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Jasubhai
DIGITAL MEDIA

Editorial

It's The Medium, Stupid!

AN INDIAN BLOG died last month, and its readers wept copious tears. It died not because of the blogger's ennui, but because he was served a legal notice by one of India's largest media entities asking him to shut up.

In the larger scheme of things, mediaah.com, an Indian media watchdog blog maintained by Pune-based journalist Pradyuman Maheshwari, was just a blip on the media radar. With a claimed readership of just 8,000 readers, it could have hardly changed the world. Yet, the media conglomerate's bosses decided that they had had enough of Maheshwari's "jibes" at them and their organisation. In March, they sent him a legal notice asking him to delete entries they felt were defamatory.

Maheshwari, on his part, decided to stop publishing the blog, saying he neither has the time nor the money to fight the giant.

He also chose not to apologise.

The media had successfully gagged its toddler cousin, the Web log. Sadly, yet predictably, no newspaper or television channel followed up this story.

Compare this with the case of a slew of bloggers in the US who recently wrote so much about Eason Jordan—a senior CNN executive who allegedly said at the World Economic Forum in Switzerland that the US military had killed 12 journalists by taking deliberate aim—that he had to resign from his post.

No one knows for sure whether he made the statement at all; and no one would say the bloggers themselves were completely ethical in their uproarious response to the statement. Yet, to its credit, CNN never tried to shut these bedroom bloggers up.

Honestly, though, I was delighted at the legal notice sent by India's largest media house to Maheshwari. For one, it bared once and for all the Indian media's hypocritical "Speech-is-free-and-the-media-will-ensure-it-remains-that-way" stand; but more importantly, it proved that Web publishing is here to stay, and that the blog is already an alternate publishing medium in India just as it is in several mature democracies across the world.

When a Rs 1500-crore media giant takes on a one-man blog (Maheshwari's silent capitulation notwithstanding), it is good news. Judging by the response of the blog's readers (many of them on the conglomer-



Sachin Kalbag Executive Editor

“When a Rs 1500-crore media giant takes on a one-man blog, it is good news”

ate's rolls), there is a community of readers hungry to know the truth—the reality on the other side.

It is in this community that I have the most faith; the group of people who will effect that much-needed change in our perceptions about the media.

And all because of a phenomenon called the Internet. As common citizens with apolitical agendas, it is technology that will bring us closer to reality. It is a prospect we should all be happy about.

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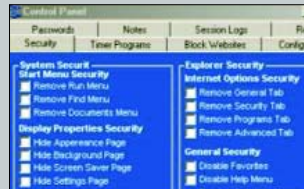


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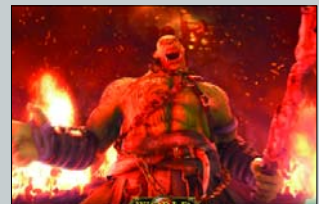
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- Thinking in Java
- Thinking in C++



- Thinking in Enterprise Java
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By Demand

You get to choose what goes in *Digit* Interactive. This month, you chose: **Mozilla Suite**
Splinter Cell: Chaos Theory



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Digit Reader Poll

This Month's Question

What do you use the Internet the most for?

- ☐ E-mail
- ☐ Downloading Software
- ☐ Downloading Movies & Music
- ☐ Adult Content
- ☐ Idle Surfing
- ☐ Research and Education

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Last Month's Question:

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



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

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In General... Anything that doesn't fit into the other sections—from upcoming technology to personal anecdotes—should be posted here Moderators: Moderators , JuniorMods , Administrators	1484	20247	Thu Mar 17, 2005 2:20 pm h4xbox ➡

Samsung Unveils 3GB HDD Smartphone

On March 11, at the CeBIT 2005 show in Hanover, Germany, Samsung announced the world's first phone with a 7-megapixel digital camera. The SCH-V770 has 3x optical zoom, a flash, full manual mode, 1/2000 shutter speed, and the scope to add additional lenses.



Apple To Join Blu-ray Forum

Apple will join the Blu-ray forum to offer support for Sony's next-gen DVDs and to enable its own customers to develop higher-quality videos. The addition of Apple on the board of the Blu-ray Association could help decide the format to replace standard DVDs.



Enter

Dr Edward deBono
Thinker and Author

Dr Edward deBono, Rhodes scholar to Oxford, PhD from Cambridge and MD (University of Malta) is one of the world's foremost 'thinkers', and has authored over sixty books—translated into 34 languages—on 'lateral thinking' methods. He has also worked with such corporations as IBM, Du Pont, AT&T, NTT (Japan), Ericsson (Sweden), Siemens, and Microsoft.

What does technology mean to you?

Technological advancements have made it possible for us to get to places much faster, use PCs to write, and e-mail to communicate with people more efficiently.

What kind of gadgets do you normally use?

I use the PC to write my books, and to compose and send e-mails. The only other gadget I use is a shaver!

How do you interact with technology on a day-to-day basis?

I don't browse the Web too much but I listen to the radio and watch the news on TV.

Do you feel the surfeit of information on the Web is hampering normal thought processes? Are people thinking enough?

The Net has made it possible for people to obtain vast amounts of information. Children find answers easily to several questions. But they need to be taught and encouraged to think for themselves and use the information in a productive manner.

CHAINING MELODY

Music Download Prices Set To Rise

The market for downloaded music is strong enough to take a price rise, according to most major music labels in Europe and the US.

Several big labels are in talks with online music

observers are concerned that increasing prices would push people back to peer-to-peer networks and dodgy copies of songs.

The music industry is apparently unhappy with Apple's increasing

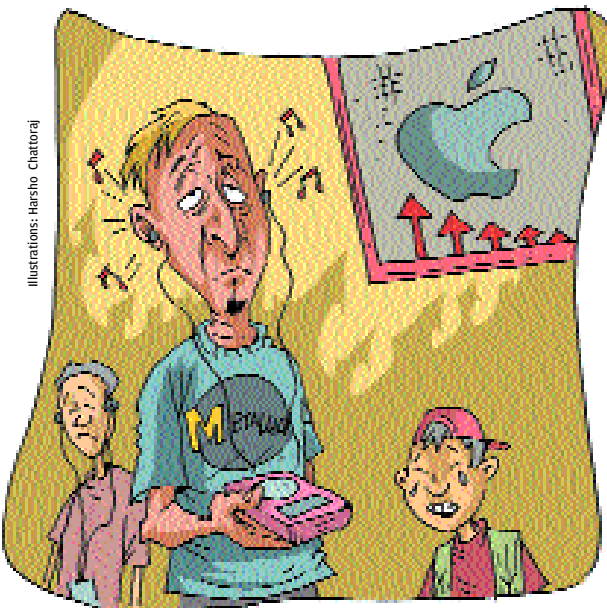
the European Commission is investigating allegations that British consumers are being ripped off by Apple's iTunes service because it charges more for downloads from the UK site and does not allow customers to buy tracks from other iTunes sites.

PIZZA ON YOUR PHONE

Two Companies, A Talking Browser And A Pizza Place

If phone makers get their way, pretty soon, we'll all tote little Web browsers in our pockets, whipping them out 10 times a day instead of running back to a desktop screen. Sounds great, until you try to navigate Mr Pizza Man's online menu on your cell phone's tiny screen. By the time you've thumb-typed or stylus-tapped your way through the dozens of yummy options, you could have ordered a hundred pizzas the old-fashioned way. Wouldn't this all be easier if you could talk to your browser like it was the pizza guy?

It certainly would, based on a test drive of the Opera browser for Windows,



retailers to get them to increase prices, according to a story in London's *Financial Times* (FT). Labels are looking to increase the wholesale prices shops pay for tracks. Sites in the US typically sell tracks for 99 cents each (Rs 43). The wholesale price is currently 65 cents (Rs 28) per track, according to FT.

Universal and Sony BMG are less keen to push prices up. EMI and Time Warner, in fact, refused to comment on the FT story. Some

share of the market—the firm sells about 65 per cent of songs sold online. The arrival of cheaper iPods is likely to give the firm an even larger share of the market. Apple refused to comment on the story but Steve Jobs is reportedly deeply unhappy with the attempted price hike.

One suggestion is that labels want to introduce variable pricing—so they can charge more for top-selling tracks. Meanwhile,

Illustrations: Harsho Chatteraj



Security Watch

WORM_ELIPTER.D

The problem

March 13th, Trend Micro reported the emergence of a worm called WORM_ELIPTER.D, which is a cause of concern for users of peer-to-peer networks such as KaZaA. The worm is in the wild, and affects all Windows platforms. It may arrive via any of the following P2P applications: BearShare, Edonkey2000, Grokster, KaZaA, KaZaA Lite, KMD, and Morpheus. It drops a copy of itself as the file 'WWE Torrie And Sable Screan Saver.exe' in the default shared folders of these programs. The damage potential of ELIPTER.D is 'medium'.

Damages

This worm terminates processes and modifies the HOSTS file to prevent access to anti-virus and security-related Web sites. It also changes the Windows registry to prevent users from doing the following tasks:

- ❑ Running programs through Start>Run
 - ❑ Running Registry Editor
 - ❑ Running Task Manager
- In addition, the worm prevents the execution of certain applications. It also disables the following:
- ❑ Closing IE windows
 - ❑ File opening, saving, and printing functionalities of IE
 - ❑ Notifications for new Windows update components and firewall- and antivirus-related events

Precautions

There are several steps needed to get rid of an infection. Refer <http://snipurl.com/deot>.



which comes with built-in voice support. At least in the beta version, Opera's most useful voice-enabled features are the commands that control the browser itself. All you have to do is plug in the USB headset—if you have a laptop, you can just use the inbuilt speaker and microphone—and turn on the voice feature in the preferences panel. Instantly, the browser obeys commands.

"Opera, back!" and the back button clicks. "Opera, next link! Opera, open link!" It all seems like a cute gimmick at first, but as you continue to use it, you will surely find it easier to shout at Opera to scroll up and scroll down than to reach over a whole two inches to grab your mouse!

The browser itself is fast and consistently crash-free. The speech-recognition software, which comes from IBM, performed well even with the stereo cranking a couple of feet away, but there are a few missing features. You can't speak URLs into the browser yet. It would also be nice if Opera had a 'search' command—shouting "Opera, search Digit Magazine!" would look for the phrase "Digit Magazine" using your default search engine.

Speech-driven computer interfaces are nothing new, but the Opera browser is significant because it adds support for a new mark-up language called X+V. Short for XHTML plus Voice, X+V has been jointly developed by IBM, Motorola, and

Opera. The language makes it easy for Web designers to hide special tags on their sites that voice-enabled browsers can both speak and listen for.

GRAPHICS POWER

ATi Paves Way For Sub-\$50 Graphics Cards

ATi has introduced a low-end Radeon X-class graphics card that utilises the company's AGP-like HyperMemory technology to save money by limiting the on-board memory.

The Radeon X300 SE is expected to ship in 128 MB and 256 MB versions, of which just 32 MB and 128 MB, respectively, consists of on-card video memory. The rest is taken from the host system's main memory bank, accessed across the PCI-Express bus.

Clearly, anyone who's chosen a PCI-Express machine is likely to have a more powerful graphics card in any case, so ATi is pitching the part primarily against PCIe machines built from integrated chipsets, in particular Intel's.

Integrated graphics core are not only offering ever-better performance, but crucially, they're grabbing a bigger and bigger share of the graphics chip market. That's why Intel's graphics market share dwarfs those

HOT



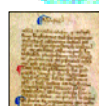
The TRAI

The TRAI slashed broadband and international call rates by 71 per cent. Now, broadband will be more affordable, and calling your relatives abroad will be cheaper. Three cheers for the TRAI!

The IT Act

India's outdated Information Technology (IT) Act leads to scripted 'sting' operations by television channels, harassment of people using cyber cafés, silly arrests of CEOs of public Web sites, and much more.

NOT



of ATi and nVidia even though it doesn't make standalone desktop or notebook graphics cores.

If it's to win back share, ATi has to offer a product that's significantly more powerful yet not much more expensive than the 'free' graphics sub-systems in integrated chipsets. Hence the X300 SE cards, which ATi reckons will cost consumers less than \$59 (Rs 2560) a pop yet offers around 60 per cent more performance, when measured using 3DMark 03 at 1024 x 768.

ATi also claimed its product offered better performance and a lower price than arch-rival nVidia's competing product, the GeForce 6200 with TurboCache.

Radeon X300 SE-derived graphics cards will be



One Silly Question Life without a computer would be... ?



"Like a body without a heart."

Sushant Shetty, Mumbai



"What I have been living for quite some time now..."

Kushal Sharma, Rajasthan



"As if darkness has descended on the entire planet."

Nivedita Varadharajan, Tamil Nadu



"Like Mumbai without local trains."

Sachin Sakpal, Mumbai



"A nasty nightmare come true."

Sagar Patki, Navi Mumbai

UNITED STATES

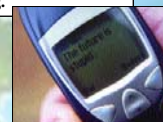
Groundbreaking technology in GPS Internet vehicle tracking is now being sold to the public. The Millennium Plus Mobile Locating Unit (MLU) uses cellular airwaves and GPS. Users can now track and contact vehicles at any time via a Web browser. If a car is stolen, an e-mail and/or a cell phone call is issued immediately, and the owner can disable the vehicle starter and lock the doors.

CHINA

In the first week of March, Chinese authorities summoned managers of the mainland's main Internet providers, major portals and Internet café chains, warning them against allowing "subversive content" to appear online. This stern instruction is in keeping with a trend toward assigning greater responsibility to Internet providers to assist the government and its army of as many as 50,000 Internet police.

RUSSIA

Russia's Communists are now considering a propaganda device Lenin and Stalin never dreamed of: SMS, known as 'esemeski' in Russia. At a party plenary meeting outside Moscow that focused on propaganda, first deputy chairman Ivan Melnikov said the Communists should turn to methods such as graffiti and mobile phone messaging.



SINGAPORE

According to a recent survey by the World Economic Forum, Singapore made the most of technological progress over the past year, while the US fell to No. 5 on the list. The survey evaluates such factors as the quality of maths and science education, affordability of phone connection charges and government procurement of Information Technology.



BRAZIL

In a recent report by the *Inter Press News Agency* (IPNS), it was reported that Brazil just might be the cyber-crime capital of the world. A surprisingly large number of hackers are based in Brazil. South Korea recently informed the Brazilian authorities that over 5,000 Web sites in the nation had been invaded by individuals operating out of Brazil.



SOUTH AFRICA

According to Africa's cell phone operators, the life of people who have never surfed the Internet could change with the launch of third generation technology they say will bring Internet access via mobile phones to millions of the world's poorest people. Sceptics, though, say it will take years before villagers in places such as Malawi surf the Web, due to the high prices of handsets and poor infrastructure.

available 'soon' from ATI itself and third-parties, including ABIT, Asus, MSI, Sapphire, Tul, Gigabyte and VisionTek.

