Manager, and either the entire Control Panel or just the Network/Internet icons in the Control Panel.

CYBERSitter offers the time management feature that many of the others did as well, so you can control not just how but also when your kids use the PC. In order to make sure no one can change the system time and fool the application, it also lets you disable the Windows Time application and the command prompt.

The software offers scheduled e-mail reporting for parents who want to keep an eye on what's happening at home, and also has logging that you can come home and check.

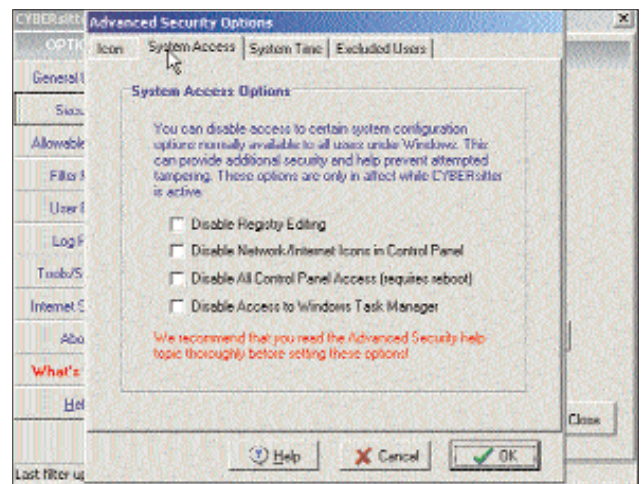
The software blocked everything very well, and was the only software in this test to not allow us to search Google Images with Safe



Not only does CYBERSitter force strict safe searches, it also forwards you to a page that contains clean, free stuff online

Search off. It forced Strict Safe Search in popular search engines, and ignored all my attempts to change this—and this, with all browsers! Although it did not filter images for content—it read the associated tags and forced safe searches in image search engines—I gave it a 4/5 for image filtering.

CYBERSitter blocks silently, just bringing up a "page not found" or some such error message, making the surfer believe that the page doesn't work, rather than knowing that he/she is being blocked. I think this is a good thing, as it might stop the natural curiosity that kids have. It's easier for kids to accept "the site doesn't work" than "Mommy/daddy doesn't want me to see this site!"



CYBERSitter can disable the Task Manager and the Control Panel, making it a secure program that also blocks well—a true winner here!

This was by far the most secure software I tested, and it would require a really gifted and geeky teen hacker to bypass its security. Overall a very good software, which blocks exceptionally well. It even blocked our "innocuous sites," and made life miserable for me while I was trying to fool it. If you're willing to spend the money, this is a really good option!

iProtectYou Web Filter

This software from www.softforyou.com is another small download—just 2.57 MB—and costs \$34.95 (Rs 1,600). I used the 14-day free trial to test it, and found that, as usual, installation and configuration was easy.

Like CYBERSitter, it does offer e-mail filtering, but defaults to not filtering incoming mails, because with the amount of spam we all receive, it will have to keep blocking your mail client. These software can filter your mail, but you'd be a lot better off installing a good, free spam filter that is made to do that job.

You can set the program to auto-update itself, and also have the option of e-mailing scheduled reports to yourself. You can even play the role of a paranoid parent and have the software e-mail you every time it blocks something—along with a screenshot!

Instead of time management, this software lets you set traffic limitations—so you can decide that your 10-year-old gets 10 MB of surfing time a day, while your 15-year-old might get 20 MB—provided they have their own user accounts on the PC. You can also set the usage allowance per user, per day of the week!

The software blocks all negative content well, and popped up a little “Access Restricted” warning at the bottom right when I tried regular porn sites. It was easy to fool the software in a Google Image search to get images of nudity. It was not very good with non-English sites: its database doesn't seem to include as many foreign sites as the other software in this test do.

To its credit, the software allowed a site which had adult-oriented ads to be displayed, while blocking just the ads. This may not be a comfort for paranoid parents, but it seemed a good feature to me.

Security-wise, the software loses miserably because it's easy to End Task the application using the Task Manager. I can't understand why the authors of the software didn't look at this!

Overall, a good software that blocks content well, and smartly, but with its poor security it's not something you want to buy—especially if you are one of the many families where your kids know more than you about computers!



iProtectYou has a lot of features such as e-mail notification and filtering, but it couldn't block any images or content (right) from our “Innocuous Sites” list

Net Nanny's “block everything or nothing” philosophy is certainly not what you're looking for in a content filter

Net Nanny

The most famous Internet nanny of all time, this software is easily the most popular of them all. The Nanny has put on a lot of weight over the years though, and at 22.8 MB, she was the fattest download in this test. And at the standard price of \$39.95 (Rs 1,800), she doesn't come cheap either! You can find her at www.netnanny.com.

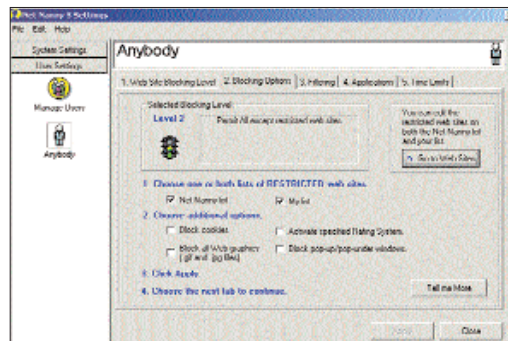
Installation took a bit longer because of the size, but was easy nonetheless. Configuration was a snap, and I found that you could even choose to block online games—unique indeed.

There's also a paranoid setting that blocks all images and ads online, so it's good for parents who want kids to only see text online—but that's a little too old-fashioned for me!

Anyway, straight to the tests: the Nanny doesn't seem to have kept abreast with the times, and this was clear when it let a few obvious sites slip by unnoticed. Another indication of age

having caught up with this software was the fact that it refused to filter any images, and the most explicit of images just kept popping up in Google Image searches!

Internet slang, which your kids are likely to be using, just leaves the Nanny confused, and text blocking was abysmal! The only way it offered



NetNanny does not have too many blocking options, except for a “Block all Web graphics” option that seems a little too severe.

me a challenge was when I set the filtering level to maximum—which, incidentally, means that only sites that are manually allowed can be viewed! It even blocked www.thinkdigit.com in this paranoid mode! The final nail in the coffin was that the Nanny doesn't seem to recognise Opera as a browser, and just let anything by!

Overall, this was a very unsatisfying experience, and to be honest, I expected more of a challenge from the Nanny. I think it's time she retired. Her “block everything or nothing” philosophy is certainly not what you're looking for in a content filter!

Optenet Web Filter

This is a software I stumbled across when reading through a few forums, and is certainly not a popular choice. However, I decided to include it based on a few reviews from people who seemed to know what they were talking about. At 17.7 MB, this software is almost as fat as the Nanny, and at \$39, just as expensive. I got the 15-day free trial from www.optenet.com, and found that installation and configuration was simple enough. After a reboot I was ready to pit my wits against it.

I was shocked to see that it refused to open the administration panel, which it was trying to do in my browser. I soon learnt that it probably uses some code that Opera can't understand, because when I pasted the address it was trying





Optonet Web Filter has a browser-based interface that's very different from the others—not better, just different. It offers port blocking and can disable P2P applications and Instant Messengers

to open in IE, I had a username and password dialog pop up.

The Web interface is a little irritating, but might be easier for people less accustomed to PCs. Every option is visible on the page in the form of links, instead of behind tabs and buttons like in every other software. I personally hated it though!

The configuration options were easy enough to follow, and the “Advanced Configuration” link took me to options where I could set port blocking and P2P application blocking settings.

A disappointment was the lack of a Task Manager disabler, which made it easy to bypass the software's protection. It was good at blocking obvious pornography, but failed miserably in my Innocuous Site test!

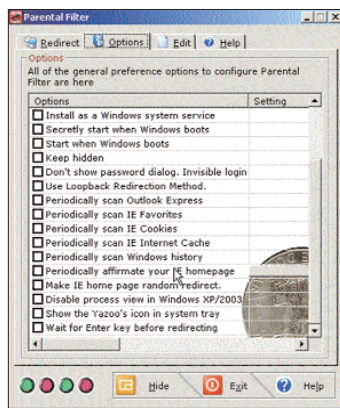
Smart Google Image searches also brought this software to its knees.

Overall, this product is just about average as a porn blocker, and has nothing too special to write home about. The best thing that can be said about it is that it offers decent port blocking and monitoring, and successfully blocks IMs and P2P applications.

Parental Filter 0.24

This is freeware from www.ecommsec.com, and is just a 3.03 MB download. It installs easily, but offers many advanced configuration options that might confuse not-so-tech-savvy parents. For those at home on a PC, this software offers some interesting options.

It does not offer e-mail reporting or logging, but allows you to completely hide the application and even run it as a Windows Service. You need to be careful though, because if you set the option to disable the Task Manager, and set it to hide itself, you might not be able to uninstall it too easily, or even find the administrator controls for that matter. Again, this is bad for PC novices, and good for those who know how to use it and get additional security.



If anything, Parental Filter offers you a little too much control! It's an excellent option—especially because it's completely free

The software can be set to scan your Favorites and Outlook Express, and allow you to redirect to sites of your choice when adult content is found. This is good: all the other software with this feature redirect you to their home pages, making it obvious that they're protecting your PC.

You can also tweak the way the software works depending on how much of system resources you have and how powerful your CPU is, by setting the milliseconds the software waits before re-scanning a page.

Parental Filter showed some bugs with Firefox and Opera however, most noticeably in Firefox, where instead of redirecting to the page that I set, it just kept opening new tabs. So at one point I had this porn Web site open and about 20 google.com Firefox tabs!

It was not too hard to bypass its filtering in Google Images. At one point, I clicked on a rather graphic image result. Google opens image results in frames—the top frame is by Google, and the bottom frame is the site where the image is located. The top frame was redirected to google.com (as I had set it to), while the bottom frame just went ahead and loaded!

Apart from these bugs, the software performed decently, and even caught a lot of Internet slang for pornographic content when I used them as search keywords, or when they were found on a page.

A bug in the security meant that if you do not disable the Task Manager, you can End Task the application and then uninstall it! It does not ask for the administrator password when uninstalling, unlike all the other software. However, if you disable the Task Manager via the software, it will not let you uninstall while the process is running—you have to open the administration panel using the password and stop the application before uninstalling it.

Apart from the few bugs, this is a good software that filters as decently as the other software in this test—better than quite a few, actually—and has only a few hiccups with Firefox that might be addressed with the next release. Considering that it doesn't cost you a paisa, I would recommend that everyone install this software to protect your kids. If you're willing to spend, however, that's a different story!

We-Blocker 2.0

This is another freeware tool, and the last software in our test. It's 2.41 MB large, and you can get it at www.we-blocker.com. As usual, it's easy to install and configure.

As soon as you install it, you can select the age of the child who uses the computer, and select what subjects you want to block. Pornography, adult subjects, and any categories you define are blocked by default. You have to update the We-Blocker data after installation to get the latest list of blocked sites.

The software does not offer e-mail notification, but does keep logs that you can check. It offers password protection, but does not offer Task Manager disabling. But when I End-Tasked it using the Task Manager, it



Scoreboard

Content Filtering Software

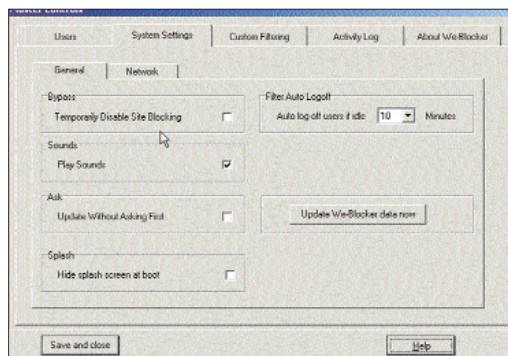
	Child Control 2006	ContentProtect	Cyber Patrol	CYBERSitter 9.0	iProtectYou Web Filter v7.10	Net Nanny	Optenet Web Filter	Parental Filter 0.24	We-Blocker 2.0
Site	www.salfeld.com	www.contentwatch.com	www.cyberpatrol.com	www.cybersitter.com	www.softforyou.com	www.netnanny.com	www.optenet.com	www.ecommsec.com	www.we-blocker.com
Features (Out of 20)	14.4	11.2	12.2	16	13.2	11	11.8	12.4	10.6
Blocking									
URL Blocking	✓	✓	✓	✓	✓	✓	✓	✓	✓
Image Blocking	✗	✗	✗	✗	✗	✗	✗	✗	✗
Chat Filter	✗	✗	✓	✗	✓	✗	✗	✗	✗
Reporting									
E-mail reports	✓	✓	✗	✓	✓	✗	✗	✗	✗
Logs	✓	✓	✓	✓	✓	✓	✓	✗	✓
Security									
Password Protection	✓	✓	✓	✓-Paid version only	✓	✓	✓	✓	✓
Task Manager Removal	✓	✗	✗	✓-Paid version only	✗	✗	✗	✓	✗
Overall Security	4	2	2	5	2	3	3	4	3
Other Browser Support									
Firefox	✓	✓	✓	✓	✓	✓	✓	✓	✗
Opera	✓	✓	✓	✓	✓	✗	✓	✓	✓
License	30	14	14	10	14	15	15	Free	Free
Ease Of Use (Out of 10)	6.96	6.97	6.42	8.12	7.95	6.22	6.28	6.65	8.07
Download Size	5.23	5.15	12	2.36	2.57	22.8	17.7	3.03	2.41
Setup	4	4	4	4	4	4	4	4	4
Configuration	4	4	4	4	4	4	4	3	4
Performance (Out of 50)	24	26	28	44	24	18	18	24	16
Normal Setting									
Sites Blocked (Out of 5)	4	5	5	5	4	3	3	4	4
Images Blocked (Out of 5)	0	0	0	4	0	0	0	0	0
Words Blocked (Out of 5)	4	3	4	4	4	3	3	4	0
Paranoid Setting									
Sites Blocked (Out of 5)	5	NA	5	5	NA	5	NA	NA	4
Images Blocked (Out of 5)	0	NA	0	4	NA	5	NA	NA	0
Words Blocked (Out of 5)	5	NA	4	4	NA	5	NA	NA	0
Price (Out of 20)	10.03	7.50	7.51	7.51	8.58	7.51	7.69	20.00	20.00
Overall Score (out of 100)	55.39	51.67	54.13	75.63	53.73	42.73	43.77	63.05	54.67

promptly started up again, so there's a decent level of security here.

That's where the security stops, however! After the installation, I found that it was only working with IE and not with Firefox and Opera. I rebooted the computer, and then found that it started blocking access in Opera, but still nothing in Firefox.

I soon found that this was because the application acts as a local proxy server, and you have to set the appropriate settings in the browsers. However, this means that if your child knows anything about proxy servers, or even stumbles upon the settings, disabling the proxy server is as good as the software not being installed! This is unforgivable, but we cannot complain because you're not being charged to use this software. It blocked content pretty well, but was easily fooled with Google Image searches and Internet slang.

Overall, this software is strictly for parents who don't want to spend money on software and have pre-teens who are just starting to use the Internet. Even then, Parental Filter is free as well, and better, so there's really no sense in downloading and installing We-Blocker 2.0!



We-Blocker does not offer Task Manager disabling, but if you kill the process it just restarts! Bad blocking though

Summing It Up

All the software here are good or bad in different respects. There's no perfect software out there yet, and absolutely all of these were very, very disappointing in terms of analysing images.

CYBERSitter did the best in terms of filtering images, by forcing safe searches and seemingly checking ALT tags—according to the logs anyway. Also, I liked the way it just stops you from viewing a site without announcing its presence to your kids—many of whom will promptly search Google for ways to bypass software that's stopping them! I would recommend this as the software to buy if you want to protect your kids.

Parental Filter is very good, and in order to be secure, all you need to do is create a low-level access account for your kids so that they cannot install Firefox to bypass the software and use IE as the default browser. Since it doesn't cost you a rupee, and is almost as good as CYBERSitter, everyone who doesn't want to spend or cannot afford CYBERSitter should install this very useful software. Just make sure you choose to display the icon on your Taskbar before you choose to install it as a Windows Service. And do not select the "Don't show password dialog. Invisible login" option unless you know what you're doing!

Apart from these two, another good choice is CyberPatrol, which came in third! ■

agent001@thinkdigit.com

Inside The Xbox

A 360 degree view on Microsoft's second gaming console

Ahmed Shaikh

Sony's monster brand of PlayStation has been dominating the console scene ever since its inception. The first of that console's line usurped the crown from Nintendo and has been unstoppable ever since—selling more than 100 million hardware units and up to a billion software units. Lately, Sony has been positioning the PlayStation 3 as a unit to replace the computer—with Linux on its 20 GB or 60 GB hard drive, keyboard support, a Web browser and HD resolution out of the box (up to 1920 × 1080), “the PC is no longer needed”, Sony points. With a 100 million hardware base, the PS3 is thus a very real threat to the Microsoft domination of the PC market. Microsoft, of course saw this coming a mile away, more precisely, around the year 2000 when it took its first steps into the console business. 2000 is when Microsoft approached Gigapixel; getting the ball rolling on what would be the Xbox brand.

Both Sony and Microsoft would like their products to sit next to your television—serving all manner of content from games, to music and movie downloads. The potential market is huge, the money pot at the end of this rainbow, astronomical. While the business of consoles is intriguing, this article will take a look at what's inside one of the two, so-called, “next-generation” offerings—Microsoft's Xbox 360.

The architecture of the Xbox 360 is unique in many aspects but hardware alone does not make a system. Some would say that the Xbox 360's unique strength lies with its LIVE component—an online matchmaking service, a marketplace, a gaming playground, all rolled into one—LIVE is what makes the 360. We will thus a brief look at both these aspects of the console—the hardware and the software.

Sins Of The Father

Back when Microsoft was kicking around the concept of the first Xbox, the team in-charge of bringing the console to fruition did not have the luxury of time—they were already launching after the PlayStation 2 and they needed to get the product out at once or lose market traction. Due to this, the Xbox was practically made up of off-the-shelf computer parts: a slightly modified Intel processor, some memory, a Seagate hard drive, a slightly modified NVIDIA video chipset, thrown together in a huge, ugly cabinet. It wasn't the prettiest of engineering but it got the job done: the Xbox sold around

3D Modelling: Vikram Kathare
Imaging: Chaitanya Surpur



24 million units by the end of its life, running second to Sony's behemoth and overtaking Nintendo's Gamecube by a small, but significant margin. Mission accomplished, the Xbox brand was etched into the psyche of console gamers, rap artists, and PC gamers tired of the upgrade-and-patch dance of PC games.

Almost immediately after releasing the Xbox, Microsoft got to work on its successor. The almost four years of head-start that the 360 would thus get, was instrumental in the design that the Xbox 360 now sports—inside and out. It also allowed Microsoft to correct a major drawback that the original of the species had: Microsoft did not own the IP to any of the Xbox's internals—Intel owned the processor, NVIDIA the graphics chip. Microsoft thus had to rely on two third-parties to supply essential elements of the console, and was dependent on their whims and manufacturing capabilities to cut prices or throttle production as needed. With the Xbox 360, Microsoft owns both the processor and the graphics chip, and has the flexibility to set up fabrication plants, drop prices, and shrink processors as and when needed.

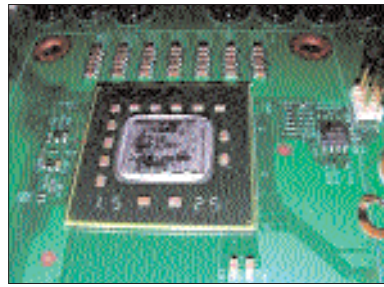
Original Of The Species

The Xbox 360 is unique in several aspects. The most benign of which is that the 360 is the only console to simultaneously launch across the three major gaming markets of USA, Europe and Japan. More interesting is the unit's hardware design. It seems to do a fine job at balancing raw power, flexibility and ease-of-use. It is also the potential proving ground for some new school of thought, schools rather—be it unified memory architecture, procedural rendering or unified shader architecture. The 360 is also the first gaming console which pays attention to its software user interface. It is a far cry from the ugly brick which was its predecessor—the unit has a pleasant white exterior, a concave body, a chrome DVD tray, and the ring of light—a circle of LEDs which indicate wireless controller and unit status.

Let us begin this dissection from within, from the core of what makes the 360 so unique.

A Procedural World

Microsoft approached once-rival IBM to design the processor of the Xbox 360. The resulting processor is a three core unit for which IBM borrowed design ideas from the Broadband Processor Architecture (BPA) that produced the PlayStation 3's Cell processor. The 360's processor, codenamed Xenon consists of three identical cores to one side, each with 64 KB of L1 cache (32K for data and 32K for instructions) and a large 1 MB of L2 cache which is shared by all three cores, on the other side. Each of the cores has two hardware threads for simultaneous multithreading (SMT); the entire processor can thus process a total of six hardware threads simultaneously. This multithreaded approach is vital to keeping the parts constantly fed—some-



The Xenon processor is a three core unit designed by IBM

thing that increases processor and power efficiency as well as parallelising disparate tasks across the processor cores.

Traditionally, cache is meant to act as a holding unit for frequently used data, such that the processor need not travel all the way to the system's main memory to fetch and process information which is often used. Under the Xenon however, the 1 MB of L2 cache plays a much more interesting and flexible role: it is possible to use the

cache in the traditional sense but it can also be shared between the processor and the graphics chip of the Xbox 360. This is a very unique architecture which allows a programmer to push content from the L2 cache to the GPU, much like a FIFO queue (First In, First Out). The L2 can thus be used as a temporary storage for the GPU.

Before we head further into the 360's core, let's take a look at one of the new "schools of thought" which we alluded to earlier in this piece. If you have followed Will Wright's upcoming PC game called Spore, you are probably aware of the concept of procedural content. The idea is simple: free the artists from producing high-resolution art assets and content, and utilise hardware and software to churn out the same. A typical game is bound to contain repeated content—in a title such as Grand Theft Auto III, for example, you will see trees, lampposts, fire hydrants, trash bins and so on, being used throughout the game. Presently, a game uses the same model and texture for each of these common objects and repeats them throughout the title. The result is a bland, uniform look to a game, which reduces the immersion.

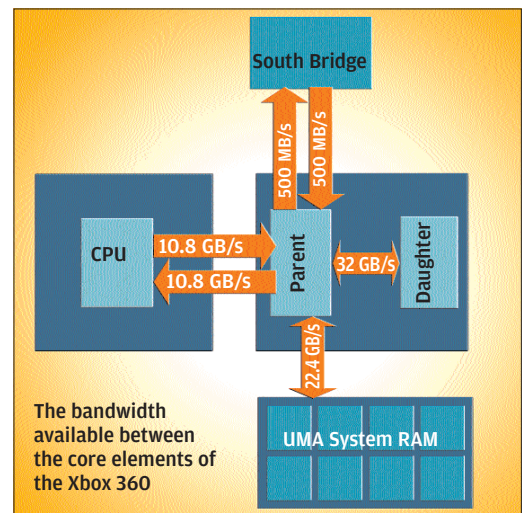
Procedural creation of content would take a template of an object, run it through a processor and churn out a finished product in real-time. Traditionally, a game developer would have to hire a team of artists to produce say, trees, then put them on disk, feed them to the computer memory and then put them out to the graphics chip for rendering. With a procedural approach, the developer would only need to define the tree mathematically and ship this information on



The cool new Xbox controller



The sleek looking Xbox360



disk. The Xbox 360 would then read this mathematical template, send it to its processor where one of its six hardware threads would process and produce the required vertices of the tree, based on the mathematical template. These vertices would then be fed to the GPU for rendering and output—greatly reducing art content, developer costs, and even bandwidth requirement.

Such a procedural approach is not limited to geometry. It can also be used for animating game objects: specifically, the game developer need only define key frames for an animation, letting the Xenon generate the transition frames for completing the animation. The processor can also be fed key differences between two frames—for example, only certain parts of an object might change between two consecutive frames, the processor can be fed only the difference frames greatly reducing the content requirement and alleviating bandwidth needs to push the content.

Finally, the Xenon can tessellate an object: A 3D object within a game is represented via vertices and polygons. What might be a smooth soccer ball in real life is composed of a collection of triangles within a game—the smoother you want the ball to look, the greater the number of vertices needed. It takes more data to represent an object as a collection of triangles, than it does to represent it as a bunch of smooth curves. Tessellation is the process of breaking up a curve into a bunch of representative triangles. The Xenon can perform tessellation in hardware, thus significantly accelerating the process. A game can thus ship with curve information on an object, and take less space; the Xenon can subsequently use that information to generate the final object. This real-time tessellation can also be used for dynamically throttling the level of detail on an object: take the soccer ball as an example—when viewed from a distance, the number of polygons which comprise the ball can be reduced, as you approach the ball, the polygons can be automatically increased to give the ball a smoother look.

Currently, not a lot of titles use the procedural tools afforded by the Xenon's architecture. The RPG title *Oblivion* is perhaps the only one to use the trick to some effect. It employs a third party tool termed SpeedTree which procedurally generates the trees and the foliage which populate *Oblivion*'s vast landscape. But even *Oblivion* does not use it in real-time. Perhaps as time goes on, more titles will employ the idea.



Oblivion showcases procedurally generated trees and foliage

A Unified Approach

Microsoft decided to award ATI the contract for the Xbox 360's graphics processing unit (GPU). ATI is thus making the graphics part for two consoles this generation—the C1 or Xenos for Microsoft's Xbox 360 and the "Hollywood" chip for the Nintendo console, called Wii (pronounced "We").

Xenos, much like its neighbour Xenon, is a unique chip in many aspects.

On the PC, a graphics card divides its real-estate between vertex shaders and pixel shaders—hardware units which act on vertices of a 3D object and on individual pixels, respectively. This traditional architecture has its limitations. In a given game scene, it is never clear how much the vertex shader or the pixel shade would be employed, although current titles tend to lean heavily on the pixel parts. Thus, efficiency comes to question: a scenario in which a pixel pipeline is waiting for the vertex shaders to finish, or vice-versa is quite common. This leads to idle-time, wherein either of the two shader units is in essence twiddling its thumbs, waiting for the other to finish. This is a waste of power, not to mention of the transistors which comprise the idling unit.

A workaround is proposed via the 360's GPU in the form of unified shader architecture. Here, instead of specific shader units for each type of data, the GPU employs transistors which can handle both manner of tasks—pixel and vertex. Balancing and juggling a game's scene becomes much easier: for a game scene employing lots of special effects, the processor can put more shaders for pixel work and less on constructing the geometry of the scene, and so on.

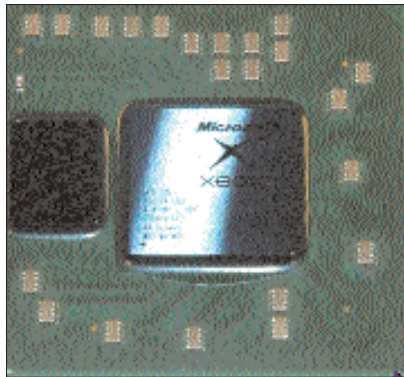
A unified approach to shaders is very much on the cards for the PC space as well.

A shader is essentially a vector unit, much like the SIMD (pronounced "simdy") units of a PC processor. As such, shaders can carry out mathematically intense tasks not just restricted to graphics. The in-thing nowadays is physics acceleration on a chip. We currently have two distinct proposals for such a tactic—a dedicated physics processor sitting on a PCI bus, or employing a GPU to perform physics acceleration. Indeed, ATI has also proposed use of its GPU to handle audio tasks. All of this is also doable on the Xenos. Furthermore, the ATI part can also push and pull content to the shared 512 MB of memory. This allows the unit to work on data, push the result to memory and pull it back to another shader unit for additional processing and physics tasks. The GPU's unified approach to shaders, the multithreaded architecture of the 360's processor and the fact that both the CPU and the GPU share the 1 MB of L2 cache and the 512MB of system memory, all add to produce an extremely flexible architecture: the Xbox 360 can load balance—on its six hardware threads and its 48 shader units—tasks pertaining to procedural synthesis, pixel shading, vertex shading, physics, AI, and animation.

Such flexibility and interconnectedness keeps the entire system busy and increases its efficiency.

Apart from the unified shaders, the GPU also employs a very unique tool—embedded memory.

The Xenos part from ATI comprises of two cores, the traditional unit where the shaders lie and a daughter core, which is the smaller of the two and is comprised of 10MB of embedded high-speed memory along with some processing hardware. To understand this engineering feat we need to take a short detour and visit two places-one is the concept of embedding itself: in broad terms the shorter the path between a processing unit and any form of memory, the better it is for the system. Hence, you currently have 1 MB and 2 MB worth of L2 cache for processors even though the system itself might offer as much as 4 GB of memory. Embedding things is generally a good idea, thus. The second stop is the fast-approaching HDTV, and the whole HD-era/revolution/better-than-sliced-bread thing.



Seen here, the Xenos sitting next to its daughter eDRAM

High-definition content is said to start at 720p resolution (1280x720, progressive or non-interlaced scan). 720p is incidentally the resolution that the Xbox 360 is happiest displaying at. The Xbox 360 requires the 10 MB of embedded memory to work on frame buffers at HDTV resolution. Think of a frame buffer as a canvas to paint on—the final image shot to the television screen, will come from this buffer. The 10 MB of eDRAM (embedded DRAM) is capable of storing up to a 4X anti-aliased image at 640x480 or a 1280x720 frame (720p) without anti-aliasing applied. This math applies to a single large frame, or canvas. The Xenos cuts up the frame into so-called tiles and instead of working on one very large canvas, it divides the final output into more manageable chunks. Each of these tiles can now easily fit into the 10 MB of eDRAM, even with 4X FSAA (full-screen anti-aliasing). Basically, your games will look pretty.

Playing It LIVE

The Xbox 360 builds on the success it enjoyed with the LIVE initiative of its predecessor. LIVE, in essence, is a whole bunch of services rolled into a uniform package. As a match-making service it offers each owner of the console a unique identity-based on his or her username of choice, and a display picture. This “Gamertag” displays a player’s “Gamerscore”, tracks all the games played, his or her reputation based on peer-feedback, and acts as an identifier to online friends. LIVE also collates a list of your online friends and messages from friends or challengers. You can also link your Gamertag to forum avatars, track your messages from a PC, send invites to a game via a computer while away from the console, and so on. In addition to text, LIVE also offers voice-chat during a gaming session.

This communication layer is just one aspect of the LIVE package. The system also offers the Xbox Live Marketplace which offers casual and arcade games (Xbox Live Arcade) for trial downloads and online purchases. You can also pay for additional content packs from game developers-

these can take the form of wallpapers for the 360’s interface, or themes, or icons for your Gamertag, and so on. The Marketplace also offers free content in the form of game trailers and game demos. It is fairly common to find a demo of an upcoming title to try out; we PC gamers might not consider these features too revolutionary but it is certainly a great addition to console gaming.

This diverse range of content is presented via a pleasant interface comprised of “blades”. Each blade is in essence a tab, which leads to a different menu:

- ▣ Xbox Live/Marketplace - Connects the user to Xbox Live. It also offers management options for the player’s list of friends, messages, and Marketplace transactions.
- ▣ Games - Keeps track of played games and earned achievements. Also allows access to Xbox Live Arcade and downloaded game trailers and demos.
- ▣ Media - This is where one can manage media content and use the Media Extender functionality of the Xbox 360.
- ▣ System - Changes to the system, privacy, and security console settings are found here.

A shaky start

The Xbox 360, at least on paper, does a commendable job of balancing sundry tasks and offers a compelling gaming platform. Marry that to a collection of development tools which are perhaps the most mature and easy

to get into in the console space, and one can imagine the 360 doing much better than its predecessor this time around.

One of the main goals of Microsoft this round was to launch early and amass sufficient user base to compete effectively when the PlaySta-



The Xbox 360 can display a unified blade during gameplay. This blade allows one to send messages, check your score and play custom music



The Marketplace offers both free and paid content to Live users

tion 3 launches late this year. At this, the console has been largely unsuccessful. Production problems during the holiday season of 2005 curbed the units sold to a huge extent. Moreover, its performance in Japan is actually worse than its predecessor’s already dismal showing. To date, Xbox 360 has shipped close to three million units worldwide and plans to sell around 10 million before the PS3 ships. Right now, it seems a difficult goal to achieve. Sony meanwhile, plans to ship a total of six million PS3 units by March of 2007. Some would call Sony’s projection just as optimistic. While it remains to be seen which of the two consoles will win this round, one thing is certain—we consumers have never had it better-between these two and Nintendo’s Wii, everybody wins. ■

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Act Naturally

If only we could actually do that with computers!

Robert Sovereign-Smith

So many of us have already spent years, in terms of man-hours, sitting in front of a computer, clickity-clacking away at the keyboard, clicking a mouse and damaging tissue in our collective quest to develop the geek's disease—Carpal Tunnel Syndrome.

Think of how much the world of IT has changed: phones have gone from big bulky things that sat on your desk and weighed as much as a bowling ball to tiny little gadgets that fit into the pockets of a pair of skin-tight jeans; CPUs have gone from glorified calculators to teraflop-measured powerhouses; RAM and hard drives have gone from being measured in MBs to GBs today—not to mention having become several orders of magnitudes faster. Yet, sadly, the way we interface with our computers has remained unchanged...

The Mouse And Keyboard

This writer is plodding away at his keyboard writing this, and all of you do the same while using your computers. If you're not a keyboard warrior, you're most definitely a mouse wrestler. Ever since the GUI (graphical use interface) first

appeared, the mouse and keyboard have been a staple of our digital diets.

Sure, the mice and keyboards being made today are anything but ordinary (see box *Devices Of Desire*), but the fact of the matter is that this is just design, and not anything groundbreaking.

Other Controllers

The first major shift in input devices was brought about by gaming—so many of us grew up playing games on our Atari and Nintendo gaming systems. Next we saw joysticks being connected to computers; then there were the wheel controllers for car racing games.

However, we've seen gaming branch off into the direction of consoles, and they seem to have taken the controllers with them: who really uses a joystick or wheel on a PC anyway? It's so much simpler—not to forget cheaper—to just use the default interface devices, the trusty keyboard and mouse, for gaming.

Perhaps the truth is that we just haven't found anything better than these relics of technology to control our PCs. Well, hopefully, that's about to change. Perhaps not as soon as we might wish, but it'll change nonetheless.

Amidst all the hype over all the other thousands of new technologies and inventions that

Illustration Chaitanya Surpur
3D Modelling Vikram Kathare





The typical wireless keyboard and mouse, which are the norm today

keep popping up, there's hope for those of us who want to be able to sit back instead of hunching over our keyboards and reaching out for that oddly-placed mouse!

From all the news and prototypes we've come across, at least a few revolve around changing the way we interface with PCs. The research points in four basic directions: better touch-based devices (as in new designs for glorified keyboards and mice), speech control, eye control, and even thought control. Basically, we're looking for computers to develop the senses we have—touch (they already feel us typing and clicking), hearing (speech control), vision (eye control), and extra-sensory perception in terms of thought control. Smell and taste we might not want them to develop—the last thing you need is your PC telling you that you smell, or chomping down on your finger if it gets hungry!

Listen To Me

Speech recognition has been around for quite some time now, but isn't really going anywhere far. We've reached a point where computers can understand us when we talk—at least as far as understanding commands goes—but that's provided you talk in an expressionless monotone, and are prepared to spend hours training the software. And don't forget that you always have to keep shushing people because the mic cannot tolerate background noise.

The shortcomings of speech-to-text are well documented, and we don't need to focus on it here. All we can hope for is adaptive or intelligent software that will be able to understand what we say, regardless of whether we have a cold, are breathless, or are talking to our PDAs in noisy railway stations!

Watch Me

The more interesting alternative input devices being researched are the visual-aided ones. Eye-control or gesture control devices use a camera to interface with customised software, and translate your motion into mouse control.

Interestingly, this was first thought of to help the physically disabled interface with PCs. However, as technology progresses, and as we all become a little disabled in our own way (basically, lazy!), such input techniques might come as a boon to us all.

Most devices actually track deviations in your eyes or the entire head. Some of these setups let you left-click with a wink of your left eye and right-click with your right eye; double-clicking is taken care of by rapid blinking. The

problem with such devices is that you're generally confined to your chair and cannot move your head more than a few inches to the left or right. This is because the camera needs to focus on your face or head. Now, for the physically handicapped, such restrictive devices make perfect sense, but not for the majority.