PAPER ON THE SCREEN

Philips Unrolls 'Paper' Display

Philips has announced that it will start developing rollable displays in earnest. Until now, the Dutch company only had a working prototype.

Such displays are projected to be the primary solution to demand for larger displays in mobile devices: just pull the screen out of a smart phone or PDA and enjoy a movie. Or read an electronic newspaper that you can roll up and put in your pocket.

The Polymer Vision PV-QML5 Philips says that current process and yield improvements will enable

large scale production within two years. The newest five-inch PV-QML5 rollable display already has a decreased radius of curvature, improved operational and mechanical lifetime and paper-like viewing contrast, all improvements on the world's first rollable display prototype introduced by Philips' Polymer Vision just over a year ago.

A couple of specs for display buffs: The Polymer Vision PV-QML5 is an ultra-thin (100µm) featherweight QVGA (320 x 240 pixels) active-matrix display with a diagonal of five inches. When not actively used, the display can be rolled up into a small housing with a radius of curvature of less than 7.5 mm.

With four grey levels, the monochrome display provides paper-like viewing comfort with a high (10:1) contrast ratio for reading-intensive applications. Even in bright daylight, the display is easy to read. The display, Philips claims, consumes an exceptionally low amount of power.



Three Incredibly Useful Sites

Old versions, searching, and a directory

www.oldversion.com



OldVersion.com

"Because newer is not always better" is the tagline of this site. Here, you can find old versions of several programs—Acrobat Reader, for example; you might definitely prefer an older version over the bloated new Adobe Reader 7. The site has the old versions of several programs—506 versions of 51 programs, to be precise. Sometimes useful, sometimes for nostalgia's sake.

www.squirrelnet.com



SquirrelNet.com

Here is a site you'd do well to visit before you begin researching a topic. "Gather your Internet information here," as the site says. The site has such topics as "SquirrelNet Users Prefer Google Over Yahoo," "Top 20 Search Engines," and a "Simple and concise guide to searching".

www.encyberpedia.com



Encyberpedia

This is a listing of useful sites across the Internet. Very much like the Yahoo! directory or other directories available out there—but with a greater range and elaboration of topics. For example, in the Encyberpedia index, you have such abstruse listings as 'arbitration', 'cyberticket', 'deafness', and so on—along with regular, useful categories such as 'English' or 'Dinosaurs'.



Photograph Mexy Xavier

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

Beat That!

Digit Caption

Can you hold? People want to go home and make their morning tea!

Last Month's Winner!

No one was able to beat Digit's caption last month.



Send your captions to beatthat@thinkdigit.com and win the

Cricket 2004 full version game worth **Rs 999** from Gayatri Impex Pvt Ltd



RIISING FROM THE ASHES

Retooled Netscape Back In The Browser Game

Netscape, the Web browser out-muscled a decade ago by Microsoft's Internet Explorer, has undergone an extreme makeover in an attempt to regain its former relevance.

America Online, its current owner, released a trial version of Netscape 8.0 recently (browser.netscape.com), which packs some powerful security features, but falls short on speed and ease of use.

Among the useful aspects of this test release of Netscape 8.0 are tools for assessing the trustworthiness of Web sites and managing passwords. You can, for example, set a 'super' password granting one-word access to various Web sites; your many

different passwords can be stored one time, managed or changed easily, and secured from others who might use your computer.

The new Netscape is based largely on the open-source code for the increasingly popular Firefox browser, though Netscape has a different design and several functions that Firefox doesn't. Like Firefox, Netscape 8.0 supports tabbed browsing; unlike Firefox, Netscape has an elaborate new system for adjusting security settings. It stores a 'blacklist' of Web sites known to be dangerous on the user's computer and a list of sites thought to be trustworthy and updates those lists regularly. The browser displays a small red check mark—and a large security warning—when a user visits a site on the blacklist or if it detects other security issues at a site a user tries to call up.

Another difference is that Netscape has added Internet Explorer's page-rendering software under the hood, as an alternative viewing option. Since some sites are written to display

in only IE (or aren't tested to see how they look in other browsers), this gives users the option of viewing a site with the predominant browser if it looks bad or hangs up with Netscape.

Speaking of hanging up, Netscape's new browser crashed twice during a recent four-hour test. Worse, it was painfully slow, taking much longer than Internet Explorer or Firefox to render streamlined sites such as Google News.

MMS ATTACK

MMS Virus Discovered

The first mobile phone virus capable of replicating via MMS messages has been discovered. Commwarrior-A, which targets Symbian Series 60 phones, is not spreading, but its ability to propagate via Multimedia Messaging Service messages (MMS) worries some experts.

To date, phone viruses have spread over Bluetooth—so they were only capable of

affecting nearby phones. An MMS virus could potentially spread as quickly as an email worm. Finnish anti-virus firm F-Secure thinks the virus may be from Russia because it contains text that says "OTMOP03KAM HET!". Which roughly translates to "No to braindeads!"

CRIPPLEWARE OVERDUE

Windows XP Starter Edition In June

A Microsoft India official said that the company would launch Windows XP Starter Edition, the stripped-down version of XP, with local language capabilities in India by June. It was initially slated to be released in March. "It is a little delayed and the engineers are still sorting out local language features," Microsoft India director (business and marketing operations) Ranjivit Singh told

GENDER



BENDERS

Rita Aiyar vs Yash Mody Changing The Default Language On The Computer



Uneasy at the beginning, Rita's confidence increases with each successive click. She accesses the Control Panel from the Start Menu and soon enough, clicks on the 'Regional and Language Options' icon. The dialog box pops open and displays 'Regional Options', 'Languages' and 'Advanced'. Rita clicks 'Languages' and then 'Advanced', but to no avail. She comes back to 'Regional Options' and spots the drop-down box that lists 100-odd languages. Just in time to be first!



Yash maintains his composure. He clicks 'My Computer' and opens the Control Panel. Hesitantly, he clicks the 'Fonts' option, and spends almost a minute in a fruitless search. He returns to Control Panel, and finally spots the 'Regional and Language Options' icon. By the powers that be, he follows the same path as Rita—wastes time on 'Languages' and 'Advanced' before he spots the drop-down box and heaves a sigh of relief!

reporters in Bangalore at the launch of its Web conferencing and enterprise IM service in India. "We can't underestimate the huge development effort involved in providing language functions. OEMs should start offering it in June," he said. Microsoft has already launched Windows starter in Malaysia, Thailand and Indonesia.

XP Starter Edition, to be

priced far cheaper than XP Home and Professional, will be rolled out first in Hindi and "will be quickly introduced in 10 other Indian languages," Singh said. He said Microsoft had already worked out details with computer manufacturers such as HP and IBM on the price of the software, which will be bundled with PCs. Microsoft eventually plans to work with local assemblers.

BEAM, DON'T SWIPE

Mobile Phones As Credit Cards

Now, a software/hardware combination can let consumers in India use their cell phones as credit cards.

Customers simply aim their cell phone at the payment counter, and their purchase is charged to their account. The move has excited interest in cell phone circles because it is perceived as 'high-tech' and innovative, and also has considerable utilitarian appeal.

Standard Chartered and Visa have launched the service, called m-Wallet, in Mumbai and Bangalore.

Murali M Natrajan, head of consumer banking, India and Nepal, Standard Chartered, said, "The launch of the m-Wallet makes us pioneers in ushering mobile commerce in India."

How it works is, your credit card information is downloaded to your Infrared-capable mobile phone. When you are done purchasing, you need to stand near the payment terminal—a standard terminal, with added IR capability—and your credit card information gets beamed across.

Users need to first download a Java midlet onto their phones, which does the work of handling security and communication with the terminal.

Paying this way is a good thing. First off, you don't need to carry your credit cards around and worry about them getting lost—it's a lot harder to

lose your phone than your credit card. Second, if your phone does get stolen, it cannot be used for payments unless your PIN is keyed in. Another advantage is that the receipt gets stored on your mobile, so you don't have to worry about lost bills.

The problem, of course, is that not too many retailers have IR-enabled payment counters.

PIRATES TO BE 'TOLD OFF'

Invention To Turn Off Music Pirates

Up until now, we have seen copy protected music CDs and Digital Rights Management attempt to stop unauthorised copying of music files (or CD ripping). Now, a pair of New York inventors believe they can thwart music pirates by secretly burying an anti-piracy warning in a track, which is disinterred if the copyright has been abused, *New Scientist* reports.

With help from the US Air Force Research Laboratory, the inventors, Mark Bocko and Zeljko Ignjatovic, professors of electrical engineering, found they could bury around 20 Kb of speech data in a song without affecting how it sounds. The speech data, which is the warning—for instance, a voice from a record company boss, berating the user for piracy—exploits the fact that the tones of a musical instrument consist of a complex

Internet Explorer 7.0

There's a lot of buzz going on about IE7, the latest version of Internet Explorer, slated for a beta release this summer. As it says on the Microsoft Internet Explorer Weblog, developers have gotten a clear message from users that SP2 is a good thing, and that they want more security—in the browser.

Some details about IE7 have emerged, and if the rumours are true, it will have tabbed browsing, an inbuilt news aggregator, and will be integrated with Microsoft's anti-spyware product. Other features include no cross-domain scripting and/or scripting access, an improved SSL user interface, and simpler printing from within the browser.

Buzzword
of the MONTH



What is a 3G phone?

A 3G phone is one that can use 3G networks. 3G is an abbreviation for 'third generation cellular technology', the 'first generation' having been analogue cellular, and the 'second generation' being today's digital cellular networks. 3G supports very high-speed data services over a cellular network. In fact, multimedia 3G networks transmit wireless data up to 2 Mbps. 3G mobile phones offer high-speed Internet connectivity using Universal Mobile Telecommunications System—the technology of choice for third-generation wireless service delivery.

Why do we need 3G phones?

3G will support bandwidth-hungry applications such as full-motion video, video-conferencing and full Internet access.

Where has 3G been deployed?

3G has been deployed in all the developed nations, as well as in Pakistan, Vietnam, Thailand, and several other countries. India is still awaiting the TRAI's recommendations on 3G.

Who was responsible for the development of 3G?

3G is an initiative of the International Telecommunications Union (ITU). The World Administrative Conference (WAC) assigned 230 MHz of spectrum at 2 GHz for multimedia 3G networks.

When did 3G first appear on the scene?

3G network trials started in Japan in 2001.

How do 3G-enabled devices operate?

3G-enabled devices send and receive radio signals to and from base stations. The base stations are low-power radio transmitters—each providing coverage to a cell. Cells need to overlap to enable seamless coverage.

pattern of randomly-phased harmonics. Bocko and Ignjatovic tweaked a few harmonics to shift out of the pattern and then used those shifts to convey a 20-kilobit speech message.

Their patented idea is to incorporate a software decoder in file-sharing applications which encourage mass copying and are the bane of the music industry.

The decoder would detect the telltale phase shifts and convert them into the warning message, causing them to boom out through loudspeakers or headphones, *New Scientist* reports.

For legitimate listeners, the digital shifts are so small that there is no difference in the perception of the music. This may not always be the case, though—there is speculation that tracks might skip at the point of insertion of the message.

Earlier attempts by

GIMME THE MEGAPIXELS!

Digicams A Must-buy For 2005

A recent poll by GMI (Global Market Insite, Inc, headquartered in Washington state, USA) focusing on new personal technology purchasing patterns revealed that new technology's appeal is strong worldwide. The GMIPoll (www.gmipoll.com), which surveyed 20,000 consumers in 20 countries, found that 59 per cent have a need for more technology.

In all countries except for the US, the PC has overtaken TV as the one technology that people cannot live without. The GMIPoll found that 75 per cent of consumers ranked

home printing and DVR technology.

Asked what technology they most frequently upgrade, 63 per cent cited mobile phones. The readiness to upgrade one's mobile phone seems strongest in Asia and South America. Almost 75 per cent of consumers in India and China said they upgraded their phone more often than any other technology.

The survey suggests that in the West, word of mouth is the biggest influence on customers' purchasing choices. But in the fastest-growing economies of Asia, such as India and China, advertising came in as the number one influencer, with 70 per cent citing it.

BLOGGING CUM SOCIAL NETWORKING

Yahoo! Launches New Service

Yahoo! has introduced a new service that blends several of its site's popular features with two of the Internet's fastest growing activities—blogging and social networking. The hybrid service, called 'Yahoo 360', was launched March 29. Yahoo! has been testing the service with a small group of employees, some of whom have been working on the project since last year.

The service is designed to enable Yahoo's users to pull content from the Web site's discussion groups, online photo albums and review sections, and plug them into their own blogs. Yahoo! will also make it easy for the service's users to connect with others who share common interests and friends—the practice known as social networking. ■

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



Illustrations: Harsho Chatteraj

researchers to bury anti-piracy signals in copyrighted music and films have run into countermeasures by hackers, who filter out the message. Earlier attempts also almost always resulted in compatibility problems with players—the track would either skip, or not play at all.

their PC as their must-have technology, compared to 67 per cent for TV, and the mobile phone came in a close third with 54 per cent.

Looking at what new technology consumers are most likely to purchase in 2005, overall the GMIPoll found that digital cameras came out tops, with nearly 40 per cent choosing digital cameras over wireless,



31 Behind The Lens



34 Dial V for Video



37 Security Superheroes

Digital Passion

Fuelling the pursuit of technology knowledge

Tomorrow

The Smart Life

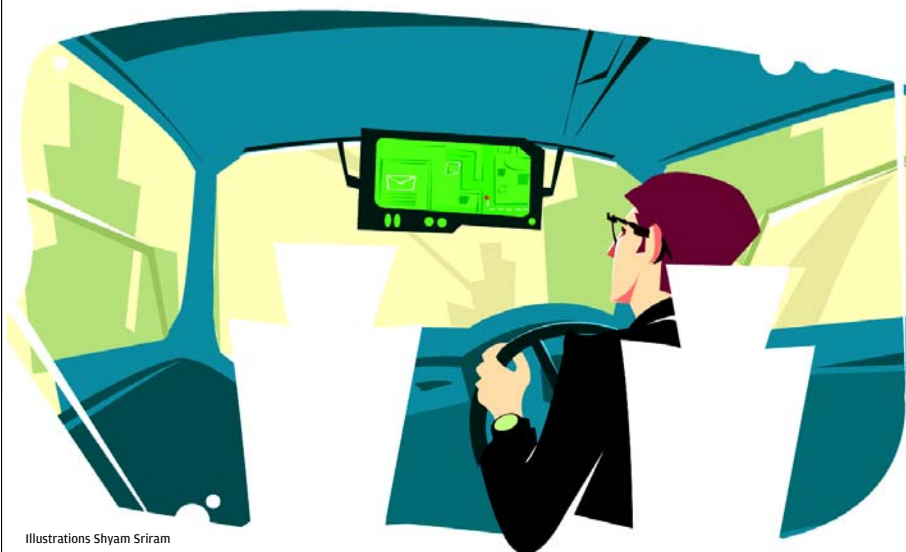
Technology is pervasive, but has not integrated with our lives—yet. What would it be like when every aspect of daily life is technology-driven? We give you a glimpse...

In Your Car

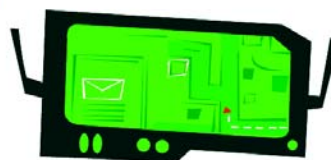
On your way home from work, you receive an MMS from your significant other. There's grocery shopping to be done!

"Don't forget to buy sugar, milk and that stationery I mentioned earlier," says the message.

Your car's LCD display plays back the video message, uses primitive AI to understand keywords such as 'buy', 'sugar', 'milk', and 'stationery'. It then automatically charts the ideal route to the nearest and cheapest supermarket where all the items on the list are available.



Illustrations Shyam Sriram



Payment

Once you have picked up all the necessary items, you head to an automated, tag-reading checkout counter.

The total is beamed to your WiMAX-enabled watch, which connects to your bank account, verifies that you have sufficient funds, and then makes a secure wireless payment.



Communications

Just as you are exiting the supermarket, your wrist begins to tingle—your watch shows you that your spouse is calling. You say “accept call”, and the call is patched to your WiFi-enabled spectacles. You assure her that you have not forgotten anything, only because technology wouldn’t let you—the stupid watch kept sending reminders in that silly robotic voice to your spectacles’ earpiece, informing you that the stationery department was the nearest to your current location, and was a priority.

Once you are done with the call, you tap your wristwatch face to end the call.



Photography And Imaging

On your way home, you see an interesting advertisement. With a click of a button on your spectacles, you capture an image of exactly what you are seeing. The image is sent to your watch, which OCRs the image, extracts the contact details and saves it in your address book.

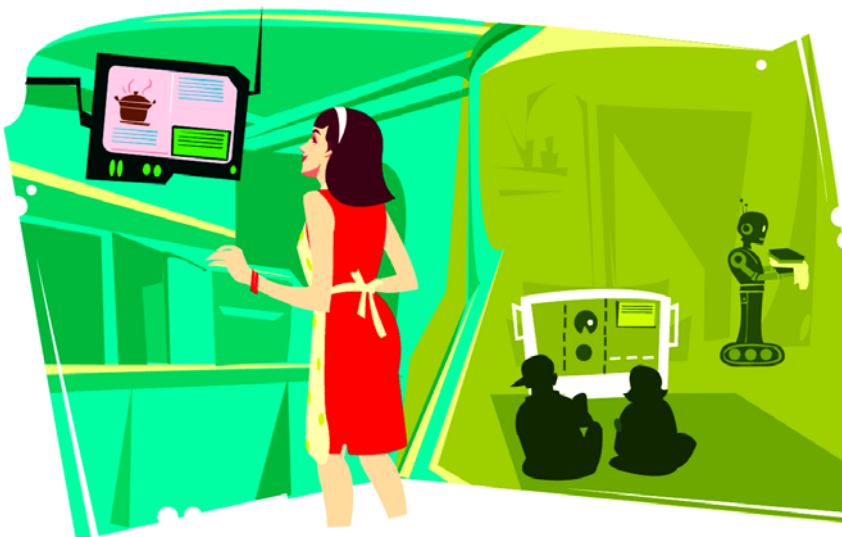


Global Positioning

Using WiMAX, your car contacts your home and informs it that you are just 10 minutes away.

Your house sends a notification (like an MSN Messenger popup) to your spouse who is watching a cooking show, and your kids, who are playing a game on their portable 60-inch wireless LCD.

The kids inform the robot helpers to start clearing their room, while your spouse decides to start preparing dinner.



Intelligent Devices

Your wife clicks a button on the TV to save a few recipes that were shown on the cooking show. The TV communicates with the fridge to tell it the ingredients of the recipes. The fridge informs you, via its LCD display, that you only have the requisite ingredients for three of the recipes.

The fridge also offers useful information, such as how many times in the past year the three recipes have been prepared, and how much each was liked by the individual members of the family—by requesting the dishwasher to provide data on how much each family member wasted, etc.

Your spouse chooses the dish that hasn't been prepared for the longest period, so as to keep the menu fresh, and starts to make dinner.



Gaming

The family sits down to have dinner, but kids will be kids. They have wirelessly transferred all their game data from their console to handheld gaming devices. No longer are games platform-dependent, and all game data can be transferred from any gaming device to another.

Needless to say, this is one technology enhancement that your spouse is not pleased with! A few yells and some threatening remarks involving a ban on gaming devices and a year's pocket money later, dinner is a little more orderly and peaceful.



RFID

Once dinner is done, you decide to request a classic movie from your favourite digital movie-on-demand channel provider—the family's favourite pastime. However, it's very hard to do so without the remote. Sigh! The kids again. Funny how they can remember how you promised to take them on a camping trip a few years ago, but can't remember what they did with a remote that they were using less than an hour ago.

Time to ask good old house find it. You log into the house's control panel, it authenticates you using a retina scan and voice recognition, and then promptly answers your question. It shows you a graphical representation of where the remote is—dropped and then perhaps kicked under the sofa. How do the kids manage such feats?

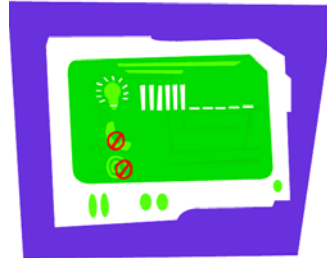




Smart Homes

While your family is enjoying the movie, your house automatically switches into your predefined 'Movie Mode'. It automatically lowers the ambient lighting by 70 per cent, rejects all phone calls from numbers of less than 'Level Three' importance, and turns off all communication notifications to your family.

This level also has increased security, as all members of the family are engrossed. Doors and windows are locked automatically, and the security alarm is activated to prevent unauthorised entry to the house or garage.



Data Syncing

As you head off to sleep, you place your watch in its cradle, where it is charged and transfers all newly recorded data, such as contact information and updated schedules, to the house computer. This will help the house decide what time to wake you tomorrow and also what you might need for work.

The kids, meanwhile, have carried the wireless LCD into their room, and are continuing their game from where they left off. You tell the house to cut off power supply and connectivity to the LCD in half an hour and go off to sleep; your kids mutter their disapproval, but value their allowances too much to actually complain.



Security

While the neighbourhood sleeps, your house is on full alert. A passing police car broadcasts its encrypted ID, which your house recognises as the trusted neighbourhood watch, and sends the patrol car the all-clear signal. The neighbouring houses do the same. Life is just too hard for burglars, especially after physical money was stopped—everything's electronic now.

The Technologies

Wireless: Everything uses WiFi or WiMAX to communicate—with high security and encryption.

Tracking: Everything has an ID and can be tracked or traced easily.

Storage: No gadget needs a sizeable hard disk anymore. All devices can share each others' storage as well as centralised storage.

Bandwidth: With advancements in wireless technologies, there is no more bandwidth crunch and no more messy cable laying; bandwidth is cheap.

AI: Artificial Intelligence is limited, but capable of handling mundane tasks, and is self-learning.

Networks: Networks are global and ad hoc, but secured with high encryption. ☒

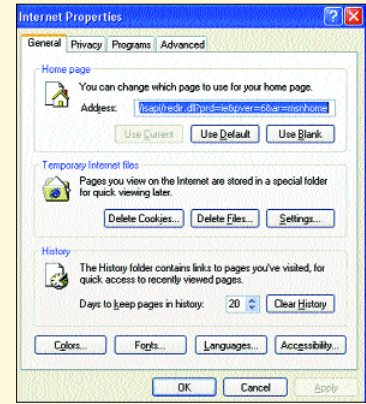


ahmed_shaikh@thinkdigit.com
robert_smith@thinkdigit.com

Remember, using third-party utilities is not allowed. If you still think you can remove the Security, Connections and Advanced tabs from the Internet Options dialog box, write in to us at takeacrack@thinkdigit.com with your solution

THIS MONTH'S CHALLENGE

Remove the Internet Options tabs for Security, Connections and Advanced



LAST MONTH'S CHALLENGE

Win!



Take a Crack and Win

Webster's New World Computer Dictionary
By Bryan Pfaffenberger
Published by
IDG Books India (P) Ltd

WINNER

Debangshu Sen.
Radhanagar Road, West Bengal

Rules and Regulations

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

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

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

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

Displaying Your Company Logo Before The Windows XP Login Screen

Three-step Process

First, design an appropriate bitmap and save it in the "C:\Documents and Settings\All Users\Application Data" directory as LogoName.BMP. Use the 8.3 naming convention.

Since the Application Data directory is a hidden directory, you may need to unhide it by opening Windows Explorer and going to **Tools > Folder Options**, click on the View tab and check the 'Show hidden files and folders' option. Click on Apply and then on OK.

Next, open the registry editor by going to **Start > Run**, typing "regedit" and pressing [Enter]. Navigate to the key "HKEY_USERS\DEFAULT\Control Panel\Desktop". In the right pane, double-click on the string called "Wallpaper". Under 'Value Data' enter the full path to your bitmap image—for example, "C:\Documents

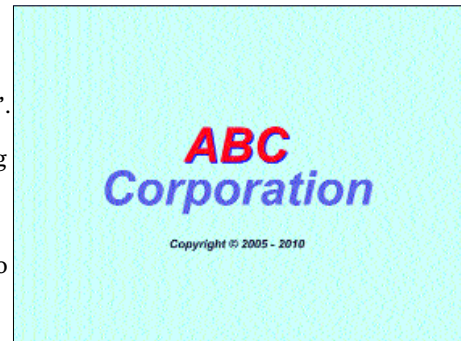
and Settings\All Users\Application Data\LogoName.BMP".

Now double-click on the string called "TileWallpaper", and change the value according to your preference—the value '0' will not tile the image, while the value '1' will tile it. Next, double-click on the string called "Wallpaper Style" and change the value according to your choice; here the value '0' is normal, while the value '2' will stretch the image to fit the screen.

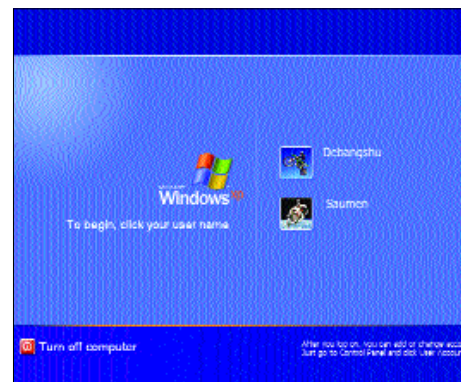
If you don't want to tile or stretch your wallpaper, and would rather choose its position on the screen, you will need to create two new data

strings in this same registry directory.

When at "HKEY_USERS\DEFAULT\Control Panel\Desktop", right-click on the right pane and select New

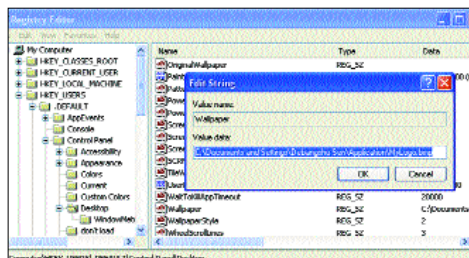


The logo is displayed before the logon screen



> **String Value.** Name the string "WallpaperOriginX" and set the value to the number of pixels from the left edge of the screen that you want the picture to be located. Now, create another String Value, call it "WallpaperOriginY" and set its value to the number of pixels from the top of the screen.

Close the Registry Editor, and reboot your machine to see your handiwork.



Set your logo using Regedit



Compact flash drives are USB-port devices that can hold dozens of megabytes and are small enough to fit on a key chain. The first flash drives required you to download drivers before you could plug them into the USB port. But the latest models offer true plug-and-play functionality, with no drivers necessary.

Battery research is focusing heavily on lithium chemistries, so much so that one could presume that all portable devices will be powered with lithium-ion batteries in the future. In many ways, lithium-ion is superior to nickel and lead-based chemistries and the applications for lithium-ion batteries are growing as a

The lens is the eye of any camera. It is the component that focuses the image and projects it onto the sensor, which in turn captures the image.

Imaging Atul Deshmukh

Aliasgar Pardawala

Digital cameras are fast replacing their film-based cousins. Digicams have quickened the process of clicking and viewing images, and their costs have also come down substantially. This southward trend continues as newer and better cameras flood the market. All this has made the digital camera the instrument of choice for amateur photographers.

What Goes Into The Making?

Though it's physically smaller than many other computer peripherals, the digital camera is not a simple piece of technology. From the lens and sensor processor, to the memory, and finally the storage device, everything works in sync. The final result is there for you to see on the LCD screen within a matter of seconds. Here, we go a little deeper into each of these components to see how their functions affect the overall quality of the camera—and that of your pictures.

The Lens

The lens is the eye of any camera. It is what focuses the image and projects it onto the sensor, which in turn captures it. Image quality, therefore, depends on the quality of the lens.

Digital cameras come with either a fixed focus lens or a zoom lens. A fixed focus lens doesn't give you the option to zoom in on distant objects. A zoom lens, on the other hand, can zoom in on objects depending on the optical zoom capacity of the lens. Therefore, if you are planning to buy a camera for outdoor shots, especially landscape photography, it is advisable to opt for a model that has at least 5x optical zoom.

Nature photography enthusiasts need to pay attention to the macro focus range of the camera. A smaller macro distance will enable you to move closer to the object. Digital cameras also have a digital zoom option, which is nothing but software interpolation of an image. They do this by cropping the central part of the image and reducing its resolution, thus making it appear as if it's been zoomed into.

However, the quality of the image suffers heavily because of this reduced resolution.

Sensor

The sensor's function is to capture the light coming in through the lens. This information, which is in the form of light, is converted into a digital signal and forwarded to the processor for reconstruction. A high-quality sensor will reproduce a crisp image.

Sensors are of two types: CMOS (Complementary Metal Oxide Semiconductor) and CCD (Charge Coupled Device). Low-cost CMOS sensors are found in low-end cameras. CCDs, on the other hand, are found in most mid-level to prosumer-class cameras. CCDs offer better image quality, but at the same time, are expensive to manufacture. CMOS is cheaper to produce, consumes lesser power, and current improvements in quality have helped it find a place in high-end digital SLR cameras such as the Canon 350D.