Take TrackIR 4 Pro (www.eyecontrol.com) for instance, a head-control system by NaturalPoint Inc. This system consists of a little headpiece with three reflective surfaces, and which can be attached to almost any headwear, such as a baseball cap. It has a sensor system that, with the help of software, tracks the way your head moves and translates it to movements in games. So instead of moving your mouse to look left, you can just look left!



TrackIR 4 Pro translates head movements into mouse movements on your screen

“But doesn't that mean looking away from the monitor?” is the question everyone asks. The answer is simple: sensitivity! You can set the software to be less or more sensitive to your movements, so moving your head left by a degree could change your view in the game by, say, 10 degrees.

What's more, TrackIR 4 Pro looks for movements along all three axes, and also tracks movements in the form of pitching, yawing, and rolling. This is ideal for, say, a game like Microsoft's *Flight Simulator*.

Reviewers from around the world claim that this form of control is very easy to get used to, and that it shouldn't take you more than an hour to be in complete control!

Now if the TrackIR system is built specifically for gaming, there are other products built for regular computer use. An example is Quick Glance from www.iriscom.org, which is specifically targeted at people unable to use a mouse and keyboard. It's a completely custom-built solution that comes with training, so not too much detail can be provided here. However, it does use eye-tracking to move a pointer, which can click on a particular area either by just leaving it over an icon for a short while (by staring at the icon), or by blinking slowly. As you can expect, the system comprises software and a camera that can be mounted on your desktop or laptop monitor.



Iriscom's Quick Glance 2 follows your eyes and clicks on icons when you blink slowly

It's clear that enough inroads have been made in this field to already have viable products. As for "tomorrow," things can only get better and more accurate!

Read My Mind

Wouldn't it be great if PCs could read your mind? Well, they can! Back in March 2005, *Wired Magazine* (www.wired.com) wrote an article about Matthew Nagle, a victim of a violent crime that left him with a severed spine—a quadriplegic for life. Nagle, thanks to some innovative technology research, was able to regain a little control of his life. After his doctor suggested that he join a clinical test being conducted by Cyberkinetics Neurotechnology Systems (www.cyberkinetic-sinc.com), Nagle received a brain implant. After intensive training, Nagle can now turn his TV set on and off, raise the volume, and change channels. He can also interface with his computer and play *Pong*, draw basic shapes, and more.

The chip in his brain connects to software in his PC or home appliances, and Matthew "wills" them to work by *thinking* about what he wants to do. Thanks to Cyberkinetics Neurotechnology Systems' BrainGate Neural Interface System, Nagle has hope. Though the clinical trials are only open to people suffering from similar condi-

tions as Nagle, the technology works! We now know that thought control is actually possible, and research will get us there soon enough!

A Brain Computer Interface was recently showcased, at CeBIT 2006. It allowed two people to put on some strange-looking headgear and then play *Pong*—perhaps one of the simplest games ever made. Yes, the headgear is funny, and the sheer number of wires emanating from it are likely to have people cracking "Please don't hurt me, I'll take you to my leader!" jokes. But the fact is, we haven't reached the stage of aesthetics yet. When (with emphasis on the word *when*) such technologies are perfected, we can start worrying about aesthetic appeal; for now, we're just happy that it works.

There are many research projects working on this new way of interfacing with computers, and that's heartening for those of us who are fed up of keyboards and mice! Here's Wikipedia's entry for Brain-Computer interface, which should help you find more interesting news about this exciting technology change: http://en.wikipedia.org/wiki/Brain-computer_interface.

We Don't Want Silly Hats

Well, we don't! We don't want to have to sit stationary in front of our computers either, as is required by head or eye tracking systems. The same holds true for the gloves and other devices that connect to limbs and allow you to control motion. Most of us would not be willing to undergo surgery for implants either, for fear of short-circuiting our brains! So what do we do?

As the research, prototypes and products mentioned here already suggest, researchers are already looking for a non-intrusive, minimal-fuss interface that will only limit you as much as a mouse and keyboard do.

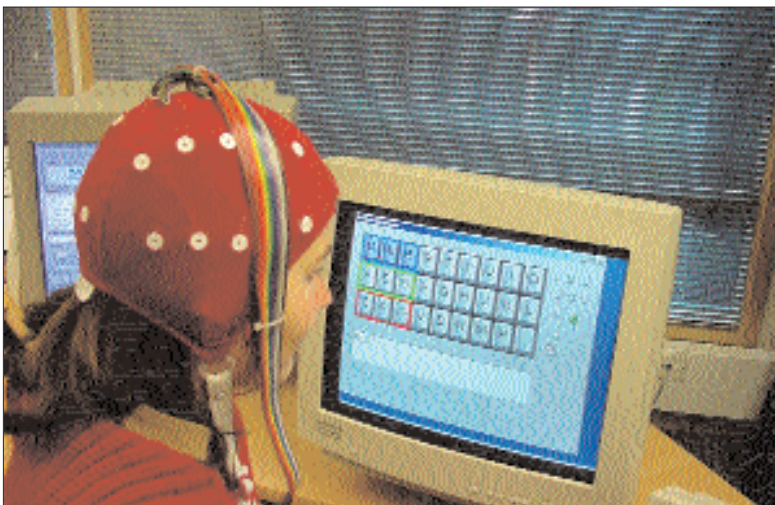
What Happens Tomorrow?

In the near future—five years or less—we hope to be able to see a coming together of all these technologies and methods of interfacing. This is the only way in which a truly complete solution might emerge.

Think about it: thought control will never be perfect, because human brains are unique enough to cause anomalies in the way the software registers thought patterns. What is "Minimise" for me might be "Close" for you and so on. What can help iron out the creases are speech and motion detection software. If you think "Minimise," and the PC is confused about whether you meant "Minimise" or "Close," it can use the eye tracking camera and software to figure out which button you were looking at. Or perhaps it can use a little AI to understand that your body language does not suggest that you're done with the window in front of you, and therefore would not want to close it.

If someone could integrate speech recognition (or natural language processing, preferably), motion detection, thought control and a little bit of AI, we might finally be rid of our traditional, boring input devices. Until that day, nothing is going to dethrone them—old habits die hard! ■

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The cap looks silly, but typing with your brain is cool! Here's another Brain Computer Interface under development at the Laboratory of Computational Engineering in Finland

The Protectors

The founders of the 2,000-strong National Anti-Hack Group, and why they would rather guard what they could so easily destroy

Nimish Chandiramani

“Is your port 80 wide open?” the Web site ominously asks. In these paranoid times where wars are fought in cyberspace and anybody could be a victim, who will stand against the forces of e-vil? Who will protect you from the malicious being that is the hacker? And when will we stop with these corny clichés?

There’s probably no answer to the last question, but in 2003, two young men sat up and decided to be the answer to the others. In the face of increasing attacks on Indian Web sites, Vineet Kumar and Rakesh Sharma decided to form a community of ethical hackers (or White Hats, as they now call themselves) to secure the country from cyber attacks—the National Anti-Hack Group (NAG). Both are highly skilled hackers, and they do it because “only hackers can prevent hack attacks,” as they say.

The Plot

At the alarmingly young age of 18, Vineet Kumar from Ranchi is now managing director and the face of NAG. His interest in cyber security and hacking goes a long way back, and during his activities in hacking groups online, he met Rakesh Sharma (now 23), then a student of computer engineering in Rajasthan. Predictably enough, the two found a common ground, and numerous—no doubt healthy—conversations later, they decided to form an organisation dedicated to protecting Indian Web sites from malicious attack. They would encourage and nurture budding hackers, making them use their powers for good, so to speak.

Enter Anup Girdhar, an independent security consultant, who, during the course of a seminar he was taking at IIT Delhi in 2004, was



Illustration Chaitanya Surpur
3D Modelling Vikram Kathare

approached by two earnest young men with an offer he couldn't refuse. He was sold on the idea of this budding community called NAG, and promptly agreed to join the group and lend his guidance to its members.

The Why And How

"I had taken a computer course in my 10th," says Rakesh, "and was hooked ever since. When I started making my own Web sites, I began to take an interest in how these sites could be exploited, and started learning all I could."

Vineet, on the other hand, got his inspiration from his father, who is himself an accomplished programmer.

Power corrupts, and the idea of being able to wreak havoc on the Internet is one that inspires evil laughs and sinister rubbing of hands. So what kept the devil at bay? "I come from a defence background, so the desire to protect my country was natural. My aim was to help India recover its hijacked sites." And when Ankit Fadia, renowned White Hat, is one of your best friends, your goal becomes a good bit easier to achieve.

How does one go about acquiring such "1337 skillz," then? For Rakesh, it's "mostly through friends, books and participating in online hacking groups and forums."

Trivia Interval: Colourful Hats

You've probably wondered at our repeated mention of the term "White Hat." It comes from American Westerns, where the good guys would typically sport a white cowboy hat and the bad guys preferred black. So in the mean, lawless world of cyberspace, the White Hat is the force of good, the protector of the weak, the saviour of... you get the point. Then there's the Grey Hat, who conveniently sits the fence—carrying out activities that nudge the legal boundaries ever so slightly, but doing so for a good cause such as catching a criminal.

The Cast

When he was just 14, Vineet became one of the world's youngest Microsoft Certified Professionals. He has since obtained an embarrassingly large number of certifications—ranging from Microsoft Certified Database Administrator to Novell Certified Linux Professional. As the MD of NAG, he handles most of its administration.

Rakesh Sharma now works as a security engineer for a software firm in Bangalore. He often simulates malicious attacks on networks to test them. One of his pet peeves is the negative connotation that his "hacker" tag carries. "People don't realise the true definition of hacking," he says, "A hacker is just anyone who tinkers with hardware or software to see what it's capable of."

Acting as a mentor to NAG is Anup Girdhar, a security consultant based in New Delhi. Anup has nearly 14 years of experience in the field. He taught Vineet all he knows, and regularly conducts seminars on security and hacking.



From left To right: Anup Girdhar, Rakesh Sharma, Vineet Kumar

The Result

Today, NAG boasts of more than 2,500 members from all over the world, ranging in skill from your average newbie to some ultra-scary virus creators and reverse-engineering experts. They work as a security consultancy, advising even government sites on how to stay secure.

"We aim to create ethical hackers so that they can act as early warning system for the nation's information infrastructure," says Vineet: "We guide them in learning network security and ethical hacking and certify their hacking skills." A large number of NAG's members are in their teens and early twenties: at 29, Anup is the second-oldest!

When not grooming the hackers of the future, the NAG team helps the Government by scanning their Web sites for vulnerabilities and advises them on security—completely free of charge. They are also affiliated with the Indian Computer Emergency Response Team (www.cert-in.org.in), a wing of the Ministry of Information Technology in the effort to secure India's sites.

If you want to learn from the experts, you can attend one of the many seminars and training sessions that they hold all over the country. Their security forum, Igniteds, is a hotbed of activity at all times, with members from all over the world discussing new and crazy hacks—from fun methods to take revenge on spammers to reverse-engineering viruses and Trojans.

The NAG Web site: www.nag.co.in

The Igniteds Security Forum Web site: www.igniteds.net

The Clichéd Road Ahead

"Right now, we're working on our project *Abhedya*—an open source effort to build the most powerful security solution in the world," says Vineet. "Anyone can join NAG and contribute to it. We are also getting ourselves registered as an NGO." (Which will probably have happened by the time you read this.)

So if you'd like to do your bit for the security of the Internet—or if you're just curious to see how it works—hop away to NAG's Web site and begin your training. Just remember—most members have the ability to make your PC beg for mercy, so don't do anything to tick them off. ■

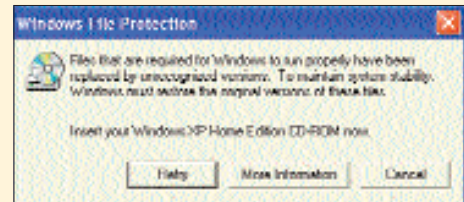
nimish_chandiramani@thinkdigit.com

Has the "Windows File Protection" message ever bugged you? Figure a way to bypass this message.

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

THIS MONTH'S CHALLENGE

Bypass Windows File Protection in Windows XP



LAST MONTH'S CHALLENGE



Take a Crack and win

Visual Basic Database Programming

by Roger Jennings

Published by WILEY-INDIA

LAST MONTH'S WINNER

Vijay Pahilwani
Bani Park
Jaipur

Rules and Regulations

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

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Delete the Recycle Bin from the Desktop and remove the Shared Documents

Here's how to delete the Recycle Bin from the Desktop and remove Shared Documents from Windows Explorer. Before making changes to your Registry, we strongly recommend you back it up.

Disclaimer: Digit is not responsible for any damage you may cause to your system as a result of following the steps described below.

Method 1: Open the Registry Editor. Navigate to HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\Desktop\NameSpace. Click on Edit, and then on Find. Search for {645ff040-5081-101b-9f08-00aa002f954e}. Delete it. Exit the Registry Editor.



A simple registry hack to get rid of the Recycle Bin!

Wait for a moment. When you get back to the Desktop, the Recycle Bin icon will have disappeared. If you want to bring the Recycle Bin icon back to the Desktop, follow these steps: in the Registry Editor, navigate to HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\Desktop\NameSpace. Right-click, then click on New, select Key, and key in "{645ff040-5081-101b-9f08-00aa002f954e}" (without the quotes). Exit the Registry Editor. The Recycle Bin icon will have been restored.

Method 2: Here's another method to remove the Recycle Bin from the Desktop: open the



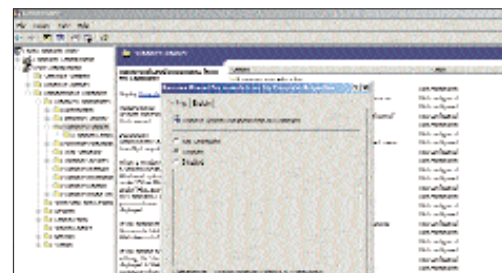
Using the Group Policy Editor to achieve the same thing

Group Policy Editor by going to Start > Run > "gpedit.msc". Navigate to User Configuration > Administrative Templates > Desktop. In the right pane, double-click "Remove Recycle Bin icon from desktop" and select Enable.

To remove Shared Documents from Windows Explorer

Method 1: Open the Registry Editor. Navigate to HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\MyComputer\NameSpace\DelegateFolders\{59031a47-3f72-44a7-89c5-5595fe6b30ee}. Right-click that key and delete it. Exit the Registry Editor. Shared Documents will be removed from Windows Explorer.

Method 2: As with the first problem, the second method involves using the Group Policy Editor. Open it and Navigate to User Configuration > Administrative Templates > Windows Components > Windows Explorer. In the right pane, double-click "Remove Shared Documents from My Computer". Select Enable. If you want to bring the Shared Documents icon back to Windows explorer, in the Registry Editor, navigate to



Remove Shared Documents from My Computer using the Group Policy Editor

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Explorer\MyComputer\NameSpace\DelegateFolders\{59031a47-3f72-44a7-89c5-5595fe6b30ee}" (without the quotes). Exit the Registry Editor. Shared Documents will be restored. ■

So, excited about your shiny new 8 MegaPixel digital camera? Here's one that makes it look pretty silly

Just how many pixels do you need to satisfy your urge for bigger and clearer photos? 8, 10, or 12? These numbers look minions before the monstrous 39 MP Digital SLR from Hasselblad—the H2D-39. The H2D-39 is the latest in the rich lineage of consumer offerings from Hasselblad, which is known for producing some extraordinary cameras; their photography solutions are used even by NASA!

Almost everything about this camera's specs leave you speechless. Its shutter speed can be set to as low as a full 32 seconds. The image sensor is more than double the size of today's 35mm sensors! Images captured by the H2D-39 are about 78 MB in RAW format, and with lossless compression, 50 MB. The storage medium can be an optional 80 GB external hard disk, a CF-II card, or a PC or Mac connected through a FireWire port.

It is the intelligence of this camera, apart from the brute megapixel numbers, that makes it special. Along with image data, the H2D-39 captures an extended set of metadata to perform automated correction for colour aberration effects. This ensures that the captures are optimised to provide the finest detail that the lens can resolve.

It's difficult to imagine what justifiable use we can put a 39 MP camera to, but there sure is a longing to own one—if you have \$37,000 (approx Rs. 17 lakh) to spare, that is!



Hasselblad H2D-39



ThinkFree Office

Michael Browne

“How'd you like to spend some quality time with a software package this month?” my editor asks me. OK, cool, I think: a change! “It's an office suite,” he continues. Change gone out of the window! Anyway, let's give it a whirl, I thought. That's how I was introduced to ThinkFree Office 3. So I downloaded myself a copy, and got down to installing it. You can use the trial version we gave in June '06 CD.

Day 1

Installation was a snap, and with a surprisingly small footprint of only 118 MB. My immediate concern was whether functionality would be affected. I first started up ThinkFree Office Write, the word processor. First surprise: the interface is nearly identical to that of Word! Some competitors try to make their office suites look different; ThinkFree have used a layout familiar to most of us, and I'm glad they didn't change the interface! Opened Calc, ThinkFree's spreadsheet package.

Day 3

The first niggling shortcoming I came across today with ThinkFree's Write is that there's no highlight tool—an absolute shame! I did like the Grow Font and Shrink Font buttons—definitely a plus.

Day 6

After the initial hiccups, I found both Write and Calc pretty decent on the productivity front—it's easy to navigate around the menus, and MS Office users will hardly need any time to get used to ThinkFree Office. Everything is well laid out. All the basic functionality is there, and at times you actually think you're using Word and Excel.

Day 8

I navigate to the help menu—another surprise: a neat little menu laid out in the same order as the menu bar on top. So I got headings such as File, Edit, and so on, meaning that the help file is organised according to the menu layout.

Day 14

Needed to create a few slide shows for the good folk at the office, so I start up ThinkFree Show, the counterpart to

PowerPoint. A few quick clicks later, I'm done—it's very similar to PowerPoint.

By this point I have used ThinkFree Office enough to compare it with a competing product, OpenOffice. ThinkFree is much lighter on features than OpenOffice. Moreover, OpenOffice is free, while ThinkFree will cost you. That being said, it's significantly lighter on system resources.

Day 19

I discover that ThinkFree Write can export PDFs directly into Write, something the mighty MS Word cannot do. I'm pleased since I can type out a few mails in Write while browsing the PDFs (also in Write). After some distracted typing I finish an e-mail and give the spell-check tool a test run. A bit of a pain, since the tool always goes to the first error I make. Word scores over Write here since it starts correcting from your current cursor location. I had a quick stint with Calc to discover that hyperlinks cannot be created in a spreadsheet!

Day 23

I move on to Write and import an MS Word document that had some tracked changes and comments. Instead of opening the tracked document, Write opened a blank one! Checked this again, just to be sure: same result.

Day 28

I'd be lying if I said I'm not impressed. It's a miniature version of Office, without some of the frills but also without a few important functions. It still has a long way to go before getting anywhere near the functionality that MS Office offers.

michael_browne@thinkdigit.com

JULY						
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33	11	12	13	14	15	16
34	18	19	20	21	22	23
35	25	26	27	28	29	30



66 Shades of Colour



76 New & Notable



92 More Power To You!

Digital Tools

Technology For Personal And SoHo Productivity

Send files as large as 1 GB over the Internet!

Net gain

YouSendIt.com

Ahmed Shaikh

Most current Web mail solutions are a bit more relaxed on the issue of attachment size, and allow you to mail as much as 10 MB of attachments, but what if you need to send a 500 MB video presentation for a client? That's where services such as YouSendIt come into play.

The service comes in various flavours, the basic of which is the Lite account—this allows you to send a file up to 1 GB in size; the file can be downloaded 100 times, and is available online for a period of one week. There are three flavours apart from the Lite account—these require you to pay anywhere between \$5 (Rs 225) and \$30 (Rs 1,350) per month. As you climb higher on this scale, the number of times the file can be downloaded increases, for a maximum of 500 downloads. Finally, a paid account allows you to send a file as large as 2 GB in size. Interestingly, the major difference between the paid tier services is the maximum number of downloads per file; other elements such as maximum file size (2 GB) and online life of the file (14 days) remain constant. If you routinely send across large files, you can consider the \$5 per month YouSendIt Plus account as the best value for money.

To send a file to someone, you need his or her e-mail ID. YouSendIt sends the recipient e-mail account a link to your file, which can be clicked for the transfer. The paid accounts also keep track of which e-mail account has downloaded your file and when. Let's take a brief tour to setting up and uploading a file through YouSendIt:

1 STEP Sign up Head to www.yousendit.com and click on the "Sign up for free..." link to get started. Note that you can also try the service out before

signing up. The trial will only allow you to send a file to one recipient.



Sign up at the front page

2 STEP Take Your Pick Choose between a Lite account and a Plus account. If you decide to opt for a paid service, note that the site only accepts major credit cards—it does not support PayPal accounts.



Choose your account type

3 STEP The Final Touches Signup requires the usual personal information. Here, we signed up for the Lite account, which offers the minimal features of keeping track of your sent items and maintains a list of your contacts. Note that the 100 recipients advertised here basically implies that your file can be downloaded 100 times—assuming each recipient downloads once.

The service will now send an activation e-mail to the e-mail address you specified during signup. You will need to sign into your e-mail account

and click on the activation link before you can sign in to use the service.

4 STEP Getting Around Once you sign in, you will see a list of folders to your left. These are self-explanatory and keep track of items sent and people you have sent them to.



Organise your data

YouSendIt also offers a branded service: you can pay to upload your company's logo to a YouSendIt custom page, sans ads. It's an attractive offering if your business routinely transfers large files across distances and cannot afford the associated bandwidth. Click on the Branding link to the left to learn more.

5 STEP Get Sending! The rest is simple: add recipients in the e-mail input box, add a message if you wish to, pick the file you wish to send to the recipient and click on "Send it". Note that you can make a secure transfer by clicking on the "Need secure..." link; however, we aren't sure what this does, since our browser didn't detect any encryption settings after clicking the link.

6 STEP The Other Side The recipient will receive a mail notification containing a link to your uploaded file. He or she needs to click on this link to be able to download the file. ■

readersletters@jasubhai.com



Shades of Colour

We bring you the lowdown on some of the latest inkjet printers available in the market, without actually doing a comparative shootout

Michael Browne

Canon Pixma IP 1200

The Quick And The Cheap

Canon's entry level Pixma model, the IP 1200, was the little boy in this group—nonetheless a printer that performs and is suitable for the home segment. It prints photos fast, they come out decently well, and the printer doesn't cost much either.

Looks And Features

The Pixma IP 1200 is sleek, with a forward-sloping wedge-shaped body. There's one readily apparent demerit: there's no output tray at all! You'll need to keep the printer at least a foot away from the edge of the table, else all your printouts will be on the floor. The outer body is rather flimsy, as are the movable parts. Canon could have done a much better job here: the Epson units we tested show how this can be done at a budget price.

Performance

Canon's Pixma series feature some of the fastest printers you'll see. With timings of two minutes and five seconds for printing our combi-document, and just under four minutes for the A4 photo, the IP 1200 leaves the competition chewing the dust, speed-wise.

In the pure text tests, the IP 1200 gave poor results at the draft setting, with the printed text looking slightly faded, and with slight spiking (imperfections in lines and curves) noticeable—but nowhere near as pronounced as on the Epson models. At high settings, the print quality was good, though upon magnification, a slight spiking around the edges of the text was noticeable.

The combi-document was a little blurry at medium settings—noticeable in the smaller font sizes—but this cleared up at high quality. The level of detail for the fruit printout was acceptable, but some of the brighter colours seemed to merge at times. The embedded photo was sub-par at medium settings, and even at high settings, the quality was just decent.

Our A4 test photo looked good with the Pixma IP 1200: no lines whatsoever, good detail, and the fine details of facial features weren't missed. The IP 1200 seemed to produce slightly saturated images at default colour and tone settings: the yellows, while vibrant, appeared too bright, and this caused the skin tone to change a little. The highlights and contrast were good.



Canon Pixma IP 1200

- ☑ Very fast
 - ☑ Good for photo printouts, though some colour adjustments are needed
 - ☑ Doesn't do too well at text printing
 - ☑ Build quality leaves a lot to be desired
- Price: Rs 3,495

Canon Pixma IP 1600
For The Fast *Photu*-holic

A slightly higher-end look-alike of the IP 1200, this one offers much of the same thing. It's more suitable for photo printing, and is one of the fastest entry-level printers we've seen thus far.

Looks And Features

The Canon Pixma IP 1600 looks identical to its cheaper cousin, the IP 1200. Unfortunately, the similarity extends to the build quality!

Performance

If the IP 1200 is fast, the 1600 is faster. A text document saw nine seconds at the high-quality setting and 19 seconds at the draft setting: very unusual. At the draft setting, there were minor anomalies in the form of streaking and a bit of blotting. At high quality, most of these issues were ironed out, and the print looked crisp and clean. The Pixma IP 1600 is therefore reasonably suitable for mass document printing; the fact that it's lightning-fast doesn't hurt either!

The IP 1600 performed well in our combi-document tests; even at the normal setting, the

text was clear. The photo was reproduced well, though the Epson C67 edges out the IP 1600 here. The fruit basket was also done well, with nice detailing and colour blending. In high quality mode, the quality was even better, of course, and even the smallest font was readable. The contrast test, too, treated the IP 1600 well.

A4 photo quality on the Pixma IP 1600 was good—better than on the IP 1200, with vibrant colours and good contrast. Facial features were well detailed, though the tone and colour saturation seemed a little too rich. At three minutes and 52 seconds, the IP 1600 is fast, but a bit slower than the IP 1200.

This printer is worthy of recommendation as both a document and a photo printer, and comes very close to delivering the best of both worlds.



Canon Pixma IP 1600

- ▣ A good photo printer
 - ▣ Very good for text printing, especially at high settings
 - ▣ Blazingly fast
 - ▣ Tawdry build quality
 - ▣ Offers very good value for the performance it delivers
 - ▣ Good buy for the home user, all considered
- Price: Rs 4,495

How We Tested

Our test bed was an Intel Pentium 4 at 3.2 GHz on an Intel D875PBZ motherboard with 1 GB of memory. The printouts were timed with a stopwatch, from the moment we hit the Print button to the time the document was ejected by the printer. This was the norm for the text, combi-document and photo printouts.

For our quality tests, we used two text-only documents. The first was a simple one-font, one-size. It was printed once at draft settings, and this test was repeated at normal settings. This was done because these are the most commonly-used settings for black text-only documents. The quality of the printers was assessed on the basis of their ability to produce flawless printouts at both settings. Anomalies such as blurring and blotting were noted. The settings were kept constant for all the printers so they could be fairly compared.

The second monochrome document consisted of a single sentence, the first half of which was written in CAPS, while the second was in lowercase. The sentence was repeated starting with a font size of 8, going all the way up to 24. Sharpness of text was noted, along with the the points mentioned above.

Our combi-document was a PDF file with text, images, and shading boxes. Once again, we used Normal and Best mode, which are the norm for any colour documents such as brochures and graphs. The text point size varied from 12 to 2. At the smallest point size, most of the printers gave illegible results, but the degree of difference is what we noted here.

There was also an embedded photo in the PDF file, the clarity of which was noted at both the settings. We also used an image with a collection of fruits of different colours on a light blue background, faded in parts. We checked this part of the document for the level of detail on the fruit—for example, the contours on the body of a pumpkin; the texturing effect the printer could impart; and the degree of separation between fruits, for example, individual grapes in a bowl. We also checked for the highlighting that appears when light

reflects off the skin of a shiny fruit.

The PDF also had concurrent lines drawn within a circle. We tested whether these lines were straight: most inkjets have problems with this. Next, we had a contrast test, which consisted of yellow text on a black background. To make the test difficult, we threw in different font sizes, and points were awarded for how well a printer could replicate this. Imperfections were noted and points deducted accordingly. Finally, using the same PDF file, we conducted a shade test. This consisted of eight sample colour boxes, and seven columns of varying shades of colour—starting with the lightest shade at the top, and the boxes showing successively darker shades down the line. Each box had two variations in shade of the same colour, and the ability to distinguish between these two shades was something we specifically looked for. The shades should also get successively darker, following proper colour gradation.

Finally, we had an A4 photo test: the photo occupied an A4 sheet with very narrow margins on the four sides. The photo was of a person wearing a multi-coloured, heavily-embroidered T-shirt sitting on a bright yellow sofa, with a red silk coverlet lying on one end. A flower vase with white roses is in the foreground, while the background is a blue wall. There was a potted plant with lots of green leaves, behind the sofa.

We looked at the printout of the person for facial detail—particularly in the eyes, lips and teeth. Skin tone was checked, and the ability to reproduce the detail on the T-shirt was noted. The highlights on the sofa were noted, as was the detail on the shiny silver bracelet worn by the person. The sofa had a number of folds in the cloth, and the ability of the printers to reproduce these folds well—reflecting good colour gradation—was noted. Finally, the red coverlet and the bracelet allowed us to test the printers for their ability to produce vivid, vibrant colours, and the flowers were checked for detailing. The bright blue background, and the leaves with their



The combi-document used to test text and image quality

Epson Stylus C45

Bangs Your Buck And Looks Cool too!

Epson's offering to the value home user. It's a sturdy little performer, but not as suitable for photo printing as some of the others here. The fact that Epson made this one real easy on the eye makes the C45 something you can live with on your desktop for quite a while!

Looks And Features

The C45 has the smallest footprint amongst the entry-level inkjets, and was the second-smallest of all the printers we received. A tiny retractable output tray adds to the overall compact image. The in-feeder has a small detachable paper guide and is top mounted—another neat space-saving trick.

We liked the colour combination, as well as the translucent top. Build quality was decent—sturdy enough for daily home use.

The ink monitoring software wasn't accurate. A few printouts down and the ink indicator dropped to 50 per cent, and stayed there for the rest of the tests!

Performance

The C45 was the slowest in our combi-document and photo printout tests, with an A4 photo taking nearly 17 minutes to complete: you can

actually take a coffee break after hitting the Print button! Our combi PDF file took seven minutes and 15 seconds to print—almost 40 per cent longer than its bigger brother, the C67, which at four minutes and 20 seconds was a slow-coach. Monochrome printing was a bit more acceptable, but still sorely slower than what we expected.

Quality-wise, text documents suffered at draft settings. At high quality, the fading disappeared, but there was noticeable blotting around the edges of the text.

For the combi-document, the C45 displayed colour detail quite well. It did not fare well in the contrast test (yellow text on a black background). Black text quality was not good, with visibly spiked fonts and ink blotting.

The A4 photo quality was surprisingly good, with decent colour vibrance and contrast, and accurate reproduction of detail. The photo wasn't very high-quality, but for Rs 3,295, this printer is an ideal buy for those on a shoestring budget who just need to print a few decent-quality photos.



Canon Pixma IP 1200

- ☑ Good build quality
 - ☑ Good looks
 - ☑ Decent at printing photos, but there are better options out there
 - ☑ Good value for money
 - ☑ Text printing suffers as far as quality goes
- Price: Rs 3,295

Epson Stylus C67

Looks Great, Prints Great, Goes Slow!

A great-looking printer that delivers on the performance front as well. It's stylish, prints well, and occupies a modest amount of desk space.

Looks And Features

The C67 is bigger and even better looking than the C45. The front portion falls open to double up as the output tray. The unit employs "DuraBrite Inks," claimed by Epson to be smudge- and water-resistant, as well as fade-resistant for 120 years! These tests are, however, carried out on Epson select photo paper, and the same won't hold true for other photo and normal papers.

The Epson C67 doesn't have the one black and one tri-colour set of cartridges that the C45 has. Instead, it has four individual cartridges—a popular setup for photo printers. The ink monitoring software worked fine on the C67, which made us believe the issue with the C45 was a one-off glitch.

Performance

While printing black text in Draft mode, there was noticeable artefacting, similar to the blotting on the C45 at high settings, but thankfully, there was no fading in the text. At high quality, some of the blotting prevailed, though it wasn't as noticeable. Surprisingly, the C67 was slower than the smaller C45, taking 40 and 54 seconds

respectively at the draft and high quality settings.

The PDF combi-document gave mixed results, with jagged spikes reappearing at both medium and high quality modes. Some of the high-contrast text was also not clearly visible at medium settings, though at high settings this was ironed out. The embedded photo was reproduced well, with good detailing, especially at high quality. The level of detail in the fruit scene was good, though the C45 highlighted the fruit better. Speed-wise, the C67 was slower than the competition but faster than the C45.

The C67 produced good A4 photos with good contrast and highlights, but missed out on colour gradation: the cloth settee in the background has several folds in the cloth, which weren't picked up properly. Facial features had good detail. The C67 took five minutes for the photo printout—which is more than three times faster than its sibling, though it's still slower than what we expected.

Overall, the difference between the C67 and C45 is small. If you're looking for an affordable printer that offers high-quality photos at Rs 4399, the C67 is a good pick.



Epson Stylus C67

- ☑ Good photo printing
 - ☑ Good for printing casual colour printing
 - ☑ Great looks and build quality
 - ☑ Suffers a bit as far as monochrome printing goes, but is more suitable for the task than its smaller brother the C45
 - ☑ Printing speed is slow for a printer of this class
- Price: Rs 4,399



Scoreboard

Inkjet Printers

BRAND	Epson	Canon	Canon	Epson	HP
MODEL	Stylus C45	Pixma iP1200	Pixma iP 1600	Stylus C67	Deskjet 460Cb Mobile
Features					
Printing Technology	Piezoelectric	Thermal	Thermal	Piezoelectric	Thermal
Resolution (dpi)	2880 x 720	4800 x 1200	4800 x 1200	5760 x 1440	4800 x 1200
Interface	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Input Buffer	12 KB	96 KB	96 KB	32 KB	32 MB
Output / Input Tray Capacity	25 / 100	None / 150	None / 150	25 / 120	None / 50
Cartridges Included?	✓	✓	✓	✓	✓
Dual-side Printing Support	✗	✗	✗	✗	✗
Accessories					
Data Cable	✓	✓	✓	✓	✓
Power Cord	✓	✓	✓	✓	✓
Manuals and Documentation					
Troubleshooting / Quick Setup Guide	✓	✓	✓	✓	✓
Miscellaneous features					
Status of Ink Tanks through Driver	✓	✗	✗	✓	✓
Special Features	NA	NA	NA	NA	PictBridge,USB,MemCardSlot
Type of Cartridges	Black/Tri-colour	Black/Tri-colour	Black/Tri-colour	4 Individual Tanks	Black/Tri-colour
Weight (kg)	3.04	2.9	2.9	4	2.22
Dimensions (H x W x D) (cm)	16.2 x 41.9 x 19.9	16.5 x 43.5 x 24.9	16.5 x 43.5 x 24.9	19.5 x 44.7 x 24	8 x 34 x 18.4
Build Quality					
Movable Parts, Trays, Sliders, etc. (So5)	4	2.5	2.5	4	3.75
Movable Parts in the Cartridge Bay (So5)	3.5	3	3	3.75	4
Performance					
Speed Tests (Time)					
Plain Text in Draft Mode (Black and White; Lowest Quality)	11 sec	18 sec	19 sec	40 sec	11 sec
Plain Text in High-Quality Mode (Black and White)	37 sec	20 sec	9 sec	54 sec	14 sec
Photo Printout (Colour; Highest Settings; Kodak Paper)	16 min 50 sec	3 min 50 sec	3 min 52 sec	4 min 59 sec	3 min 53 sec
Combi-Document (Normal Mode)	1 min 57 sec	44 sec	42 sec	1 min 41 sec	54 sec
Combi-Document (Best Mode)	7 min 15 sec	2 min 5 sec	1 min 58 sec	4 min 20 sec	1 min 39 sec
Image Quality Tests					
Image Quality (Black-only Text Document)					
Text Quality (So5)	2.5	3	4	3.25	4.25
Image Quality (Combi-document, Normal)					
Colour Saturation (So5)	2.83	2.83	3.25	2.58	3.50
Spatial Resolution (So5)	3.35	3.3	3.6	3.05	4.05
High-Contrast Details (So5)	1.75	2.5	3.5	3	3
Image Quality (Combi-document, Best) (So5)					
Colour Saturation	3.25	3.08	3.00	3.17	3.92
Spatial Resolution	3.5	3.15	3.1	3.6	4.3
High Contrast Details	2	3.75	4	3.5	3
Image quality (Picture, Best) (So5)					
Colour Reproduction	3.88	3.50	3.63	3.75	4.00
Colour Saturation	3.67	3.75	3.92	3.67	4.17
Specular Effect	4	4	4.25	4.25	4.25
Level of Detail	3.75	4	4	3.5	4.5
Price (Rs)	3,295	3,495	4,495	4,399	14,999



HP Photosmart 7838	HP Officejet K550 Pro
Thermal	Thermal
4800 x 1200	4800 x 1200
USB 2.0	USB 2.0
32 MB	32 MB
50 / 100	150 / 250
✓	✓
✗	✗
✓	✓
✓	✓
✓	✓
✓	✓
Pictbridge,USB,MemCardSlot	NA
Black/Tri-colour/Photo	4 Individual Tanks
4.2	9.7
15.8 x 46.5 x 23	21.3 x 49.5 x 40.3
4	4.5
3.5	4.25
11 sec	12 sec
19 sec	13 sec
3 min 3 sec	3 min 5 sec
30 sec	16 sec
1 min 4 sec	34 sec
3.5	3.75
2.75	2.92
3.1	2.9
2.5	2.5
3.50	3.42
3.65	3.7
3.25	3.25
3.38	3.38
3.00	3.83
3.5	3
2.5	3.5
5,499	7,999



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Serving Society Through IT

HP Deskjet 460cb Mobile

Small In Size, Big On Quality

A compact photo printer that gets the job done in style; in fact, it's a safe bet to say this one should give many normal-sized inkjets a run for their money. An excellent buy for the professional who needs to cart his printer around.



Looks And Features

The 460cb is by far the smallest printer we've received. The in and out paper trays and the top flap have been designed to fit flush with each other. The build quality of the movable parts is excellent. Being a photo printer, the 460cb comes with an SD/MMC and a CF slot. It uses the standard black/tri-colour cartridges—no individual tanks here.

HP Deskjet 460cb Mobile

- ▣ An ultra-compact printer; very portable
 - ▣ Excellent for photographs
 - ▣ Very good build quality
 - ▣ Costly and not really worth the price unless portability is of tantamount importance
- Price: Rs 14,999

Performance

Under our text tests, the 460cb performed commendably, with no blotting at high quality. In Draft mode, the document showed signs of blotting, although this wasn't very noticeable. At high-quality settings, the printout was as close to perfect as we've seen. This is thus a very good printer for monochrome printing, and is

fast as well, taking 11 and 14 seconds in our draft and high-quality tests respectively.

Our combi-test was handled very well too, with the text crisp and clear. The embedded photo was reproduced well, with minor artefacts at normal settings. At both quality settings, the fruit basket was perfectly reproduced with excellent detail on the colours, and realistic textures.

With such results, we were optimistic about the photo test as well. The diminutive 460cb galloped along, taking only three minutes and 53 seconds to print an A4 size photo. Photo quality was impressive: the flowers in the foreground looked good, with good detail around the petals. Facial features looked life-like, with perfect colour blending, giving a realistic texture feel to the skin. Tones were vivid, yet not overly bright. This printer can handle contrasts very well, and the bright-coloured bracelet was reproduced perfectly. Even the red silk coverlet looked rich and vivid—something a few of the printers missed out on.

This printer delivers performance, and is, like we said, very compact. No compromises whatsoever! The only sore point is the price—Rs 14,999. Still, for the professional who might need to cart around a printer with him, the HP 460cb will deliver with aplomb!

HP Photosmart 7838

Doesn't Really Live Up To Its Name

The 7838 is a feature-rich printer with all the goodies such as PictBridge and support for multiple memory slots. Its looks will win the hearts of many, while the inclusion of a discrete photo cartridge along with the package make it a sweet value-for-money deal.

Looks And Features

The HP PhotoSmart 7838 is a photo printer with top-class build quality. The fit and finish of the paper trays and top panel are great.

The 7838 comes with PictBridge support. It also supports SD/ MMC/CF and XD memory cards. This printer has a two-cartridge setup: the black one can be swapped for a photo cartridge.

Performance

The 7838 produced clear, crisp text without visible quality loss. At draft settings, we noticed some artefacting—unacceptable for a printer in this price range. At the higher settings, there was no loss in quality.

The printer fared rather badly in our combi-document test—surprising for such a printer. The embedded photo was distorted, and the contrast test saw a hardly-legible output when the font size was reduced. The detail in the fruit scene was also missing, and the colours also could have been

better. Quality and clarity was somewhat better at high settings, but this is expected, though we feel the entire page could have been a tad better. Speed wasn't an issue: the printer took one minute and four seconds at the high-quality setting.

The 7838 completed the photo in three minutes and three seconds. We did two photo printouts—one with the regular black cartridge, and another with the photo cartridge. With the photo cartridge, the printout took 24 seconds longer. With the regular cartridge the photo looked a bit dull, and there was easily-detectable graininess. With the photo cartridge, the graininess disappeared, as did the problem with vividness. The tones looked much richer—in fact, we felt the yellow sofa was over-saturated, but the lack of a dedicated black cartridge (you need to pull out the black cartridge when inserting the photo cartridge) caused quite a few problems, particularly noticeable as blurring in the hair and around the pupils of the eye of the subject.

All in all a very well-built, feature-rich printer, but the performance is mediocre for Rs 5,499. There are cheaper options that do the job better.



HP Photosmart 7838

- ▣ Very good looks; a good colour combination has been used
 - ▣ Supports PictBridge plus a lot of different memory slots
 - ▣ Well-priced for the features it brings to the table
 - ▣ Mixed results in the text and combi tests, where the printer performed well only at higher settings, which will consume more ink
 - ▣ Not really great for photo printing, which is the segment it's aimed at!
- Price: Rs 5,499

Cartridges—Original Or Refilled?

Many consumers who use inkjet printers opt for cartridge fill-up kits, or visit refill centres after they use their first set of ink cartridges that came bundled with the printer. And why not—after all, you can easily get a refill for around a one-third of what a new cartridge would cost.

Quality doesn't come cheap, however, and using such fill-ups or re-manufactured cartridges can compromise printer components via leakages or deposits, thereby chalking up greater long-term costs due to repairs and possibly even device replacement. There are short-term repercussions, too: refilled cartridges generally do not last as long as originals do, because of the filling and sealing procedures used. And the print quality is almost never as good as with original cartridges.

You might be lucky enough to find a cartridge refiller in your area who does a good job. Many don't, but some do. We can't recommend any refilling companies because refilling your cartridge voids your warranty!

It's a trade-off of sorts. Basically, home users, who always want value, will opt for refills while sacrificing on quality, while for small business houses and the corporate sector, its quality all the way. There is no real solution and the debate goes on; it all depends on what you want from your printer, and to what extent you are willing to trade price with quality.

HP OfficeJet Pro K550

The Speedy Workhorse

Targeted at the office and SoHo segment, this tank (built well, built large), can just as easily be used at home for printing photos. In fact, just using it for monochrome printouts doesn't do it justice at all!

Looks And Features

The K550 pro is a large printer with excellent build quality. It comes with changeable print heads, which is a good thing, as regular use degrades the print heads. The K550 has large individual ink tanks. The paper-in tray can hold 250 sheets—suitable for heavy duty printing.

There's a DTN variant of this printer as well, which has an Ethernet port. The K550DTN costs Rs 5,500 more than this one. Besides the Ethernet port, the models are identical.

Performance

This printer took just 12 and 13 seconds respectively to print our text page at draft and normal settings. The printout at high quality was almost flawless. At draft quality the ink volume seemed a little light; quality, therefore, wasn't too good, but for a business that prints in high volumes and wants to save on ink, this is actually a plus.

Our combi-document took 16 seconds and 34 seconds to print at normal and best quality respec-

tively. At normal settings the printout was a little light: the embedded photo lost out on clarity. The fruits were reproduced well though; we would have liked it if the printer used a little more ink at lower settings. Print quality at high settings was good, with the fruits coming out well with all the highlights. The contrast test was just OK—the K550 missed out on the smallest font even at high settings.

Although not many businesses will use their inkjet to print photos, we nevertheless decided to set this test up. The photo that resulted was adequately-detailed, with all the facial details being captured well. The eyes looked very realistic; the yellow settee came out well; and the shiny red silk coverlet was very vibrant. We noticed a little graininess at one portion of the photo, and took another printout just to be sure—this was not repeated, but the little quirk was noted.

Overall, a very good product that delivers for its price. It is perfectly suited to the SoHo segment, and even to the home user for whom a little extra ink spent at high settings is well worth the quality. ■



HP OfficeJet Pro K550

- ▣ Supreme build quality and sturdiness; looks good
 - ▣ Suitable for the SoHo segment
 - ▣ Individual ink tanks and changeable print heads
 - ▣ Very suitable for moderate-volume text printing
 - ▣ Moderately suitable for photo printing
 - ▣ A bit bulky though
- Price: Rs 7,999



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An ISO 9001:2000 Certified Company

H.O.: 9377 007650 / 9888 007650
 Call back support no. 0280 - 3251732 / 3203400
 E-mail: info@enjoyworld.com

Motherboards

Mercury P1915GVM

- ☑ Supports PCIe, DDR/DDR II RAM, 6-channel audio
- ☑ Only 2 PCI slots. No SATA.

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



MSI RS480M2-IL

- ☑ PCIe-based, 6-channel audio, supports 4 GB RAM, Socket 939, FireWire port
- ☑ No Gigabit Ethernet

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



External DVD-Writers

Lite-On LightScribe SHW-16H55

- ☑ Good performance, EZ-DUB
- ☑ No FireWire

Contact Mediatech India Distribution Pvt Ltd
Phone 022-26361111
E-mail digit@mediatechindia.com
Price Rs 6,495

Internal DVD-Writers

Lite-On Super AllWrite SHM-165P6S

- ☑ Good performance, supports all DVD formats
- ☑ None in particular

Contact Mediatech India Distribution Pvt Ltd
Phone 022-26361111
E-mail digit@mediatechindia.com
Price Rs 3,085



PVR Software

WinDVR 3.0

- ☑ Ease of use, pause TV, zoom in on TV, tiled preview of channels, DV-to-MPEG, good picture clarity
- ☑ None

Contact www.intervideo.com

Digital Cameras (High-End)

Sony CyberShot DSC-P200

- ☑ Compact, 7-megapixel performance-oriented camera
- ☑ None in particular

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



Graphics Cards (High-End)

XFX GeForce 7800 GTX 256 MB

- ☑ Extreme performance, great price, exotic features
- ☑ None

Contact Rashi Peripherals
Phone 022-28221013
E-mail navinderc@rptechindia.com
Price Rs 32,950



Linux

SuSe 9.3 Linux Professional

- ☑ Up-to-date software bundling
- ☑ None

Contact G T Enterprise
Phone 080-26695890/91/92/93/94
E-mail gtdrom@vsnl.com
Price Rs 4,398

BEST BUY digit The A-List BEST BUY digit

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

5.1 Speakers

Philips MMS 5.500 i/C

- ☑ Good for music
- ☑ Not suitable for gaming

Contact Philips India Ltd
Phone 022-56912332
E-mail pcp.india.info@philips.com
Price Rs 4,990

2.1 Speakers

Altec Lansing MX-5021

- ☑ Great sound and build quality
- ☑ Slightly expensive

Contact Rashi Peripherals
Phone 022- 55090909
E-mail divya@rptechindia.com
Price Rs 7,900



Hard drive-based MP3 Players

Apple iPod

- ☑ Amazing Sound Quality, Easy Interface, Plays Video
- ☑ No FM, No Protection For Screen

Contact Apple Computer International Pvt Ltd
Phone 1800-425-4683
E-mail indiainfo@asia.apple.com
Price Rs 19,800



Flash-based MP3 Players

- ☑ Good Sound and Interface
- ☑ Very Small Screen For Video Playback

Contact Arihant Computers
Phone 022-23822424
E-mail arihant_computers@vsnl.com
Price Rs 8,600

Projectors

Sharp XR-10S

- ☑ Brilliant quality and performance
- ☑ Bulky

Contact Sharp Business Systems Ltd
Phone 011-26431313
E-mail anilsodhani@sharp-oa.com
Price Rs 71,000



LCD Monitors (15-inch)

BenQ FP51G

- ☑ Good performance
 - ☑ None in particular
- Contact BenQ India Pvt Ltd
Phone 022-25705230
E-mail kamlesh.salunke@benq.com
Price Rs 9,900

LCD Monitors (17-inch)

NU QL-711V

- ☑ Inexpensive
- ☑ Below average build quality

Contact Shiba Comp Pvt Ltd
Phone 011-26413437
E-mail shiba@del2.vsnl.net.in
Price Rs 11,970

LCD Monitors (19-inch)

NU L921G

- ☑ Low price, good viewing angles
- ☑ Below-average build quality

Contact Shiba Comp Pvt Ltd
Phone 011-26413437
E-mail shiba@del2.vsnl.net.in
Price Rs 18,000



**Burning Software
Sonic/Roxio Easy Media
Creator 8**

- ☑ Feature-rich, low on system resources, many bundled utilities
 - ☑ None in particular
- Web site www.roxio.com

**Feature-rich Cell Phones
Sony Ericsson K750i**

- ☑ Very good camera & audio quality, good display crispness
- ☑ Screen could have been bigger

Contact Sony Ericsson
Phone 0124-2560808
E-mail dhiraj.soni@sonyericsson.com
Price Rs. 14,995



**Home Inkjet MFDs
HP Officejet 4355 All-in-One**

- ☑ Fax with handset, compact
- ☑ Only sheetfed scanner

Contact HP India Sales Pvt Ltd
Phone 0124-2566111
E-mail ashwini-k.aggarwal@hp.com
Price Rs 6,499

**Office Inkjet MFDs
HP Officejet 5610 All-in-One**

- ☑ Good performance
- ☑ Expensive, No memory card support

Contact HP India Sales Pvt Ltd
Phone 0124-2566111
E-mail ashwini-k.aggarwal@hp.com
Price Rs 9,999



**Keyboard-Mouse Combos
Gigabyte GKM-10**

- ☑ Good ergonomics
- ☑ Can do with more features

Contact Gigabyte Technology (I) Ltd
Phone 022-26526696
E-mail sales@gigabyte.in
Price Rs 790



**Mono Laser Printers
Brother HL-5170DN**

- ☑ Good build quality, network support
- ☑ Expensive

Contact Lipi Data Systems Ltd
Phone 022-22882960
E-mail sharatk@lipidata.com
Price Rs 21,900

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

- ☑ Good performance and package contents, low price
 - ☑ None in particular
- Contact Acer India (Pvt) Ltd
Phone 080-25219520
E-mail ailenquiries@acer.co.in
Price Rs 25,999

Media Center PCs



- HP Pavilion m7280in**
- ☑ Great design, features, and performance
 - ☑ Expensive

Contact HP India Sales Pvt Ltd
Phone 0124-2566111
E-mail incontact@hp.com
Price Rs 63,999

**Budget Cell Phones
Nokia 2600**

- ☑ Value for Money, Easy Navigation
- ☑ 4k colour screen

Contact Nokia India
Phone 30303838
Website www.nokia.co.in
Price Rs.2869

**Mid-range Cell Phones
Motorola L7**

- ☑ Sleek and elegant looks, Good build quality, expandable memory
- ☑ None in particular

Contact Motorola India Pvt. Ltd
Phone 0124-230-3212 / 7212
Website www.motorola.com
Price Rs.10,007



**Keyboards
iBall Power Key Designer**

- ☑ Feature-rich
- ☑ None in particular

Contact Best IT World (India) Pvt Ltd
Phone 022-3081 5100
E-mail sales@iball.co.in
Price Rs 990



**Mice
Logitech G7 laser mouse**

- ☑ Feature-rich, offers fantastic performance
- ☑ Expensive

Contact Logitech Electronic India Pvt Ltd
Phone 022-26571160
E-mail kavita_nath@ap.logitech.com
Price Rs 6,495

**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



**Value PCs
HCL Ezeebee 4981**

- ☑ Great performance and upgradable
- ☑ None in particular

Contact HCL Infosystems Ltd
Phone 0120-2520977
E-mail wecare4u@hcl.in
Price Rs 23,999

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

- ☑ Good looks, great performance, excellent LCD display
- ☑ None in particular

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

**Lifestyle Workhorse Laptops
Acer Ferrari 4002**

- ☑ Great looks and flaunt value, great performance
- ☑ None in particular

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



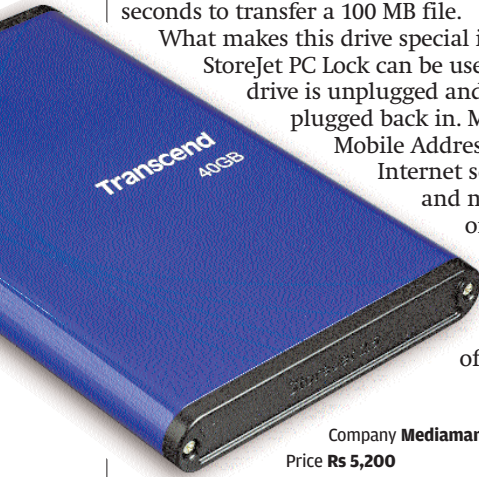
New & Notable

Transcend StoreJet 2.5 40 GB

Your Mobile Desktop

The Transcend StoreJet 2.5 external USB 2.0 hard drive is sleek, and the build quality is rugged. Data storage capacity is 40 GB. The device requires two USB ports—one for data and one for power. Data transfer speeds are quite fast—it took just 6.5 seconds to transfer a 100 MB file.

What makes this drive special is the bundled software—StoreJet PC Lock can be used to lock your OS when the drive is unplugged and unlock it when the drive is plugged back in. Mobile IE, Mobile OE and Mobile Address Book let you carry your Internet settings, bookmarks, e-mails, and more such stuff around for use on any computer. **All these utilities come inside the Device Desktop, which lets you carry your Desktop anywhere.** The low price tag of Rs 5,200 is enticing.



Company **Mediaman**

Price **Rs 5,200**

Phone **022-23828100**

E-mail sales@mediamangroup.com

Web site www.transcendusa.com

Rating

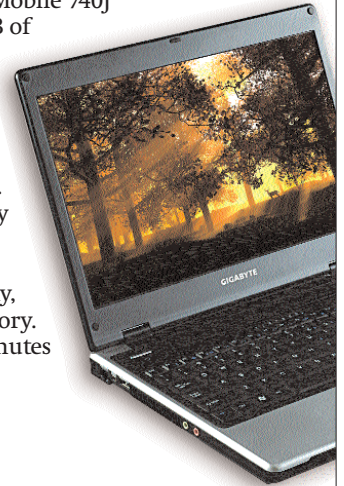
GIGABYTE N211U

Some Of The Good, Some Of The Bad

A 12.1-inch screen with a wide viewing angle, 802.11 b/g, standard 10/100 LAN, PCMCIA Type II slot, a DVD-Writer, and an MMC/SD card are the goodies here.

With a 1.73 GHz Pentium Mobile 740J processor supported by 512 MB of DDR RAM and a 60 GB hard disk, the N211U logged above-average CPU and memory benchmark scores. The GMA 900 video card can handle only moderate gaming.

The kill-joy is the extremely badly-designed touchpad. It's hard to even move the cursor around the desktop! Thankfully, the keyboard feel was satisfactory. The battery lasted only 116 minutes of continuous DVD movie playback—a big let-down.



Company **Gigabyte Technologies**

Price **Rs 60,999**

Phone **022-26526696**

E-mail sales@gigabyte.in

Web site www.gigabyte.in

Rating

Plantronics Discovery 640 Bluetooth Headset

Trendy And Functional

Easily one of the best-looking headsets we've come across, and by far one of the most compact, this headset comes encased in a neat little aluminium box—very showy! Everything about it is unique, from the **three-piece headset** (you actually need to assemble this one) to the multiple charger attachments and the swanky pen-like dock.

The Discovery 640 is ultra-compact as far as Bluetooth headsets go, and features one-button operation. Volume is controlled by a two-way button. The attachments include a small pen-like docking station that vibrates when you receive a call, and doubles up as a charger. It also clips onto your pocket, much like a pen. There are also small adapters compatible with most cell phone chargers that can be plugged onto the dock, so you need only carry your cell phone charger with you. An A/C charger has also been provided. The device itself has a detachable ear hook, consisting of a twisted metal wire encased in plastic—comfortable

despite what that sounds like! Three soft earplugs with different sizes to suit your ear size are provided.

All the attachments besides the ear assembly come in a steel and black finish—very classy.

Voice clarity was very good, with zero distortion when the cell phone was close by. Signal integrity is good for around 20 feet, after which degradation occurs, and the signal distorts badly after 28 feet. Having obstructions will only hasten distortion, but these figures are good: you can leave your cell on your table as you move around the room.

The Discovery 640 is the way to go you're in the market for a quality Bluetooth headset. Compact and stylish, it's a combination of looks and performance. **The slight problem of music playback is there**, but that's what regular headphones are for! A worthy buy, even at Rs 4,700.



Company **Plantronics Inc**

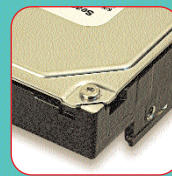
Price **Rs 4,700**

Phone **0124-5105192**

E-mail bobby.joseph@plantronics.com

Web site www.plantronics.com

Rating



Nokia 6708

Nah... We'll Wait For The Movie

This is Nokia's second touch-screen phone to hit the Indian market after the 7710. Touted as a business phone for individuals on the go, it runs on the Symbian7 OS with the UIQ 2.1 interface—quite dated if you're looking for good features.

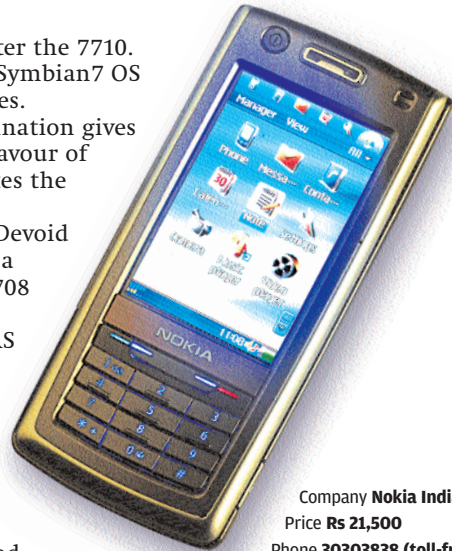
No grouse as far as looks are concerned; the silver-grey colour combination gives the phone an executive look. The large 65K colour screen works in the favour of the phone—especially when you're using it as writing pad—and dominates the front facia. The keypad, however, is quite cramped.

Handwriting recognition is accurate, but needs time to get used to. Devoid of any other option of inputting data, the 6708 doesn't really qualify as a good business phone—one-handed operation is a must, and the Nokia 6708 is uninspiring on that front.

Connectivity options include IR, Bluetooth, a mini USB jack and GPRS for connecting to the Internet. The phone also includes a universal remote for your TV, DVD player, air conditioner, and so on. The phone has 18 MB of memory dynamically shared between applications, and a hot-swappable miniSD slot for memory expansion. The integrated 1.3-megapixel camera delivers mediocre performance.

For documents, the 6708 comes equipped with the Quickoffice software bundle. It also supports all major e-mail protocols.

This Nokia is a decent product by itself, but falls short of being a good "business" phone. At Rs 21,500, we'd recommend you wait for the upcoming E series of business phones from Nokia.



Company **Nokia India Pvt Ltd**
Price **Rs 21,500**
Phone **30303838 (toll-free)**
E-mail **advait.vaidya@nokia.com**
Web site **www.nokia.co.in**

Rating

Seagate Barracuda 7200.10 750 GB

Perpendicular Storage Behemoth!

The Seagate Barracuda 7200.10 750 GB SATA—Seagate's first hard drive built upon perpendicular storage—is currently the storage behemoth in our test lab. The new recording technology has enabled Seagate to provide oodles of space for all those games and that meticulously-maintained MP3 and movie collection.

Seagate has, surprisingly, positioned this drive for the gamer, movie buff, and lower enterprise segment, which doesn't need the raw speed of the faster 10,000 rpm drives. HD Tach clocked it at a read burst speed of 86.1 MBps—impressive, though CPU utilisation was a bit on the higher side at 26.8 percent. It also posted impressive data transfer scores in SiSoft Sandra 2005 Pro. The size doesn't seem to affect the performance at all.

Overall, we're very impressed with this Goliath. Although it's a bit of overkill for lesser mortals like us, if space is what you crave and your pockets are deep enough, this one is sure to satisfy!

Company **Seagate Technologies**
Price **Rs 26,200**
Phone **011-41811694**
E-mail **msinghal@esysmail.com**
Web site **www.seagate.com**

Rating



Genius LOOK 315FS

Ready For Some Football Fever?

Genius has launched the LOOK 315FS Webcam, which looks like a football. After all, the World Cup is on! The body is made of rubber, reminiscent of an actual football, and you've got to appreciate the inclusion of the 32 national flag stickers of the 2006 FIFA qualified teams.

The LOOK 315FS has an inbuilt microphone, though its quality is not too good. The DD Theme Party application that comes bundled is, without a doubt, the strongest reason in for buying this thingy. You can track a face and add funky-looking theme masks to it. The image quality is nothing to boast about, and is grainy at times.

The 315FS has decent gimmick value for Rs 2,400. Combined with the software package and its looks, this is a must-have for the football aficionado. But the video and audio quality are no more than average, making it a can-do-without for someone who wants performance.



Company **Transtek Infoways Pvt Ltd**
Price **Rs 2,400**
Phone **0250-3950072**
E-mail **amit@ttek.in**
Web site **www.geniusnet.com.tw**

Rating



CorelDRAW Graphics Suite X3

A Formidable Design Tool

Seventeen years after the first one, Corel breaks away from its earlier naming convention (version 13 unlucky, perhaps?) to release the CorelDRAW Graphics Suite X3. The box pack contains four CDs—one containing the program files for CorelDRAW, Corel Photo-Paint and Corel Capture, and the remaining three full to the brim with clipart and fonts.

Time and again, CorelDRAW has wowed us with its vast array of abilities and all within a small memory footprint—both DRAW and Photo-Paint are beautifully stable and light on resources.

Among the best new additions to CorelDRAW X3 is the Crop tool, which lets you crop vector graphics the same way you would raster—just select the area you want to keep, and double-click! No more hunting and deleting specific points on the curves. Another nifty tool is the Smart Fill, which automatically estimates boundaries and only fills the space inside. We tried this by drawing a bunch of squares to create a haphazard boundary, and the Smart Fill filled the enclosed area precisely. Text and paragraph formatting is a breeze thanks to new DTP features, bringing CorelDRAW another step closer to becoming an excellent page layout program. In fact, the supplied font and clipart catalogue was laid out in CorelDRAW itself!

Corel Trace, the tool for converting raster graphics to vector in CorelDRAW, is now Corel PowerTrace, and gives much better results when tracing bitmaps.

Both CorelDRAW and Corel Photo-Paint are now much easier to learn thanks to the addition of a Hints pane on the right of the window, which tells you what to

do with the tool you've currently got selected—a boon for new users.

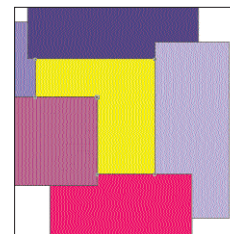
Photo-Paint has improved on performance, and we found it capable of handling complex files without any stability issues. When we decided to verify the claims that Photo-Paint is actually faster than

Adobe Photoshop in some respects, we were quite amazed—applying a Radial Blur (Amount: 10) to a 66 MB, 300 dpi TIFF file took Photoshop CS2 4 minutes and 17 seconds, and Photo-Paint a jaw-dropping 1 minute and 45 seconds! Its memory footprint is also much smaller with the image loaded: 104 MB to Photoshop's 167. Factor in the fact that the price of the entire suite is about two-thirds that of Photoshop, you have a product that inches ever so close to the Master itself.

The third application—Corel Capture—seems like a gratuitous addition. It's utterly pointless, especially when you consider other screen capture tools such as Snagit and HyperSnap. Ditto Font Navigator, which still seems to be stuck in the stone age of font managers.

Overall, CorelDRAW Graphics Suite X3 is an undoubted must for old and new users alike. It's lightweight and yet delivers features that will give your graphics a slick, professional look.

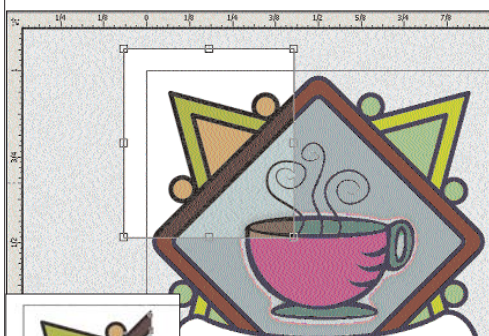
Try out CorelDRAW Graphics Suite X3 from this month's DVD.



The Smart Fill tool easily fills up enclosed areas. Here, we just made a rough boundary with squares and used the Smart Fill for the middle.



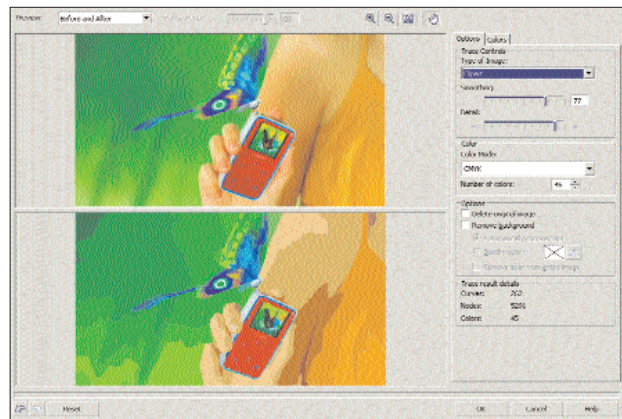
The Hints pane makes the new X3 Suite much easier to learn



Now crop vector graphics just like bitmaps



Photo-Paint are now much easier to learn thanks to the addition of a Hints pane on the right of the window, which tells you what to



Now trace bitmaps better with PowerTrace

Company **Sonata Information Technology Limited**
 Price **Rs 20,475 (full), Rs 10,200 (upgrade)**
 Phone **080-26575800**
 E-mail **rajeev.nagar@corel.com**
 Web site **www.corel.com**

Rating

Tips & Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

GENERAL TIPS

Search	79
MS Outlook XP	80
MS Word XP	81
MS Excel XP	85

30 MINUTES EXPERT

Google SketchUp	82
Make Active Desktop Useful	84

SEARCH



Illustrations Harsho Mohan Chatteraj

Use A Toolbar

Don't bother going to Google's homepage by typing in www.google.com every time you want to search. Don't even set your homepage to Google—it takes up a couple of seconds, which add up! Use the Google toolbar—it comes inbuilt in Firefox and Opera, and for Internet Explorer, head to toolbar.google.com for the small download. For the Yahoo! search toolbar, visit toolbar.yahoo.com.

Filtering Search Results

Google and Yahoo! don't have parental controls, but you can control what you yourself are exposed to! If you don't want obscene images turning up in an image search, for example, set your Google preferences to "Use strict

filtering." The Google preferences link is to the right of the search bar on www.google.com.

Excluding Unwanted Results #1

The "-" (minus) sign is used to exclude certain words from your search. If you want to search for information about 5.1 speaker sets, you'll probably get a lot of results that speak about other speaker configurations. Instead of "5.1 speakers", try "5.1 speakers -2.1 -4.1 -6.1 -7.1".

The Use Of Quotes

Use quotes as often as possible for the most relevant results, and for your desired results to appear as high up in the list as possible. For example, if you want to know who the Time Man of the Year for 1990 was, it's better to type in "time's man of the year" with the quotes, followed by "1990" (with or without the quotes), rather than just "time's man of the year 1990" without any quotes. Check it out!

Using The "Cached" Feature

If a result link is taking too long to open, and the information you need doesn't relate to time (as in news items), use the "cached" link (if there is one) after the result. This will almost certainly load, since Google and Yahoo! are almost never down!

Personalised Search

If you want your search results to become more and more relevant over time, and if you don't mind Google knowing a lot about you, sign in before you search. The sign-in link is at the top right corner of the Google homepage,

and you'll need to use your Gmail username and password. From then on until you sign out, Google remembers what you searched for and what you clicked, making it possible to give you more accurate, personalised results.

Some may be paranoid about Google knowing so much about you, but in some peoples' opinion, "Who cares what a server in California or somewhere knows about me?" It's your choice...

Forget The Dictionaries

Google can replace several other kinds of searches. If you want to know what the time in New York is just now, just type in "New York time"! Similarly, if you need to know the difference in usage (or use?) between the words "usage" and "use," you don't need to go to an online thesaurus or dictionary. Simply type in "use usage" into Google, and you'll get results directly from dictionaries and thesauri! Note that in this particular example, Google does the job for you, but Yahoo! doesn't. MSN brings up the required result second, which is quite nearly there.

Force Keywords

Not all words in a search string come up in search results. You'll sometimes find that somewhere down in the results, there are pages which don't contain one or more of your search terms at all! This is especially true for searches with many keywords. It suffices to say that it's Google's way of giving you the most relevant results. To force a certain keyword or keyphrase to be included in the search, use the "+" sign. For example, typing in "favourite example hardware sata mouse" (without the quotes) will bring up some results without one or more of those words. If you need the word "example" (which is a common word, so Google might leave it out), type "favourite +example sata hardware mouse".

Excluding Unwanted Results #2

To exclude irrelevant results, try using extra keywords. For example, if you want information on various fruits, such as apples, grapes and mangoes, you might key in these words into, say, Yahoo! You'll see results that include lots and lots of fruits. Take a few of those from the first couple of results and exclude them using a minus sign.

For example, "apples grapes mangoes" (without the quotes) brings up 84,000 results on Yahoo, with lots of irrelevant fruits mentioned. Now, type in "apples grapes mangoes -bananas -pears -plums -lemons -oranges -pineapples". Voila—just 1,100 results! Of course, this is just an example of how you can drastically trim down your results.

Ready Info
 Google has some hidden gems. One amongst these is information about people, countries and such. For example, if you need to know when Mozart was born, just type in “Mozart born” (without the quotes), and Google will give you the required date of birth.

Quick Definitions
 A very useful function in Google is the “define” command. If you want to quickly know what SATA is, simply type in “define:sata”.

Searching Within Sites
 Some sites have a Google search on their homepage, from where you can search for stuff within that site. You don’t need to go to the site to get that functionality. Simply add “site:www.examplesite.com” to your search terms, and you’ll get results only from www.examplesite.com. You can also specify domains, such as .edu this way: “admissions scholarship site:edu”.

Related Sites
 You’ve probably seen the “related” link after page results in Google. Again, you can directly get sites related to a certain sites by typing in something like “related:www.examplesite.com”.

Bring Up Only Certain Filetypes
 If you want results of a certain file type, such as PDF, you can use “filetype:pdf” before your search query. This will return only PDFs. Of course, you can use this for any file type, including MP3, XLS, or anything you want.

Putting Document Titles To Use
 “allintitle” searches for pages that have all your search words in the title of a Web page. So if you want sites that have “microsoft” and “knowledge” in the title, type in “allintitle: microsoft knowledge” with a space between the “allintitle” and “microsoft”.

Searching By URL
 You can also search for terms that occur in the URLs of documents. For example, if you want to find the word “mac” in sites that have “apple” in the URL, where “mac” might or might not be in the URL, use this: “inurl:apple mac”. The word “apple” will then be in the URL. Note that there should be no space between “inurl” and “apple”.

Saving Searches in Outlook
 You can create search files in Outlook, executing which will conduct the search. For example, say you frequently search for very large files,

MICROSOFT OUTLOOK XP



which usually indicate those with attachments. You can make up and then save such a search. Go to Tools, click Advanced Find, and then click the More Choices tab. In the “Look for” box, click Messages. Then in the Size list, click greater than, and then type a number such as 1024, for files that are 1 MB or larger in size. Select any other search options you want, then click Find Now.

When the search is complete, you can save it as a shortcut: click Save Search on the File menu of the Advanced Find dialog box, and just save it anywhere. The next time you want to conduct the same search, double-click this shortcut.

Skip Unknown Mail Senders
 If you know that only certain people are going to send you mail on a certain e-mail address, you might want to skip messages that come from people other than these. You can specify rules to relocate messages from those not on your “trusted” list to a separate folder, called, say, “unknown.” This also helps in avoiding spam. Besides, you’ll get only your most-needed mails in your Inbox, and you can browse through the files in your “unknown” folder.