The Processing Engine

The camera's processor gets its information from the sensor and starts reconstructing the image. Here, speed is of prime importance, you wouldn't like to sit idle for a full minute while your processor crunches numbers. The start-up time and time interval (cycle time) between two shots depends on the processing engine. Cameras such as the Sony DSC-P100 boot up very quickly, and you don't have to wait long

Cameras with a low cycle time are easy to use when images have to be captured in quick succession, for instance, in wildlife photography

after clicking one pic to click the next. The Canon IXUS400, with its DIGIC processor, is another camera with a low cycle time. Cameras with a low cycle time are easy to use when images have to be captured in quick succession, for instance, in wildlife photography.

Memory

The small pieces of plastic that store captured images are called memory cards. The speed at which an image is stored depends on the card's read-write speed. Thus, a card with a fast write speed reduces the time interval required between two shots, and a lower read time means faster image transfer to a PC. MultiMedia Card (MMC), SecureDigital (SD), Compact Flash (CF), xD-Picture card and MemoryStick Pro are some of the widely-used memory card formats. SD cards have one advantage over the others: they are compatible with MMC. Many models, such as the HP Photosmart R707 and the Samsung V5, support both formats.

An important point to note, however, is that the camera writes the data onto the memory card at a certain speed, say 12x. Thus a faster card, with a faster write speed—say 40x—need not mean improved performance if the camera cannot handle it.

The Interface

USB is the interface of choice for digital cameras. The newer generation cameras come with

1/2 PG AD

the faster USB2.0 interface, which can transfer data at a maximum speed of 480 Mbps. Of course, to take advantage of this, you need a USB2.0-compatible PC. Digital cameras also come with the A/V port, using which one can view images on a television set.

Usability Does Matter

Since most low-end digital cameras come with some level of manual override, getting to any feature using the menu needs to be easy. As you move towards better cameras, the complexities increase. High-end cameras have more features and manual overrides. This in turn means a deeper and more complex menu structure. Navigating through such a menu can be a problem if it is not well laid out. The problem gets compounded if the buttons aren't placed intuitively. Therefore, while checking the other aspects of a camera such as the megapixel count, number of flash modes etc, make sure that the menu is easy to navigate and buttons are easily accessible.

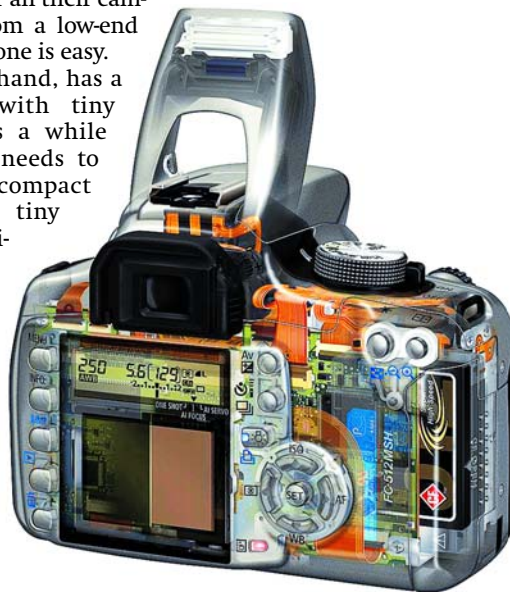
Kodak cameras have menus with the easiest navigation. Every feature is neatly arranged and the sub-menus are just a few clicks away. Also, the menu is standardised for all their cameras, so an upgrade from a low-end camera to a higher-end one is easy.

Sony, on the other hand, has a cumbersome menu with tiny captions, which takes a while getting used to. One needs to remember that a compact camera will have tiny buttons, and menu navigation will therefore get a little tedious.

What Size And Shape Suits You?

With the reduction in size, the form factor of a digital camera has also changed. If you take a look at the current generation of digital cameras, you will notice that they are not plain boxes with a flash and a shutter button. Nowadays, you have ergonomically-designed cameras such as the Sony DSC-P100, and the Exilim from Casio, which is thin and fits snugly in your pocket. Even heavy-duty, performance-oriented cameras such as the Kodak 6490 with 10X optical zoom have extremely compact bodies, and are not very heavy.

The digital camera, however, is not devoid of its share of problems—first and foremost,



An inside view of a standard digital camera

Memory Capacity

Digital Camera Type	16 MB	32 MB	64 MB	128 MB	256 MB	512 MB	1 GB
3-megapixel	13	26	53	106	213	426	853
4-megapixel	8	16	32	64	128	256	512
5-megapixel	6	12	25	51	102	204	409
6-megapixel	5	10	20	40	80	160	320

Table explaining number of images that can be stored by different size media when used with different megapixel cameras

storage capacity and battery life. Most cameras come with very little memory—usually 8 to 16 MB. This makes it difficult for shutterbugs, as a 16 MB card cannot hold more than 20 images taken at a 3-megapixel resolution. So, if you are planning on an extensive outdoor shoot, it is advisable to spend some extra money and get a 512 MB memory card.

Battery life is another major area of concern: if the camera has a regular Li-Ion battery, you need to purchase at least one extra battery pack. But this is not going to help you much if you are on vacation and do not have a power source to recharge your batteries. If your camera runs on regular batteries, you can carry as many extra batteries as possible. This, however, will prove expensive in the long run.

The Current Market

The grey market is still the market of choice for most digital camera buyers in India. The obvious reason for this is price.

The Nikon Coolpix 5100 is the best example of the price difference. The camera, if purchased from an authorised dealer, would set you back by Rs 20,800—but is available for just Rs 11,750 in the grey market. On one leading online site, the same model is priced even lower—at Rs 10,500. The HP Photosmart, which we tested in October 2004, had an official price tag of Rs 29,990, and the grey market price is Rs 14,000.

Companies such as Kodak, however, sell their cameras at competitive prices, making it difficult to find their models in the grey market.

With big brands such as Sony, Canon and HP having already set up shop in the country, and with duties on electronic goods decreasing after every Budget, it makes sense to buy a genuine product from an authorised distributor. This gets you a warranty, which takes care of any damage to your camera within the warranty period, and even a replacement if there is any serious flaw in your camera.

Companies have also come up with innovative ways to wean the consumer off the grey market. For instance, Sony sends a representative to your house to walk you through the various features of the camera. This service is, however, limited to only a few cities. Then there's also Kodak, which has a toll free number to help you arrange for a professional photographer.

The price factor is still very important in India, than in some other countries—so how the 'white' market fares vis-a-vis the grey market remains to be seen. ☒

aliasgar_pardawala@thinkdigit.com

Vendors' Contact Numbers

- ☐ Sony India Ltd: 1600 1111 88
- ☐ Kodak: 1600 2249 49
- ☐ Canon: 39010101
- ☐ HP: 1600 447 737

Dial V for Video—with a 1.3 MP camera, the Sony Ericsson V800 shoots to thrill

Camera phones have been there, done that: remove phone, aim, click, show. Yawn... But hey, what's this? A video phone, eh? With a video camcorder, an MPEG4 video player, and what's that, video telephony? You mean I could video conference with another V800 user with just a press of this button?

The camera, the shiny heart of this beast, nestles on the hinge; it can do much—twist around for one. So taking those vanity shots is oh-so-easy! While the 4X digital zoom is nothing novel, the panorama mode will let you combine three overlapping pictures into one larger picture. Being MMS-enabled, it allows you to share your video-pictures-sounds-fancy-text creation with others.

Playing video and audio is passé; this baby gets you live audio and video streams. Additional memory is a must for any phone that can record and play MP3 files, a need that is

fulfilled by the Memory Stick Duo support that the V800 lends—as much as 1 GB.

You can also play 3D Java games on this phone, complete with force feedback and multiplayer support via Bluetooth. The multitasking feature lets you upload images while telling your friends about it.

We could point out its other features—tri-band, GSM/GPRS, inbuilt modem, Web browser etc, but that would be so been there, done that...



Sony Ericsson V800



Imaging Sivalal S

The Mac mini

2005

April

Ahmed Shaikh

When I first heard about the Trojan War, I could not believe the stupidity of a people who would drag a wooden horse, the size of a building, and created by their enemy, inside their erstwhile safe haven. Did they think it was filled with chocolate?

Much later, I read Steve Jobs proclaim the superiority of software to hardware. It was a good sermon: user experience is nine-tenths software, I sagely nodded.

Finally, a seldom-used part of my brain connected two disparate dots—what if you wrapped your OS in a tiny, sleek package, adorned it with a blinking LED and christened it the “mini”? Would this Trojan succeed in injecting OSX inside my safe, Windows haven? And all that in just 30 hours?

Day 1, 10:00 am; Hello, Hello

It's so small! I have used bigger modems! I connected the mini to a 23-inch BenQ LCD. Connect the network port, a mouse, and an Apple keyboard, press the power button and we are in OSX land. Time taken to reboot—60 seconds. Ah, look, a blinking LED!

10:15 am; The OS

I wanted to *push this little box to its 256 MB limits*, so the first thing I did was turn on all the eye-candy. I was pleased by how *OSX would instantly reflect any change to its settings*—no need to click on Apply and twiddle your fingers. Also noteworthy was the use of animation to grab attention: icons on the dock would jump up and down eagerly, demanding to be clicked.

Getting on the local network was easy, as was sharing files with Windows and Linux. Getting on the Internet was similarly painless.

2:00 pm; Installing Applications

I installed Opera *just by dragging the file to the*

“Applications” folder; then, with a simple click, I added it to the dock. I now had Opera, six MSN Messenger windows, and three Safari windows open. OSX panted to keep up.

3:00 pm; Pushing It

As I type this, I am importing 53 high-resolution images from a camera while updating OSX; I also have two Safari windows, 13 MSN Messenger windows, four Opera tabs, iCal, iPhoto, iMovie, a system profiler, and a text editor open. *OSX is hectically caching to the mini's tiny hard disk, and the little bugger is actually keeping up.*

4:15 pm; Integration

Everything is well integrated, with a uniform interface and minimal surprises. iPhoto and iMovie are both very good at what they do—and what they do is more than sufficient for a general user like myself.

6:00 pm; Bugs

Add third-party software and things begin to break apart. Opera, for example, did not inherit the system-wide “spell check” umbrella; the quality of font smoothing, drag-and-drop of text and a consistent look and feel were other casualties. Oh well, tomorrow is another day!

Day Two, 10:30 am; Irritants

No tool tips on icons and files, the [End] key is missing, [Delete] does a backspace, pressing [Enter] renames a file, and *AppleWorks needs a lot of work.*

5:00 pm; A Sad Farewell

The mini is returned to its rightful owners. OSX is beautiful—both to behold and to work with. The mini bolsters the software with able hardware. Add the iLife '05 suite and the mini turns into a very tempting investment. *If only the Geeks at Apple would sacrifice Rs 10,000 off the mini's price, I would gladly drag this Trojan in, blinking LED and all.*

ahmed_shaikh@thinkdigit.com



THE BUSINESS VALUE OF COLOR

Today's color imaging and printing devices are easier to use and more cost effective than you may realize. They're helping IT professionals and business executives around the world to make a bigger impact and become more successful.



Many of the technology tools used by small and midsize businesses today are solutions that companies wouldn't consider conducting business without. From PCs and e-mail to imaging and printing devices, all are integral parts of the daily workflow that IT professionals rely on to help employees be more productive, and businesses in general need to be more efficient.







What about color? Color imaging and printing, to be precise. You've probably heard a lot about color, and all of the benefits that it can bring to a business. Like some, however, you may be thinking that color is difficult to manage and maintain, as well as costly and slow—even a non-essential luxury that, in times of tight tech budgets, is tough to justify.



A COLOUR PRINTER SHOULD OFFER MORE VALUE THAN AN ATTRACTIVE PRICE TAG.

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and more support after.
www.hp.com/in/smb/colour



ADVICE BEFORE	+	TECHNOLOGY	+	SUPPORT AFTER			
HP's free Business Marketing Toolkit makes your colour documents work harder and designing them effortless.		The HP Color LaserJet 2550L is just Rs. 32,999 but performs like it costs much more, with HP ImageREt Technology that delivers professional colour every time.		24/7 hardware support ensures peace of mind, so you spend your time focusing on your business.			
							

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For Milestone Architectural Ornamentation, color means cost-effective, customized, highly professional marketing collateral that's helped the company build its reputation worldwide and increase sales. Based in Amarillo, Texas, Milestone is an expert manufacturer of reproductions of ancient antiquities. The company has mastered its market, and it has done so by concentrating on the needs of its customers.

Early on, however, Milestone found it needed to stand out in the crowd. Like many companies, Milestone had a great product, but was faced with several daunting business challenges that are common to companies around the world. To succeed, it needed to make a big impact with current and future customers.

In the words of Milestone CEO Melody Brenna, "We were a little company with a totally new product, and we didn't have the sales volume or funding to hire an advertising agency. In our business, everything is ultimately visual. We have to be able to portray to a client exactly what the end project will look like to pique their interest and win the business."

The means to that end was color. And today, it's easier to use, more readily available and more cost effective than you may realize.

ENABLING SUCCESS WITH COLOR

Using color came naturally to Milestone, which relies so heavily on the visual appeal of its products. Like many businesses, it started producing its own marketing materials in-house as a way to reduce costs, increase contract closure percentages and boost quality control.

To make the most of these internal capabilities, it enlisted the help of HP printing solutions. Milestone started using HP printers for two basic reasons: ease of access to the hardware and supplies, and low price combined with high-quality results.

In addition to four HP Business Inkjet 1100 series printers, the firm's principal graphic designer Jay Ferranti uses an HP Photosmart printer for professional-quality photos in eight-color or black and white. The Photosmart printer that Ferranti uses allows direct photo printing from a digital camera, which Ferranti describes as highly useful in the brochure design process. Milestone also relies on an HP Designjet

large-format printer for line drawings, presentations and signs.

Printers are not the only HP products in use at Milestone. The company also uses HP supplies—including ink, paper and special media—because the printers and the supplies work together as a system to produce exceptional results.

COLOR SUCCESS STORY

- **Company:** Milestone Architectural Ornamentation, Amarillo, Texas
- **Challenges:** Create professional marketing collateral and proposals cost-effectively, customize proposals, print top-quality color and monochrome photos.
- **Solution:** HP Business Inkjet 1100 printers, HP Photosmart printers, HP media.
- **Results:** Individualized proposals create client trust in company's work. Eighty-five percent success rate winning business with customized packages.

"We're a very small company, but with the professional look of our proposals and posters that we print in-house, we look huge, and HP has given us that capability," says Milestone CEO Brenna. "The consistent quality and flexibility of our HP printers not only makes it possible for us to compete against much larger companies, it enables us to succeed."

CONNECTING WITH COLOR

The natural connection that Milestone made between "visual" and "color" is increasingly being made by organizations around the world that are seeking to optimize sometimes limited exposure to marketplace opportunities.

Usage of color in business documents such as presentations, sales collateral and marketing brochures, for example, bridges the gap between concept and comprehension. It connects and persuades its audience. Black and white, by comparison, is valuable in a different way—it conveys content accurately, and it provides the informational infrastructure. Color creates lasting impressions and appeals to the powerful sense of vision.