First, you’ll need to create a new folder in your Inbox. This will be that “unknown” folder. In the Folder List, right-click Inbox and click New Folder. Type in the folder name, say “unknown”, and click OK. If your Folder List is not visible, click Folder List under View. Now, you’ll need to create a new rule using the Rules Wizard: go to Tools > Rule Wizard. Click New, then click “Start from a

blank rule”. Click “Check messages when they arrive”, and click Next. In the “Which condition(s) do you want to check?” box, check the “On this machine only” box. Click Next. Then, in the “What do you want to do with the message” box, click “Move it to the specified folder”. In the “Rule description” box, click Specified. Then click the folder you created—“unknown”—and click OK, then Next. Under “Add any exceptions”, check the “Except if sender is in specified Address Book” box. In the “Rule description” box, click Specified. In the “Add Address List” dialog box, choose “Outlook Address Book”, click Add, then click Next. Type in a name for your rule, click Finish, then OK.

Recurring Reminders
 Say you want to add recurring tasks or reminders to your Outlook calendar. These might be things like “Order pizza.” For this, open the Calendar in Outlook. From the menu, select Actions > New Recurring Appointment. In “Appointment Time” in the dialog box, select a Start Time. Select the *same* time for the End Time—this is so that Outlook will not block the time on your calendar. Make sure “0 Minutes” is displayed under Duration. Input your desired options under “Recurrence Pattern” and “Range of Recurrence”. Click OK, then type in a name for the reminder in the Subject box of the Appointment Screen. Click Save and Close.

Quickly Setting Up A Reminder
 If you don’t have the time to respond to an e-mail just when you receive it, you might want to add it to your calendar so that you can be reminded to reply to

Bet You Didn’t Know

Flagging Contacts
 If you’ve been using Outlook, you know that you can flag e-mail messages for follow-up. But did you know that you can also flag contacts? Once you’ve flagged a contact, you will receive a reminder to take the action you specify. To flag a contact, open your Contacts folder and right-click on the contact you want to flag. Select Follow Up from the drop-down menu. Select the desired action, date and time, and click OK. This is the date and time when you will receive the reminder. At that specified appropriate time, a reminder window will pop up to remind you that you need to take an action with this contact. Click Open in the Reminder box, and the Contact’s information (e-mail address, phone number, and more) will be displayed.

it later.

Drag the message from your Inbox to the Calendar icon on the Shortcut Bar. Outlook will create an appointment that includes the text of the message. Make sure the start time and other details are entered, and also make sure the Reminder box is checked.

Saturdays And Sundays

By default, Outlook combines Saturday and Sunday into one column in the month view of the Outlook Calendar. Of course, this is customisable: you can change it to make it show a separate column for the two days.

So where's the command? Right-click anywhere on the Calendar and select Other Settings. Remove the checkmark from the option that says Compress Weekend Days.

Minimise Outlook To The System Tray!

You might want to make Outlook go and sit in the System Tray when you minimise it. Here's how to make it do this: open the Registry Editor. (Remember to make a backup first.) Navigate to HKEY_CURRENT_USER\Software\Microsoft\Office\10.0\Outlook\Preferences. Add a new DWORD value called "MinToTray". Assign it a value of "1".

Attachments Taking Long To Open?

Some folks might experience this problem: when you double-click an attachment, the computer seems to hang, although the attachment eventually opens. There is a way to rectify this. When you double-click on the attachment, the familiar dialog box is displayed, asking you whether you wish to open the attachment or save it to disk. Beneath that is a box that says "Always ask before opening this type of file...". This box is checked by default. Uncheck the box. Opening future attachments could be significantly faster.

The Intrusive Read Receipt

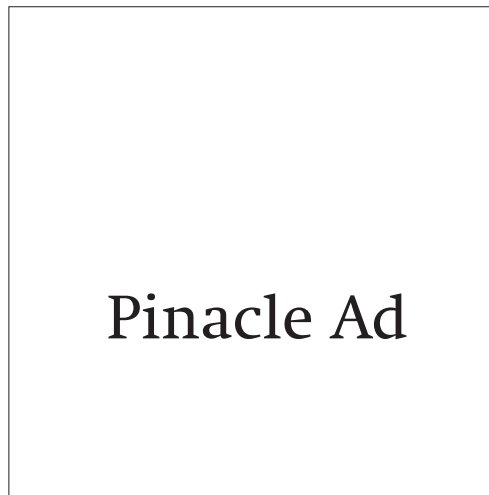
Read Receipts can be irritating. For example, it could seem rude if someone asks for a Read Receipt and you *don't* send one. At the same time, if you do send one, it will indicate what time you opened the message—an invasion on your privacy! You can choose to mark which incoming messages have Read Receipts attached: set your Inbox to display that field. At the Inbox menu, select View > Current View > Customize Current View. Click the Fields button.

In the "Select Available Fields From" box, make sure "All Mail Fields" is selected. Select "Receipt Requested" from the "Available Fields" box. Click Add to add it to the list of fields that display in your Inbox. Keep clicking OK until all dialog boxes go away.

Setting Up An Auto-Mailer

Say you use Outlook only while you're in office. If you plan on being out of the office for a while, you can configure the Out of Office Assistant to automatically respond to any e-mail you receive while you're away.

From the Inbox menu, select Tools > Out of Office Assistant. Complete the dialog box and click OK. Outlook will send the response you've indicated for as long as "I am currently out of the office" is selected. When you return, follow the same path as above and click "I am in the Office" to deactivate the Out Of Office Assistant.



MICROSOFT WORD XP

Emphasising Text

To give your text some kind of emphasis, highlight the text, right-click, and select Font. When the Font dialog box appears, select Text Effects. A list of effects will appear such as Shimmer, Blinking Background, and more. Select your desired effect. You can see how it will look in the Preview area. Press OK to close the dialog box.

Bet You Didn't Know

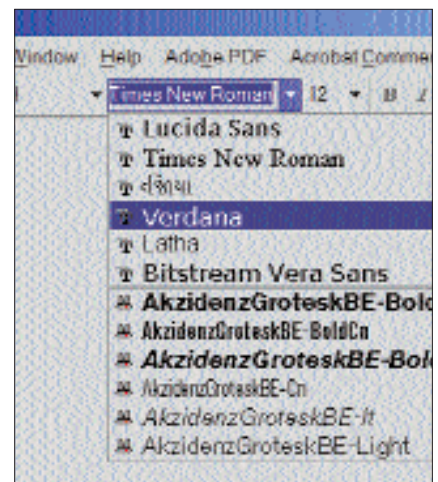
Quick Messaging

To quickly create a new mail message to an Outlook contact, drag the contact to the Inbox on your Outlook Folder List. Of course, the contact must have an e-mail address associated.

Delete The Fonts MRU List

Word maintains a list of most recently used fonts, which appear at the top when you click the fonts drop-down. You'd like to modify the list, wouldn't you? But you can't! However, you *can* turn it off completely using the Registry Editor, which you might want to do in a number of situations—for example, if you've just experimented with a lot of fonts, and all of them keep appearing.

Navigate to HKEY_CURRENT_USER\Software\Microsoft\Office\10.0\Word\Options. (The "10.0" becomes "11.0" if you're using Word 2003.) Choose Edit > New > String Value, and call it NoFontMRUList. Press Enter. Now with the NoFontMRUList string value selected, choose Edit > Modify. In the Value Data box, type in "1". Click OK and exit the Registry Editor. You can, of course, change the setting back by changing the value to "0".



Turn off that MRU Font List

Paste Quickly

Not too many folks use the [Insert] key to switch between insert and overwrite mode. You can turn the [Insert] key as a shortcut for pasting. Go to Tools > Options. In the dialog box that appears, click the Edit tab. Check "Use the INS Key for Paste" and close the dialog box. Now whenever you press [Insert], the contents of the clipboard will be pasted into the document.

Save All And Close All

If you're working on several documents at once, you may want to save or close all the documents without closing Word. To do so, hold down the [Shift] key and click the File menu. The Save option will become "Save All", and the "Close" option will become "Close All".



Building Homes In Google SketchUp

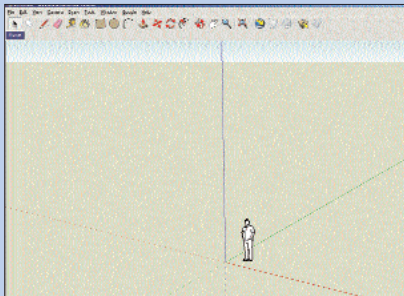
Free 3D design tools have never been this easy to use

Nimish Chandiramani

They did it again, minus the “oops.” Google’s SketchUp will go down as yet another of Google’s victories, this time in the world of 3D modelling. You will find SketchUp on the June 2006 CD. Here’s the dirt you need to get cracking at creating your own monument.

1 Getting Around Quickly

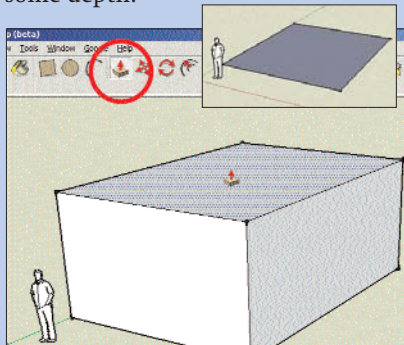
When you start SketchUp, all you will see is a 2D human figure. To move around the centre of the scene (called *orbiting*), hold down the middle mouse button and drag the mouse. To move from side to side (called *panning*), hold down [Shift] as well. Alternatively, you could press [O] to select the Orbit Tool and use the left mouse click, and hold down [Shift] when you want to pan.



The default start-up screen

2 Start Building!

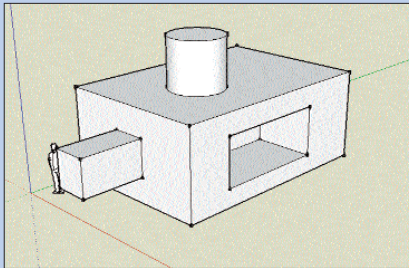
To lay the first block (which you will then manipulate to turn into a house), first select the Rectangle Tool (shortcut: [R]) and draw the rectangle as shown in the screenshot alongside. Then use the Push Tool (shortcut: [P]) to give it some depth.



draw the rectangle, then push!

3 More Complex Building

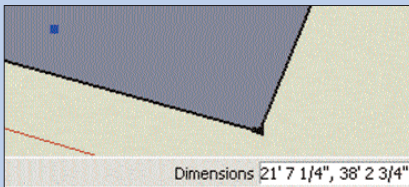
You can now draw rectangles (or circles (shortcut: [C]), for that matter) on the surface of the box you just made. To be absolutely sure you’re drawing on the surface, just hover the cursor where you’re drawing, until a tool tip tells you where you’re drawing. And once you draw these rectangles, you can use the Push Tool again to create protrusions and dents.



Use the Rectangle and Push Tools to create more complex structures

4 Real-World Dimensions

SketchUp is meant for building houses, right? So where does the ever-important “accurate to scale” part come in? Hidden in the bottom-right corner, you will see a little box that contains the dimensions of the figure you’re drawing. If you’ve just drawn a new rectangle, just key in the dimensions you want—if you wanted 12 feet by 15 feet, you’d type “12”, “15”. You can also use other units—“m” for metres, “in” for inches and so on. This applies no matter which tool you’re using.

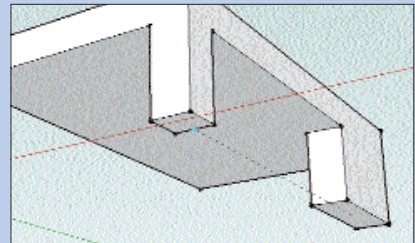


The little dimension box that nobody sees

5 All Are Equal

If you’re modelling something like a platform, chair or table, you will obviously need to have legs of equal height. One way to do this is by using dimensions as above. However, you can also use the following simple method: start with the first leg and

use the Push Tool to push it to where you want it. Now click on the next leg, and hover the mouse cursor at the bottom of the first. The new leg will automatically extend to that height. Lather, rinse, repeat!

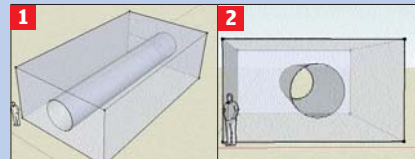


Hover the mouse cursor to make the heights match

6 Cutting Holes In Objects

To cut holes into your models, first draw a shape on the surface of the model. Now use the Push Tool (shortcut: [P]) and push this shape towards the surface at the other end. When the two surfaces meet, let go of the mouse button. Peek-a-boo!

To prevent unnecessary confusion, turn on the X-Ray display mode: select View > X-Ray. To make sure the surfaces intersect properly, use the method described in Step 5.



1. First draw the hole and push...
2. ...then marvel at your handiwork

7 Grouping Objects

Once you’re done poking holes and making random protrusions on objects, it’s a wise idea to group them to prevent any accidental editing. Hit the spacebar to switch to the Selection Tool, and draw a selection box around the object to select all its edges and surfaces. Now right-click on it and choose “Make Component”. Give it a name, and now you can’t accidentally edit this object. To edit it, double-click on the component with the Selection Tool—you can now edit it while the rest of the objects in your scene fade out. ■

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Using The Mouse More Effectively

To select a line of text or a paragraph, you probably move the mouse pointer over the entire line or paragraph you want to select while keeping the left mouse button held down. There's a much easier way to do this, which works with many different software. Move the mouse pointer to the left of the line or paragraph until the cursor changes from the "I" looking stick to the standard arrow cursor. Click once to select the current line of text, twice to select the current paragraph, or three times to select the entire document.

Sorting Names

Say you have a list of names in a document, and need to sort them. You can accomplish this task using tables, but if you don't want to mess with tables, here's the alternative approach.

First make sure the names in your document are arranged so there is only one person per paragraph. Select all the paragraphs that contain names. Choose the Sort option from the Table menu. Word displays the Sort Text dialog box. Click Options. Word displays the Sort Options dialog box. Select Other.

Erase the contents of the box to the right of Other, replacing it with a single space. Word will now know that you want to consider spaces as the dividing point between the sort fields. Click OK to close the Sort Options dialog box. Then, use the Sort By drop-down lists to specify the word by which you want to sort. For instance, if you want to sort by last name—which is the word after the first space—you should choose "Word 2" in the Sort By drop-down list. Click OK, and your names will be sorted.

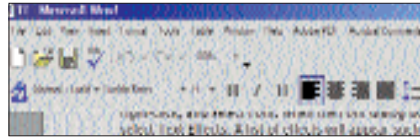
Table-To-Text

There will be many occasions when you want to convert a table to text. To do this, first select the entire table. Choose Convert from the Table menu, then chose Table to Text from the resulting sub-menu. Word displays the Convert Table to Text dialog box. Select an appropriate character for Word to use to separate the columns of text. Click OK.

Large Icons In Word

The icons in the Word toolbar—such as the disk icon for Save—may be too small for you, or perhaps you just like large icons. You can make them bigger. Under Tools, click Customize.

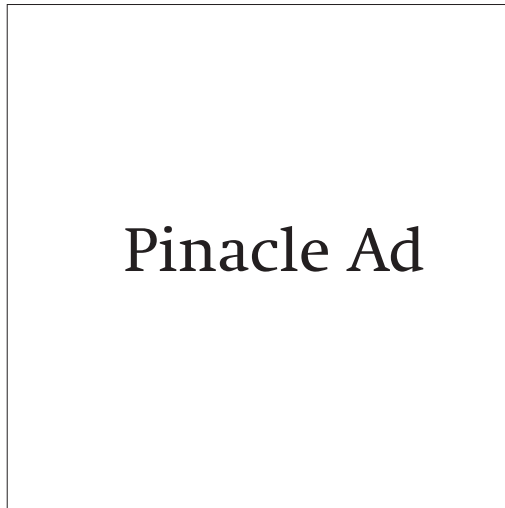
When the Customize dialog box appears, choose Options and check Large Icons. The toolbar icons will instantly get big!



Get bigger icons for Word

Adjusting Column Width

If you have a table in your document, you may find that your overall table width is the way you want it, but the columns within the table



are not just right. As an example, you may want the columns to be the same width as each other—this without disturbing the overall width of the table. To achieve this, select the table and then choose Table > AutoFit > Distribute Columns Evenly. Done!

Freeze Tables

If you don't want your table to readjust itself to fit whatever you put in it, Word allows you to freeze a table's layout. For instance, you might want the cells to be a certain size, and never change even when you place a large amount of data in the cell. The first step is to adjust the column width so that the columns in your table are the way you want them. Then, choose Table Properties from the Table menu. Word displays the Table Properties dialog box. Make sure the Row tab is selected. Select the Specify Height checkbox, and enter a height for the rows. Use the "Row Height Is" drop-down to choose Exactly. Now, go to the Table tab. Click Options. Word will display the Table Options dialog box. Clear the "Automatically Resize to Fit Contents" box. Click OK to close the

Table Options dialog box, then click OK to close the Table Properties dialog box.

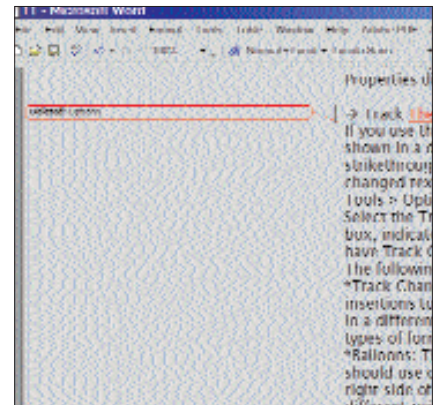
Track Changes Options

If you use the Track Changes feature in Word, added text is shown in a different color, and deleted text is shown with a strikethrough. You may want to change how Word shows your changed text. To make your configuration changes, first go to Tools > Options. Word will display the Options dialog box. Select the Track Changes tab. Using the controls in the dialog box, indicate how you want your changes to appear when you have Track Changes turned on. Click OK. The following are some of the options available:

***Track Changes Options:** Here you specify how you want text insertions to appear. They normally appear as underlined text in a different colour, but you can instruct Word to use different types of formatting for the text you add to the document.

***Balloons:** The controls in this area allow you to specify if Word should use change balloons. These balloons appear at the right side of a document and indicate the changes made at different points.

***Changed Lines:** This setting is used to specify how any lines that contain changes should be noted. Normally, Word adds a vertical bar to the outside border of the line.



Use the "Track Changes" feature in Word to track changes in your documents

Deleting Pages In A Document

If you need a quick way to delete a page in your document, you can use the following macro:
Sub Delete_Page()
ActiveDocument.Bookmarks("\Page").Range.Delete
End Sub

Assign the macro to a toolbar button or a shortcut key (we're assuming you know how to do so), and you can easily delete the current page,



Use Windows XP's Active Desktop

Did you even know your Desktop can ably act as a window to the Web? That “Active Desktop” means just that? Here’s how to get your Desktop to go beyond icons

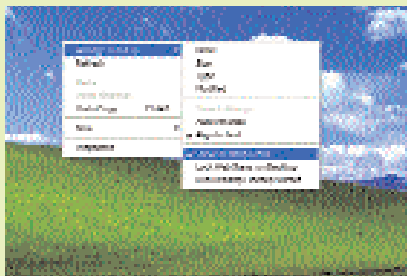
Jayesh Limaye

How can you make your Windows desktop more useful—for example, have it deliver the news? Well, via a generally neglected (and discarded!) Desktop feature called Active Desktop, which has been around since Windows 98. At that time, it was (rightly) blamed for consuming system resources and was irritating, so folks just turned it off. But as we will see here, the Active Desktop is surprisingly useful, and can be used to deliver Web content to your Desktop even on dial-up.

We’ve chosen two useful sites for the purpose of this exercise. The first is www.itools.com, a site that not only allows you to search the Net right from your Desktop, but also lets you query online dictionaries, translate text, and search for news stories. The second is <http://news.bbc.co.uk>, one of the best news portals around. Get ready for a surprise!

STEP 1 Turn It On

By default, Active Desktop is always on in Windows XP. Turn it on if it is off. To do this, right-click anywhere on the Desktop, mouse over to Arrange Icons By, and click Show Desktop Icons.



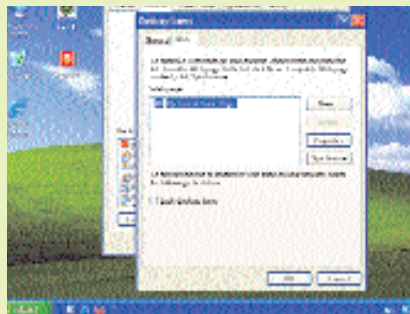
Turn on Active Desktop if it is off

STEP 2 Open Desktop Properties

Right-click anywhere on the Desktop and select Properties. This will open the Display Properties dialog box. Click the Desktop tab and the Desktop Items window opens. Here, click on the Web tab and set the Web items you wish to display on your Active Desktop.

STEP 3 Create A Web Item

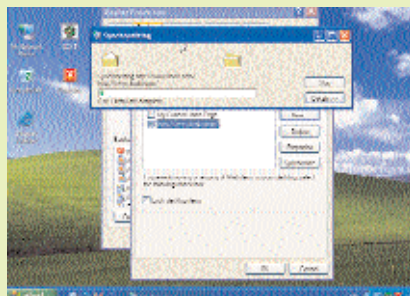
Click the New button. In the New Active Item box, enter the URL <http://www.itools.com> in the Location dialog box. Click OK. This new Active Item will now begin to synchronise itself with the Web, which will take a few seconds to complete—do not interrupt the process. Click OK twice, and the Active Item will be visible on your Desktop.



Open the Web tab in Desktop Items

STEP 4 Lather, Rinse, Repeat

Repeat step 3 for <http://news.bbc.co.uk>, and let the synchronisation happen. Since this is a news site, schedule it to update after a certain interval of time. Click on the item called <http://news.bbc.co.uk> in the Web Pages

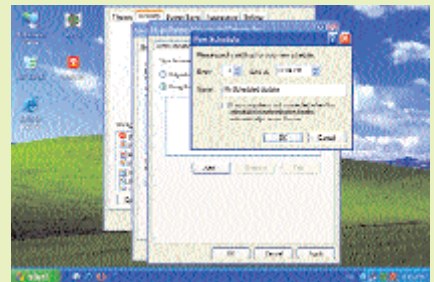


The web contents get synchronised

window. Click Properties, then on the Schedule tab. Here, select “Using the following schedule”. Click Add.

STEP 5 Make A New Schedule

In the New Schedule box, type in the fields to change the default schedule. Once you’re done with the scheduling, click OK thrice. Both your Active Items will be displayed on the Desktop with their current contents.



Schedule the Synchronisation

STEP 6 Moving Them Around

Active Web Items are quite like regular windows. You can resize them by dragging the borders. You can move the entire window by placing your cursor near the top border, after which a title bar will appear: click on the title bar, drag the window, and place it wherever you like on the Desktop.



Your Active Desktop

STEP 7 Endnote

You can, of course, place as many Web Items on your Desktop as you want, but remember that they do consume some memory. If you’re low on RAM, don’t create too many.

Interesting Desktop, eh? ■

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the one in which the insertion point is located. The macro bases its determination of a page on the current pagination of the document, which is affected by the printer driver you're using and, of course, the formatting characteristics of the document.

MICROSOFT EXCEL XP

Blank And Non-Blank Cells

Figuring out the number of non-blank cells in a range is not entirely straightforward. The COUNTBLANK function returns the number of blank cells in a range, but what if you want to count the number of non-blank cells in the same range? One way is to use the COUNTA function:
=COUNTA(B1:B13)

The problem with this formula is that it doesn't return the complementary value to what COUNTBLANK returns. In other words, the result of COUNTA added to the result of COUNTBLANK doesn't equal the total number of cells in the original range. The reason for this is that both COUNTBLANK and COUNTA treat formulas differently. COUNTBLANK includes, as blank, formulas that return a blank value. COUNTA does not consider such cells blank (even though a blank is returned), so it includes them in its count. If you consider non-blank cells to be those that are not returned by COUNTBLANK, you will need to use this formula:

=(ROWS(B1:B13)*COLUMNS(B1:B13))-COUNTBLANK(B1:B13)

This subtracts the COUNTBLANK result from the total number of cells in the same range.

Counting Unique Values

Excel provides several different ways in which you can count unique values in a long list. Say you have a worksheet in which there is a list of first names, in cells A1:A100, which can contain duplicates. Say you need to determine the number of unique names in the list. First define a named range that represents the list of first names. In the following examples, we assume that the range is named FirstName. If the list contains only text entries and no blank cells, the following will provide a count:

=SUM(1/COUNTIF(FirstName,FirstName))

This should be entered as an array

formula, by pressing [Ctrl] + [Shift] + [Enter]. If the list contains blank cells, then the formula becomes a bit more complex. The following long array formula will work if there are blanks:
=SUM(IF(FREQUENCY(IF(LEN(Countries)>0,MATCH(Countries,Countries,0),""),IF(LEN(Countries)>0,MATCH(Countries,Countries,0),""))>0,1))

Assigning Names To Formulas

Once created, formulas are valuable, and you may need to use them over and over again. Unfortunately, Excel has no way to paste commonly-used formulas. But there's something you can do to make your formulas more accessible: assign names to your formulas in the following manner.

Enter your formula. Select the cell containing the formula and press [F2]. This brings Excel to Edit mode. Hold

Pinacle Ad

down [Shift] as you use the cursor control keys to select the entire formula, including the equals sign at its beginning. Press [Ctrl] + [C]. Then press [Esc] to get out of edit mode. The cell with the formula is still selected.

Choose Name from the Insert menu, then choose Define. Excel displays the Define Name dialog box. In the Names in Workbook box, enter the name you want assigned to the formula. Select whatever is in the Refers To box at the bottom of the dialog box, and press [Ctrl] + [V]. The cell reference is replaced with the formula on the Clipboard.

You need to make sure there are no dollar signs in the formula. If there are, select and delete them. This method of using formulas, therefore, does not work well with absolute references.

Now, whenever you want to use the formula, you simply enter an equal sign and the name you gave to the formula. Even though the name shows in the cell, the formula assigned to the

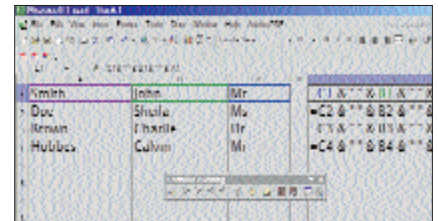
name is actually used in doing the calculation. Since the formula uses only relative references since you got rid of the dollar signs, it is always relative to where you use the name in the worksheet.

Formulas And Values

Excel normally displays the results of your formulas, but you can also force it to display the formulas themselves. If you're like most people, you choose Tools > Options, then on the View tab, make sure the Formulas checkbox is selected. A much faster way to get the same result is to press [Ctrl] + [=]. The second key is the one to the left of [1]. The shortcut is a toggle, which means you can press it repeatedly to switch between the display of formulas and results.

Using the TEXT function

Say you want a description for your data. One approach is to put the description near the cell containing the data—for instance, a numeric value could go in cell B1, and the unit description in cell C1.



Use the TEXT function in Excel

Another approach is to put the description text and the numeric value together. Creating text strings does this. So to display "2 + 2 is 4", you'd use
="2 + 2 is " & 2+2

The disadvantage of this approach is that formatting the value takes more effort; since the result is a text string, numeric cell formatting does not apply. For example, considering the above formula, say you need to display two decimal places. You might select Format > Cell > Number tab and then choose a Number format that has two decimal places, but the results would not change. (The result of the formula is text, not a number.)

To affect the value formatting, use the TEXT function. To force the above results to display the value to two decimal places, use the following formula.

= "2 + 2 is " & TEXT(2+2, "0.00")

Here's an example that displays "Today is" along with the current date. Enter the following formula:

= "Today is " & TEXT(NOW(), "ddd, mmm dd, yyyy")

The quotation marks are important, since you're constructing a text string.

Finding The Smallest Or Largest Values

There may be times when you need to derive the smallest or largest value from a range, unless the smallest or largest value is zero. For instance, you might have a range of values such as {0, 3, 1, 4, 2}; in this case, the lowest value is zero, but the value you want returned is 1. There is no intrinsic function within Excel to return such a value. However, you can use a formula that will do the trick. Assuming that the range of values you want to analyze are in A4:A8, the following formula will return the lowest non-zero value:

```
=IF(MIN(A4:A8)=0,SMALL(A4:A8,COUNTIF(A4:A8,"=0")+1),MIN(A4:A8))
```

This formula uses the MIN function to determine if the lowest value in the range is zero. If it is, then the SMALL function is used to derive the lowest value, excluding the zeros. The COUNTIF function returns the number of zeros in the range, and therefore tells SMALL which item from the range to pick.

A small change to the formula allows it to be used to return the largest non-zero number in a range:

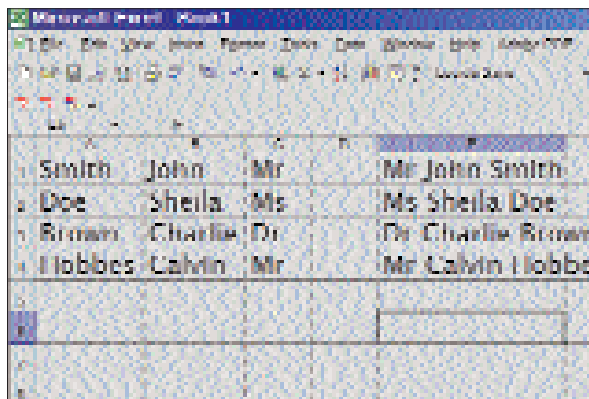
```
=IF(MAX(A4:A8)=0,LARGE(A4:A8,COUNTIF(A4:A8,"=0")+1),MAX(A4:A8))
```

These formulas will work for any range, unless the range is made up entirely of zeros. In that instance, a #NUM! error is returned.

Concatenating Cell Text

It's easy to combine the contents of your cells. Say you have a list of last names in column A, a list of first names in column B, and a list of salutations in column C. If you wanted to derive a full name for these people, you could use the following formula:

```
=C4 & " " & B4 & " " & A4
```



Concatenate text from different columns and display the result in another

The result is that Excel combines the values from the specified cells and places spaces between them. The ampersand character (&) is used to indicate that Excel should add text together to create a new text value.

More Useful Averages

The average value for a set is in many cases determined by removing the highest and the lowest scores and then averaging the rest. You may need to do similar types of averages. To perform this type of averaging, you can use the SMALL function. Consider the following formula, which assumes you want to find an adjusted average of the range A10:A14:

```
=(SUM(A10:A14)-SMALL(A10:A14,1)-SMALL(A10:A14,2))/(COUNT(A10:A14)-2)
```

The SMALL function is used to determine the two lowest values in the range, and these are subtracted from the overall sum of the range. The resulting value is then divided by the COUNT of values in the range. Note that the COUNT value is decreased by 2 to compensate for the fact that you are ignoring the two lowest values. Another way to calculate the same average is to use an array formula:

```
=AVERAGE(IF(A10:A14>SMALL(A10:A14,2),A10:A14))
```

Since this is an array formula, you need to enter it by pressing [Ctrl] + [Shift] + [Enter]. It examines each of the values in the range and only considers them for use in the average if they are larger than the second smallest value in the array.

While the array formula is shorter than the longer regular formula, there is one thing to remember: the array formula will produce an undesired result if there is a two-way tie in the second-lowest value in the range, or a three-way tie in the lowest value. For

instance, if the values being averaged are 3, 2, 10, 3, and 7, then the array formula will produce an average of 8.5. This is because only the values 10 and 7 are above the second-lowest value, and the average of those two is 8.5. If you use the longer formula, then the average returned is 6.666667, which is the average of 10, 3, and 7.

If these formulas don't work, check to

make sure you have the Analysis ToolPak installed. The SMALL function is a part of the Analysis ToolPak. Choose the Add-Ins option from the Tools menu and make sure there's a checkmark next to the Analysis ToolPak option.

What Is Excel Doing?

It's often frustrating to figure out exactly how Excel arrives at a particular result, particularly if the formula is complex. But Excel provides a tool you can use to help figure out what is going on when it evaluates a formula. To access this tool, select the cell containing the formula you want to evaluate. Choose Formula Auditing from the Tools menu. Excel displays a sub-menu. From the sub-menu, choose Evaluate Formula. Excel displays the Evaluate Formula dialog box.

At this point, Excel shows the full formula from the cell, and part of it is underlined. This underlined area represents the part of the formula that Excel will next evaluate. This allows you to see what intermediate steps Excel follows in arriving at a result. Every time you click the Evaluate button, Excel replaces the underlined portion of the formula with a result. Nothing you do with the formula evaluator actually affects the formula in your worksheet; it remains unchanged. Instead, Excel simply shows you what happens as it works through each part of the formula to arrive at a result.

From CAPS To Sentence Case

Some people type everything in CAPS, and if you receive a spreadsheet from one such person, what do you expect? You can use a macro to select a range of cells and convert any constants to "proper case." After you're done, the first letter of each word will be uppercase, and the rest will be lowercase. If a cell contains a formula, it is ignored. Here's the macro.

```
Sub MakeProper()  
Dim rngSrc As Range  
Dim lMax As Long, lCtr As Long  
Set rngSrc =  
ActiveSheet.Range(ActiveWindow.Selection.Address)  
lMax = rngSrc.Cells.Count  
For lCtr = 1 To lMax  
If Not rngSrc.Cells(lCtr).HasFormula  
Then  
rngSrc.Cells(lCtr) =  
Application.Proper(rngSrc.Cells(lCtr))  
End If  
Next lCtr  
End Sub
```

The "1" in "lCtr" and "lMax" is a lowercase "L." ■

Q&A

Your Questions, Our Answers

Multi-Session VCDs?

Q I have Nero 6.0.1. Please tell me how I can write video files (in VCD format) onto a multi-session CD, so that I can add video files the next time I write to the CD. I want to run the CDs on a VCD player.

Also, when a video file is on the hard drive, a certain size is displayed, say 630 MB. But when I add this to Nero for writing in the VCD format, it shows a much smaller size (like 580 MB). Why?

Chatendra Dev

A It is possible to create multi-session VCDs or even DVDs using Nero. The problem is that the VCD created may not be playable on your VCD player, since it will not be compliant to the standards set by the VCD industry. You will still be able to play it on your computer.

Most standalone VCD players can read only the first session of a VCD—the remaining sessions will remain inaccessible to the player. Some new VCD players support multi-session VCDs, but since you haven't specified what VCD player you have, you'd do best to burn a VCD in a single session.

MPEG-1, used in VCDs, provides 352 x 240 at 30 fps, 15-bit colour, and CD-quality sound. So your video files get converted to MPEG-1. If you're burning, say, an uncompressed video file, the size may reduce to as much as 10 per cent of the original! Similarly, if you're burning a DivX movie, it gets upsampled since it's more compressed than MPEG-1, and you'll see a larger file size in Nero.

There are two other things to consider here: first, a VCD is burnt in Mode 2/XA instead of ordinary data mode. This mode has less error correction than data mode, so some of the space reserved on the CD for error correction can be used to store data. Second, a larger DAT file on the hard disk appears lower-sized on a VCD because some of the data is stored in the sub-channel area of the CD.

Mad At My Modem

Q I recently bought a v.92 56.6 kbps Krypton internal modem for my AMD Athlon64 3000+ based PC with Windows XP SP2. The modem only generates noise and never connects, whereas it works fine on other PCs.

Abhishek

A Read the modem manual and set the appropriate modem initialisation string and also the country setting. Sometimes, the country setting might not be "India"; you might have to use trial and error to figure the correct country setting. If that doesn't work, uninstall the drivers and install the latest drivers from the manufacturer's Web site. You can also try to lower the baud rate of the modem to, say, 33.6 kbps and then try to connect. If it does connect, there's surely a noise problem with your telephone line, and you'll need to contact your phone company to find a solution. Also try plugging the modem into a different PCI slot.

DD:MM:YY/HH:MM:SS

Q When writing files to CD using Windows Explorer in XP, the date and time of the files change to the current date and time. Is there a setting that can prevent this change so that the original values are retained?

Dr Kiran K Kalra

A When you copy a file to CD, a new file is created on the CD, so the "Created" date and time is set to the current date and time. Bear in mind that the "Modified" date and time remain the same as in the original. This cannot be changed using just XP.

You might want to use Nero Burning ROM for burning CDs: you have three options—to retain the original date and time, to set them to the current values, or even to set custom values!

My Music's Running Away!

Q I have an Intel 845GL chipset-based motherboard with a Celeron 2.4 GHz processor and an AC'97 supported audio device. I'm running Windows 98. My problem is that is the speed of the audio—the tempo—is faster than normal. What can I do?

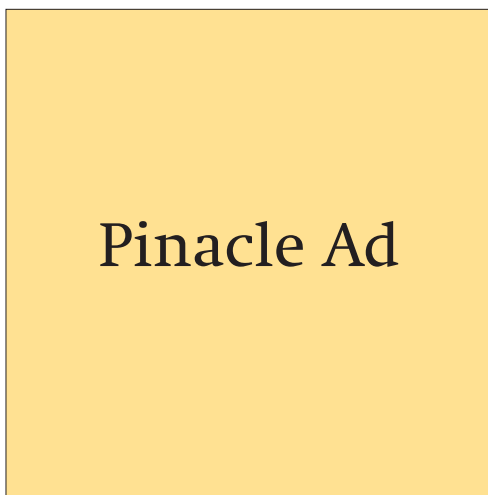
Sanjay

A The problem of audio playback at a higher tempo is caused if you install the audio drivers for AC'97 audio devices before you install the chipset drivers for your Intel motherboard, or if you have not installed the chipset drivers at all. Download the latest drivers for your audio and motherboard chipset from the manufacturer's Web site. We recommend that you download the latest chipset drivers for your motherboard from www.intel.com, which is mentioned as an INF Update utility. The current version is 6.3.0.1007.

Uninstall the audio driver you've installed. Install the motherboard chipset driver you downloaded. Then install the audio driver, and your problem should be solved.

An Obscure Error Message

Q I recently installed Internet Information Server. The problem is that whenever I click on Default Web Site, I get the 0x8ffe2740 error. What does this

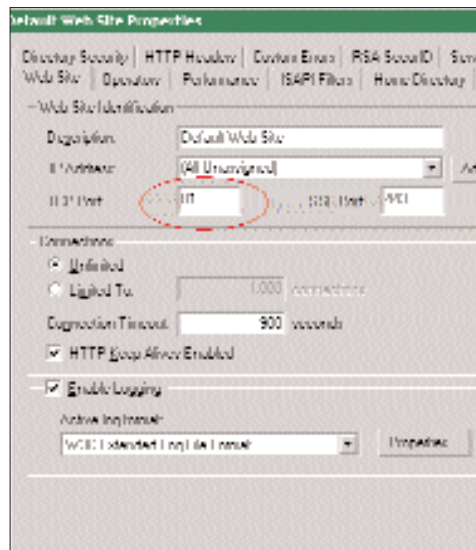


error mean, and how can it be resolved?

Nitika Raturi

A This error occurs if a port conflict exists on the system. IIS uses port 80 for communication by default. If an application other than IIS is using the same port and IP address, and then when you try to open a Web site using IIS manager, you get the above error.

The error can be resolved in either of two ways. Stop the application that is using port 80 and then start the Web site using IIS manager. Or, you can change the port bindings for that Web site to a port other than 80 in the IIS manager. To do this, open Internet Services Manager; right-click Default Web Site and view its Properties. On the Web Site tab, change the TCP port number from 80 to a port number of your choice.



Change the port number for the Web site in IIS

Driving Sound

Q I have a Sound Blaster Live! Value sound card. I recently installed XP, and it doesn't have inbuilt drivers for the sound. They aren't there at Creative's site. Where can I find them?

Anirban Ghosh

A The Windows XP/2000 drivers for the Sound Blaster Live! Value card can be downloaded from www.fileshack.com/file.x?fid=544. It's a 27 MB download.

Covering Your Tracks

Q Is it possible to clear the Run dialog box history?

Nishant Joshi

A Assuming you're using XP, right-click on the Taskbar and choose Properties. Navigate to the Start Menu tab and then click Customize. Another pop-up window will appear with two tabs—General and Advanced. Click on the Advanced tab and then on the Clear List button. This will clear all recently opened files and commands, and it will also erase records of Web sites visited through Internet Explorer.

If you just want to clear the entries from the Run dialog box, open the Registry Editor and navigate to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\RunMRU. Delete the value corresponding to the command you want to remove, or remove all the entries to clear the list entirely.

No Pages Being Made

Q I am not able to run Adobe PageMaker 6.5. It displays an error message: "Unable to load icon

DLL for this screen. Continue-8027:6623". I tried uninstalling and re-installing the program but the problem persists.

Y Thakkar

A Do one or more of the following to address this issue:

Solution 1: Uninstall fonts using the CorelDraw 6.0 font utility if you have installed CorelDraw 6.0. Use the bundled font utility to uninstall the fonts it installed. The FontMaster 6.0 utility installs fonts incorrectly and causes the issue you're facing. To remove fonts using FontMaster 6.0:

1. Close all applications and start FontMaster by choosing Start > Programs > Corel Graphics > Corel FontMaster 6.

2. Select all the fonts in the "Permanently Installed" section of the Corel FontMaster window and choose Edit > Delete. You need not delete fonts from the other sections in this dialog box.

3. Open the Fonts folder by choosing Start > Settings > Control Panel, and then double-click Fonts.

4. Select the fonts that need to be removed and choose File > Delete.

Solution 2: Temporarily remove TrueType fonts in the Fonts folder until you have a hundred or fewer, and then restart your computer. Don't remove Windows standard fonts, which are required by various applications. For a list of these fonts, see Additional Information. If PageMaker starts without an error, read the fonts a few at a time, starting PageMaker after you add each set of fonts to determine which fonts cause the error, or how many fonts you can have installed without errors.

Solution 3: Remove and reinstall PageMaker Aldfont*.fon files:

1. Locate the PageMaker application folder. Open the folder and select each of the Aldfont*.fon files (Aldfonta.fon, Aldfontb.fon, Aldfontc.fon, and Aldfontf.fon), and choose File > Delete.

3. Reinstall the Aldfont*.fon files by performing a Custom Install of PageMaker from the installation CD (that is, select only PageMaker from the list of items to install). Make sure you install PageMaker to the same location on the disk.

Solution 4: Delete and re-create the ttfCache file by exiting all applications, locating and deleting the file, and then restarting Windows in Safe Mode to create a new file.

Pretty Darn Funny

Q I use Windows XP Professional, and I am not able to download PDF files. When I try to open a PDF file, a message appears: "An internal error has occurred."

Sarabjeet Singh

A This problem can be caused by a variety of reasons. Sometimes, it occurs if you don't have enough memory installed. The error can also occur if you have an older version of Acrobat Reader installed or if you have more than one version installed at the same time—in which case you should uninstall both versions and reinstall



Create Ringtones And Wallpapers For Your Mobile Phone

We bet you'd love to have one of your favourite MP3s as a ringtone—and really, it's easy! And how about putting your desktop wallpaper on your phone? Here's how you can

Sanket Naik

Almost all entry-level cell phones today have colour screens and polyphonic ringtones, and allow customisation of these. While most phones bundle good ringtones and wallpapers, creating some of your own has its own charm. Various applications are available for creating ringtones; we chose Create-Ringtone because apart from ringtones, it also allows you to make custom wallpapers for your screen.

You can download a 15-day trial copy of Create-Ringtone from www.create-ringtone.com, and if you like it—we think you will!—you can purchase it for \$19 (Rs 850).

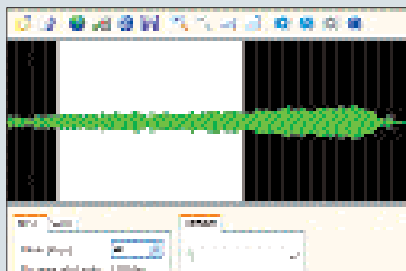


Create-Ringtone's main user interface

STEP 1 Creating A Ringtone

The main interface of Create-Ringtone is as shown above. To create a ringtone, select from one of the three choices listed under the Ringtones menu.

For this exercise, we'll select the source audio file from the PC; you can also get it from an audio CD.



Select the portion of the song you want to use

Click "Just Run Audio Converter", doing which, obviously, starts the audio converter!

STEP 2 From the File menu, select "Open an audio File from my PC", or press [Ctrl] + [O]. From the browser window that opens, browse to any audio file—such as an MP3 file—and select one from which you'll extract your ringtone. Upon selecting the file, the application will process it and open it in the editing window.

STEP 3 Once the audio file has opened in the editing window, you can select the portion of the song that you want to set as your ringtone.

In the editing window, left-click where you want the portion to start, then right-click where you want to end it. Alternatively, while keeping the right mouse button pressed, drag the cursor to select the portion. The selected part will be highlighted in white.

To play the selected portion, click Play in the top panel.



Select the bitrate and amplification

STEP 4 While creating ringtones, do pay attention to the file size. Create-Ringtone allows saving of ringtones in both the WAV as well as the MP3 formats. If your phone doesn't support MP3, you will have to save it as a WAV file. The settings for both formats are available in the left-hand corner of the application.

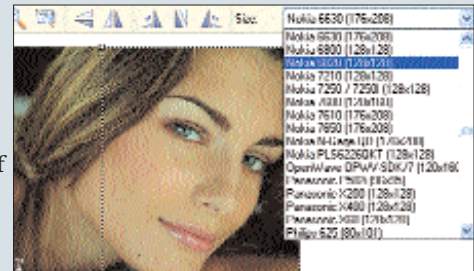
For MP3, we would recommend you set the bitrate to 64 kbps. The amplifier allows you to set the loudness—don't touch this unless your MP3 is too faint. The final size of the ringtone will be shown in the status bar at the bottom.

STEP 5 Once the settings are taken care of, you can go to the File

menu and simply click "Save my Ringtone as", give it a name, and select the file format—MP3 or WAV.

STEP 1 Creating Wallpapers

From the main menu, click "Just Run Image Converter". It should open the image converter, which looks pretty much similar to the audio converter; however, the tools and menus pertain to image manipulation.



Select your phone model from the drop-down

STEP 2 From the File menu, select "Open Image", or press [Ctrl] + [O]. This should open the browser. Browse to your image collection and select the image you want to use as your wallpaper.

STEP 3 Once the image is selected, it opens in the image converter. Create-Ringtone has an inbuilt database for screen sizes of selected phones. Just select the phone model from the drop-down list, and the application will automatically crop the image to match your screen size. If it fails to, select Custom, and specify the pixel size yourself.

STEP 4 After choosing the phone model and selecting the part of the image to be cropped, go to the File menu and click on "Save my Wallpaper as". Before clicking Save, give it a name and select the file format. Voila! You have a wallpaper ready for your phone.

To transfer the ringtones and wallpapers to your phone, connect it to the PC via Bluetooth, cable or infrared. ■

sanket_naik@thinkdigit.com

Is 64-bit Worth It?

Q I recently bought a new system with an AMD Athlon64 3200 processor, ASUS A8N-VM motherboard with integrated graphics (NVIDIA GeForce 6100 256 MB), 512 MB 400 MHz Transcend RAM, and a Seagate Barracuda 80 GB SATA hard disk.

Should I install the regular Windows XP Professional with SP2 or should I go for Windows XP 64-bit? What are the advantages of the latter? I use my system mainly for home applications and gaming.

Ayush Sobti

A While the 64-bit edition of Windows XP has been around for quite some time now, there isn't a suffi-

cient number of applications that use the 64-bit architecture. There are a few, though—for example, The AMD64 version of *Far Cry* is available for the 64-bit version of XP. The AMD64 version is an upgrade that installs on top of the retail boxed version, and AMD claims it “gives you an enhanced *Far Cry* experience.”

Earlier, the non-availability of 64-bit driver support was an issue with the 64-bit operating system, but 64-bit drivers for your system are easily available and can be downloaded from the respective manufacturers' Web sites.

32-bit applications will, of course, run on XP 64-bit, but in 32-bit mode—just as in the 32-bit version of XP. So for the time being at least, there's no point opting for the 64-bit version of XP.

the latest version. Another reason could be that your firewall or proxy server is corrupting PDFs while they download. The solution here is to download the PDF to your hard drive and then view it rather than viewing it in your browser.

TV-Tuner Trouble

Q I use Windows XP Media Center Edition. Recently, I installed a Pinnacle PCTV 50i TV-Tuner card. It works fine with the Pinnacle Media Center software, but whenever I start the Windows XP Media Center TV application, it shows an error: “Your TV card is not compatible with Windows or is not configured properly...” Does this mean that I can't use the TV card with Windows XP Media Center?

Siddhartha Biswas

A We would like to bring to your notice that you can only install and use Windows XP Media Center Edition OS if you had bought a Media Center PC. Windows XP Media Center Edition is not available off the shelf and only comes bundled with Media Center PCs. If you obtained from elsewhere, it is pirated, and we cannot help you.

If you have a Media Center PC and are trying to replace the TV-Tuner with the Pinnacle PCTV 50i, then we must tell you that there are a limited number of TV-Tuners that are compatible with Windows XP Media Center Edition. Your TV-Tuner is not supported by this operating system—hence the error message. You can still use this TV-Tuner with the OS by installing the required drivers and using third-party PVR software as in other flavours of Windows XP, but it does not fulfil the TV-Tuner hardware requirements of this OS—and hence cannot be used with the Windows XP Media Center TV application.

You can find out about TV-Tuners supported by or compatible with Windows XP Media Center Edition from www.microsoft.com/windowsxp/mediacenter/partners/dfw/tvtuner-cardsreq.msp.

500 Per Cent Indeed!

Q I use Windows XP Pro and IE 6. I have installed Internet Download Accelerator. But the download speeds are more or less the same, when

people say it can increase download speeds up to 500 per cent. I use a 128 kbps connection. What other download accelerators would you recommend? Also, I use Opera 8.5. I can't incorporate any download manager into Opera. What do I do?

Saurabh Sood

A Download managers try to give you the highest download speeds from your Internet connection by splitting the file being downloaded into multiple segments and then downloading the segments simultaneously. The highest download speed you can get is limited by the speed of your Internet connection which in your case is 128 kbps. Then again, the Web site from which you are downloading files also is a factor in the maximum download speed you can get. The 500 per cent claim is almost rubbish; it does say “up to 500 per cent,” which can be as little as 5 or 10 per cent!

A good download manager we can suggest is FlashGet, from www.amazesoft.com. The FlashGet plug-in for Opera can also be downloaded from the same site.

The Registry To The Rescue

Q I own a cyber café. People come and download files, and I want to change the download location of the files to a location of my choice. How do I do this?

Abhishek Yadav

A You can set the download path using the Registry Editor. Browse to HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer and find the String “Download Directory” in the right pane. Double-click on this and change it to a valid location of your choice. This is where files will get downloaded the next time someone clicks a download link.

However, this location can be changed if a new location is specified. To prevent the user from doing this, navigate to HKEY_CURRENT_USER\Software\Policies\Microsoft\Internet Explorer\Restrictions. If this value is not present, you can create it. In the right pane, create a new DWORD called “NoSelectDownloadDir” and set its value to 1. ■



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!

More Power To You!

Have you bothered about what power supply your dealer bundled with your computer? If you have, skip the following! But if you don't even know what brand of PS you have, read on...

To begin with, I just love the Mumbai monsoon: it allows me to take a break from my usual routine and sit by the window pane sipping coffee. But somehow, my computer back home doesn't like the rains—it breaks down every year when the rains come!

Having stacked my cabinet with three hard drives, a deluxe motherboard, two DVD-Writers and a GeForce 7900 card, my not-so-well-powered supply died when it tried to satiate the demand. I still blame it on the rains! Now, I can live without food or water, but without a computer is out of the question.

While there is no dearth of options as far as the availability of brands or models is concerned, the real problem is finding a good, reliable power supply. In the absence of a proper test from our Test Centre, or for that matter by any technology publication in India, spurious, low-quality power supplies (PSES) are handed across the counter and are well-received. With hardware getting power-hungry, these low quality PSES generally fail to deliver when overloaded.

Also, over the past year, the hardware industry has undergone a remarkable change. It has seen the launch of a myriad new chipsets (the 945, 975, and more), new technologies in graphics cards (SLI and CrossFire), new processor architectures (dual-core), and so forth. The resulting new components require a power supply capable of providing sustainable, clean power—since the system as a whole requires more power than it used to earlier.

While a 350W power supply was *de facto* a year ago, and a 400W sold for a premium, with the new hardware requiring more power, these PSES are being replaced by 450W, 500W and 600W beasts. The first question that springs up is, what wattage do I need? If you're building a regular PC with onboard graphics, a single hard drive and an optical drive, then a 400 W PS is more than enough to supply your demand, even at full load. On the other hand, if your PC has all the latest and best hardware such as SLI graphics cards and a top-end processor, make sure your system has at least a 500W power supply.

A higher wattage rating, of course, does not necessarily mean a better PS, so this shouldn't be used as a rule of thumb when buying one. What's more important is the efficiency of the PS. As of today, most high-end PSES available abroad typically have efficiencies in the 70 per cent bracket. Some new PSES have been able to breach the 80 per cent barrier. What does that mean? Well, if your power supply draws 100 watts of energy from the mains, it will deliver only 70

watts to the components inside; the remaining 30 per cent is wasted as heat. While the 70 per cent is for PSES available abroad, the PSES in the Indian market are not a patch on them in terms of efficiency. There are certain brands that we know are good for sure, and we shall mention these later.

There are quite a few things that have cropped up in the power supply category. To reduce wire clutter inside the cabinet, manufacturers have come up with detachable wires. The wires have connectors on both ends, where one end plugs into the PS and the other into the respective devices. Gamers can soup up their cabinets by putting up PSES with neon lights on them. Most importantly, the new PSES support ATX v2.0. All new motherboards require 24-pin power connectors and not the 20-pin ones used by older motherboards.

Coming down to market realities, Mercury, HIS, PERX, Frontech, and iBall sell cabinets that ship with Pses, unless you are smart enough to opt for something better. In our office of 200 people, we have used all these brands and have found nothing wrong with them: they work for three to four years without problems—unless one stresses them with loads of hardware. But from our test lab experience, we can definitely vouch for Antec for their quality of PSES and performance under load. Currently, this is the only international brand available in the Indian market, and is expensive. However, considering the fact that one doesn't upgrade a power supply every six months, spending some extra cash is money well spent.

VIP makes good power supplies, and we have a couple of them running our test benches 24x7. I'd recommend VIP to those who can't afford Antec but want a reliable power supply. Zebronic, an Indian company, also offers good power supplies, especially their Diamond series. Here, I'm listing some good brands and models, with prices in rupees. ■



Illustration Pradip Ingale


Power Supplies: Brands & Prices				
Brand	400W	500W	600W	720W
Frontech	Rs.600	800	1,200	NA
Zebronic	Rs.1,500	1,900	5,500	7,000
VIP	Rs.1,500	2,800	5,000	NA
Antec Models				Price (Rs.)
Antec Phantom 350				10,717
Antec Smart Power SP 350				2,854
Antec Smart Power SP 400				3,636
Antec True Control 550				8,037
Antec True Power TP 550				7,576

Want more of Agent 001? Turn over to read his answers to your buying questions

Music On The Move

Q I am planning to buy a new cell phone soon. I have my sights set on the new Nokia 3250 music phone. I need a recommendation: should I opt for this phone? Are there better music phones around? My budget is about what the Nokia 3250 retails for.


Vijay

 The keypad layout and interface of the 3250 is typical of Nokia—simple and intuitive. There isn't much difference between this phone and the older 3230 phone. You get a 512 MB Micro SD card to store your music, and a 3.2 mm stereo jack—good, because you can connect any headphone set. Another phone you should check out before you choose the Nokia 3250 is the Sony Ericsson W810i. Since both these are touted as music phones, and you plan to use your phone primarily as a music player, I suggest you get a good feel for both before buying. Go to a shop and spend some time checking out the keypad and the music buttons.

A Good Old CRT

Q I want to buy a good 19-inch CRT monitor. What brand and model should I opt for? Please give me two options!


Arindam

 There are hardly any choices in the CRT market: Samsung, LG, and Philips are the predominant brands. The choice is further limited in the 19-inch category. I'd recommend a Samsung, not because they are exceptional, but because they seem a little more serious about the CRT business. (Most traditional CRT manufacturers are moving to TFT panels, and so are focusing less on CRTs.) Samsung has a good CRT line. There are two Samsung models I would recommend—the SyncMaster 997DF and 957MB.

Cam Confusion

Q I am planning to buy a digital camera and my budget is Rs 18,000 to 20,000. I have no particular model in mind.


S V Subba Rao

 Your budget is good enough to get a really good digicam. I'm considering street prices and not the official prices—which are atrocious. Check out the Panasonic DMC-FZ7: this is a pseudo-SLR-styled digital camera, has 12x optical zoom, Leica lenses, and image stabilisation. The FZ7 will set you back by around Rs 20,000. The only problem with the FZ7 is its size, and if you're looking for a compact point-and-shoot camera, opt for Canon's A700 or Sony's W50 and W70 series. These will cost Rs 15,000 or so.

On A Tight Speaker Budget

Q I am an avid gamer and am looking for a speaker set. I have space constraints, so I've decided to settle for a 2.1 set. Can you suggest a good set that costs about Rs 2,500? Also, I listen to heavy metal or rock most of the time, so clarity is of utmost importance.


Akshay

 Your budget is too low for me to suggest a good 2.1 speaker set. The Zebronics SW-8000 will fit your budget, and it performs well enough for the price tag.

Have Money, Will Spend...

Q I want to buy a home theatre system along with a large screen TV. As far as large screens are concerned, I don't understand the difference between LCD and DLP: could you please elaborate on these? I have set aside Rs 50,000 for the audio part and Rs 3 to 4 lakhs for the video devices.

Samrat Mazumdar

 Wow, will you adopt me? Four lakhs is more than enough to build a fantastic home theatre system. There are two parts to a home theatre; Video and Audio. The proper combinations of both makes the theatre experience richer. As far as video goes, bigger screens naturally mean a better experience. There are two ways to bigger screens—first, via multimedia projectors, and second, by using large screen LCDs or plasma TVs.

You get two types or projectors based on the technology they use—LCD and DLP. Most multimedia projectors today are based on DLP technology, and an entry-level device will set you back Rs 2 to 3 lakhs. Frankly speaking, nothing compares to the level of experience a projector provides; however, your living room should be long enough for the projector to project a large-format image. You will also need a good projector screen. On the other hand, if you have space constraints, you should consider opting for a large screen LCD; plasma TVs are out of vogue.


If you want to buy a new large screen LCD, make sure it supports HDMI (High Definition Multimedia Interface). This is a new interface capable of transmitting uncompressed, high-definition video and audio content over a single cable, thus reducing cable clutter when connecting home theatre systems.

On the audio front, you will have to invest in a good "receiver," probably from brands such as Denon, NAD, and others, and a 5.1 speaker set from brands such as Wharfedale, PSB, and Sonodyne. Also, to play DVDs, you will require a good DVD player; brands available are Denon, Marantz, and some others. A good receiver will set you back by Rs 40,000; the 5.1 speaker set will cost you a lakh, and the DVD player another Rs 25,000. Whoops, I think I just overshot even your generous budget!

I Want A Nano!

Q I want to buy a Digital Audio player (DAP). I have a budget of around Rs 15,000; will I be able to buy an iPod Nano or Samsung YP-T1?

Mayank Rajawat

 For Rs 15,000, you can easily get your hands on an iPod Nano. I'm not sure about the YP-T1 though. If you want to look at the grey market, you can easily get a 30 GB iPod Video for the same price. If I were in your position, I would have chanced the grey market. ■

Ask Away!

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

Finding your life partner!

Its marriage time now—in less than a month two of my close friends found their respective better halves. These two marriages were arranged in radically different ways. Asha's (name changed) parents believed in the newspaper matrimony while Mahesh's (name changed again) family however moved with the times and decided to look at prospective brides online.

Kailas Shastry (kailas_shastry@thinkdigit.com)

Bridegrooms Wanted
Parents of slim 26 year old Gujarati girl 5'3" working in well known fashion house...
Brides Wanted
Gujarati Patel male single, software engineer, slim, well natured, well settled, family oriented...
Sifting through contacts and newspaper ads...

Bharat Matrimony.com
WORLD'S NO. 1 IN MARRIAGES
No. 1 Indian Matrimony
Looking online for a compatible partner....

1

After some struggle to trace the match maker, Asha and her parents had to patiently explain him their idea of an ideal groom. He promised to get back to them with prospective grooms 'as soon as possible'—which turned out to be 8 whole days!

After some initial coaxing, Mahesh registered himself on two matrimonial sites—www.shaadi.com and www.bharatmatrimony.com. Registration took about 15 minutes during which he specified his interests and gave a brief on his family background.

2

With Asha's insistence, after the fourth day, the family decided not to be dependent on only a single source and decided to place an ad in Sunday's matrimonial section in a leading newspaper. The number of words was a constraint, and they ended up editing most of their requirements.

He also browsed through existing profiles by using narrower search criteria. He found prospective brides matching his interest and his father's preference of family background in his city. It took a little encouragement from his parents to send a mail to three of the girls whose profile he saw.

3

The match maker turned up with 7 horoscopes but all of them were refused by Asha. The ad appeared on Sunday and was followed by eight calls. The ad was repeated on the following two Sundays and the family collected half a dozen mails from the newspaper office during the following weeks. Finally with Asha's participation the family narrowed down the choices to three.

A mail followed by a reply, then another mail, then the inevitable Yahoo! and MSN chat (A matrimony site even offered a chat service between members who are online). Though never a substitute for meeting a person eye to eye, Mahesh did gain some sort of the insight about the persons he was chatting with. It must have been the same for the prospective brides as well.

4

The parents and the couple-to-be spoke on the phone for what seemed like hours! Finally, a visit was arranged with the prospective groom. As the families spoke, Asha and her prince charming got talking as well and began sharing their experiences, likes and dislikes...you get the picture!

Our man finally zeroed in on one girl who seemed to reciprocate his intentions. IMs led to telephone calls which eventually led to the two families meeting up.

5

Some (no, a lot!) more talks and meetings followed and it was finally decided that the couple would now be 'committed'. One of the marriages was settled!

The comfort level was much better (as far as I could tell) as each of them knew what exactly the other was looking for owing to the detailed profiles online. It was one more match made!

Time taken to establish contact with groom: **30 days**



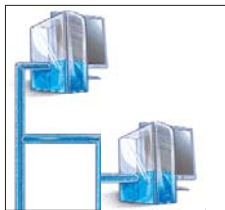
Time taken to establish contact with bride: **16 days**



**AND
THE
WINNER
IS...**

And the winner is... obviously the Tech Way! You can create your own detailed profile, view detailed profiles, and even chat online. Searching through members of your city, preferred educational background and career are as easy as specifying search criteria. This,

gives great freedom to the person(s) in choosing his / her partner besides being really easy to put up a profile. No visiting the newspaper office, no drafting and cutting down on words and no waiting for it to appear in print once a week. Mahesh certainly had it easier!



98 Divided We Conquer



100 One Device Army



110 Live Chat Or Dead?

Tech Career

#include me_too.please

Here's how you can edge your way into India's most wanted tech career

Nimish Chandiramani

If you've ever spent time in cities such as Bangalore, Hyderabad and Gurgaon, or, for that matter, any metropolitan city you'd probably appreciate how tough it is to turn a corner without bumping into an IT geek. And with their populations approaching obscene numbers, you won't be receiving respite anytime soon, especially if you join the brigade yourself!

The lure of the ever-growing Indian software industry is near-universal. Apart from being part of India's biggest industrial sector, you will be exposed to cutting-edge technology and will get paid a goodish bit more than your counterparts in other fields. However, you don't want to jump into it without knowing what it's all about, do you?

Getting In

Making your way into a software company has never been easier. With the industry growing at a

phenomenal pace, demand is high, and there just aren't enough IT professionals in this country. Some companies have even begun hiring students from non-IT backgrounds and training them for the role. Engineers and MCAs, though, still remain the cat's whiskers, and a good number of companies still hire only from that pool.

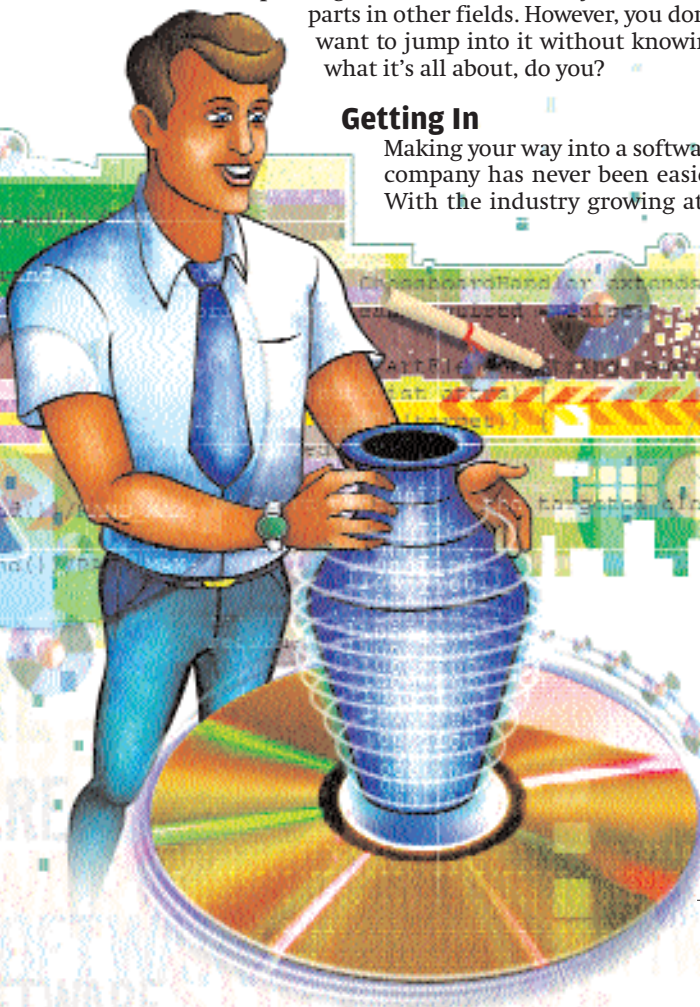
"Engineers, we find," says a senior HR executive from Tata Consultancy Services (TCS), "are better at conceptualising and reasoning, and usually do well in the long run. Of course, I wouldn't like to generalise." These sentiments are echoed by Rakesh Gupta, Director of Engineering at Impetus Technologies. "Engineering programmes help a student develop strong logical and analytical skills, and these, more than technical skills, make them desirable candidates."

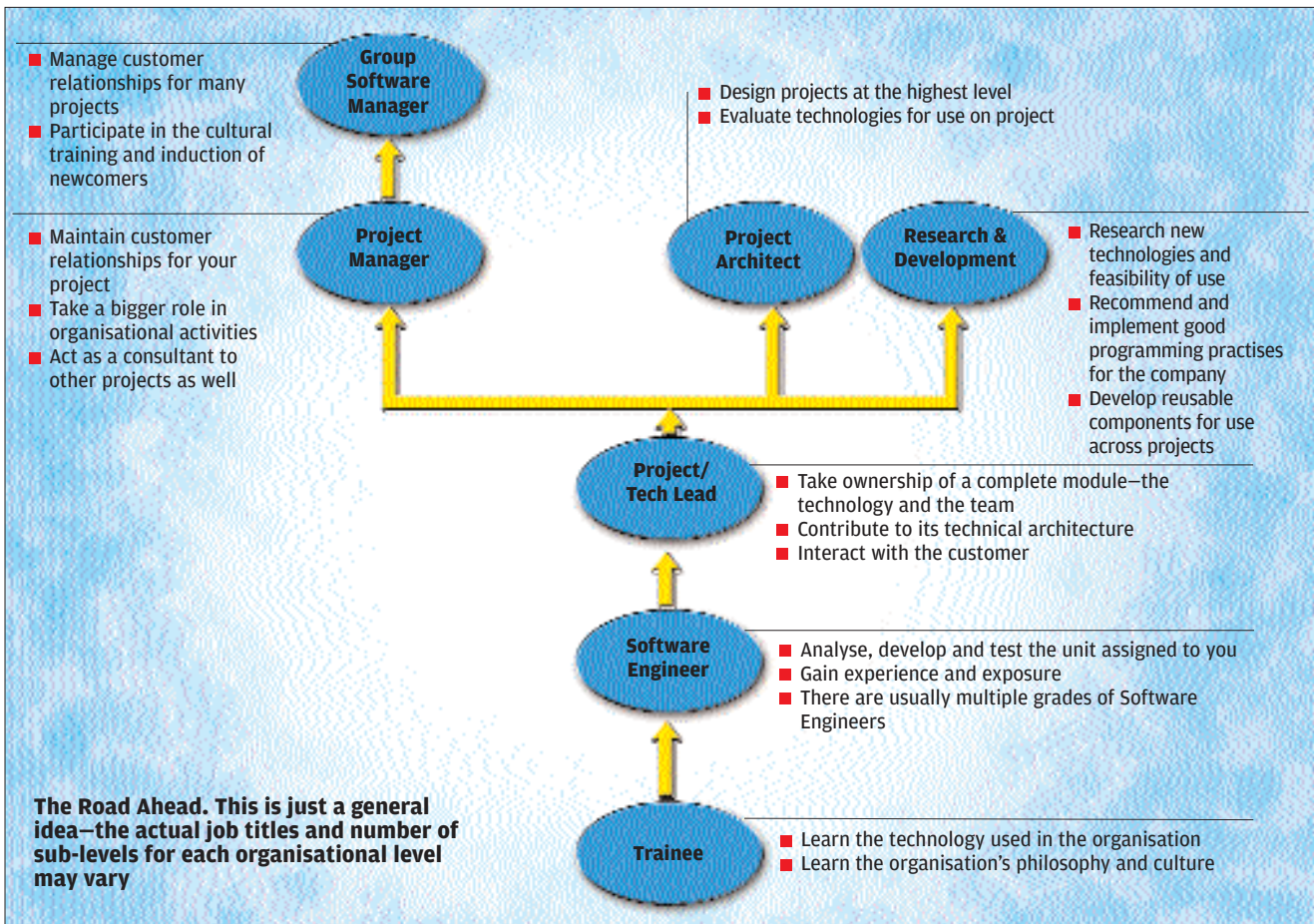
So what do they look for when hiring fresh graduates? For starters, you need to have a good academic record. While a number of companies don't specify a cut-off, an aggregate of at least 60 per cent will ensure that you don't walk away from your campus notice board cursing under your breath. In addition, you will have to take an aptitude test, the format of which varies from company to company. TCS, for example, has separate tests for aptitude and personality. You will also need some basic programming skills to do well in these tests.

Once you clear the aptitude tests, it's time for the interview. Says Bharti Kakroo, HR Manager at Impetus Technologies, "We conduct two separate rounds of interviews—one to judge the technical knowledge of the candidate, and another to judge his or her personality."

I'm In! Now What?

Once you've been selected by a company, your training begins. Training typically lasts three to four months, and will cover all the fundamentals you need—programming and database concepts, developing algorithms and so on—before you are trained on a specific platform such as Java or .NET. Non-computer engineers needn't worry—companies have standardised training programmes that take this into account, and by the end of your training, you're going to be just as well-placed technically as the rest of your batch.





Training also helps build communication skills and soft skills such as working in teams—all to help you better fit into the company.

Database fundamentals are usually taught using Oracle as a reference, but this doesn't mean you'd be working with Oracle once out of training. However, the front-end technology you'll be trained on, be it Java, .NET or anything else, is usually decided based on the company's requirements, with some thought given to your preference. A notable exception to this rule is Larsen & Toubro (L&T) IT, whose training covers *all* the technologies you might work on, letting you further build your skills once assigned to a project.

Small Is Beautiful?

Keen on joining a start-up company, but wondering whether it's the best for you? There will always be a bunch of mavericks that break away from the "safety" of a larger company to write software for a smaller one. Working for a small organisation will ensure you don't get lost in the crowd, a common concern now that bigger companies are hiring hundreds of people at the same time. The lesser manpower translates into more work and more responsibilities for you, which in turn will help you learn more. So, as the company grows, you grow too.

But there are things you need to think about first. Says Akshat Jain, Systems Engineer with NeoAccel Inc., "It's a job that requires a lot of passion. We find ourselves in 'all work and no play' situations most of the time, and you'd end up extremely frustrated if you don't love the job."

And who knows—if you've got stock options in the company and they get bought over by a big multinational, you could become a millionaire overnight!

The Long And Winding Road

For an idea of the path your career can take in the software industry, take a look at the mind-map above. As you can see, there are distinct tracks you can follow depending on your passion. Incurable geeks will most likely find happiness in R&D and architecting software; the half-geek-half-management types are best suited for project management.

From time to time, you will be encouraged to take various certification examinations. As Rakesh Gupta puts it, "On-the-job training is good, but it doesn't have a specific target. Certifications help individuals brush up on their technical skills, and define a base for their knowledge."

What's Next For The Industry?