"Color is the easiest and most effective way to increase the clarity of a document," points out Robert McCullough, president of McCullough Research, in "The Definitive Guide to Office Color Printing" (realtimepublishers.com, 2004).

The guide further claims that color communications can improve comprehension by 75 percent over black-and-white communications. That's a powerful, enabling message to small and midsize businesses that are trying to carve out market share—

on any continent or in any country. So by using color in customer-facing materials, sales and marketing employees, for example, may increase their chances for success with potential customers. Color is the great equalizer, and color technology—particularly color imaging and printing—is the vehicle for that equality.

Given the increasing business value of color, it's not surprising that the market for color laser printers is taking off. And the good news for buyers is that growing popularity is driving affordability and features. According to analysts at Lyra Research, color laser printers priced under \$1,000 will account for 56 percent of total color laser printer shipments worldwide by 2008 ("Color Laser Printers: Worldwide Market Forecast and Analysis," August 2004). Lyra further predicts that by 2008, 10-23 ppm (page per minute) color laser printers will replace 1-9 ppm units as the dominant devices shipped.

DEBUNKING COLOR MYTHS

Despite numerous advantages, color imaging and printing devices may still be below the cut line on some companies' IT-budget-expenditure priority lists. Given the history, this view is a bit more understandable. At the high end, the output was good, but the devices were expensive and complex, and therefore out of reach for the average small business. At the other end of the spectrum, personal color devices also produced good output, but weren't designed for office use.

Indeed, why should an IT professional keeping a watchful eye on the budget make the commitment to color under those circumstances? The truth is that those circumstances have changed significantly. Color has become fast, affordable and practical—as well as easy to use and more reliable.

SPEED



In the past, all color laser printers



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employed four-pass printing, which meant that colors were applied to the paper individually, one after the other. As a result, printers were faster when printing black and white because with black and white printing, it is only necessary to apply the black. Thanks to technology advances, four-pass color laser printing is being supplanted by single-pass technology, in which all four colors are laid down simultaneously.

Now, it's possible to purchase color laser printers from HP that print up to 24 pages per minute in color. Inkjet printers have also benefited from advances in technology—models from HP now reach color printing speeds of 24 ppm as well. And some HP color multifunction devices reach color print speeds up to 22 ppm.

AFFORDABILITY

The best way to appreciate the financial value of color printing is to understand the value in terms of time to market, impact with customers, and total cost of ownership.

Eager to better manage their publishing expenses, Bellevue, Washington-based ArtSource, a digital media staffing and design agency, purchased multiple HP printers—including HP Color LaserJet 5500s, Color Inkjet cp1700s and Business Inkjet 1100s—that work together seamlessly to help increase productivity and customer satisfaction.

ArtSource founder Melody Christensen

estimates that the business marketing packet her company created using Microsoft® Publisher 2003 and printed in-house on HP printers costs less than \$5 per unit, but will generate eight new customers per month worth \$5,000 each. She further predicts that the annual revenues from this new source of income could

spend less time troubleshooting and fielding calls for help, and more time on strategic initiatives.

Reliability, as well as ease of use and interoperability of HP digital imaging solutions is helping the UK's BMW WilliamsF1 Team, a Formula One racing team, make a big impression with its Paddock Club

COLOR SUCCESS STORY

- **Company:** BMW WilliamsF1 Team, Oxfordshire, UK
- **Challenges:** Enhance guests' experiences of Formula One race weekends, provide a fast, easy-to-use solution for printing photographs for guests on race days.
- **Solution:** HP Photosmart digital cameras and printers.
- **Results:** Better customer relations, ease of use helps staff be more productive.

reach \$500,000 per year.

The bottom line is that professional-quality digital color is becoming more and more affordable. In fact, total cost of printer ownership (TCO) and cost per page have declined dramatically from the early days of color printing in the office.

RELIABILITY AND EASE OF USE

To their credit, monochrome laser printers from HP have developed stellar reputations for reliability and ease of use. The downside is that, in the past, this created unrealistic expectations for color laser printer performance. And unfortunately, many early color models failed to live up to those expectations.

According to Gartner, reliability has a large impact on printing costs, which is why it's so crucial in a business environment. The firm stated, "Reliability, quality and ease of use are key drivers of printing cost because they drive labor—the single biggest cost of printing."¹ User-required maintenance, end-user downtime and technical service were cited by Gartner as primary cost culprits.

Those culprits have become less culpable as color printer reliability has improved. Vendors such as HP have dedicated themselves to increasing reliability, which has led to significant improvements in the areas of design, manufacturing and testing. And more reliable devices help IT

guests on race weekends. Using HP Photosmart digital cameras and printers, the team's hospitality staff can take photos of the guests with their favorite drivers during tours of the pit lane, and then print those photos immediately, so guests may take autographed pictures home with them.

"This kind of initiative could not succeed without products that are extremely easy to use," said Jonathan Odell, sponsorship account manager for the BMW WilliamsF1 Team. "Hospitality is very important to the BMW WilliamsF1 Team. In order for guests to capture the moment, we use the innovative HP Photosmart solution. It is a great way of enhancing people's experience of Formula One racing as guests of the Paddock Club."

MAKING A DIFFERENCE WITH MEDIA

The enhanced quality of ink and media has also bolstered the image of color printers. Consider the opinion of David Axelbank, production manager at Magnum Photos, one of the world's largest global cooperatives of professional photographers, with offices in New York, London, Paris and Tokyo.

"As for the quality of ink on paper, in my opinion, the HP Designjet [printer] produces prints that very closely resemble traditional C-type prints. The colors were beautifully saturated and highly accurate."

Magnum used HP Designjet six-color printers to reproduce images for a recent series of international exhibitions. All prints were created using HP satin-finish photo paper and HP state-of-the-art inks designed for rich color depth, gloss uniformity, color stability and consistency.



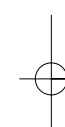


HP recommends Microsoft® Windows® XP Professional.



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NOTEBOOK
IS JUST A
STARTING POINT
FOR WORKING

ANYTIME ANYWHERE.



ADVICE BEFORE	TECHNOLOGY	SUPPORT AFTER
HP has 210,000 certified partners worldwide, so there's always one nearby to help you develop a complete, secure wireless solution tailor-fit to your business.	HP gives you more freedom to work when and where you want, with the HP Compaq Business Notebook nx6120 featuring Intel® Centrino Mobile Technology, plus multiple layers of built-in security.	HP offers Accidental Damage Protection, an affordable 24/7 plan that provides speedy repairs for spills, drops, electrical surges and LCD screen damage.



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Axelbank was also impressed with the HP Designjet's ease of use in terms of calibration. "Essentially there is nothing for the user to think about beyond the initial command and the result was highly accurate color rendition from our files."

Results like these make it clear that color printing products have improved to the point where companies of all sizes can use them with confidence.

THE HP ADVANTAGE

HP's worldwide presence allows the company to consistently provide an unparalleled depth of products, services and support, while offering local advice based on an intimate knowledge of indigenous business environments. It's the best of all worlds for imaging and printing customers such as Netopia (Phillipines), Yuen Foong Paper (Taiwan) and IndoChine (Singapore).

For Netopia Internet Café, the luster wore off its inexpensive, non-HP inkjet printers when it came time to purchase supplies. The printers' high cost per page drove up the company's expenses on supplies, while the service and support needed to address frequent printer breakdowns was inadequate.

"If you look at the total cost of ownership, we were not saving at all," said Raymond Ricafort, president of Digital Paradise, Inc., owner and operator of Netopia. "We had to discard the [non-HP] inkjet printers altogether if we wanted to provide the best professional printing service to our customers in the long run."

So the company turned to its local HP office for help. The recommended solution included color laser and business inkjet printers.

"The level of customer support and technical expertise we have been getting from HP has just been amazing," Ricafort said. "Your partners must understand what your business needs and where you want to bring it. By partnering with HP, we've achieved entirely new levels of productivity, efficiency and cost savings to give us that winning edge."

CONTROLLING COSTS

Yuen Foong Paper Co., a subsidiary of the Yuen Foong Yu Group, found itself in a stalemate when the five HP Color LaserJet 5500 printers it purchased for external presentations became increasingly popular for the production of internal documents due to the printers' superior image quality.

This led to a proliferation of unauthorized color print jobs and an increase in printing expenses, for which the source could not be traced. To resolve the dilemma, Yuen Foong Paper, which is one of the largest commercial printing enterprises in Taiwan, sought help from its local HP office.

HP responded with a solution that

tional capital outlay and no internal skills required from our staff to enjoy the latest HP imaging and printing technology," reports IndoChine CIO Ian Aniszewski.

"The proactive monitoring by the HP service center directly eliminates workload and taxi expenses for our stretched IT department, allowing our staff to be pro-

COLOR SUCCESS STORY

- **Company:** Yuen Foong Paper Co., Taipei, Taiwan
- **Challenges:** Control escalating print costs, restrict staff usage of color laser printers for printing internal documents.
- **Solution:** HP JetCAPS solution for Yuen Foong's HP Color LaserJet 5500 printers restricts usage to authorized personnel only and helps track usage.
- **Results:** Imaging and printing costs lowered by 30 percent.

enabled the company to allow only authorized personnel to use the printers, and to determine where all print jobs originated—a cost-management tool for color. As a result of the improved procedural controls, Yuen Foong has reduced costs by 30 percent.

"It is a cost-saving solution," explains Yuen Foong President Y.C. Huang. "We find it a unique way to continue enjoying the high quality of color printing while keeping our costs of consumables low."

"But what we appreciate most has been HP's desire and commitment to make is solutions work better for us. With HP, we can really derive the maximum benefit from our investments."

DRIVING PRODUCTIVITY

With restaurants, bars, cafes and galleries located throughout 20 outlets in three countries, The IndoChine group determined that it needed a more advanced imaging and printing solution that included a service package to eliminate in-house device maintenance. IndoChine also wanted reliable all-in-one devices to handle high-volume color printing needs in the office and at its food and beverage outlets.

Enter HP. Based on its local knowledge of IndoChine's needs, the company brought in the right mix of printers, network capabilities, all-in-one products and pay-per-use services to optimize the company's productivity.

"The commercial deal with HP's imaging and printing division has allowed us to deploy laser printers into every office and outlet cost effectively without the tradi-

ductive in other areas. With HP managing our fleet, we have the assurance of reliability, efficiency and availability always."

The bottom line: IndoChine estimates a 75 percent savings in printing costs and a threefold improvement in productivity in the graphics department alone.

COLOR FOR ALL

The benefits of color imaging and printing can be experienced by all business functions. Color enables IT professionals to serve their customers better while managing costs. It allows sales and marketing to make a professional impact with potential clients. And color may help the business overall to become more successful by effectively distinguishing its products and services from those of its competitors.

There are as many ways to optimize business opportunities with color as there are imaginative, innovative companies. And many of those companies, recognizing the value of color, are already using it to drive a competitive advantage.

HP has been helping businesses experience the value of color for a long time, providing expert, up-front advice based on local knowledge and experience, leading-edge products and solutions, and industry-recognized service and support. So no matter what your business objectives, or where your business is located, HP is there to help you get better business results through the value of color imaging and printing. ■■■



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Security Superheroes

Two tech-whiz IITians develop ground-breaking solutions to ward off security threats

Renuka Rane

When an educational institute claimed that its physically segregated virtual network for students, employees and administrators could not be penetrated, a handful of IIT graduates proved it wrong. Having only the privilege and rights a student is entitled to, the team accessed a guest account, entered the administrators' network, then the students' and finally the employees' network.

The team is from iViz Techno Solutions (www.iviztechnosolutions.com), a technology-driven products and solutions company conceived and based in IIT Kharagpur (IIT-K), West Bengal. iViz is a part of IIT-K's incubation programme, wherein graduates who would like to start a venture of their own are provided infrastructure support. The company provides managed security services, anti-spam consultancy, Web and database security assessment, forensics and data recovery.

The Pioneers

The duo behind iViz are just in their twenties—and they have their quirks. Bikash Barai, 23, has a penchant for unconventional magic tricks, and enjoys the works of Swami Vivekanand and Netaji Subashchandra Bose. Nilanjan De, 25, enjoys science-fiction and is a confirmed night person.

Barai, head of business development at iViz, has always been deeply interested in anti-spam technology, network and wireless security, cognitive hacking and social engineering. He jointly holds several patents on anti-spam technologies. And so does De, now CTO of iViz. An electronics and electrical communication engineer from IIT-K, De is by now a known name in network security.

The IIT Aura

Barai expalins, "iViz stands for 'intelligent vision'. We conceptualised this company in late 2003 when I was in my third year B.Tech. in computer engineering and De was a GRA (Graduate Research Assistant) at IIT-K. We had a grand vision of making computing free from all security threats. We got our company incorporated as 'iViz Techno Solutions' in February 2004."

iViz has a full-fledged office on campus. Apart from Barai and De, the core technical team includes current IIT students Rudra Sinha Roy, an expert in penetration testing (see box on facing page), and Abhishek Dutta, a specialist in exploitation techniques. As of now, iViz has five full-time and 15 part-time employees and six consultants—all IIT-K alumni. Also, iViz' board of advisors has some of the most eminent educationists, professors and executives in India.

Imaging: Anu Deshmukh



Network Security Jargon

Penetration Testing: Also called ethical hacking, it entails breaking into the security network of a system to assess its flaws

Vulnerability Analysis: Assess vulnerabilities of a system to security threats

Security Audit: Appraisal of the existing security framework of a company

Exploit Development: Exploiting existing vulnerabilities in a system in order to know all existing flaws in security

Teamwork At iViz

Team members keep up-to-date with the most recent exploits and vulnerabilities. They keep track of trends in intruder activities, analyse product vulnerabilities and malicious codes and record their research. De explains, "We develop customised security solutions based on our clients' needs. Our strength lies in penetration testing and security audit, and more so in exploitation development, vulnerability analysis and discovery." At the same time, De admits to having undertaken preliminary and at times not very challenging network security projects in order to sustain the company.

Managed Security Services

As the cornerstone of iViz' security solutions are Managed Security Services (MSS), which enable 24 x 7 monitoring and management of network security infrastructures. MSS comprise security audit, penetration testing, vulnerability analysis, security implementation and policy design. Through iViz' security information management architecture, critical security issues can be identified; clients can be alerted of impending danger; and appropriate and effective response measures can be prepared.

"MSS is a set of services that start with the detection of vulnerabilities, followed by their elimination and then continuous maintenance of the system. Although most firms spend huge amounts on security, they end up building a house with strong iron doors and walls made of straw. MSS can equip them with robust security at a lesser cost," says Barai.