While it may sound foolishly jingoistic, there is a remarkable amount of truth in the statement that the Indian software industry can only go up. Many companies from abroad have started setting up shop here, contributing to the already bloating number of jobs in the sector. And think about it—Indian companies mainly provide customised solutions to specific clients today. We've yet to get both feet into commercial product development, and when that time comes, it's going to be as exciting as an exploding goose! ■

nimish_chandiramani@thinkdigit.com



The best answer to your storage woes is to share the load

Divided We Conquer

Nimish Chandiramani

About as mystical and “ooh”-provoking as the Matrix itself is this crazy new concept called The Grid. Still being researched by universities and big corporations alike, Grid Computing will change the way the network works. Soon, we will be able to harness the processing power of every computer on the Grid to make complex processing the matter of a jiffy. This, however, is a scenario we’ll have to wait for—for now.

And then there’s the case for Grid Storage. The term is quite suggestive—grid storage is when you don’t have one dedicated file server for your LAN; rather, the task of storing data can be extended to nearly every computer on your network.

The Grid And You

So what use could you possibly derive from a storage grid in your office? Well, for one thing, you won’t need to invest in a powerful built-for-serving-files machine as a file server—you could actually make do with a few half-decent PCs that nobody is using any more.

More important, though, is the question of failure. When your central file server decides to pack up, you and your team will most likely spend the rest of the day twiddling your thumbs or playing table-tennis, generally not doing much to earn their worth—we know from experience! However, a storage grid is quite like having a RAID (Redundant Array of Independent Devices) setup over a LAN—if one unit goes poof, there are always the others to keep your data available.

Still not convinced? With a storage grid, you can squeeze the most out of old hardware even after it’s time to upgrade the rest of your PCs—just add it to the grid and go!

By now, you’re probably curious to know how exactly you can turn your office LAN into a storage grid, so here goes.

WebDAV

WebDAV stands for Web-based Distributed Authoring and Versioning. When Tim Berners-Lee conceptualised the Internet, one of his intentions was to make it a writable medium as well—basically, you should be able to use the Internet the way you would use your own hard disk. The WebDAV protocol is an extension of the HTTP protocol for data transfer over the Web. Nearly all operating systems come with inherent support for WebDAV, letting you use files on the Internet as if they were stored right on your PC.

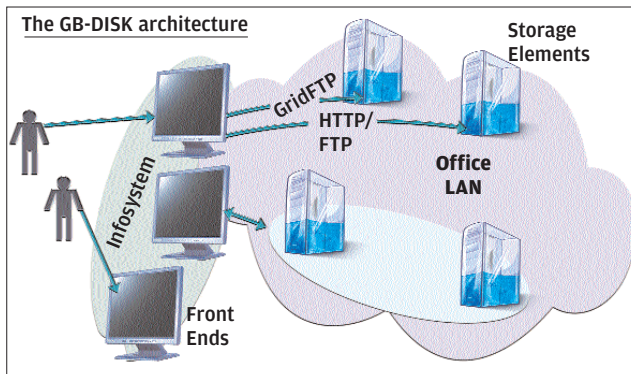
GridBlocks DISK

GridBlocks is an open source project by the Helsinki Institute of Physics. GridBlocks DISK (Distributed Inexpensive Storage with K-Availability) is one of the three applications they are working on—its purpose is quite obvious from the acronym. Unlike solutions such as SCSI or SATA RAIDs that would set you back a pretty penny, GridBlocks DISK (GB-DISK) will make full use of the resources you give it, with a near-zero investment.

GB-DISK ships as Java .jar files, and is thus completely platform-independent. So even if your grid is a mix of Windows and Linux servers, you should face no problem at all. If you wish to try out GB-DISK, you can find it on this month’s DVD.

How GB-DISK Works

The GB-DISK architecture consists of two main components—the Front End service (FE) and the Storage Element service (SE). Users will interact with the FE, which will break the file into “stripes” and spread them to SEs on the network.



It also saves the metadata—data about the files—to the Infosystem, where it is accessible to all GB-DISK services on the network.

Downloading files from the grid works in the opposite way. When a user requests a file using the FE, it uses the metadata to determine where it has stored the different fragments of the file, and begins to download them. Once all the fragments have arrived, the FE strings them together to form the original file.

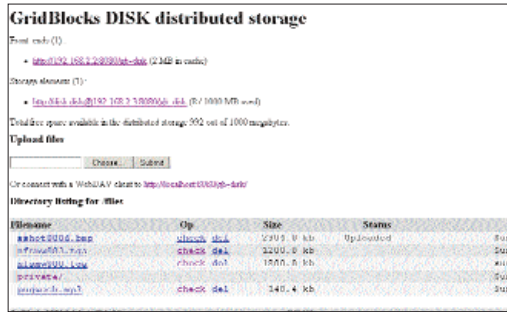
All this isn’t apparent to the user—all he or she will see is a plain old Web page or Web folder.

Firing It Up

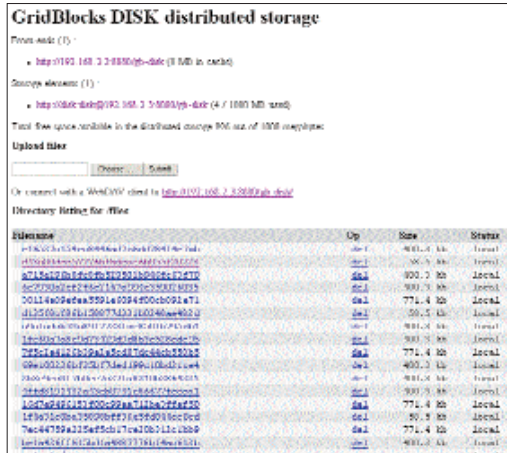
Before you start using GridBlocks, you will need the Java Runtime Environment. Once you’ve installed that, start the Windows command prompt (Start > Run > “cmd”) and navigate to the folder you extracted the GB-DISK files to. To start the Front End service, use this command:

```
java -jar gb-disk-fe-0.8.1.jar
```

Once you’ve started up a Front End, you need to complement it with at least one Storage Element. You can start the SE service on the same PC as well, making it take part in the actual storage.



The Front End, as seen through your web browser



What happens to your files in the Storage Elements

To start the SE, use this command:

```
java -jar gb-disk-se-0.8.1.jar
```

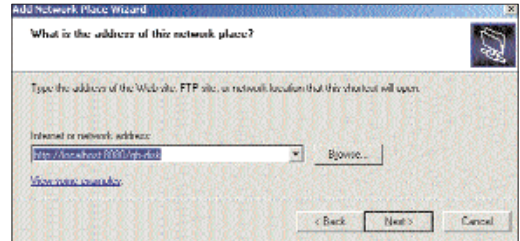
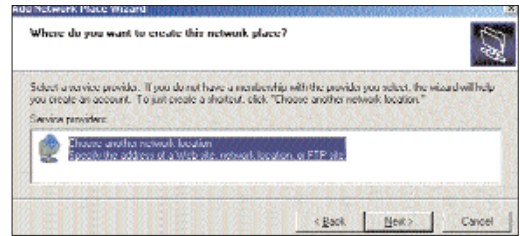
You will want to set up multiple Storage Elements—certainly more than Front Ends—this way, you can have some machines dedicated to the task of storage, rather than having to manage storage and the interface.

Once you're done setting up Front Ends and Storage Elements, you can start using the grid. You can either use a browser, or set up a Web folder. To use your browser, just navigate to [http://IP Address of Front End\]:8080/gb-disk](http://IP Address of Front End]:8080/gb-disk)

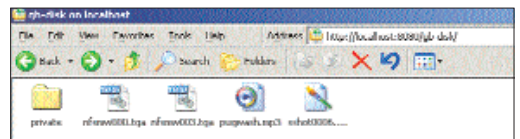
Using this interface, you can now choose the files you want to upload to the grid. To see the fate of your files, you can use the above address and replace the IP address of the Front End with the IP address of a Storage Element. What you will see is a bunch of incoherent file names that actually represent the fragments of the files you uploaded through the Front End.

If you would prefer not to use the browser and have it look more like the familiar Windows folders, you can set up a Web Folder—GridBlocks supports the WebDAV protocol (see box *WebDAV*) and will let you do this. Just open My Network Places and select Add Network Place. When asked where you would like this network place to be created, select "Choose another Network Location" and click Next. In the Internet address field that comes up, use the aforementioned address. You can now view the contents of the storage grid in a transparent folder-like environment.

Finally, if you're feeling particularly geeky, you can use the



Setting up the Web Folder



Ah, the comfy world of Explorer-like folders

command line to manage files on the grid. Using the command prompt, navigate to the folder with the GridBlocks .jar files and use the following command:

```
java -jar gb-disk-0.8.1.jar [put/get/delete/exists] [file name] [FE URL]
```

Adding more machines to the grid is as easy as can be—just launch the SE service. Launching the Storage Element service automatically sends out a message to all the other machines, effectively saying, "Hey, I'm here to share the load too!"

Nearly There

With all this capability, and completely free to boot, you would probably want to embrace GB-DISK with open arms right about now. Be warned, though—it is not without its limitations. Firstly, support for subdirectories is shaky, and you will most likely encounter failure messages if you try uploading folders.

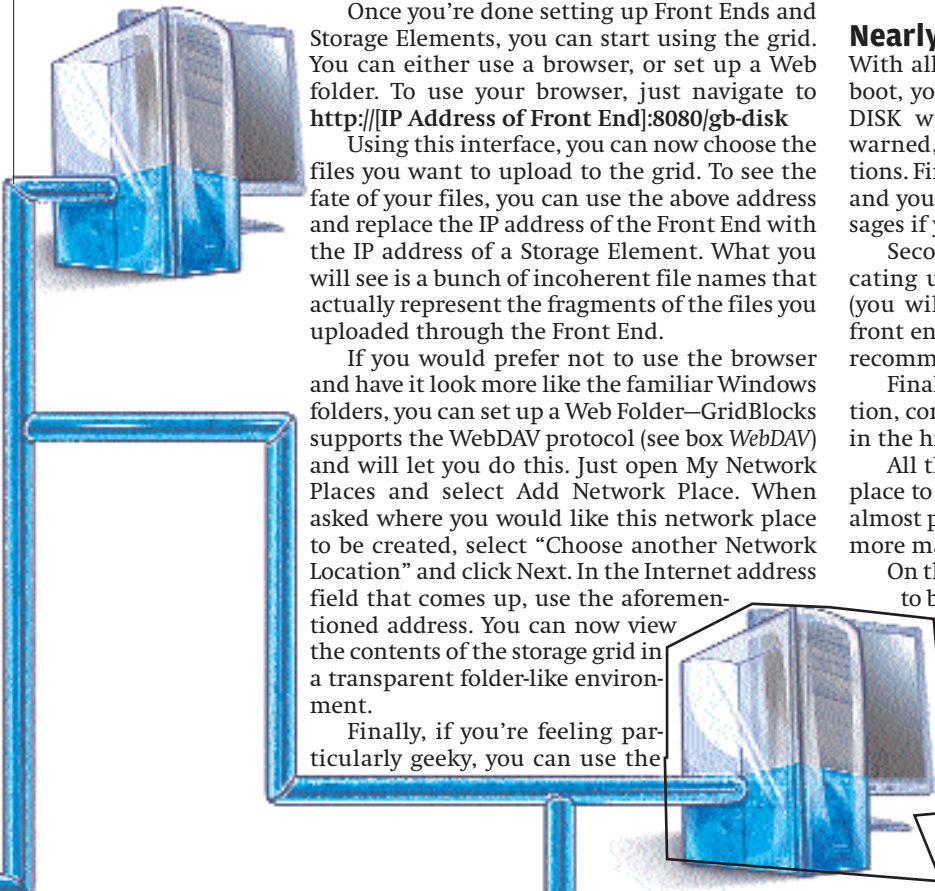
Secondly, while it does support authenticating users to have their own private folders (you will find a "private" folder through the front end), this feature is buggy at best and not recommended for use.

Finally, with a dearth of proper documentation, configuring GB-DISK can be quite the pain in the hindquarter area.

All this aside, if what you're looking for is a place to dump files where they will be available almost perpetually—even after failures of one or more machines—this is the solution for you.

On the bright side, the GridBlocks team seem to be working night and day to perfect their program. Scarcely had we finished bundling version 0.8 of the software on the DVD than they came up with version 0.9! You can track their progress at <http://gridblocks.sourceforge.net>

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One Device Army



A device that prints, faxes, and copies our documents? We're all for one! Join us as we go under the hood of 18 inkjet multi-functional devices

Jayesh Limaye and Kailas Shastry

One device, many functions, is the core philosophy driving innovation today. Consumers want more from a single device—and manufacturers are only too happy to oblige—at times even *creating* the need. Printers that can scan are preferred over vanilla printers. It makes more sense to have a copier on the device even if it cannot compete in quality or economy with standalone photocopiers. You now need not get your photos scanned at your “DTP Centre”—the scan quality of most of these MFDs is good enough to convert your old photographs into digital data.

The 18 inkjet Multi-Functional Devices (MFDs) we received from Brother, Canon, Epson, HP and Lexmark ranged from the bare-bones basics to those with photo-quality printers. Needless to say, the price disparity was huge, and it would not make sense to compare a Rs 4,000 MFD to one that costs Rs 12,000. For this test, therefore, we made a broad classification based on their photo-printing capability. All non-photo class MFDs were looked at as home solutions, while photo-quality MFDs were segregated, based on price, into Office and Professional categories.

Fourteen of the 18 MFDs fell under the photo-printing bracket, and those that cost below Rs 10,000 are primarily targeted at office users. The ones on the other side of the five-figure mark are for imaging enthusiasts and for heavy office printing, with bulk printing and networking capabilities.

FOR HOME USE (NON-PHOTO MFDs) Performance

Mostly used for black and white printouts, an occasional colour print that is not all-important, and the copy function used when in a tearing hurry—that sums up the functionality of this category. The Lexmark X3350, Epson CX3700, Brother MFC-3240C, and the HP Officejet 4355 All-in-One make up this bracket. Colour printing is certainly not the strong point here, save for the 4355. Even black ink printing is not up to the mark on the Lexmark and the Epson. This is especially telling with small point size text. The HP 4355 and the Brother 3240C offer the best quality amongst the four here.

Even though these devices are classified as non-photo printing MFDs, we still carried out a photo print test just to see whether they managed vivid colour prints. We were in for a pleasant surprise, with the 4355 and the 3240C giving us a rather good printout. In fact, the photo quality of the 3240C is better than its brother, the Brother MFC-115C, which is marked as a photo printer! The HP Officejet 4355 can give some photo printing MFDs a run for their money. The CX3700 managed to give an acceptable print, but the same can't be said about the X3350—it churned out a speckled image that had a “burnt” kind of effect.

Print quality, time taken to print, and ink consumption are the variables in the printing equation. Different printers/MFDs find different points of balance under different modes—Draft or Fast, Normal, and Best or Fine. The HP 4355 took a reasonable 15 seconds for the first print in Draft mode and 23 in Normal. The 3240C took the longest to print on the average, with a draft text coming at 23 seconds; a full A4 photo test print took over 16 minutes.

The colour copy quality was satisfactory with the Epson CX3700 and HP Officejet 4355, which took a leisurely 97 and 72 seconds respectively to copy an A4 document composed of text and graphics. The Lexmark X3350 and Brother MFC-3240C were quicker, taking just about half the time as the Epson, but the pace is of no avail as the quality leaves a lot to be desired. The black and white print copy was acceptable on all the MFDs, with the 3240C spitting out something that was a little smudged.

Build Quality And Ease Of Use

The CX3700 was missing a display, which is surprising, given its price of Rs 5,999—Rs 1,000 more than that of the Lexmark X3350. The X3350 and 3240C have a basic single-colour display, making life that much simpler for the user, especially during troubleshooting.

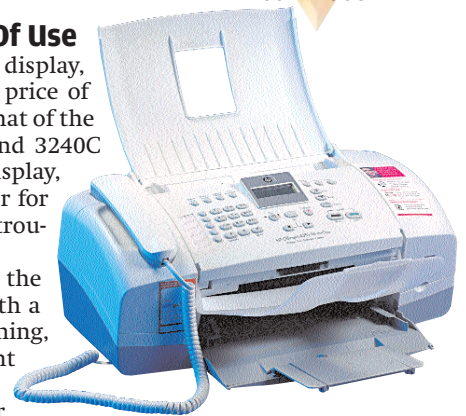
The lack of a display on the CX3700 is compensated for with a dedicated button for head cleaning, which doubles up to get the print head into an accessible position to replace the cartridges. Error indication is by way of two warning lights, one for a “General Error”—that is just as descriptive as the Epson gets—and the other for low/no ink. The paper feed and output trays fold in neatly, leaving no protruding parts while not being used.

The X3350 is the most inexpensive MFD in this category at Rs 4,999. Unfortunately, this shows in the fit and finish. There is no place for the paper feed tray to slot into while not in use, and as a result, it sits awkwardly on the cover. The buttons are noisy, too.

The HP 4355 has plastic trays jutting out everywhere. It is difficult to close the output tray once you have the face-plate installed. The Brother MFC-3240C and the Epson CX3700 had good build qualities.

The HP 4355 doubles up as a phone as well—and why not, considering it already uses the phone line to fax. Now this is an MFD that is truly multifunctional. Space has definitely been the priority in the design of the 4355—it is compact and has a flip that covers the buttons while leaving the display exposed. However, with all flaps and trays open, it

BEST BUY
digit
JULY 2006



HP Officejet 4355 All-in-One

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JULY 2006



Brother MFC-3240C

demands more space for itself. The build quality is reassuring, and our only crib is that its pure white body is an open invitation to stains.

A quirk with the Brother 3240C is that the USB cable plugs in *inside* the printer: you need to open the cover that exposes the cartridges and then plug the cable in, guiding it along a narrow recess. There simply is not enough room to comfortably accommodate the ferrite core that comes at the end of most cables. This holds good for all the Brother MFDs across all the categories.

Our Conclusion

Good print quality is essential, and HP's Officejet 4355 All-in-One and Brother's MFC-3240C scored well on that front. Between these two, the 4355 with its rich feature set and compact form rightfully takes the *Digit Best Buy Gold* award. Losing this position by a whisker is the Brother MFC-3240C, which wins the *Digit Best Buy Silver* award.

FOR OFFICE USE: PHOTO MFDs UP TO RS 10,000

Here you will find MFDs that boast of photo-printing capability and do not cost a bomb either. These are suitable for both the home and SoHo segments. Printing the occasional photo along with the usual black-and-whites at home,

and volume printing for the SoHo user—these units are suited to both scenarios.

Performance

The Brother DCP-115C, at a very affordable Rs 4,490, marks the entry point to this category. Its print quality looks acceptable from a distance, but once you bring it under even a low-powered magnifying glass, faint lines show up in the black text. At the Fast setting, these lines are easily apparent to the eye. You have to choose the Fine quality setting in order to get rid of them.

The DCP-115C takes 17 seconds for the first print—not great news in an office setting. In Normal mode, the time taken was 26 seconds, the highest in the category. A full A4 photo printout generated some bands in the print, which doesn't speak too well for uniformity. At a distance, though, the print can pass off as satisfactory.

The copier function is just about passable, with black as well as colours appearing washed out. The DCP-115C is cheap, but these are the compromises you need to make if you are on a tight budget.



HP Officejet 5610 All-in-One

How We Tested

The Test Bed

Our test bed for the Inkjet MFD tests comprised an Intel Pentium 4 3.6 GHz processor, an Intel 925XCV motherboard with 1 GB of Micron 533 MHz DDR2 RAM, an NVIDIA GeForce 7600 graphics card, and a 120 GB 7200 rpm ATA IV Seagate Barracuda hard disk. We used Windows XP with SP1 as the OS. The system was loaded with all the latest chipset and graphics drivers as well as the latest version of DirectX.

We used the following media:

Text/combi-document printouts: 100 g/sm paper from Berga (A4 size)

Photo printouts: 270 g/sm glossy photo paper from Novajet (A4 size)

We divided the MFDs into three categories. The non-photo printers comprised the Home category. The Photo MFDs were categorised based on price. Those below Rs 10,000 came under the Office category, and the rest under the Professional category. MFDs that did not fit in any category, or were priced too high, are given special mentions.

Features

Various features such as PictBridge, memory card readers, input/output tray capacity, and maximum print and scan resolution were noted. For the scanner part, the maximum scan resolution, bit depth, scanner type, ADF presence, etc. were noted and rated. For the copier aspect, the ability to work as a standalone device, the maximum number of pages that can be printed in multi-copy mode, reduction or enlarging a copy, and so on, were noted. Obviously, most of these features were standard on the higher-end MFDs.

The Printer Tests

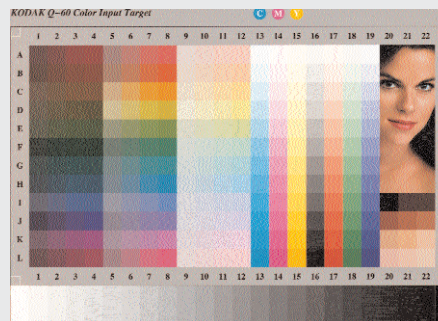
We used a text document to test the raw print speeds of the printer part of the MFDs. To test the ability of the MFDs to handle the various aspects of a regular document, we created a combi-document with black text interspersed with graphs and images. The quality settings used were Draft and Normal for text, Normal and Best for combi-document (refer to the combi document snapshot in the printer test), and Best for photo. We clocked the time taken in each case, and analysed the print quality. The final test for the printers was the photo test, where we used 270 g/sm Novajet Glossy Photo Paper to print an A4 image. We used the highest available quality settings here.

The Scanner Tests

We tested the scanners for speed using an average of five previews of an A4 size image. This was done with the scanner fresh out of the box, in order to incorporate the warm-up time. We imported the same A4 size image at 150 dpi and 600 dpi in Adobe Photoshop, and scanned a full text document in B&W mode at 200 dpi. The scanner then underwent a test to determine its colour differentiating abilities using a Kodak IT8 card with different shades of colour—each a little different from the preceding one. Next, we tested using the resolution chart. This is a chart with five boxes consisting of parallel lines very close to each other, each with the lines packed more densely than in the preceding box. We scanned the resolution chart at 300 dpi. This test checked whether the scanner could scan and differentiate between the parallel lines in the chart, and gave us a measure of the

scanner's capability to capture minute details.

Finally, we did an OCR test to check the scanner's ability to differentiate light and dark areas: a print article was scanned into the trial version of ABBYY Fine Reader Pro 8.0 PE, and scanned for wrongly-interpreted letters. We then counted the number of misinterpreted characters.



The Kodak IT8 sheet used to test scanning quality

The Copier Tests

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 Awards

The scores from Features, Performance, and Price were given category-relevant importance. An overall score out of 100 was calculated. The product that scores the highest here was adjudged the winner of the Digit Best Buy Gold award for the category. The second-highest scorer gets the Digit Best Buy Silver award for the category.

The Canon PIXMA MP150 is next at Rs 6,495. The black print quality is almost as good as that of the much higher-priced HP Officejet 5610 All-in-One. Even under the magnifying glass, we could not find any gaps in the print, which is a good thing—but it does show an occasional smudge. However, this is no cause for worry: the print looks good even under close inspection with the naked eye. Just 10 seconds for the first print is going to keep a lot of office people happy. For colour printing, however, the Normal mode robs images of their vivid colours. You can make out speckles that can even be counted individually at some points! This is obviously an effort to save on ink. If you need a better print, you'll have to set the quality to Best—the images suddenly get their life back, which will leave you pleasantly surprised.



Brother DCP-115 C

The Brother MFC-215C and the Lexmark P6250 are dearer than the Canon MP150 by about Rs 1,000 (at Rs 7,990 and Rs 7,999 respectively). Black printing is better with the P6250, but it is still not in the league of the HP 5610 or even the lower-priced Canon MP150. The Lexmark is one of the fastest printers with just 11 seconds taken at the Normal setting. The 215C, like its little brother the 115C, took a lazy 26 seconds. But when it came to colour printing, the Lexmark produced very visible bands, which did not go away even at the Best quality setting. The Brother 215C produced better colours, but with some specks visible in the Normal mode—an ink-saving compromise again. The Best mode got the prints to look much better, though the specks could not be entirely eliminated. Black and white copy quality

Canon PIXMA MP530

This is a heavy-duty MFD targeted at those who want it all. The print, scan, fax are copy functions are all supported.

The MP530 is capable of printing photos and has special features for this purpose: the PictBridge feature lets you connect a compliant digital camera or camcorder directly to the MFD. You can preview a photo in the 6.3 cm colour LCD screen before printing it. There are five separate ink cartridges to print photos in colours as close to those of the original image as possible. In addition to being capable of printing on a variety of media, there is also an attachment that allows you to print to CDs and DVDs.

A 33.6 kbps modem allows you to send faxes at 200 x 200 dpi. It can receive and store up to 150 pages of fax while you are away. Up to 40 numbers can be stored and recalled as required. The Activity Report feature logs all faxes sent and received from the MFD—a feature useful for system administrators.

The scanner is a 48-bit flatbed and does its job at 1200 x 2400 dpi, which is good enough for scanning fine details. The ADF can hold 30 pages. The copier can be set to make up to 99 copies of a document, either in colour or black.

Build quality is very good. The MP530 weighs 12.8 kg—a bit on the higher side for an inkjet MFD. Printing was quite fast—it printed the first page in just seven seconds, and it printed the test photo in an average time of 180 seconds. The scanner performance, however, wasn't spectacular, with average scan times, but the quality of the prints was quite good.

The Canon PIXMA MP530 is priced at Rs 20,995.

- + Fast Printing Speed
 - Slow Scanner Speed
- Price: Rs. 20,995



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Scoreboard

Home MFDs

BRAND	Brother	Epson	HP Officejet	Lexmark	Brother	Brother
MODEL	MFC-3240C	CX3700	4355 All-in-One	X3350	DCP-115C	MFC-215C
Features (Out of 40)	27.35	14.97	28.91	19.63	20.70	24.70
Printing						
Printing Technology	Piezoelectric	Piezoelectric	Thermal Inkjet	Thermal Inkjet	Piezoelectric	Piezoelectric
Input Paper Tray Capacity	50	100	100	100	100	100
Cartridges/Toner Included	✓	✓	✓	✓	✓	✓
Number of Cartridges	4	4	2	2	4	4
Scanning						
Maximum Optical Resolution (dpi)	600 x 1200	600 x 1200	1200 x 1200	2400 x 600	600 x 2400	600 x 2400
Bit Depth	36	48	48	48	48	48
Scanner Type	Sheet-fed	Flatbed	Sheet-fed	Flatbed	Flatbed	Flatbed
Scan Area	NA	A4	NA	A4	A4 / Letter	A4 / Letter
Scan to E-mail	✓	✗	✓	✗	✓	✓
Automatic Document Feeder	✓	✗	✓	✗	✗	✗
Copying						
Option for B&W or Colour	✓	✓	✓	✓	✓	✓
Enlarge/Reduce	25 - 400%	Fit to Page Only	25 - 400%	25 - 400%	25 - 400%	25 - 400%
Multiple Copying In Standalone Mode	99	1	200	99	99	99
Fax						
Dialpad Provided	✓	✗	✓	✗	✗	✓
Miscellaneous Features						
Weight (kg)	5.5	5.8	3.91	4.5	5.5	5.5
Dimensions (W x D x H) (mm)	388 x 525 x 279	430 x 345 x 170	426 x 451 x 330	442 x 320 x 173	373 x 345 x 135	373 x 345 x 135
Cable(s) Provided	Power Cable	Power and Data Cable	Power & Data Cable	Power & Data Cable	Power Cable	Power Cable
Display Interface Type	Mono LCD	None	Mono LCD	Mono LCD	Mono LCD	Mono LCD
Menu Ease of Use (So5)	2	0	2.5	2.5	2.5	2.5
Build Quality						
Ruggedness of Flaps (So5)	2.5	2.5	2	2.5	3	3
Overall Ruggedness (So5)	3.75	3.75	3	3.5	3.5	3.5
Moveable Parts in Cartridge Bay (So5)	3.25	3.5	3	3	3.25	3.25
Extra Features	None	None	Handset	PictBridge	Multi-card Reader	Multi-card Reader
Performance (Out of 40 (Home) or 45 (Office))	22.60	21.05	22.17	23.76	24.87	24.53
Printing						
Text: Draft/Normal (seconds)	24 / 61	19 / 24	15 / 23	8 / 11	17 / 26	26 / 62
Combi-Document: Normal/Colour (seconds)	50 / 128	93 / 250	68 / 158	38 / 67	54 / 140	55 / 141
Photo: (seconds)	644	643	444	293	240	441
Image Quality - Combi Document (Normal)						
Text Print	3.5	3	3.75	2.75	2.5	3.25
Circles in Concentric Pattern	3.25	2.5	3.25	2.75	3.25	3.25
Yellow Text on Black Background	3.25	2.5	3	3	3.5	3.25
Quality of Reduced Photo	2.75	2.5	3.25	2.25	2.75	2.5
Highlights on Red Berries	2.75	2.75	3.5	2.75	3	3
Details on Fruit	2.75	2.75	3	2.75	2.75	3
Image Quality - Photo (So5)						
Natural Colour of Skin	3.25	3.5	3.5	2.25	3.25	3.25
Good Contrast in Dark Areas of Plant	3.5	3.25	3.5	3	3	3.25
Clear Specular Effect on Bracelet	3.5	3	3.25	2.75	3.25	3.5
Overall Image not Overly Bright or Dark	3	3	3.5	2.75	3.25	3.25
Point Size Document (Normal Mode) (So5)	3.5	3	3.75	3	3	3.5
Scanning						
Black Scan at 200 dpi (seconds)	8	10	13	18	18	19
Colour Scan at 600 dpi (seconds)	127	120	129	138	184	173
No. of boxes in Visible in IT8 card (out of 22)	18	22	18	20	20	19
Copying						
Black Copy Quality (So5)/Speed (seconds)	3.25 / 23	3 / 37	3 / 37	2.75 / 31	2.5 / 30	2.75 / 24
Colour Copy Quality (So5)/Speed (seconds)	2.5 / 45	3.5 / 97	3 / 72	2.25 / 45	2.75 / 43	2.5 / 42
Price Index (Out of 20 (Home) or 15 (Office))	11.44	13.34	12.31	16.00	13.36	7.51
Price (Rs)	6,990	5,999	6,499	4,999	4,490	7,990
Final Score (Out of 100)	61.39	49.36	63.39	59.39	58.93	56.73



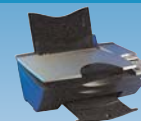
+ Fast scan speeds
- Expensive; only sheet-fed scanner



+ None in particular
- No display interface



+ Fax with handset; compact
- Only sheet-fed scanner



+ Good print speed; PictBridge
- No fax



+ Value for money
- Sub-par scan quality



+ Fax feature
- Sub-par scan quality

Office MFDs

Canon	Epson	HP Officejet	Lexmark
PIXMA MP150	CX4700	5610 All-in-One	P6250
16.58	16.22	28.33	22.74
Thermal Inkjet	Piezoelectric	Thermal Inkjet	Thermal Inkjet
150	100	100	100
✓	✓	✓	✓
4	4	2	2
1200 x 2400	1200 x 2400	1200 x 2400	1200 x 2400
48	48	48	48
Flatbed	Flatbed	Flatbed AND Sheet-fed	Flatbed
A4	A4	A4	A4
✗	✗	✓	✓
✗	✗	✓	✗
✓	✓	✓	✓
Fit to Page Only	Fit to Page Only	25 - 400%	25 - 400%
9	9	100	99
✗	✗	✓	✗
5.4	6.8	5.9	4.8
443 x 381 x 181	430 x 354 x 181	435 x 418 x 235	434 x 333 x 178
Power Cable	Power and Data Cable	Power and Data Cable	Power and Data Cable
Mono LCD	Mono LCD	Mono LCD	Colour LCD
1.5	1.5	2.5	4
2.5	2.5	2	3.25
3	3.75	3.5	3.5
3	3.5	3.25	3.5
PictBridge	Multi-card Reader, PictBridge	None	Multi-card Reader, PictBridge
29.34	26.17	24.70	26.97
8 / 10	8 / 22	16 / 21	9 / 11
29 / 90	25 / 90	61 / 145	38 / 97
223	395	376	287
3.75	2.75	4	3.25
3.5	2.5	3.25	3
3.25	3	3.5	3.25
2.5	2.75	3	2.5
2.5	2.75	3.25	3
2.75	2.75	3	3
3	3.5	3	3
3.5	3.25	3.25	3.5
3.5	3.25	3.25	3.25
3	3.5	3	3.5
3.75	2.75	4	3.5
20	16	16	28
75	154	116	158
22	22	18	21
3.5 / 25	3.5 / 38	3 / 37	3 / 25
3.25 / 57	3.5 / 53	2.5 / 73	2.5 / 39
9.24	6.67	6.00	7.50
6,495	8,999	9,999	7,999
55.16	49.06	59.03	57.21



+ Excellent print quality
- No zoom or memory card support



+ None in particular
- No zoom or memory card support



+ Good performance; ADF
- No memory card support



+ Colour LCD; fast printing
- No Fax

HP Officejet 6318 All-in-One

The HP Officejet 6318 All-in-One is targeted at small offices that need good performance at a price that is not too high.

The printer unit is a thermal inkjet with a print resolution of 1200 x 1200 dpi. It has a specified duty cycle of 3,000 pages per month, which is quite adequate for a small office. The input tray can hold up to 100 sheets of plain paper, whereas the ADF can hold up to 35. You can directly print a photo via the PictBridge interface with a compliant camera. A variety of memory cards are supported such as CompactFlash, Memory Stick (MS), MS Pro, MS Duo, Secure Digital, MMC and xD-Picture Card. The maximum card size that you can use here is 1 GB.

The scanner unit consists of a sheet-fed as well as a flatbed scanner, with an optical scan resolution of 2400 x 4800 dpi—which is great for any purpose including OCR and photo scanning. 48-bit scanning ensures that all the colours of scanned photos are captured perfectly.



The printer and scanner combine to form the copier unit. You can make up to 100 copies of an original document and can also digitally zoom from 25 to 400 per cent. If the original document is smaller than the A4 size, which is the size of the scanner glass, there's an option to copy the document in such a way that it occupies maximum space in the A4 size copy.

You can send and receive faxes at speeds up to 33.6 kbps (this figure can be lower depending on your telephone/fax line). A 120-page fax memory ensures that you receive faxes even when you are away from the unit. It can also be used as an automatic fax/answering machine, and 110 speed dial numbers can be stored in memory so that you can easily dial the required number at the touch of a button.

There is also a facility to block junk faxes (faxes from spammers). In order to be able to use this facility, you need to subscribe to the caller ID service.

As far as performance goes, this MFD was quite the average. It printed the text document in 15 seconds, and the photo was printed in 168 seconds. Only an excellent print quality saved the day for this MFD.

The build quality was quite rugged. The MFD is network-capable, which is an added bonus for small offices. The only gripe is that the trays seemed flimsy. Another issue was that there were only two cartridges in this printer: considering that it costs Rs 12,999, we expected more cartridges, which would have made it more suited to printing photos.

+ Excellent Print Quality
- Average Print Speed
Price: Rs. 12,999

Canon PIXMA MP830

The Canon PIXMA MP830 supports print, scan, fax and copy functions. Like the MP530, this one is capable of printing photos. Its five-cartridge printing aims at enabling printing photos and images with life-like colours at a resolution of 9600 x 2100 dpi. In addition to PictBridge, the MP830 has an inbuilt card reader that supports a variety of formats: CompactFlash, Micro Drive, SD, MMC, MS, MS Pro, MS Duo, MS Pro Duo and XD. A photo can be previewed on the 6.3 cm colour LCD screen that swivels to suit your viewing angle. The CD/DVD printing feature lets you label the CDs and DVDs that you burn.

The 33.6 Kbps modem can receive and store up to 250 pages of fax while you are not near the unit. The fax operates without the necessity to connect to a PC. You can store up to 100 fax numbers in the memory and eight one-touch-dial numbers. The automatic document feeder (ADF) can automatically scan both sides of the page without the need for intervention. Broadcast, delayed, and scheduled faxes are the other features available.

The scanner unit of the MFD is a 48-bit CCD, and can scan at 2400 x 4800 dpi. The ADF can hold 35 sheets of paper. The copier unit can scan up to 99 copies of a document, and can also print the copy with a zoom of 25 to 400 per cent.

As expected, the MP830 printed at blistering speeds. The first black and white text document printed in five seconds flat! Similarly, the photo printed in just a little over two minutes. Scanning was also very fast, and the full colour photo was scanned in a mere 29 seconds. The overall scan quality was good, and the print quality was amazing even in Draft mode. Sadly, the Canon PIXMA MP830 is priced very high: Rs 26,999.



- + Excellent Speed and Quality, Duplex ADF
 - None
- Price: Rs. 26,999

is acceptable when seen from a distance, and just about passable when viewed closely. Colour copying was bad on both the P6250 and the 215C.

Next up was the Epson CX4700 at Rs 8,999. It took 22 seconds in Text mode, there were no visible smudges or gaps in print, but the print looked dull, as if not enough ink had been deposited on the paper. Copying took 38 seconds for black and white and 53 seconds for colour. The photo printout could have been brighter and more vivid.

The most expensive MFD in this category, the HP Officejet 5610 All-in-One, is just a rupee short of the 10,000 mark. Through priced similarly, there is some difference in the print quality of the CX4700 and the 5610, with the 5610 being the better of the two. In fact, it can boast of some of the best print qualities in this segment. In the copy test, however, the 5610 was disappointing, given its good print quality and also its positioning in this price segment.

Build Quality And Ease Of Use

The Canon MP150 and the Epson CX4700 do not have a zoom function except for the "Fit to Page" feature. This is disappointing: all the other MFDs provide for a 25 to 400 per cent reduction or enlargement. The number of copies that can be



Brother MFC-5840CN

taken in a single go is only nine, while the others offer 99. (The HP 5610 offers 100.) Only the HP 5610 offers sheet feed for scanning, while all the others make do with a flatbed. The Epson CX4700 has only a minimal display, which shows the number of copies set.

A fax function with a dialpad is provided by the HP 5610 and the Brother 215C. This is complemented by a dedicated fax button apart from the copy and scan buttons. The other MFDs have buttons for scanning and copying (separately for black and colour).

The HP 5610 had flimsy paper trays that just about hold on to the unit: a gentle push and off comes the tray. The CX4700's scanner cover can be simply lifted off its body—we wonder why it could not be fastened somewhere. As far as the overall build quality goes, the Epson CX4700 is compact and also more rugged.

Our Conclusion

If we were to consider performance alone, the Canon MP150 would have been the clear winner due to its superb print quality and speed. But life isn't that simple for MFDs—there is the price factor and feature set to consider. The HP 5610 looks good on the spec sheets and performs just as well. With good printing quality, the *Digit Best Buy Gold* goes to the HP 5610. At Rs 4,490, the Brother 115C is second on the charts offering value for money, thus earning the *Digit Best Buy Silver* award.

Coming close to second place are the Lexmark P6250 and the Brother MFC-215C. Both are priced the same, and the P6250 scores in performance while the 215C makes up in the features. If there were to be a Bronze award, these two would tie for it.

FOR PROFESSIONAL USE: PHOTO MFDs ABOVE RS 10,000

The target market for this segment is businesses looking for bulk printing and network printing. These MFDs are heavy-duty machines with extensive features. Naturally, price is of the least importance in this category, and it goes without saying that the most expensive inkjet MFDs land up in this category.

Performance

Opening this segment is the Brother MFC-410CN and the Canon PIXMA MP450 at Rs 10,490 and Rs 10,995 respectively. The 410CN, like other Brother MFDs, shows gaps in monochrome print, which appear as lines under the Normal setting. The colour print loses out on detailing, which can only be regained at the Best quality setting. The MP450 takes a blistering eight seconds for a Draft print and nine for a Normal, with the numbers for the 410CN being 20 and 29 seconds.

Copying is certainly not a feature the Brother 410CN can brag about—at least in black and white mode; the quality is so bad, it looks like someone took a bad photograph of your document and then took a bad printout of the photo! In colour mode, the text quality is a lot better, but the graphics seem to contain less of every colour—essentially the "washed out" effect. The MP450's copy appears almost as good

Contact Sheet

Inkjet MFD

Brand	Company	Phone	E-Mail	Website
Brother	Godrej & Boyce Mfg Co Ltd	022-55961609	nad@godrej.com	www.brother.com
Canon	Canon India Pvt Ltd	0124-516 0000	info@canon.co.in	www.canon.co.in
Epson	Epson India Pvt Ltd	080-30515000	rajeshp@eid.epson.co.in	www.epson.co.in
HP	Hewlett-Packard India Sales Pvt Ltd	0124-2566111	ashwini-k.aggarwal@hp.com	www.hp.co.in
Lexmark	Lexmark International India Pvt Ltd	022-26057744	sandeepk@lexmark.com	www.lexmark.co.in

Scoreboard Professional MFDs					
BRAND	Brother	Brother	Brother	Canon	Canon
MODEL	MFC-410CN	MFC-620CN	MFC-5840CN	PIXMA MP450	PIXMA MP500
Features (Out of 40)	26.94	30.80	30.68	22.24	22.03
Printing					
Printing Technology	Piezoelectric	Piezoelectric	Piezoelectric	Thermal Inkjet	Thermal Inkjet
Input Paper Tray capacity	100	100	350	100	150
Cartridges/Toner Included	✓	✓	✓	✓	✓
Number of Cartridges	4	4	4	4	5
Scanning					
Maximum Optical Resolution (dpi)	600 x 2400	600 x 2400	1200 x 2400	1200 x 2400	1200 x 2400
Bit Depth	36	36	48	48	48
Scanner Type	Flatbed	Flatbed AND Sheet-fed	Flatbed AND Sheet-fed	Flatbed	Flatbed
Scan Area	A4	A4	A4	A4	A4
Scan to E-mail	✓	✓	✓	✓	✓
Automatic Document Feeder	✗	✓	✓	✗	✗
Copying					
Option for B/W or Colour	✓	✓	✓	✓	✓
Enlarge/Reduce	25 - 400%	25 - 400%	25 - 400%	25 - 400%	25 - 400%
Multiple Copying in Standalone Mode	99	99	99	99	99
Fax					
Dialpad Provided	✓	✓	✓	✗	✗
Miscellaneous Features					
Weight (kg)	5.5	6	10	6.2	9.6
Dimensions (W x D x H) (mm)	373 x 345 x 135	373 x 345 x 165	432 x 340 x 460	417 x 443 x 185	448 x 426 x 205
Display Interface Type	Mono LCD	Mono LCD	Mono LCD	Colour LCD	Colour LCD
Menu Ease of Use (So5)	2.5	2.5	2.5	4	4
Ethernet Port	✓	✓	✓	✗	✗
Build Quality					
Ruggedness of Flaps (So5)	3	2.75	2.75	3	3
Overall Ruggedness (So5)	3.5	3.5	3.5	3.75	3.75
Moveable Parts in Cartridge Bay (So5)	3.25	3.5	3.5	3.5	3.5
Extra Features	Multi-card Reader	Multi-card Reader	Multi-card Reader	Multi-card Reader, PictBridge	Multi-card Reader, PictBridge
Performance (Out of 50)	27.67	25.57	27.09	31.84	30.05
Printing					
Text: Draft/Normal (seconds)	20 / 29	42 / 62	22 / 33	8 / 9	12 / 15
Combi-Document: Normal/Colour (seconds)	54 / 163	53 / 139	52 / 135	29 / 100	23 / 27
Photo: (seconds)	405	406	376	105	168
Image Quality - Combi-Document (So5)					
Text Print	3.5	3.5	3.5	3.75	4
Circles in Concentric Pattern	3.25	3.5	3.25	3	3
Yellow Text on Black Background	2.75	3	3	3.25	3.25
Quality of Reduced Photo	2.75	3.25	3.25	2.5	2.75
Highlights on Red Berries	3	2.75	2.75	2.5	3
Image Quality - Photo (So5)					
Natural Colour of Skin	3.25	3.25	3	3	3.25
Good Contrast in Dark Areas of Plant	3.25	3	3	3.25	3.5
Overall Image not Overly Bright or Dark	3	3.25	3	3	3.25
Point Size Document (Normal Mode) (So5)	3.5	3.5	3.5	3.75	4
Scanning					
Black Scan at 200 dpi (seconds)	15	17	15	20	17
Colour Scan at 600 dpi (seconds)	167	121	129	76	74
No. of Boxes Visible in IT8 Card (Out of 22)	20	21	21	22	22
Copying					
Black Copy Quality (So5)/Speed (seconds)	2.75 / 22	2.75 / 33	3.5 / 26	3.5 / 25	3 / 120
Colour Copy Quality (So5)/Speed (seconds)	3 / 39	2.5 / 41	3 / 45	3.25 / 75	3 / 123
Price Index (Out of 10)	9.06	6.83	6.51	8.64	5.59
Price (Rs)	10,490	13,900	14,590	10,995	16,995
Final Score (Out of 100)	63.67	63.21	64.28	62.72	57.67



+ Inexpensive;
network-ready
- Poor black copy quality



+ Network-ready
- Slow text print speed



+ High input tray capacity;
network-ready
- Bulky



+ Good print quality
- No ADF



+ Excellent print quality and speed
- No ADF;
expensive

as the original, leaving no room for complaint. It took 25 seconds for a black copy and 75 seconds for colour.

Next in line were the MFC-620CN and 5840CN from Brother at Rs 13,900 and Rs 14,590 respectively. These were the only two in this category with a sheet-feed mechanism for scanning—apart from the standard flatbed. Being up in this price range, one would have expected better quality from them, but they didn't seem any better than the 410CN with black printouts. The 5840CN is a pleasant change, with colour prints that are good for the most part. It also boasts of the highest paper capacity: 350 sheets. Ink saving takes its toll, bringing up visible specks in Normal mode. The copy mode, while not bad, could have been better on MFDs in this segment, especially with the Brother 5840CN, which boasts of a higher scanning resolution and bit depth than its... brothers.

At the top of the line sits the Canon MP500, which has, by far, the best print quality on offer here. It uses five colours rather than the standard four. In Normal text print, there were no smudges or gaps to be picked up even by a lens. Under Normal colour printing, speckles are visible. This can be gotten rid of by using the Best quality setting. Colour copying takes 123 seconds, and what you get is the best copy quality in this segment. Our only gripe is that there's



Brother MFC-410CN

no network port, something missing on the MP450 as well.

Build Quality And Usability

The three Brother MFDs all have a fax dialpad and networking capability, which makes them better suited for an office environment. The positive feeling doesn't persist when we looked at their build quality: the plastic flaps were not as good as what one would expect of MFDs in such a high price range. The scanner cover does little to inspire confidence in the longevity of the device; ditto for the paper feed tray. Only the 5840CN exudes a rugged feel. The Canon MP450 and MP500 seem better built than the Brothers, but we would have liked them better if they had not been shaky. All the devices here have dedicated scan and copy buttons, making for ease of use. The Brother MFDs offer a fax button to ably support their fax keypads. Display, however, is a simple monochrome on the Brothers, while the Canons offer colour LCDs.

Our Conclusion

The Brothers have all the glory in the segment, with the MFC-5480CN taking the *Digit Best Buy Gold* despite being the second-costliest device here. Its good feature set and performance make up for the price. The MFC-410CN takes second place—the *Digit Best Buy Silver* crown, with a lower price tag, a good feature set, and value for money. ■

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Techtree.com March, 2006

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Live Chat Or Dead?

How effective is the “Chat with us NOW!” button on your site?

Live chat is more convenient than addressing queries over the phone

Kumbh Design is an Ahmedabad-based design firm specialising in Web site design, logos, corporate identities and brochures. Their clients, based in India and abroad, are a mixed set, ranging from technology companies to fan sites.

About seven months ago, we decided to incorporate a Live Chat system powered by Boldchat into our site. It was to give us direct contact with visitors and prospective customers.



Ramesh Patel
Founder, Kumbh Design Inc.

“We’d definitely recommend implementing a Live Chat service to other companies”

Being an online business that caters to clients from all over the world, we needed a simple, convenient system to interact with people. Live chat is certainly more convenient for us than addressing queries over the phone, and more so for our customers. Ever since we implemented the service, we’ve seen a definite increase in the number of people approaching us for queries. We’ve even converted a number of these into clients.

We are a small team right now, and monitoring the chat in rotation works for us. However, as we get bigger and the queries increase, having someone dedicated to addressing queries will be a good idea.

Would we recommend implementing a Live Chat service to other companies in the same line of business? Definitely! It makes us approachable to customers who aren’t local and/or don’t want to be inconvenienced by having to call us up, especially for minor matters. We are more than satisfied with the effect it has had on the way we do business, and we have no intention of changing that.

We found that the idea was wrong for us from the get-go

Innovision India, established in 1997, is a Web design and graphics firm based in Gurgaon. Their services also include search engine optimisation and Web maintenance. In addition to their Indian clientele, they cater to clients from the USA, Canada, Germany and Holland, among others.

We decided to implement a Live Chat service on our Web site to deal with queries from prospective customers and generate business by converting them to clients.



Vishal Verma
Founder/President,
Innovision India

“It certainly wasn’t profitable to have someone to constantly monitor the chat”

We found that the idea was wrong for us from the get-go. Our business doesn’t depend on location, and a large number of people who contact us for our services are from abroad. Due to time zone differences, their working hours rarely matched with ours, and they couldn’t take advantage of the Live Chat system—they prefer to contact us via e-mail or telephone. When they do need to chat with us, clients prefer other, more feature-rich chat tools such as Yahoo! and MSN Messenger.

Another concern for us was the waste of manpower. It certainly wasn’t profitable to have someone to constantly monitor the chat—on slow days, the operators would end up waiting hours for nothing.

Any business looking to implement such a system needs to take a look at their target audience and their timings. Since the chat can be online only during working hours, it is important to know whether prospective clients will visit your site during that time. Only then does it justify the time investment required.

*As told to Nimish Chandiramani
nimish_chandiramani@thinkdigit.com*



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Digital Leisure

Technology Beyond Work

Touched By Tech

Sight And Sound

The visually impaired rely on hearing and touch to learn, work, and play. Enhancing their abilities is a software called JAWS

Jyotsna Rege

Artificial limbs. Cochlear implants. Pacemakers. People with disabilities have benefited tremendously from these marvels of technology. But entire eye transplants apart, a cure for blindness still seems far away. So how is society to help the blind lead lives that could be considered "normal"?

Most learning happens via association. As children, we see a fruit red in colour and round as an orb, and we hear "apple." The next time we see the object, the mind connects the image to the word—now etched in our memory—and we know it is an apple. Association, however, is not limited to the sense of sight: the visually handicapped use touch and hearing to discern, make associations, and learn.

Using Their Ears

One way of empowering the blind is to teach them to use computers: this not only enriches their lives, it also helps them gain employment. A piece of software is bringing light to thousands of lives: called JAWS, it is a screen reader, and is used by most training centres for the

visually handicapped all over the country.

Upon first thought, it sounds incredible that the blind can be taught to use computers. The concept is simple, however: have the software read out everything on the screen. JAWS does just that: everything that is typed—word for word, letter for letter—it reads it all out and helps the user understand what they've just done and what actions are available.

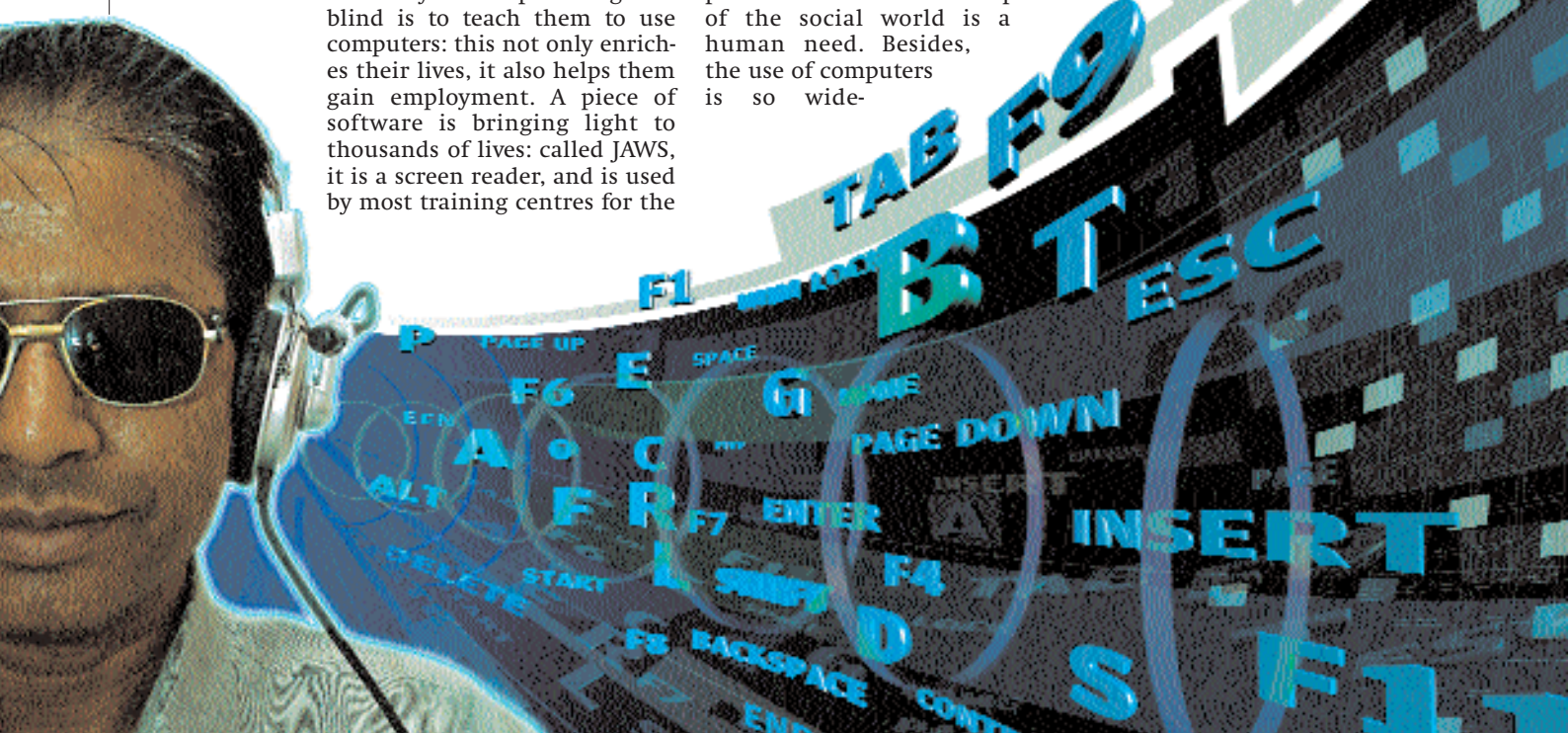
Effective Empowerment

The MN Banaji Institute at Mumbai for the Blind is one of the institutes that teach basic courses in computers. The visually handicapped here have long been trained in various industries such as weaving and stitching so they can work to support themselves financially, but it is only recently that an institute for the blind has been opened to instruct them in the use of computers. "To learn and be a part of the social world is a human need. Besides, the use of computers is so wide-

spread that to not know how to use them is a big impediment to gaining employment. The institute therefore hopes that the ability to use computers with the help of JAWS will make a difference in gaining employment for the students," says Vikas Joseph, head of the Institute.

The courses are of a six-month duration. Tanya Balsara, who herself learnt computing with the help of JAWS, teaches the courses and conducts the examinations as well. The students are anywhere between 18 and 45 years old. Balsara says, "It's a pleasure to teach them. Because of my own disability, I personally understand their confusion in not comprehending a particular detail, so I can take added care to explain features and tasks."

Imaging: Pradip Ingale
Photograph: Sandeep Patil



Balsara was a student of the Indian Association for the Visually Handicapped (IAVH), located at the University Club House near Churchgate station in Mumbai. The IAVH has been involved in imparting basic computer knowledge to the visually handicapped since 2000. The students, like those at the MN Banaji Institute, are taught MS Office and the use of the Internet in a six-month course. The IAVH allows the students to access the Internet; the computers there have JAWS installed. Material in Braille is also provided.



'Each one teach one' is the motto for some

The Keyboard Is Key

A screen reader cannot accomplish everything the blind need, of course, but it helps. To begin with, the visually handicapped cannot use the mouse. All commands and shortcuts are therefore taught on the keyboard. They are also familiarised with the various parts of a typical computer. For example, after being explained what a motherboard and a CPU do, they actually hold the components, feel the grids and bumps on the surface of the devices, and get a feel for what they are. Once they have the tactile idea in place, association with the concept becomes easy.

After getting up to speed with the use of the keyboard, typing to and reading from the computer screen is easy, because, as we've mentioned, JAWS reads aloud the letters, words and sentences on the screen.

Joseph explains, "We see BPOs as a possible place of

employment for the visually handicapped, since they can interact with customers and use JAWS to read information off the computers." He, however, adds: "The software is expensive—Rs 44,000—and this is a possible deterrent to potential employers. Besides, there are certain other things to be taken care of. For example, the earphones have to be placed in the right slot; it is difficult for the blind to find a slot. We need to be sensitive to such matters even as we prepare them to be independent."

A Boon For The Blind

Ram Agarwal, president of the IAVH, says, "JAWS is designed to complement MS Word. But it is user-friendly when it comes to Skype as well. Now, even Yahoo! has configured itself such that the screen reader can read off the pages of the site. The software is American, and when JAWS was introduced, users had to cope with the differences in pronunciation. But today, the software is designed with an Indian voice called "Sangeeta," which has greatly eased the problem.

It is important for the blind to gain mastery over the keyboard, and there is another software the IAVH uses—the Talking Typing Teacher—which helps students acquaint themselves thoroughly with keyboard functions.

Besides helping the visually handicapped gain employment, which is the primary aim, there are other benefits associated with the use of JAWS. For example, Braille books can be cumbersome; with JAWS, the blind can easily read e-books and e-journals.

In The Real-World

While the two institutes mentioned above do not charge their students, there are a few organisations that do. The GTL Foundation (GTLF) is one such charitable trust that set up an advanced computer training centre for the visually impaired at Wadala, Mumbai, in mid-2005. The institute teaches not just basic computer operation with the help of JAWS, but also has a "train-the-trainer" program for someone who is already teaching others how to operate computers, besides

courses that teach programming, medical transcription and call centre training—all of which are gateways to employment. The courses have a nominal fee associated, and potential students have certain criteria to meet. For example, to enrol for the advanced computer operations course, a candidate has to have a grasp of the basic operations on a computer, and also needs to clear an eligibility test.

Wouldn't setting preliminary requirements deter the visually impaired from pursuing such courses? "We do not just plan to train them, but impart thorough working knowledge so that they are prepared for work in the software industry," says Charudatta Jadhav, project manager for software solutions at GTL. Jadhav also oversees the work at the Centre. "We plan to prepare individuals so that they can compete with other candidates for positions. The idea of having requirements is to prepare the visually handicapped for the seriousness of the situation."

A Helping Hand

Frank Fernandes, head for CSR (Corporate Social Responsibility) at GTL, talks about their plans to develop a screen reader software very much like JAWS. If there will be a difference, it is in the price. Fernandes says, "JAWS is expensive, which is something that anyone who is visually impaired or who hires a visually impaired person does not miss. They all are put to inconvenience and strained financially. Hence, we're planning to create software that can be obtained for just about Rs 5,000." The GTLF plans to use this software for purely philanthropic reasons, and hence will not be marketing it.

Besides training, the CSR activities of GTL include helping the blind play computer chess: the company has developed a software called Talk 64, which can read chess software.

With evolving technology and continuous efforts being channelled towards developing software for the handicapped, the disabled can be aided towards their goals—goals at the same level as those lucky enough to be able to perceive the world through five senses. ■

readersletters@jasubhai.com

From The Shadows Into The Light

Spellforce 2: Shadow Wars provides great divergence from both beloved genres (RTS and RPG). Yet it's this combination that's thrillingly and intriguingly addictive!

Dark clouds threaten as the Shadows team up with the dark elves, and advance steadily towards the Kingdoms of Light. It's up to you—a Shaikan warrior—to save the world.

Gameplay

Spellforce 2 blends the RTS and RPG genres extremely well—you'll control your avatar char-

acter in RPG style, and his entire army in RTS fashion. Character evolution is deep, but not as much as a dedicated RPG, with regular fighter/archer and mage classes. The skill tree is highly hierarchical. There's a huge variety in equipment available, with a virtually unlimited inventory system.

Missions are very diverse, at times typically RTS-esque, other times very RPG-like—such as when exploring the countryside with just your party. The maps are very non-linear, encouraging you to explore, return to

complete quests and explore some more, very RPG-ish!

The epic single player storyline adds a good deal to the gameplay, while the actual game experience is engrossing enough to be a winner all by itself.

Multiplayer hasn't been ignored either, with the full campaign available for play co-op style for up to 3 players, multiplayer battles are also possible against human opponents.

Sights And Sounds

The world of Eo comes to life beautifully with the spectacular Spellforce 2 engine. The graphics rock! Character animation is top class, (even NPC characters and units), movements are very lifelike, while the environments are simply breathtaking.

Battles are very well animated, with just the right touch of blood, and the spell and special feat effects look awesome! The game has a nice soundtrack with some voice acting is good, the sounds during battle are particularly notable, with the clangs of blade on shield, and the whoosh of a fire spell incinerating all those who oppose you.

This Spell Forces You To Play!

An epic storyline, Gameplay that involves you with a near perfect blend of genres, all this with swanky graphics and engaging gameplay make Spellforce 2 Shadow Wars a must play regardless of whether you're a fan of either genres or not.

michael_browne@thinkdigit.com

Rating: 9/10
Publisher: JoWood Games
Developer: Aspyr / Phenic
Genre: RTS/RPG
System Requirements:
Pentium 4 1.6 GHz, 512 MB RAM, 128 MB
Direct X 9.0 compliant video card

Spellforce 2

Shadow Wars



WARRIOR TEN HAMMERS

The Woes Of Urban Warfare

If you're sick of all the World War II games but are still fascinated by being in a war-zone, *Full Spectrum Warrior: Ten Hammers (FSW: TH)*, the sequel to *Full Spectrum Warrior*, is probably for you. Set in the fictitious country Zekistan, *FSW: TH* tells the story of UN peacekeeping troops fighting for control of the only pass through the *Tien-Hamir* (the Ten Hammers)—the unforgiving mountain range that cuts through the country. After overthrowing its dictator, the forces must now fight the disgruntled citizens of the land to maintain peace in the region (hmm...sound familiar?).

You will be controlling up to four teams of four soldiers each—the Team Leader, a Rifleman, an Automatic-Rifleman and a Grenadier. The intention is quite *Commando*-ish, with strong emphasis on tactics rather than all-out shooting. In fact, it's all tactical—you'll never directly be shooting at

anyone! Instead, you'll be giving soldiers a rough "fire zone" within which they will eliminate the enemies. An addition over its predecessor is the ability to "Precision Fire" from behind your team member's shoulder—a decidedly fun feature, and quite deadly for your foes. The trade-off is that it makes your soldier more vulnerable to enemy fire, and when your men can be downed by just two or three shots, this is one feature you need to use with caution.

Visually, *FSW: TH* looks good, but there's really nothing special here that we didn't expect already. Every now and then you'll see seams in the 3D models—something that didn't go down too well with us.

With its team-strategy-meets-third-person-shooter approach, *FSW: TH* could have been a really great game, if it weren't let down by its clunky interface. Getting used to the controls is no mean task, and even then, moving your troops long distances, RTS-style,

is quite a pain. You will be commanding a maximum of four teams, and thankfully you don't need to keep switching teams to call them to a location—if you have one team selected, you can command the rest to your location in no time. However, there's no guarantee they won't be shot before they get there. The nature of the controls hampers any quick reactions you may think of having—so even if an enemy saunters into your line of fire, you'll still be fumbling while he leisurely decides on where to take cover. The lack of control over your soldiers' firing causes mounting frustration and boredom, more so when you can't have them track a moving enemy.

Try this if you're bored of the same old war-based FPS or strategy games and want to try something new, but casual gamers are bound to tire of this quite swiftly.

nimish_chandiramani@thinkdigit.com

Rating: 6/10

Minimum System Requirements:
1.5 GHz processor, 256 MB RAM,
DirectX 9.0b compatible
GeForce 3 (or better) Graphics
Card

Developer: Pandemic

Publisher: THQ

Distributor: E-Xpress

Interactive

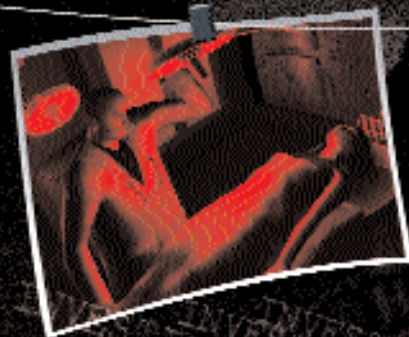
Contact: 022 - 2885 0245

Price: Rs. 699



CSI:

CRIME SCENE INVESTIGATION



The Game's Afoot,

Based on the insanely popular CSI TV series (the original one, based in Las Vegas), CSI: 3 Dimensions of Murder has you as the new CSI (Crime Scene Investigator) on the team, solving some of the most difficult crimes in Las Vegas with some forensic science, detective work, common sense and a little help from your friends.

The game has you solving five different cases, our favourite one being the one with the murder of a big game company boss at the game's fictitious version of E3 (the Electronic Entertainment Expo) — heated opinions on the morality of violence in games, even broaching the subject of 'Why can't we all just play happy-fuzzy games?'

In each case, you need to build an 'Evidence Trinity' — a tool used by real-life CSIs — to form a triangular link between the victim, the crime scene and the suspect. Accompanying you on your sojourns will be one of the original CSI team, asking the questions that you may or may not think of, but are crucial to the progression of the plot — like revealing the shady past of a suspect.

The point-and-click interface of this game — after dozens of recent shooter, strategy and adventure releases — is oddly refreshing. There is undoubted appeal in using your brain more than your hands, and use your brain you must. You will be going through the standard CSI procedure: examining and searching the crime scene, analyzing evidence in the lab, and finally scoring warrants from the Brass to question, search or arrest suspects. While getting your criminal doesn't require you to be Sherlock Holmes, you can't sail through cases without paying close attention and exercising those gray cells a bit. When we played it with dulled senses in the dying hours of the day, missions took an average of an hour and a half, so don't expect to be stuck to this one for long.

For such a recent release, CSI: 3DoM looks appalling. The 3D counterparts of the real actors should have looked much better. However, when you consider its light system requirements, you see the sense in it all — this game was made to be enjoyed by anyone with a half-decent PC — hardcore gamer or not. Its saving grace is the voice acting, which is brilliant for the suspects you question, though a little bland for the original CSI cast. Overall, this isn't a title you should crave, but if you're looking for a break from the other genres, pluck this one off the shelves.

nimish_chandiramani@thinkdigit.com

Rating: 8/10; Developer: Telltale Games; Publisher: Ubisoft
Distributor: E-Xpress Interactive; Contact: (022) 2885 0245; Price: Rs 699

Minimum System Requirements:
1 GHz Processor, 64 MB DirectX 8.1 Compatible Graphics Card, 256 MB RAM

Digit's Believe It Or Not!

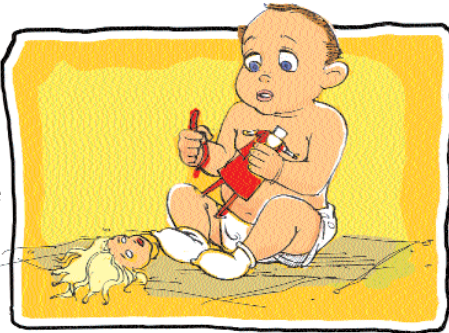
Innovation is alive and kicking...

Sure there's a lot of crazy people out there, but just how crazy? Take a look at these inventions, products and random stuff they've come up with, and you'll know just how much...

Barbie Gets A Head Of Herself

In the summer of 2005, Ska King Cody of the b3ta forums mortally assaulted and gutted his Barbie doll (yes, he had one). He then declared to no one in particular: "Gentlemen, we can rebuild her. We have the technology," and promptly stuffed a USB drive into her head-bereft body. *You can brush my hair; behead me everywhere, imagination—life is your creation...* Batteries not needed.

www.b3ta.com/board/4577623



Bad Carma

Because people are liable to start thinking for when their television sets are switched off, someone decided to cover a Mercedes SL with diamonds. Keep the TV on!

www.leftlanenews.com/2006/05/15/diamond-covered-mercedes-sl-sure-to-turn-heads/



Finding Nemo

In some morbid way, this invention is sure to balance the karma of flushing your pet goldfish down the bowls—the Fish 'n' Flush is a fish aquarium embedded into the flush tank of your toilet. Pesky guests are sure to freak out and flee screaming; children might be tempted to go investigate further. PETA is advised that the fish are safe from being sucked down into the sewer system as they reside in a separate compartment that surrounds the actual toilet tank. We would like an option that will showcase desert scorpions within the flush tank; or puppies apparently drowning.

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



Water Time You Got?

The first implement that Earth's pioneer time travellers brought back from the future was this clock, seemingly powered by two parts hydrogen and one part oxygen. Gasp. A wiser man than us once said, "Any sufficiently advanced technology is indistinguishable from magic," a phenomenon this clock aptly displays: fill the liquid reservoirs located at its back with water, and an internal converter (a flux capacitor?) strips the liquid of its electrons and powers this devil's own machine. Like Black Voodoo Magic. Also works with beer!

www.thinkgeek.com/homeoffice/lights/757e/



No Time For This Shirt

Altogether Andrews got tired of spilling hot beverages on self, every time someone asked him the time. With fire in his soul and a song in his heart, he set out to build this incredible machine—an invention to serve one's needs, if there ever was



one. This "Digital Clock T-Shirt" utilises an electro-luminescent panel in front to display the current time. The four AAA batteries that power the unit are cleverly hidden within a companion compartment and are rumoured to last between 12 and 36 hours depending on the flashing mode selected.

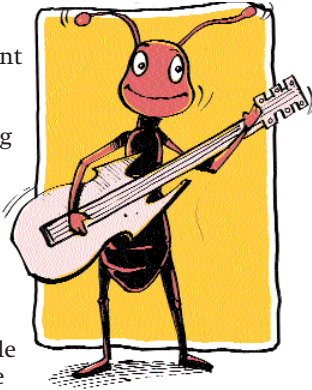
www.latestbuy.com.au/digital_clock_tshirt.html

Illustrations Pradip Ingale and Pravin Warhokar

Quantum Rock

Dustin Carr, grad student in physics, and Harold Craighead, professor of applied and engineering physics, got together to create one of the world's smallest mechanical devices—a six-string guitar. The nano-guitar is about 10 micrometers long, or about the size of a single human cell. Each of the six strings measures 50 nanometres—as wide as 100 atoms placed together. When plucked by an atomic force microscope, the strings would resonate at inaudible frequencies. The device was constructed using electron-beam lithography which consists of scanning a beam of electrons across a surface covered with a thin film, called a resist. The electrons produce a chemical change in this resist, which allows the surface to be patterned. But who will play it?

www.news.cornell.edu/Chronicle/97/8.14.97/nanoguitar.html



Jenny Phone Home

Jenny L Chowdhury, a B.S. in Electrical Engineering and a member of the IEEE, has created what we consider the present-day version of the pocket-less pants: The Cell Atlantic CellBooth. It's a wearable phone booth you can carry on your back. The concept goes as follows: when you receive a call, you unzip and literally wear the booth to create an illusion of private space. Why, you ask? We'll let Jenny explain: "We talk on cell phones everywhere we go, disregarding issues of privacy (and also those of courtesy). People often don't care if others hear their end of the conversation... What would happen if we were forced to stand still while we spoke on the phone? As I grappled with these issues of privacy, personal space and nostalgia for a 'simpler time,' the idea for portable phone booth was born... What emerged was a wearable/portable phone booth and subsequently a piece of performance art that calls the attention of New Yorkers to the changes in human behaviour due to the ubiquitous use of cell phones." Preach it sister!

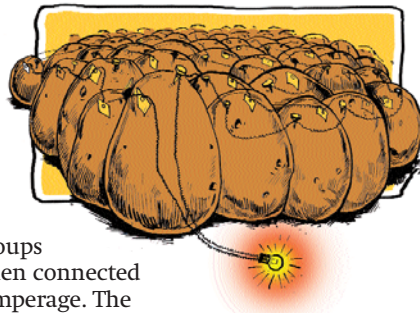
<http://jennylc.com/cellbooth/>



A Salt And Battery

Amos Latteier, called the "Best Fake Professor in Portland," and a self-confessed lover of pigeons, woke up one day to build a battery out of 500 pounds of potatoes. Each potato generates about 0.5 volts and 0.2 milliamperes, he explains. Amos connected groups of potatoes in series to increase voltage, and then connected these groups together in parallel to increase amperage. The entire 500-pound battery generated around 5 volts and 4 milliamperes. He then hauled the battery onto a truck and drove it around town, powering a sound system off it. "Don't eat potatoes after using them for a battery," Amos advises.