Looking Beyond Firewalls

Popular belief says that a firewall and an Intrusion Detection System (IDS) can keep an organisation safe. Not so, claims Barai. "In all the sensational hacking cases we have seen, the affected parties had firewalls and IDSes. We look beyond firewalls and IDSes to find vulnerabilities in the human and computer interface—one of the weakest links in the chain, which determines the effectiveness of security. We help organisations become secure from all known vulnerabilities."

Penetration Testing

A part of MSS, penetration testing is popularly known as ethical hacking. An established technique for the live testing of network security, penetration testing attempts to compromise a system, as a potential attacker would, to see what kind of information is actually divulged, thus determining the vulnerability of a system. It enables companies to receive a real-life vulnerability test of their security status.

The iViz team has exposed several vulnerabilities and exploits that were hitherto unknown. "A valuable testing, auditing and evaluation tool,



We look beyond firewalls and IDSes to find vulnerabilities in the human and computer interface—one of the weakest links in the chain, which determines the effectiveness of security

Nilanjan De
Chief Technology Officer,
iViz Techno Solutions

penetration testing can be conducted remotely over the Internet and does not require physical access to the premises or any privileged information such as usernames or passwords. It involves detection of vulnerabilities, their removal, and then, continuous maintenance of the system," says De. For a network with three to four servers and 100-odd users, the iViz team can complete penetration testing in three days.

Bramhastra To The Rescue

iViz has built a penetration testing tool called *Bramhastra*. "Bramhastra simulates an attack that can be launched by the worst possible malicious user. It tests the security of an organisation by actually breaking into the system, gives a report and suggests measures to correct the flaws and finally, it clears up all the traces of the test," reveals Barai and claims that *Bramhastra* can break into the toughest of networks.

Bramhastra is supposed to be able to break into the toughest of networks. New exploits are constantly added to keep the *Bramhastra* updated. iViz claims to be the sole Indian company to have developed such a tool.

Blocking With Spam Walls

iViz also has a patented algorithm to detect spam that passes through conventional filters and is provably more efficient than other solutions such as 'Bright mail Anti Spam Enterprise Edition', 'MacAfee Spam Killer' and 'Postini Perimeter Manager'. 'Spam Wall' is a unique anti-spam solution from iViz that can be used for individual and server installations. It is a hardware-based filter that sits between the mail server and the Internet. Spam Wall is platform-independent, and one just has to plug-and-play. Once installed, it takes a week to resolve the spamming problem.

A major issue with existing anti-spam solutions is the large number of false positives returned (valid e-mails being stopped as spam). "With 'Spam Wall' we already ensure extremely low false positives. Hopefully, we will be able to guarantee zero false positives in a few months," assures Barai.

The Road Ahead

iViz conducts its core research work and product development at IIT-K, and has a marketing and corporate presence in Kolkata and Texas, USA. Currently, iViz is looking for venture funding for further expansion. It has job openings for professionals with a deep knowledge of security fields and a zest for innovation.

iViz wants to make computing secure at an affordable price. Barai says, "We plan to market our products shortly. In fact, the beta versions are ready. However, we are not sure about marketing the *Bramhastra*, as it could be very dangerous if it falls into the wrong hands." The team will soon provide training on computer security.

"This is just the beginning and the best is yet to come," reflects De. With its grand vision of cordoning off the increasingly susceptible virtual space from anti-social elements, the student-turned-entrepreneurs of iViz Techno Solutions will have to keep up the good work. ■

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Write In

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



42 Tube It Up



60 Pixel Palette



74 Just Push Print

Digital Tools

Technology For Personal And SoHo Productivity

Jumpstart

Exporting India

For Haryana based ShalinCraft, the Internet was the gateway to getting Indian art—and other products—to a worldwide market

Preethi Chamikutty

There is currently a large worldwide market for Indian art. And the Internet is, naturally, facilitating this exchange. Indians settled abroad as well as those in India have started exporting Indian art overseas. As a case in point, we take a look at Shalini Verma, founder and director of Shalin-Craft India, who returned to India from France to set up her own business.

In The Beginning

Verma's company was first named Shalin Fine Arts. ('Shalin' means 'grace' in Hindi.) In 1996, Verma established ShalinCraft, because she was "not enjoying sitting idle at home." Shalin-Craft earlier sold Western art reprints in India, called European trend prints. These were imported from France. Architects and interior designers were the channels of distribution.

The clientele mostly comprised offices and hotels

that were interested in the art for their décor.

In 1998, when the rupee was devalued, the company faced problems in importing artwork. It was then that Verma decided to use the Internet as a medium of conducting business—and rather than importing, to get into exports. Verma chose to export hand crafted Indian products, since after having dealt in art products for over two years, she had developed "an eye for beautiful products."

Imaging Atul Deshmukh



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Marketing Methods

Search Engine Optimisation

When you have a Web site—especially if it's a store—you need to tell a search engine that it exists. Most search engines use automated programs—known as spiders—to gather data. Spiders look for certain indicators to guide them to a site's relevancy. The more easily these indicators can be found and understood, the more accurately the spider can assess the relevance of the page.

Though spiders have limited intelligence, they are able to recognise some of the more obvious tricks, and can thus de-list 'tricky' sites.

When a page has been optimised, it is submitted to the search engines for evaluation and—hopefully—a high-level listing. This last part of the process is a question of finely judged timing—multiple submissions are necessary. But avoid overdoing as this could lead to your site being delisted.

Affiliate Programs

Suppose you have a Web site, say, xyz.com and I have a site, abc.com. We form an affiliate partnership. You place a link (banner, product image or text link) to abc.com on your site. A visitor to your site clicks on that advertisement and reaches my site and makes a purchase. In that case you stand to earn a certain percentage of commission for that sale.

There are different types of programs with different structures. The order tracking is done by cookie-based software, either developed in-house or by third party service providers.

In the case of ShalinCraft, it is a third part service provider, Kowabunga Technologies, which tracks sales, leads, and calculated commissions. ShalinCraft does all this by integrating the affiliate tracking system with their online ordering mechanism and

managing the program interface.

Affiliate marketing and management is done wholly by them. They invite other sites to join their program, give them incentives for joining, and based on the numbers of sales/visitors they have sent, motivate them to drive further traffic to the site.

Link Exchanges

This is similar to an affiliate program, but there is no tracking involved. Two sites exchange links (text, banners) with each other and send each other traffic. This helps in getting higher rankings in search engines—particularly Google.

Blogging

Search engines have started indexing content published in blogs and showing them with other search results. Blogs are vital online marketing tools, more so for new ventures.

Enter The Internet

In October 1998, ShalinCraft started with a five-page Web site called www.shalinart-india.com. There was little infrastructure at that time for online shopping; yet, their first sale—a Madhubani-style painting—was sold for \$1,000 (Rs 43,500 today) over the Internet. And this cemented Verma's faith that business could indeed be conducted over the Web.

Today, ShalinCraft deals in a wide variety of products such as apparel, furnishing, books, folk art, jewellery, sculptures, and gift items. One new addition to this list has been various flavours of tea such as 'Darjeeling', 'Assam', and 'Spice'. "We received various requests from our customers for genuine Indian tea and we thought, 'why not'," says Verma.

Customers have the option to select from a variety of products available on the site, and can even place custom orders for products such as salwar kurtas and sarees.

Business Over The Net

Most of ShalinCraft's business happens over the Net. A brief description of every product on the site helps customers understand what they are ordering. Products are shipped within



“Our Internet presence has quickened our response time to customer grievances and queries. Our sales have also increased by almost 5 times”

Shalini Verma
Founder and
Director,
ShalinCraft

24 hours, and delivered within three to five days.

ShalinCraft does not have any brick-and-mortar presence or branches anywhere in the world, except in India. Headquartered in Gurgaon, Haryana, ShalinCraft has country representatives across different regions including the US, the UK, Europe, South-East Asia and Japan.

As a matter of fact, the US alone accounts for almost 80 to 90 per cent of ShalinCraft's business.

Capturing The Market

ShalinCraft reaches out to the right audience? Using of various marketing tools such as e-mail marketing, online advertising, search engine optimisation, affiliate programs and link partnerships, newsletters and press releases, customer profiling, targeting user databases and blogging.

ShalinCraft boasts of a customer base of more than 4,000 customers across the globe.

The Customer Is King

The products at ShalinCraft pass through three levels of quality check to ensure that the customer gets his money's worth.

First, when the product is purchased from the artist; next, when it is entered into the inventory; and finally, before it is

shipped. That may explain why less than two per cent of shipped items are returned.

What about standards? "We are dealing mainly with the unorganised sector. Our suppliers are artists from remote villages all over the country. It will be extremely difficult at this stage if we were to ask them to manufacture products as per any quality standards. But we are certainly planning to apply for quality standards in the future," says Verma.

ShalinCraft ensures that the customer is at ease at all time. The various return policies with no strings attached help cement the customer's faith in the company. ShalinCraft also has a 24 x 7 call centre that answers calls from the USA.

Using the Internet as an effective marketing tool, ShalinCraft has made the transition from an import house selling European and Western art to Indian buyers to a portal selling Indian handicrafts in the global market. However, will an Internet art-shop, catering to a niche clientele, survive in the cut-throat world of Internet shopping?

With Indian art becoming a craze overseas, ShalinCraft may just be able to outdo the competition if it makes the right moves. ■

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Photograph Mexy Xavier

Tube It Up

As the battle over which is better—LCD or CRT—continues, we take a close look at some of the options in the CRT category

Aliasgar Pardawala and Jayesh Limaye

A monitor is your window to an exciting virtual world that your hardware and peripherals work quietly to produce. Whether it's a movie, game or Web page, your viewing experience depends heavily on your monitor's size and performance.

An good example is the feeling of euphoria you get when you upgrade from a 15-inch screen to a 17-inch or a 19-inch monitor; an even better example is the dismal experience of having to make do with a 15-inch monitor after being used to the 17-inch or the 19-inch one for quite some time.

Although your graphics card plays a key role in what the image on your screen looks like, your monitor is equally important. Sharpness, colour reproduction, refresh rate and resolution define a monitor's capabilities. And this chain of features is only as strong as its weakest link—if the monitor underperforms in any of these areas, you end up dissatisfied.

We tested 27 monitors; 18 were 17-inch, and nine were 19-inch monitors. The products came to us from nine vendors, and came in beige, black and dual-tone. Some were both beige and black. As black cabinets are popular nowadays, black monitors are a must to maintain uniformity—and cost, on average, Rs 500 extra.

Since we can't go about switching monitors for each task we perform, monitors need to be all-rounders, and should be capable of offering you the best possible experience while gaming, working on text documents, watching movies or surfing the Net.

Flat And Flatter

If you thought monitors were either normal or flat, think again. Now you have even flatter screens, also known as 'true-flat' screens. This difference is justified when you see the differences between each vendors' 'flat' model and their 'true-flat' model. The regular flat models display irregularities at the corners, and though the screen appears flat, the same does not

hold true for the display. On the other hand, 'True-flat' screens do not have this problem.

A flat tube is preferred over a regular curved monitor because of the better geometry offered by the former. True-flat monitors, such as the NEC MultiSync FE791SB and Viewsonic E71f, show no skewed corners when displaying straight lines or grids.

In the 19-inch category, the scene is no different. However, models such as the LG Studioworks 910E don't claim to be flat, and neither is there an additional glass over the picture tube to fool you into thinking it is flat. The NEC MultiSync FP912SB, on the other hand, is an aperture-grille tube-based monitor, and is therefore, a true-flat.

Dot Pitch

Dot pitch plays a significant role in the sharpness of an image. This is the distance between the individual pixels on the monitor screen. A finer dot pitch results in a sharp image, and inclined lines will appear less crooked.

However, aperture-grille tube-based monitors with a tighter dot pitch or line pitch cost a lot more. As of right now, most monitors have diagonal dot pitches ranging from 0.27 to 0.24 mm. If you read that a monitor has a dot pitch smaller than this, make sure it is the diagonal dot pitch, and not the horizontal dot pitch.

Samsung advertises its monitors as having a dot pitch of 0.20 mm, however, this is the horizontal dot pitch, which is naturally smaller than the monitor's diagonal dot pitch value.

The 19-inch NEC MultiSync FP912SB has a fine dot pitch of 0.24 mm, which was the best amongst all the monitors we tested. The Microtek 43F1, a 17-inch monitor, had the coarsest dot pitch: 0.28 mm.

Video Bandwidth

Most of us would love to own monitors that can display 1,280 x 1,024 at 85 Hz, which means more viewing area without headaches due to flicker. This translates to the need for higher video bandwidth, which in turn increases the cost of the monitor. None of the 17-inch monitors we tested, except for the Acer AF715, had such specifications. It offered 200 MHz of video bandwidth, which enables it to reach a maximum resolution of 1,600 x

1,200 at 75 Hz, which is an acceptable figure, even for the most discerning amongst us. However, no other 17-inch monitor came even remotely close to this figure.

In the 19-inch category, the NEC, Philips and Samsung models offered 1,920 x 1,440 resolutions. The NEC offered a refresh rate of 73 Hz, but the others could not offer a flicker-free viewing experience. The NEC could pull this off because of its high video bandwidth of 290 MHz, whereas the rest maxed out at 250 MHz. The Viewsonic E90f+ could only generate 202 MHz of video bandwidth.

Dimensions

By and large, a CRT monitor is the bulkiest device attached to a computer. This is one of the main reasons why LCD monitors have gained such a big foothold in the display market. Vendors have tried to slim down CRTs, but this can only be achieved to a certain extent.

In the 17-inch category, monitor widths ranged from 396 mm to 410 mm, and the depths ranged from 410 mm to 430 mm. A difference of 20 mm is hardly noticeable, so no matter what monitor you choose, be ready to make space for it on your desk. Also, the 19-inch category saw no noticeable variations in dimensions.

Weight Problem

CRTs are heavy, and we are used to this fact. The heaviest part is the picture tube. Unless the technology changes drastically, CRTs will remain heavy. The lightest 17-inch CRT monitor in our test was the Philips 107 E5, weighing in at 13.4 kg. The Viewsonic EF72+SB weighed in at 18.1 kg, and was actually heavier than some of the 19-inch models.

In the 19-inch category, the lightest monitor was LG Studioworks 910E at 17.3 kg. NEC MultiSync FP912SB was the heaviest, at 23.8 kg.

Power Consumption

CRT monitors are power-hungry beasts, and therefore, it's a good idea to power them separately instead of using the cabinet's power supply. A CRT monitor typically needs 70 W of power or

more. This requirement can stress a PC's power supply, which can lead to an unstable system.

Amongst the 17-inchers, the BenqV773 needed 70 W of power, whereas the Acer AF715 demanded a massive 120 W. If an office buys the Acer for its employees, it should be prepared to foot large electricity bills.

In the 19-inch category, the Philips 109 E5 was the most power-efficient. It needed just 65 W of power, which was lower than even the best 17-inch monitor in this test. Even the 109 B6 from Philips needed just 75 W.