<http://latteier.com/potato/>



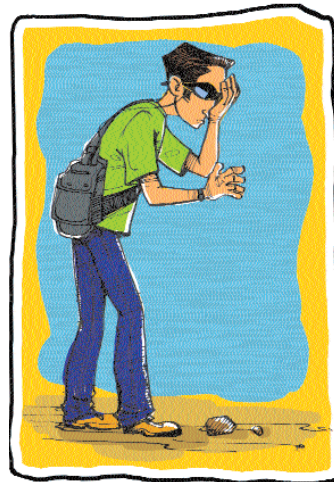
"Do These Make Me Look Stupid, Number One?"

In our efforts to look as stupid-cool as Geordi La Forge of *Star Trek: The Next Generation*, we have often resigned ourselves to wearing a hair-band across our eyes—if only we'd learned of this wondrous machine earlier, oh, the shame it would have spared!

This implement wraps around your eyes, and if you survive the heckling crowds, it allows you to watch DVDs as you walk (or run, if the crowd is particularly nasty).

The movie is delivered through a tiny 320 x 480 LCD monitor embedded in the right eyepiece. The glasses also feature an inbuilt pair of ear-bud headphones. The video display is placed on the upper right of the glasses, giving you the ability to view the immediate surroundings while watching a DVD. Not recommended for one-eyed pirates!

www.livedigitally.com/?p=663



Cubicle Missile Crisis

Mortals! The USB slot's true purpose on our planet has been revealed—and a bloody purpose it is too! The USB Missile Launcher, straight from the desk of George Bush lets you bomb your neighbouring colleague if he refuses to pass the pen. With the aid of the mouse, the launcher pans 180 degrees and tilts up to 45 degrees; a click and you will launch a harmless foam projectile... Complete with sound effects.

www.latestbuy.com.au/usb_missile_launcher.html



By Ahmed Shaikh

MacIntelTosh Gets A New Meaning

A start-up called Parallels has introduced software that lets Macs run Windows and Mac OS X *simultaneously*. This is rather unlike Apple's Boot Camp software, which lets users boot their Intel-based Mac hardware in either Windows or Mac mode



There's TV At Home

A US company called Blue Coat is selling a service to businesses who are afraid employees will keep downloading football World Cup matches. Customers with Blue Coat SG appliances can "prevent the network impact of employees viewing FIFA World Cup Soccer."



Escape

WE KNOW WHO'LL WIN...

Brazil Vs Italy

Here's news you can use. Really. You can, with an 83 per cent chance of winning, bet that Brazil will beat Italy to win the World Cup. Of course, there's a disclaimer: if you lose, don't come complaining to *us*—approach Imran Fanaswala and Yashar Fasihnia of the American University at Sharjah. Fanaswala, by the way, is Indian.

What Fanaswala and Fasihnia have done is build an AI program that can predict the outcome of the FIFA World Cup. The program is called FIFI—standing for FIFA Intelligence. FIFI was developed by the two computer science students under the guidance of Prof Joachim Diederich, their project overseer. Apparently, this program was developed as a student project. They got an irrevocable A for their

efforts, whether or not their predictions come true.

The basis of the prediction is a statistical model: the two students went back 20 years and collected such information as past team performance, past scores, and so on.

The predictions are pretty detailed: one semi-final will feature the Netherlands and Italy, and the other will see England and Brazil. England will get there by beating old rivals Argentina. Germany will lose to The Netherlands in the quarter-finals.

There have been statistical tests, too, though we don't know what that involved; but according to the tests, the FIFI program has an accuracy of 83 per cent.

It seems to have been a rushed project: according to Fasihnia, if they had more time and manpower, "we

would have liked to research things like pitch condition, temperature, age of players, experience and many other variables. Then we could have been even more accurate."

FIFI, Fanaswala and Fasihnia have certainly made the news, partly because everyone is so eager to know who will win. If the predictions come true, the duo will almost certainly be in the news for quite a while. They will be called upon to predict all sorts of things, including the outcome of the forthcoming cricket world cup, whether or not George W Bush will get a third chance to ruin the environment, and the weather. They will be heroes. But it seems too good to be true: if AI really could predict such things, we'd have seen a lot more AI projects based on statistical analysis to predict a lot of

Whatever Happened To...

The Tablet PC

When Microsoft advertised Windows XP Tablet PC edition in 2002, we all thought that Tablets were the cat's meow. Pen-driven input had just started to become popular, so the idea of a full-powered PC that you could operate with a pen just had to work.

And to a respectable extent, it did—Tablet PCs have found remarkable popularity in healthcare and education, but analysts doom them to be stuck in such niches for a goodish bit now.

One of the main reasons behind this is the fact that Tablet PCs command a heftier price than their keyboarded counterparts. Then there's the possibility of mechanical failure, because touchscreen technology isn't as reliable as we'd all want it to be. Naturally, people wanted some security—something they've found in "convertibles" like Acer's TravelMate series, which plays the double role of a laptop and tablet PC. So even if the pen goes poof, there's the good old keyboard to fall back on.

Nobody's conceded defeat yet, so don't expect the tablet to fade away. Windows Vista will come with tablet support integrated, say Microsoft; perhaps that will help this wonderful idea get back on its feet.

Win! My Desktop

Avinasha S took it this month with his desktop living room! Here's how he did it: StarDock Object Desktop—DesktopX, plus widgets by StarDock
FoodObject By an Unknown source
Shutdown, Dustbin, Mailbox objects all made by himself
System Tray, Taskbar with object slider also made by himself
Ditto the background, created using Google SketchUp and modified in Macromedia Fireworks

Participate in this contest and win

**Wireless and Mobile
All-IP Networks**

by Yi-Bing Lin, Ai-Chun Pang

Published by 



Send your desktop with 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



This month's
winner is
Rohit Kumar Singh
e-mail:
rohit3787@gmail.com

He wins
**Web Development with
Microsoft Visual Studio 2005**
by John Paul Mueller
Published by



WIN!

Send in your entry and you could win an exciting gift just by sharing an amusing picture with a tech angle to it. The picture should have been shot by you, and should not have been published anywhere earlier. E-mail your picture with the subject 'DigiPick' and your postal address **on or before the 20th of this month** to digipick@thinkdigit.com. One prize-winning picture will be published each month.

things. It would have been a billion-dollar industry!

On the other hand, if nothing of what they've predicted happens, there will be a little boooing, and FIFI forgotten. It'll have been just another student project. But then, they made the grade, and the news—what more could one ask for?

WHY WOMEN DON'T GAME

They Want An Emotional Experience... Aargh!

Women make up less than 10 per cent of the gaming population. Why? In San Francisco, at the Sex in Video Games conference in early June, keynote speaker Sheri Ray said that it's not that women don't understand video games,

it's that video games don't understand women.

Ray has the credentials: she's been a game designer for the past 16 years, is a veteran of Sony Online Entertainment and the Cartoon Network, author of the book *Gender Inclusive Game Design: Expanding the Market*, and a long-time spokeswoman for women gamers.

Women or girl gamers need more than just action to stay involved, Ray said. She narrated an incident where a 13-year-old girl was good at a popular game, and instead of wanting to advance to higher levels, she got bored and quit the game. When Ray asked why, the girl said, "I pulled his heart out once, why do I need to do it again?"

Also part of the reason, Ray essentially says, is that women are portrayed as sex objects in games. The typical game heroine, as we know, has the word "sex" written all over her. She's something

like 38DD, and she doesn't wear much. But what about male characters, who are similarly exaggerated? Well, it's a fact that male and female characters in games are both portrayed as young, strong, and sexy, only female characters display the physical traits humans actually display "when they're ready for sex: partially open mouths, with large red lips, and heavy eyelids." And Ray says it's these "sex object" images that don't appeal to the average female gamer.

So to bring more women into games, then, how about "sexualising" the male characters as well? That won't cut it, according to Ray. She said, in effect, that women gamers aren't that excited about what the game looks like.

So what do women gamers look for in games? Tough question. As tough as "What do women want?"

Males reading the following are going to say, "Oh, please!"—Ray said the importance of the emotional experience can't be trivialised. And that games need to provide a way for women to have a deeper experience with the game characters.

Video game companies that want to get into the women-gaming market full-time will have to provide a way for players to become acquainted with their characters, Ray said. This includes allowing for an emotional attachment to develop.

Yes, we told you you'd go "Oh, please!" Emotional attachments in games? What's wrong with plain, good old action?

People Who Changed Computing

Jon "Protocol" Postel

Jonathan Postel is remembered as one of the powerhouses behind the early Internet. He edited or co-edited more than 2,500 RFCs (Request For Comment). These RFCs were the foundation for the technical standards that govern the operation of the Internet.



Jon Postel

Postel's contributions began way back when the Internet "was the ARPANET." In 1969, Postel would manage the ARPANET's protocol numbers using scraps of paper. His contributions to the fields of computer communication protocols such as IP, TCP, UDP, Telnet, SMTP, and ICMP are monumental.

The man's love for computing began when he was studying towards his graduation at the University of California at Los Angeles. Postel was one of the members of the project that created UCLA's first (and then the only) Web site.

The Internet, quite simply, could not have been what it is without Jon Postel. For instance, it was he who suggested the dot notation for Internet addresses.

Postel was an easy-going, casual man: he was once ordered to put on his shoes before boarding a plane when he was to help the US Air Force with its computers. Amongst his interests were hiking and British whodunits.

In 1998, Postel received the International Telecommunication Union's prestigious Silver Medal in recognition of his contributions to the development of the global information infrastructure. He died the same year at 55.

Bluff

YOUR WAY THROUGH

Protocols

Spouting TLAs ending with a P is a great way to mark yourself up as a network guru when you're amongst folks who don't know their TCP from their IP. And if your water cooler crowd is doing it all the time, you're going to feel left out. In either case, you'd do well to mug up the following protocol names!

UDP

One of the protocols that allows two programs on a network to send out short messages called datagrams. This is an "unreliable" protocol; data may arrive out of order or go missing. Something like your boss' SMS never reaching you.

TCP

A "reliable" protocol, TCP allows applications in networked systems to exchange data. TCP ensures data is received in the order in which it was sent—like how your girlfriend very effectively communicates what she wants you to buy for her!

ICMP

Used by networked computers' OSes to send error messages, such as a router not being reachable. Straightforward enough...

RTP

Real-time Transport Protocol is used to send streaming audio and video packets over the Internet. Like when your mother-in-law is incessantly screaming and gesticulating at the same time.

ARP

Address Resolution Protocol is used to find the hardware address if the IP address of the destination is known. Like a postman finding a town from the PIN code.

SMTP

Simple Mail Transfer Protocol is a text-based protocol that e-mail clients use. It works on top of TCP, and is the best thing to have happened to us since pigeon post.

We're Not Grown-ups!

Our cover story this month was quite the talk of the office. Sex is still controversial enough to cause a stir—even in an office of geeks who have reportedly seen all there is to see in technology! When Agent 001 walked in after a week's absence, clutching his "Sex" story, he seemed pale and... drained. "Viral fever," he explained. No-one believed him!

Then there were the problems of explaining it all to the graphic designers and layout artists. They had to come up with visuals and ideas of how to depict what kids face online, without hurting too many sentiments. What you see are blurred / censored images, but our designers were "exposed" to the originals. Some were only too happy, but others, like Sivalal S, were too embarrassed to

work on the images. When Pillai-ji (Shivasankaran Pillai) was laying out the story, a lot of people gathered around, hoping for a free show—much to Deepak Ajwani's consternation! Too bad for them that all the images had already been censored!

Then there were the fights between the liberals and conservatives: The "that image just *has* to go" vs. the "why, what's wrong with it" kind! This was promptly followed by an "I-have-more-porn-on-my-hard-disk-at-home-than-you" competition by some of our more liberal colleagues! At the end of it all we think we've done a decent job of tastefully portraying the truth that's out there.

We can now finally get back to the more familiar territory of gadgets and gizmos, and leave all that porn behind us!



Anyway, will de-sexing games, including emotions and attachments and possibly even relationships, and including less action and more human interaction do it for women? Say a game like *Bob and Alice: The Untold Story* or something along those lines?

Perhaps. But no-one knows what women want, including women!

ROBOPHILES AT LARGE?

Keeping The Bots Under Control

Especially in Japan—but in other countries as well—robots are increasingly coming into homes and workplaces. Robotics experts are now getting more and more concerned about safety implications, and have come together to try to find ways to prevent robots from harming people. Reminds us of Asimov and the Three Laws of Robotics. Apparently, apart from safety, sex is one of the big concerns in regard to robots becoming more popular: for example, should robotic sex dolls resembling teenagers be legally allowed? Sit back a minute and think

about the technology landscape today: people are actually getting concerned about robo-sex and robo-paedophilia!

The issues may seem far out now, but in the next few years they will become increasingly relevant, according to experts. It's apparently high time we think of things such as the robots turning against us, and about robo-sex.

Regulating the behaviour of robots is going to become even more difficult in the future, since they will increasingly have self-learning mechanisms inbuilt. Their behaviour could become impossible to predict.

Probably the area likely to prove most controversial is the development of robotic sex toys, says Dr Henrik Christensen, chairman of the European Robotics Network at the Swedish Royal Institute of Technology. "People are going to be having sex with robots in the next five years," he says. (And dead serious he sounds, too.) These robots will initially be pretty basic, but that is unlikely to put people off, he says. "People are willing to have sex with inflatable dolls, so initially anything that moves will be an improvement."

One thing we aren't clear about is, why the emphasis on sex? Who cares if a few perverts decide to indulge in robo-sex? It might even be of therapeutic value, and at least they won't be out on the streets looking for kids! As regards robot safety, wouldn't the emergency switch-off button work fine enough? Even if the behaviour of the robots can't be predicted, why should we assume that they will function in a *destructive* manner? After all, they're supposed to be programmed to be smart—so why not expect them earn their keep in a decent manner?

All this reeks of sci-fi-inspired paranoia—or probably another case of research for the sake of it.

CHEATIN' STUDENTS

Wales: Don't Blame Me!

A survey conducted by CBSNews has found that one in five American teenagers uses the Internet to cheat on school assignments. As expected, there's a difference between the sexes: 24 per cent of boys and 14 per cent of girls have plagiarised material online at least once.

whatweretheythinking.com

www.thebeerbelly.com

When we came across thebeerbelly.com, it took us several minutes to shake our heads and finally acknowledge that the site did sell, on order, a strap-on body sac within which a beverage pouch could be hidden. Its not the ludricrity of the object on sale that stunned us—the Internet is a notorious hub for sales of all kinds—what amazed us is that there have been

people who have actually already bought the thing and think its cool! If the claims of the site are to be believed, beer bellies are in fashion.

There are accessories for the beer belly on offer as well. There's the ice pack "pleasure extender," to keep your drink hot or cold depending on what the beverage is—and a cleanser and brushes to clean out the

pouch. Talk about a full deal! And then we have the ever-gracious buyers and visitors, who have kept up the spirit of the whole thing with plenty of community blog posts. The site even offers instructions with their very own Tips & Tricks on how to use the Beer Belly. What were the parties on both sides thinking?

We all agree that the site is humorous, but the site forgets to mention an important detail: what would people who already possess a beer belly do with a contraption that will make them look doubly rotund? The blessing in disguise that we spot in the whole idea is that the desire for a such a thing might actually convince some of the pot-bellied to try and get rid of the original—so they can sport one of these!



A pouch to augment your paunch!

The survey results are surprising. Why isn't the number higher than that 20 per cent average? After all, who goes to libraries any more? They all have access to the Internet, and then, of course, there's Wikipedia. You can't blame the kids, really. It's all there, and why do serious research when you can lift stuff off a page?

The answer is online research. Kids can actually do *research* on the Internet, while validating the information they garner. They can then perform a critical analysis of what they've found, and use *that* for their assignments—just as if they'd been to a library.

Talking about plagiarism, Wikipedia is in the news again: founder Jimmy Wales has asked that college students refrain from citing Wikipedia as a source of research. Some students are complaining to *him* when teachers fail them for citing the user-edited encyclopaedia! Wales reportedly receives 10 complaint mails a week from

college students, saying they flunked because of his site!

Wikipedia is considering putting up a fact sheet on the site. It would explain why it's not a definitive source of information, and teachers could hand it out, Wales said. Actually, it should be obvious: how can something that's edited by users be cited?

But still, with Wikipedia and other online sources providing so much well-formatted information for free, we think plagiarism—or at least online "research"—can only increase. There's something wrong going on here. Consider this: (a) The information and analysis is out there; (b) Assignments demand that students collate and analyse the same information; and (c) There's no stopping the growth of info on the Web.

Why, therefore, don't schools and universities accept that the times they are a-changin', and revise their grading methods? It's a problem of an old system caught up in an age it wasn't prepared for. ■

Blog WATCH

Everyone's talking about Vista, Google, and Microsoft. (As always.) Here's something about the Gates-stepping-down thing. Also, a negative rant about Vista, and two Google-related posts. Lots of links and comments at these blogs!

Guest Columnist

<http://snipurl.com/blogjul1>
(www.thoughtmechanics.com/2006/06/20/retirement-of-bill-gates-from-microsoft-is-no-big-deal/)

Retirement of Gates from MS Is No Big Deal

People seem to be making a big deal about the announcement that Bill Gates will be retiring from active involvement in Microsoft...

His retirement may be delayed by CEOs of other companies trying to retire. They may complain that Gates has an unfair monopoly on retirement. At this point the Justice Department may have to get involved to analyze the impact of his retirement on the CEOs of other companies...

Robert Accettura

<http://snipurl.com/blogjul3>
(<http://robert.accettura.com/archives/2006/06/09/windows-vista/>)

Windows Vista

Am I the only one who is not very impressed with Windows Vista? Several things so far have just shown to be a complete turnoff.

It warns me about everything. Warnings stink, people just ignore them if they happen to often...

Learning Curves are evil. The new Save dialog isn't totally evil, but it's quasi evil. It took me a few seconds to figure out how it works, and still feels really really awkward no matter what method I use to navigate...

Despite my best effort, I'm still not sure why I'm denied permission to my Application Data directory...

Joel Walsh

<http://snipurl.com/blogjul4>
(www.sourcearticles.net/computer-articles/google-good-writing-content-filter.html)

Google's Good Writing Content Filter

The web pages actually at the top of Google have only one thing clearly in common: good writing. Don't let the usual SEO sacred cows and bugbears, such as PageRank, frames, and JavaScript, distract you from the importance of good content.

I was recently struck by the fact that the top-ranking web pages on Google are consistently much better written than the vast majority of what one reads on the web. Yet traditional SEO wisdom has little to say about good writing. Does Google really only display web pages that meet arcane technical criteria? Apparently not. Google is doing a good job of identifying websites with good content and rewarding them with high rankings...

sophistry

<http://sophistry.org/blog/?p=13>
The nonexistent Google-Microsoft rivalry

Google's newest products seem to be challenging the Office suite. This makes it easy to write articles about a Microsoft-Google rivalry. But it's also wrong... Google's business is ads. Microsoft's is software. If Google's apps make a dent in Microsoft, it will be incidental to their real goal, which is improving your search results. The key to Google's plan is getting as much of your data online as possible, search it and have their technology determine what ads best match your growing profile...

2=3? Really?

1 Toshiba recently pushed laptop storage all the way to an impressive amount. The disk is Toshiba's first to use perpendicular recording. How large is it?

- a) 160 GB c) 300 GB
b) 200 GB d) 512 GB



2 Several states in the US have tech plans for convicted sex offenders. They will...

- a) Be allowed to play sex video games before being electrocuted
b) Be constantly tracked via GPS
c) Be constantly tracked via RFID tags
d) Receive implants that will warn when they approach a woman

3 What is the latest about Nicholas Negroponte's \$100 laptop?

- a) It will not be launched after all
b) The launch will be delayed by two and a half years
c) It will probably cost around \$140
d) Bill Gates will help pay for the final development stage

4 Google has launched a new search engine that will search what?

- a) US Government sites
b) Porn sites

- c) Entertainment sites
d) Warez sites

5 What will Bill Gates be primarily focusing on when he quits everyday work at Microsoft?

- a) His golf skills
b) Philanthropy
c) His affiliation with PETA
d) Anti-smoking and anti-drug campaigns

6 What does S.M.A.R.T. stand for?

- a) Self-Monitoring, Analysis, and Reporting Technology
b) SATA, MAID and RAID Technologies
c) Smart Motherboard Analysis and Reporting Tool
d) Small Matrix Analysis in Real Time

7 An old portal is soon going to get a new look. Which?

- a) OneName
b) Yahoo! Small Business
c) Netscape
d) MyMSN

8 In which programming language can you actually change the value of 2 to 3?

- a) LISP c) FORTRAN
b) Eiffel d) Ada

9 What company will soon launch a payment system to rival PayPal and others?

- a) Adobe c) Google
b) eBay d) PayMate

10 What has Microsoft identified as the most significant threat to Windows PCs?

- a) Malicious bot software, turning the PCs into "zombies"
b) Rootkits
c) Viruses
d) Worms that spread via Outlook

The Eudora e-mail program was named after the American writer Eudora Welty—because she had written a short story called "Why I Live at the P.O."

Did You Know?

Got an interesting question? Send it in with the answer to **TQ@thinkdigit.com** Mark "TQ" in the subject area.

Answers

1. b) 200 GB	6. a) Self-Monitoring, Analysis, and Reporting Technology
2. b) Be constantly tracked via GPS	7. c) Netscape
3. c) It will probably cost more like \$140	8. c) FORTRAN
4. a) US Government sites	9. c) Google
5. b) Philanthropy	10. a) Malicious bot software, turning the PCs into "zombies"

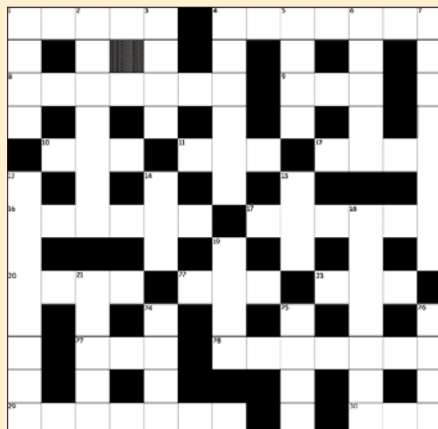
Crossword

ACROSS

- Comes in A4 OR A3 sizes-is used in printing(5)
- ___Valley - Californian region famous for its high-tech industries(7)
- Play ___ video game console(7)
- Network Operations Center (abbr)(3)
- Asynchronous Transfer Mode (abbr)(3)
- ___Code reader or price scanner(3)
- Standards Electronic Automatic Computer(abbr)(4)
- ___Or storage card(6)
- Collection of pixels describing an image(6)
- Popular warning 'Your computer is at -' or danger(4)
- Disk Operating System (3)
- Short for 'Clear'(3)
- Interactive Connectivity Establishment(abbr) (3)
- Mumbai based back-office and software development company(7)
- Novell's widely installed server(7)
- Wireless(3)

DOWN

- ___ word or codeword(5)
- A ghost dial-up connection(7)
- Redundant Array of Independent Disks (abbr)(4)
- ___Checker-programme to check natural languages(6)
- Leased or telephone ___ used for dial-up connections(4)
- High-speed storage device(5)
- Commercial browser-part of AOL(8)
- 'A' in AWG-US standard set of wire conductor sizes(8)



- Uniform Resource Locator(abbr)(3)
- Recycle ___(3)
- Virus distributed as an e-mail attachment(7)
- Application that magnifies or reduces an image(4)
- Keyboard key that converts letters into Capital or small case(5)
- 'M' in MB(4)
- Photo or Paint ___ software(4)
- ___ID(4)

Winners:

April 2006: Chitra Bharti
May 2006: A.G. Francis

Win!



Send in your entries with complete contact details to **TQ@thinkdigit.com** on or before July 15.

One lucky participant will win **Web Work In Action**

by Patrick Lightbody & Jason Carreira

Published by **WILEY-INDIA**

May 2006 Solution



Crossword by Nitta Jaggi



June 2006

Piracy

Dear *Digit*,
Piracy is considered a crime all over the world, but let's face it, India is still a developing country and 90 per cent of the populous are middle class or live below the poverty line. The price of a basic computer is not more than Rs 20,000, but not everyone can afford to buy legitimate software. Pirated CDs cost between Rs 30 and Rs 200. Unless the Americans realise that they need to price their products more affordably in Indian rupees, piracy should be made legal! Piracy is playing a major role in promoting the use of computers in India, which is not a bad thing. You may not agree with my views and not even publish this letter but please do look into this piracy issue because if this stops—we middle class Indians will be technologically handicapped.

Razil (Kuku)
Akhtar

Piracy Creates Customers

Today's pirates are tomorrow's potential customers. Though pirated software is cheap or free, they have their own disadvantages. They cannot be updated online and there is no customer care service for them. Be it an OS like Windows XP or antivirus software like Norton or Quick Heal, they all need to be updated. Some people may be happy with older versions, but all are not. There is a section of pirated software users who use it because of ignorance and financial problems.

54 per cent of the people in our country are below 25 years of age, so 90

per cent of them do not earn their own living. When they do, should they buy a home, a car or legal software? People don't buy software because they cannot!

What if suddenly some technology like hardware integration is done which bars you from installing a pirated OS on your system like in the case of 900 series chipset motherboards from Intel, which does not install Windows 98? People are forced to use Windows XP (may be pirated) and not all can suddenly switch over to Linux - human nature resists change.

If you analyze the problem of piracy from a different point of view you will find that piracy may have created a huge army of potential customers who are training themselves to give a big boost to the software industry. Patience is the virtue.

Lokesh Bazaj, Raniganj,
West Bengal

Dear Razil and Lokesh,
I share some of your opinions, but not all of them. In an article in the April 2006 issue of *Digit*, I wrote about how piracy may even be good for software vendors. Of course, this does not make it right! I have to disagree with some of your suggestions, like making piracy legal—it's almost as ridiculous as saying that we should not punish murderers, because they are helping us control the population explosion!

The economic situation of our country is *our* problem, not a software vendors'. Yes products could be priced more in tune with our earnings in India, but then maybe our earnings should be more in tune with the rest of the world! But if we earned as much as "Americans", we would have to shut down one of our fastest growing sectors—the BPO industry. So as you can see, things aren't as simple as they seem.

As Lokesh rightly points out, piracy is (hopefully) creating potential customers—so if you use pirated software right now and can afford to go legal, please do so now! Moreover, encourage your friends to do so too. Finally, there's a lot more open source software out there, many of which offer you nearly all the capability of paid software. If money is your problem, go Open Source!

— Agent001

Teaching The Teachers!

This is my second letter to *Digit*. The first one was a complaint letter due to a faulty copy of *SKOAR!*, but thanks to your customer service I received a brand new copy within two days. I just can't forget the first day I picked up *Digit*. It was 21st December 2004 and from that day my

life changed! Today I am considered a 'Tech Encyclopaedia' by friends. Your May issue was really awesome. *Fast Track to Photoshop* was spectacular. In its initial pages you rightly wrote that most people don't use Photoshop because they think it's very sophisticated. I was wondering how you guys gauge the thinking of a common man so perfectly. Having read your *Fast Track* I indeed realised that it was not very tough and now I am teaching it to computer teachers at my school. I would like to thank you for introducing such a great magazine.

Regards
Rahul Gupta

Dear Rahul,
It is heartening to know that our *Fast Track to Photoshop* was a delight for you and also helped you learn a few tricks of the software. It has always been our endeavour to scale up the learning of our readers and increase their knowledge quotient in technology.

—Associate Editor

Wasting Money On Digit?

Congratulations for *Digit's* 5th anniversary and best wishes for the years ahead. Your fourth anniversary issue was the first issue I bought, and since then I have never been disheartened till now. Your June issue cost Rs 200 and I had expected much more than what you have given on CD's and the so called dual-layered DVD, although the content of the magazine and fast track was superb. CD, DVD content was not up to the mark. Frankly the free game CD (*Monster Truck Madness 2*) was not useful and a waste of money. On DVD you had nothing more than some very old movies. But the articles like five decades of technology were interesting. My complaints are before you. I know, you would not publish this first ever letter of mine. Still if you would do something regarding my complaints it will be worth writing this letter.

Neeraj Singh

Dear Neeraj,
Thanks for your appreciation and an honest feedback. It's always a challenge to strike a balance for our readers: Will they like the issue? Will they flame us? While we have received e-mails that echo your sentiments, we've also had people who liked the game and some more who were really interested in the Business Plan contest. Even the movies have received mixed reviews, and many have appreciated the timeless classics that you can't even see on TV today! I

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

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Inbox



LETTER
OF THE
MONTH

guess you win some, you lose some. We hope to give you content that will make you write letters of praise to us in the near future; keep writing.

— Associate Editor

Subscribing Is Easiest

I was a subscriber of *Digit* for the past four years, but unfortunately I was not able to renew this year. So, for the first time I had to buy *Digit* from a shop. Usually the courier boy used to bring it to my doorstep at the first week of the month. But this time, I think I checked about six times before I finally got a copy of your 5th anniversary issue on 7th June. As usual, loads of surprises, the best being the content of the Dual layer DVD that you guys packed. The magazine content was superb as usual. But I understood the difference between a subscriber and a news stand buyer. No tensions, no struggles and no price hikes. Thus my advice to all *Digit* readers—"Subscribe at the earliest and plug in to the tech world and enjoy unlimited offers!"—as I myself will do now. Hearty congratulations to team *Digit* for bringing out yet another monster of an issue.

Kelvin Ralph
Ernakulam

Dear Kelvin,
Thanks for your wishes and glad to know that you value our subscription schemes and acknowledge the benefits of subscribing. Indeed, the comfort of sitting happily at home and being delivered your favourite magazine right at your doorstep is a great experience.

— Associate Editor

Get Your Own Copy!

Whooooooola! I never expected such a great anniversary issue from you. It was a swashbuckling act from your team and of course alarming for other so-called tech magazines. Apart from all this praise I want to inform you a very interesting fact. I have a group of 6-7 common friends, and all have their own computers, but they never buy *Digit*, although they borrow it from me. But this month they all rushed to nearby bookshop and bought a copy each for themselves. And now all are planning to be full time subscribers. Your anniversary issue was missing the Q&A segment. Where has that gone?

Manish Kumar
Via E-mail

Dear Manish,
Many thanks for your mail, and the news that even more people are contributing to *Digit's* disappearance from the stands. Q&A was removed only for June, due to space constraints. It's back now.

— Associate Editor

Hooked

I am currently in the 10th grade and *Digit* has made me addicted to technology since I was in 5th! Then I bought it only for the *Maal* in the CDs you gave. But the language and the hilarious illustrations made me read the magazine carefully and I haven't missed an issue since then. In my class 8th I asked my Mom to subscribe the magazine for one year. At the end of it, a nice letter came to me with thanks from the *Digit* team. It really changed my mind and I re-subscribed the magazine for three years! All your reviews, the prank language, tips, funny illustrations, the offers (subscription and *Digit* Patron esp), *Fast Track* series and many more koool features of your mag have made me absolutely techno-geek. The problem is that as a subscriber I usually get your mag late. Make sure that your issue reaches as early as possible. Your mag rocks! One more thing—could you please put a "Playstation 2 Emulator" on your upcoming *Digit* CDs or DVDs, that'll work on XP.

Haroon,
Jammu

Dear Haroon,
We are overwhelmed by your affection and we glad that you extended our relationship by subscribing to us once again. As for your concern for early delivery of subscriber copies, well we are indeed trying our best to reach the copies earlier but many a times postal delays are unavoidable due to natural causes like rains or truck/ rail delays. But we are still continuously trying to improve our delivery mechanism. I know this might sound yet another tall claim, but we even change courier service when we get complaints from our subscribers. We always attempt at improving our delivery services and hence try to find out which courier service is best in every area, and engage them to reach our magazines.

As for your request for a Playstation 2 Emulator, their use is illegal and hence we won't be providing them on our CD or DVD.

— Associate Editor

Just Can't Wait

Congratulations on completion of yet another year of excellence and best of what a technology magazine can give.

This is my first letter to you. I've been a *Digit* patron since April 2001, and a subscriber from April 2001 to July 2005. There is a strong reason behind discontinuing the subscription. I now buy directly from the shop. Reason being, the anticipation, the excitement I get when your magazine hits the news stands every month, that tickling feeling as if I've got butterflies flying in my stomach cannot be defined.

I can't wait even for a day more, and have to grab it fast. The anniversary issue was very special. I bought it and sat with the soft board binding in my hand (which only comes in the non-subscriber issues), going through it and as I read along the whole binding, as to what's stored in this special issue's CDs and DVD.....my stomach started drooling exactly like it does when I am really hungry n sitting in a restaurant.

Finally I started getting goose bumps (wish you guys were here to see the scene).

Kudos to you people for creating such an asset for us who wouldn't have known a lot about technology without you being there for us, now and always.

Gaurav Maheshwari

Dear Gaurav,
Thanks a ton for the appreciation and praise. It is people like you and letters like yours that motivate us month after month to create a special *Digit* every issue.

It's sad that you have discontinued our subscription, but as long as you continue to buy *Digit* every month from the news stand/bookseller, I'm assured that this relation will last for a very long time.

Keep Reading and most important—writing to us.

— Associate Editor

Tabloid TECH

People And Events That Grabbed Headlines—For Better Or For Worse

Domained At Birth

She was born in Namibia, and is called Shiloh Nouvel Jolie-Pitt. Her mother is, of course, Angelina Jolie, and her father, is, of course, Brad Pitt. Now here's one baby who'll never have to lock horns with a typosquatter: Jolie (rather, her lawyer) registered at least three domain names for her: ShilohNouvelJolie-Pitt.com, ShilohPitt.com, ShilohNouvel.com, and more. Clumsy, but they'll do the job. (Actually,

we think her name is clumsy in the first place.) Jolie seems to have learned her lesson: angelinajolie.com isn't hers. There's even a gag Shiloh Nouvel Jolie-Pitt MySpace page been found, which says: "Shiloh's interests: Africa, eating."

With all the unofficial fan sites out there anyway, what's this newfangled thing about celebrities and domain names?

When You Gotta Go...

We're a bit late on this one, but at the JavaOne conference in San Francisco last month, former Sun CEO Scott McNealy engaged in a bit of rare humour.

(He's the one who said infamously, "You already have zero privacy... get over it," in regards to consumer privacy issues and shopping online.) McNealy drew up a list of top ten great things about not being CEO any more, having handed over the baton to Jonathan Schwartz. Here are some:

#10: "I don't have to apologize for the stuff I say to Wall Street, Jonathan does." (This is a little confusing: how can Schwartz apologise for what McNealy says?)

#9: "I'm no longer on the most overpaid CEO list." (Why doesn't he want to be?)

#8: "I just say, 'See Jonathan on that.'" (Of course.)

#6: "I shave even less often." (He seemed pretty clean-shaven to us most of the time...)

#4: "I have someone to blame now." (We'd all love this.)

#3: "I can sell my last business suit." (On eBay?)

#2: "Jonathan doesn't golf, so I guess I gotta do it." (Good one.)

#1: "My new office is very close to the men's room." (No comment.)

Pink... For Posh?



David Beckham is a gay icon. He's been voted as a gay marriage favourite. He topped a gay radio poll of the best-looking football stars. All of which make us prick up our ears when we hear he bought a pink cell phone in early June.

It happened this way: a certain mobile phone maker, who wants to remain anonymous, was smiling from ear to ear when they heard Becks was interested in one of their models, the StarTrk. The StarTrk comes in black and pink, for men and women respectively—or so we would believe. Surprise: Beckham's henchmen went on to order the pink version.

The dealer was understandably surprised. "He can't be seen using one," was his reaction—"because of the new deal he has with Motorola." As though he *could* be seen using one if he didn't have a deal with Motorola.

(By the way, some Googling revealed that the StarTrk is probably manufactured by a firm called HTC. So much for not wanting to be named.)

Ostensibly, then, the phone is for Victoria "Posh" Beckham. A gift. However, it can't be for her birthday, which falls on the 17th of April. Their wedding anniversary, however, is on the 4th of July—so could Becks have wanted to procure the phone a full month in advance? Or was it a just-like-that gift? The words are whirling round in our heads. Beckham... Pink... Gay...

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