These are very impressive figures as far as power consumption is concerned. The biggest power hog in the 19-inch category was—you guessed it—the Acer AC915-130 W.

Extras

All monitors came with a quick start guide, a power cord, and a CD with a manual and a colour profile. The LG Studioworks 700S came with a blue card with a spectral code. This works in conjunction with the Colorific display-tuning utility bundled with the monitor. You can adjust the brightness and contrast perfectly by comparing the colour of the card to the colour on the screen—when they match, your monitor is set perfectly.

Samsung's MagicTune software and Viewsonic's Wizard allow you to tune your monitor's settings to specific applications with minimum hassles.

How They Performed

Both the 17-inch and 19-inch monitors were tested by running 32 selected slides from DisplayMate Video Edition, which pushes the CRTs to the limit. These tests included checking of the geometrical display, sharpness of lines, curves and text, uniformity of the screen, and other problems related to CRT technology—defocusing level shift and ghosting.



Samsung SyncMaster 793MB

What is moiré?

A moiré pattern is a wavy pattern formed on the monitor when very a fine pattern is displayed. These patterns can be due to the graphics board or shadow mask in a CRT monitor when there is cross-talk or noise induced in a signal, or when the electron beam spot size is small. If the spot size is small, it does not adequately fill the hole in the shadow mask—and hence makes the moiré visible.

Pincushion And Barrel Distortion

This is a problem with almost every CRT monitor. If you thought the factory default settings get you straight lines, you will be disappointed to find that these settings are hardly optimised.

Pincushion is a form of distortion where lines bend inwards. The opposite of this is barrel distortion. There are multiple reasons why these effects happen, the primary one being that the screen is constructed almost flat,

disturbing its natural spherical shape. With this in mind, monitors come with special circuitry that corrects pincushion and barrel distortion. However, not all the monitors displayed straight lines even after trying every trick in the book to calibrate them.

In the 17-inch category, the NEC MultiSync FE791SB, Samsung 793S and LG Flatron E700SH were the ones that returned the best results. The results, after all the adjustments, were not perfect, but they were acceptable to the point

where only graphics professionals could make out flaws. Users working with office applications and surfing the Net would find the results impressive.

The HCL785RFM and the Philips 107 E5 failed to display horizontal lines straight. The HCL and the Philips monitors failed to provide the necessary tools for perfect adjustment, and scored lower on this test. If your work involves working with graphics or industrial design, we recommend the NEC MultiSync FE791SB.

How We Tested

Our test bed consisted of a Pentium 4 2.8 GHz equipped with an Nvidia GeForceFX 5950 Ultra graphics card. The system ran Windows XP SP2. The CRT monitors were tested at their native resolutions (1024 x 768 at 75 Hz for 17-inch, and 1280 x 1024 at 75 Hz for 19-inch monitors).

We adjusted each display to perform optimally in the viewing conditions, using manufacturer-recommended or Windows' default settings when possible. We also had a reference monitor, which was evaluated first, and then the rest of the monitors were compared to the image displayed by the reference monitor.

DisplayMate Tests

With help from DisplayMate Technologies, we ran through our own scripted selection of test screens in DisplayMate Multimedia Edition. These screens help us isolate common phenomena such as flicker, moiré, bounce, ghosting, and convergence errors. We broke down our own analysis into five categories: focus, regulation, geometry, colour quality and uniformity, reverse text, moiré and interference. A product's scores in each category was compiled and averaged to produce a single performance rating. The ratings you see in our reviews are a composite of the battery of individual screen analyses we ran for each monitor.

Our test script, described below, represents only our base-testing. Many of the screens in this test suite can be configured in a variety of ways, including with different background and foreground colours. Depending on the characteristics of an individual display, we used several variations of the screens listed below, along with other DisplayMate screens.

Resolution Tests

Horizontal Line Resolution: This screen contains five horizontal bars composed of vertical white lines in varying frequencies of lines per inch. The higher line frequencies demand more from the display's horizontal resolution capabilities. We used this screen to adjust the sharpness of the monitor and evaluate its horizontal resolution capabilities.

Vertical Line Resolution: This screen is similar to the previous test, and contains five horizontal bars composed of horizontal white lines in varying frequencies of lines per inch. The higher number of lines per inch areas stressed the display's vertical resolution capabilities.

Focus Matrix: The graphic pattern on this screen reveals variations in focus across the display. This screen was used to adjust and to test image focus. It is also handy for checking geometric linearity, especially in the corners.

Page Of Text: This screen allows us to examine the display's ability to render text under a variety of conditions. With it, you can cycle through various text and background colours, view split screens with inverse text and background colours, and alter the type and size of a font. We found it especially useful in evaluating a display's ability to render anti-aliasing enhancements.

Sharpness And Resolution Tests

Midrange Streaking: As the title suggests, this screen allows us to check the display's propensity for streaking and ghosting, light or dark shadows that trail an image in areas where large changes in intensity are present. You may detect this on your own monitor when it renders large, chunky graphics elements such as bar graphs or tiled arrangements of open windows.

Fine Focus And Resolution Matrix: Moiré looks like a tiger's stripes, or like ripples, superimposed on a CRT monitor's screen. Though it's found on virtually all CRTs, it's actually less common in consumer CRTs because they are generally not as sharp as higher-end displays. Some monitors include moiré-reduction features.

Geometry Tests

Pincushion And Barrel Distortion: This screen is used to measure the geometric distortion displayed by the CRT monitor after calibrating it using its OSD menu.

Screen Regulation: This screen helps detect image contraction and expansion with strong changes in brightness. It displays a large, flashing square against a black background. The square can be assigned various colours, but white is generally the most useful. On a poor-quality CRT, the square appears to grow slightly as it flashes.

Colour And Greyscale Tests

Streaking And Ghosting: In this test, various screens comprising grey and colour bars are displayed against a grey background. Streaking and ghosting usually occur when there is a change in the intensity between adjacent areas. We looked for shadows trailing the edges of bars and blocks.

Level Shift: This, again, occurs at the edge of areas with varying brightness. In white and black level shift, the area adjacent to the dominant white or black area will have a blurry edge—displaying a red, green or blue edge.

Miscellaneous Tests

Background Noise And Interference (Screen 10:3): We examined this screen for a list of things that should not be seen. These may include irregularities relating to noise aggravated by poor-quality cables or other problems as are normally associated with the electronics of the display.

Defocusing Blooming And Halos: This slide displays lines and rings of varying brightness. The monitor should be able to satisfactorily produce the image, and the bright part should not look washed out or appear thick.

Features Test: In the features test, we looked for the set of features the monitor provided—such as a flat screen, video bandwidth, the maximum horizontal and vertical frequency supported by the particular monitor, dimensions, weight, and other relevant aspects. The monitors were awarded points according to the extra features they offered.

Colour Profiles

A colour profile is a file that holds information about the colour reproduction capabilities of an imaging device such as a monitor or scanner. It is provided by the vendor, and is installed on the computer to enable the monitor to display colours correctly.

Among the 19-inch monitors, the Philips 109 B6 and the Samsung SyncMaster 957MB got the lines correct. The Samsung 957MB returned results as good as Philips. Both these 19-inch monitors will make good companions for those with eyes sensitive to correct geometry, as well as for CAD/CAM professionals.

The Pump Effect

When there is a sudden change in brightness, the screen expands or gets displaced. This is called the pump effect, and is a common problem with CRT technology. Vendors are yet to provide a solution for it.

You can see this effect by using a wallpaper with a dark background and running an office application with a light or white background—if you switch from the application to the wallpaper, you will see the screen contract. Switching back to the application will result in the screen expanding. This adversely affects your experience, especially while watching a movie.

In the 17-inch segment, the NEC MultiSync FE791SB returned solid results. There was very little pump effect visible. Some monitors such as the Samsung SyncMaster 793DF returned very poor results; the screen not only got bigger in size, but also got displaced by more than a millimetre. Therefore, if you are a movie buff, spend that extra money and get the NEC MultiSync FE791SB.

Amongst the 19-inch monitors, NEC MultiSync P912SB returned impressive results, followed by both the Samsung models. The Viewsonic UltraBright E90f+SB returned unacceptable results.

Resolution And Sharpness

Here, we were looking for sharpness in horizontal and vertical lines and bars, crispness of patterns in the middle and corners

of the screen, and the moiré problem. Sharpness suffers because monitors are not able to draw every detail correctly at the resolutions and refresh rates we usually work at. This results in serrated edges in bars and lines, both horizontal and vertical. Since the screen is drawn at very high speeds—typically 75 to 80 times a second—misconvergence occurs, which in turn results in a pattern appearing blurred at the corners.

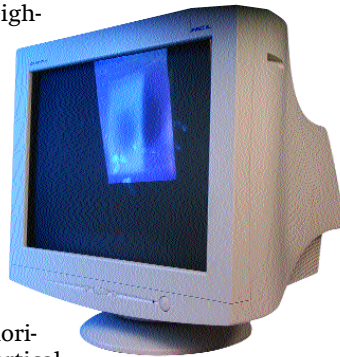
The other reason for imperfectly crisp images at the corners is the deflection of the electron beam from its path. The beam, which hits the middle of the screen, is not deflected much, and therefore doesn't lose its circular shape. However, when it hits the corners, the circular shape turns into an elliptical one, and as a result of this, neighbouring pixels get highlighted at the same time.

In this set of tests, the LG Studioworks 700S displayed crisp images at our test resolution of 1,024 x 768 at 75 Hz. It displayed sharp horizontal and vertical lines, and even single dots didn't bleed too much into neighbouring pixels. It also managed to display fine patterns generated by DisplayMate crisply in the middle and with very little fuzziness in the corners.

The Samsung 793S, an entry-level monitor, was not up to the mark. Horizontal lines appeared serrated, and the dots were nowhere near round. Even the patterns appeared rather hazy in the corners.

The moiré effect, which is another problem with CRT monitors—whether shadow mask-based or aperture-grille-based—happens not because the monitor is faulty, but because of the limitations imposed by the technology. A dot pitch as fine as 0.24 mm is not sufficient to eliminate moiré completely. Any finer dot or stripe pitch will increase the price of the monitor drastically, making it unfeasible for the mass market.

There is a moiré-correcting function on the On-Screen Display (OSD) controls of all monitors. But in most cases it doesn't help to eliminate moiré completely.



HCL HCM985RFM

The Acer AF715 and the Viewsonic E71f were the only monitors that provided a moiré-free display. There was absolutely no trace of line moiré, and the visible dot moiré was almost negligible. The LG Flatron E700SH and Samsung 793S returned images filled with moiré in both the line and dot tests. All attempts to correct this using the OSD were in vain.

In the 19-inch category, the HCL HCM985RFM returned the best results, with very little moiré in both the line and dot tests. The Philips 109 B6, too, returned commendable results, but the Philips 109 E5, on the other hand, had moiré smattered all over the screen. Even the NEC MultiSync FP912SB suffered in the dot moiré test.

Screen Pixel

This is a test that uses a curved and an inclined line. Since the dots in a CRT screen are arranged in triads, it is not possible to display an inclined line or curve smoothly. However, a monitor with a tighter dot pitch will serve up a less crooked line as compared to one with a coarse dot pitch.

There was hardly any difference among monitors which were tested in both the 17-inch and 19-inch categories.

Colour And Greyscale

Here, we looked for the purity of primary and secondary colours, reverse text, the ghosting effect, and level shift. Ghosting and streaking is an effect visible at the edges of the display area where the intensity of the brightness suddenly drops. This effect is lower when a CRT is new, but increases as it gets older.

This can be very irritating for those working on MS Word or a programme with a similar layout, where a bright area is adjacent to a dark area. Tweaking the contrast, in many cases, can take care of this problem to some extent, but it can cause strain while reading text.

What Is Colour Temperature?

A certain colour temperature is defined as the colour emitted by a black body at that particular temperature. Colour temperature, also known as White Point, is a setting in almost all monitors. It is adjusted so that the monitor displays a natural-looking colour. 9300 K is termed Cool White, and 6700 K is seen as a warmer white.



In the 17-inch segment, Samsung SyncMaster 793S was free of any ghosting and streaking when



Acer AF715 (17-inch)

tested with the four slides we ran the monitor through. The Samsung SyncMaster 793MB was equally impressive, but there was slight ghosting trailing of a bright bar on a dark background. The NEC MultiSync FE791SB, however, did not manage the impressive score it did in the other tests. Ghosting was prominent at different intensities, especially with white and yellow over a grey background.

In the 19-inch category, the HCL HCM985RFM and the Samsung 957MB were relatively free from the ghosting effect. Here again, the NEC MultiSync FP912SB returned poor results.

The White and Black Level is another problem visible at the edges' areas of various intensities.

Again, office applications such as Word, Excel and PowerPoint are good examples where this 'level shift' is visible. In Word, the white area where words are typed, and the adjacent grey background makes for a white-level shift in the form of a visible tinge of colour. This makes the edges blurry. Of course, this is just an example, and is a minor problem with office applications, but for graphics professionals it means inaccuracy. They need displays that show crisp images that match the printouts perfectly.

In both the 17-inch and the 19-inch categories, there was very little level shift visible in the monitors. We could see some red and blue tinges, which were not very prominent. The tinges were visible only if scrutinised.

Text Colour

You often come across coloured text on a coloured background—especially in Web pages. The crispness of coloured text suffers on colour backgrounds. In some cases, the edges will be blurred, or the text appears thick or thin. Red text on blue will appear thick, whereas red text on yellow will

appear thin. This happens because the brighter colours bleed into darker colours.

Among the 17-inch monitors, the Philips 107 C6 gave good results, making it a good choice for Web designers and surfers. The Microtek Flatvision 43F1 suffered in this test. The cyan text on a red background was full of blue tinges, and red text appeared very thin on a yellow background.

In the 19-inch category, the NEC MultiSync FP912SB returned acceptable results. The colours weren't perfect, of course, but they were definitely acceptable.

The Acer AC915 returned below-par results, and left a lot to be desired.

Miscellaneous Tests

We looked for common problems such as the uniformity of the screen, flicker, the reflection

problem and the shadow mask problem. CRT

monitors usually do not display the screen uniformly. Most of the CRT monitors appear brighter at the centre, and get dimmer towards the corners. Flicker is another problem with CRT monitors, and it will persist unless the refresh rate is well above 72 Hz.



Viewsonic E71f (17-inch)

Score Board

Brand	Model	Basic Specifications	Score (Out of 100)	Price (Rs)
17-inch CRT Monitors				
Acer	AC715	0.27mm, 30 - 72KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 15.5Kg, 75W	61.88	5495
Acer	AC715	0.25mm, 30 - 98KHz, 1600x1200@75Hz, 200MHz, Shadow Mask, 17Kg, 120W	64.80	6995
BenQ	G776	0.25mm, 30 - 72KHz, 1280x1024@67Hz, 110MHz, Shadow Mask, 16.4Kg, 75W	55.19	8500
BenQ	P776	0.27mm, 30 - 72KHz, 1280x1024@67Hz, 110MHz, Shadow Mask, 15.4Kg, 75W	55.85	9600
BenQ	V773	0.27mm, 30 - 72KHz, 1280x1024@67Hz, 110MHz, Shadow Mask, 15.4Kg, 70W	61.99	6900
HCL	HCM780M	0.27mm, 30 - 70KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 15.5Kg, 75W	59.85	6300
HCL	HCM785RFM	0.25mm, 30 - 54KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 16Kg, 90W	54.91	7900
LG	StudioWork 700S	0.27mm, 30 - 70KHz, 1280x1024@60Hz, NA, Shadow Mask, 14.4Kg, 74W	58.97	8000
LG	Flatron E700SH	0.25mm, 30 - 70KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 16Kg, 74W	51.93	13500
Microtek	FlatVision 43F1	0.28mm, 30 - 70KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 15.5Kg, 95W	58.67	5700
NEC	MultiSync FE791SB	0.25mm, 30 - 96KHz, 1600x1200@70Hz, NA, Aperture grille, 17Kg, 68W	55.33	17000
Philips	107 C6	0.25mm, 30 - 71KHz, 1280x1024@60Hz, 120MHz, Shadow Mask, 15.8Kg, 68W	55.28	10000
Philips	107 E5	0.27mm, 30 - 71KHz, 1280x1024@60Hz, 120MHz, Shadow Mask, 13.4Kg, 64W	54.34	8500
Samsung	SyncMaster 793MB	0.20(H)mm, 30 - 70KHz, 1280x1024@65Hz, 110MHz, Shadow Mask, 14.2Kg, 80W	59.12	8100
Samsung	SyncMaster 793S	0.23(H)mm, 30 - 70KHz, 1280x1024@65Hz, 110MHz, Shadow Mask, 13.8Kg, 80W	60.69	6400
Samsung	SyncMaster 793DF	0.20(H)mm, 30 - 70KHz, 1280x1024@65Hz, 110MHz, Shadow Mask, 14.3Kg, 80W	59.46	7900
Viewsonic	E71f	0.25mm, 30 - 71KHz, 1280x1024@66Hz, 110MHz, Shadow Mask, 16Kg, 75W	62.39	7500
Viewsonic	E72f+SB	0.25mm, 30 - 72KHz, 1280x1024@60Hz, 110MHz, Shadow Mask, 18.1Kg, 75W	59.89	7600
19-inch CRT Monitors				
Acer	AC915	0.26mm, 30 - 98KHz, 1600x1200@75Hz, 202MHz, Shadow Mask, 18.2Kg, 130W	61.31	13495
HCL	HCM985RFM	0.26mm, 30 - 98KHz, 1600x1200@75Hz, 200MHz, Shadow Mask, 20Kg, 130W	64.17	13100
LG	StudioWork 910	0.26mm, 30 - 85KHz, 1600x1200@65Hz, NA, Shadow Mask, 17.3Kg, 70W	58.32	17000
NEC	MultiSync FP912SB	0.24mm, 30 - 110KHz, 1920x1440@73Hz, 290MHz, Aperture grille, 23.8Kg, 102W	63.83	19000
Philips	109 B6	0.25mm, 30 - 97KHz, 1920x1440, 250MHz, NA, Shadow Mask, 20Kg, 75W	59.14	20000
Philips	109 E5	0.26mm, 30 - 92KHz, 1920x1440@60Hz, 240MHz, Shadow Mask, 17.8Kg, 65W	61.48	17500
Samsung	SyncMaster 957MB	0.20(H)mm, 30 - 96KHz, 1920x1440@64Hz, 250MHz, Shadow Mask, 18.2Kg, 100W	65.53	16500
Samsung	SyncMaster 997DF	0.20(H)mm, 30 - 96KHz, 1920x1440@64Hz, 250MHz, Shadow Mask, 18.2Kg, 100W	66.97	14900
Viewsonic	UltraBrite E90f+	0.25mm, 30 - 86KHz, 1792x1344, 202MHz, Shadow Mask, 22Kg, 100W	62.54	14250

For the complete scoreboard, log on to www.thinkdigit.com



Samsung SyncMaster 997DF (19-inch)

The flicker is more prominent when the screen is bright, because bright pixels do not hold their brightness levels for long; if the next refresh is going to take longer, it will result in flicker. It is therefore recommended to keep the refresh rate at 75 Hz or above, if your monitor and resolution can support it.

Reflection when the screen is dark is another problem. This can hamper clear vision of what is on the screen. Most vendors claim to have anti-glare coating on the glass, but this only works when your screen is not dark.

In both the 17-inch and 19-inch categories, the monitors all offered good screen uniformity and flicker-free viewing at 75 Hz, the only exception being the Samsung 793DF, which had a darker shade in the lower left corner. Overall, the dark screen test returned results similar to those in the screen regulation test, with all monitors in both categories suffering. There was not even a single monitor that could return a pure dark screen with no reflection.

In the CRT Shadow Mask test, four bright blocks are at the corners of the screen, and stay bright for 30 seconds. They then disappear. We looked for any remnants, or ghost images, of the bright blocks. As it turned out,

none of the monitors had traces of ghost images.

This test was a lot more useful a decade ago, when the phosphors, if kept glowing for extended periods of time, would keep a bright spot for some time afterward. This is the reason screensavers were developed and used. These days, new monitor technology has done away with the need for screensavers, though we still use them for ornamental and aesthetic purposes.

Cost of Ownership

Prices of everything except CRT monitors seem to be falling. For example, the Microtek 43f1 cost Rs 5,700 last year, and costs the same even now. In fact, certain repeat models have gotten more expensive—the NEC MultiSync FE791SB cost Rs 16,500 last year, whereas it is currently priced at Rs 17,000. The cheapest 17-inch monitor available right now is the Acer AC713, at Rs 5,495.

In the 19-inch

category, the **Samsung SyncMaster 957MB (19-inch)** Philips 109 B6 was the costliest model at Rs 20,000, followed by the NEC MultiSync, an aperture-grille-based monitor available for Rs 19,000. The cheapest was the HCL HCM985RFM, at Rs 13,100.

Summing It Up

The notable monitors in this test were Benq V773 and NEC MultiSync FE791SB, which gave the highest pure performance scores, but couldn't make it to the top due to low features scores or a higher price tag. The NEC merits special mention as it was the only aperture-grille-based monitor capable of a high resolution of 1,600 x 1,200 at 70 Hz, which makes it the best buy for graphics professionals.



Samsung SyncMaster 957MB (19-inch)

The Acer AF715 wins the Best Buy Gold, thanks to its fine dot pitch of 0.25 mm and a terrific video bandwidth of 200 MHz. This monitor made its mark felt in many tests. This was the only monitor which could do 1,600 x 1,200 at 75 Hz—a resolution and refresh rate usually found only on 19-inch models. It also had easy OSD functions, returned good results in the pincushion and barrel distortion tests, and showed no line moiré.

The ViewSonic E71f is our Silver winner. In fact, we also used it as our reference monitor. The ViewSonic E71f performed well and has a good feature set. The monitor came in a dual-tone black and silver grey finish, making it an attractive companion for those with black cabinets. The price of the monitor, however, is a little steep, and this was compounded by lower features scores—and it lost the top spot.

In the 19-inch category, the NEC FP912SB returned a commendable overall performance and the highest features scores, but because of its high price, it couldn't make it to the top. The HCL HCM985RFM is the cheapest 19-inch monitor available, and also performed impressively—making it desirable for budget buyers.

In the end, the day belonged to the Samsung siblings: the SyncMaster 997DF claimed Best Buy Gold because of its stable all-round performance. It managed decent results in difficult tests such as the screen regulation and the pincushion and barrel distortion test. The monitor did not display any ghosting or streaking, making it a good choice for graphics professionals, gamers, and those who want to migrate to a bigger screen.

The Samsung 957MB is our Best Buy Silver winner, as it had all the qualities of its sibling in terms of features and performance. The higher price tag of Rs 16,500, against Rs 14,900 for the SyncMaster 997DF, was the sole reason it won silver and not gold. The 957MB also deserves special mention, as it comes with the Magic Bright button, which is a factory-set brightness and contrast settings button optimised for different viewing conditions. ■

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Contact Sheet

CRT Monitors


Brand	Company	Telephone	E-mail	Web site
Acer	Acer India Pvt Ltd	080-5219520-23	Rajesh.Aiyar@acer.co.in	www.acer.co.in
Benq	Benq India Pvt Ltd	022-25705230	SalesEnquiryIn@BenQ.com	www.benq.co.in
HCL	HCL Peripherals	044-5200 6570	kiruba@hclp.com	www.hclperipherals.com
LG	LG Electronics India Pvt Ltd	012-2560900-40	avarshney@lgezbuy.com	www.lgezbuy.com
Microtek	Microtek International Ltd	022-28362407	an.bom@mtk.sril.in	www.microtek.com.sg
NEC	Shiba Comp Pvt Ltd	011-26413437	sales@shibacomp.com	www.nec-mitsubishi.com
Philips	Philips India Ltd	022-56912324	pcp.india.info@philips.com	www.india.philips.com
Samsung	Samsung Electronics India	011-51511234	marketing@samsungindia.com	www.samsungindia.com
Viewsonic	Roop Technology Pvt Ltd	022-26680022	roop@vsnl.com	www.viewsonic.com

MICROSOFT WORD

Change The Default Open And Save Folders

 When you choose to open a new document in Word, it usually begins browsing in a specific directory, such as My Documents. Similarly, when you choose to save, there is a default directory. You can change these defaults: go to **Tools > Options**. Click on the 'File Locations' tab. Click on 'Documents' under 'File Types', and then on 'Modify'. Use the 'Look in' list to locate the folder you want to use from now on. Click on the folder name, then click 'OK' to select that location. Finally, click 'OK'.

Multiple Clipboards In Word

 You'll often need to copy more than one block of text to the Clipboard, but you probably didn't know you could do this and then paste everything into a document!

To get to the clipboard in the task pane in Word XP, first make the task pane appear using **View > Task Pane**. Then, on the little 'down' arrow, select 'Clipboard'. Click 'Options', then check 'Collect Without Showing Office Clipboard'.

Now copy up to 12 blocks of text (24 blocks in Word XP), then, when you're ready to paste, use the 'Clipboard'

Tips Tricks

SECRETS THAT KEEP YOU AHEAD IN THE RACE

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toolbar in Word 2000, or the task pane on the right side of the screen in Word XP. Now, you can paste everything at once, or individual items in different locations. Hover the mouse over the icons on the Clipboard toolbar or on the task pane to get a preview of the content.


Add A Button To A Toolbar

 You've probably never bothered to do this, but it's very easy to add your own buttons to the toolbars. You can add a button for any of a variety of commands. For

example, if you often change the font of selected text to Verdana, you can place a convenient button on the toolbar to make the change with one click. To make a new button, go to **View > Toolbars**. Select 'Customize'. Click on the 'Commands' tab, and select an item under 'Categories'. Then select an item from the list of 'Commands'. Drag the command to a toolbar. A beam that looks like an 'I' will appear to help you install the button. By default, the new button has only a text label. Right-click on the new toolbar item, and select Default Style—the button will become a plain square. Right click on the new toolbar item again. Choose 'Change Button Image', then select a button image. Finally, close the 'Customize' dialog box.


To remove a button from a toolbar, go to **View > Toolbars**, select 'Customize', and drag the button you want to remove off the toolbar.

Print Out All Of Word's Shortcut Keys


 Word has an inbuilt macro that generates a list of all the keyboard shortcuts available. To generate the document, go to


Tools > Macro. Choose 'Macros'. Select 'Word commands' from the list in the 'Macros in' box. Now from the list in the 'Macro name' box, choose 'ListCommands'. Click Run. In the 'List Commands' dialog box, click 'Current menu and keyboard settings'. Click OK. The macro will run, generating a document in table form that you can print.

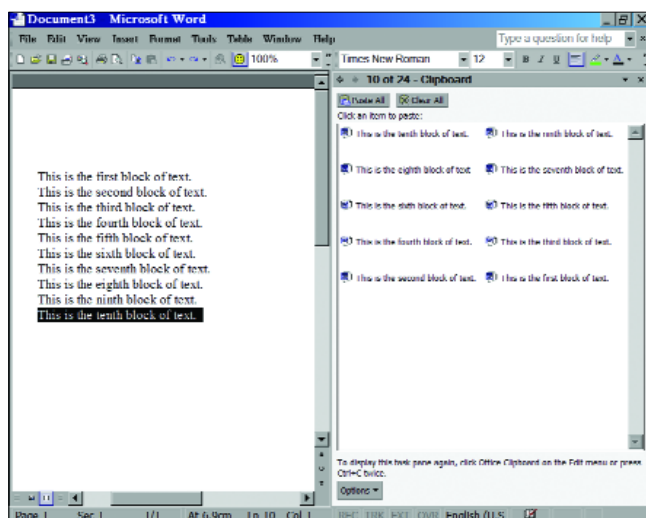
Using Styles

 A style is a set of formatting characteristics that you can quickly apply to text in your document. The Style list is the pull-down list on the 'Formatting' toolbar, where it usually says 'Normal' in a white box. You can apply styles by selecting text, then choosing a style from the list. There will be a few there by default. To create your own styles, select the text that contains the formatting you want to use for your style. On the Formatting toolbar, click inside the 'Style' box. Type over the existing style name to create the name for the new style, then press Enter. You can set additional formatting characteristics for paragraph styles, such as the style for the next paragraph. To do this, go to **Format > Style**. Click the style that has the settings you want to change. Click 'Modify', and then select the options you want.


Create Your Own AutoText

 AutoText is a way to store and quickly insert text, graphics, fields, tables, bookmarks, and other items that you use frequently. Word comes with a library of AutoText entries. To see there, look at the items listed under AutoText in the 'Insert' menu, or turn on the AutoText toolbar, and then click on 'All Entries'. You can create your own AutoText entries with either of the following methods.

 Choose AutoCorrect or AutoCorrect Options from the Tools menu, then click on the AutoText tab. Type in the text of your new AutoText entry in the 'Enter AutoText entries




In Word XP, you can copy and paste up to 24 blocks of text at once, at different points in your document—using the 'Clipboard' task pane

here' box, then click Add. Make sure the 'Show AutoComplete tip' checkbox is checked. Click OK. Word will show a tip on the screen after you type the first four or five letters that match the AutoText entry. Press [Enter] to accept the entry, or keep typing to ignore it. If 'AutoComplete' is turned off, you can insert AutoText entries with the AutoText toolbar (see the next method).  Turn on the AutoText toolbar by choosing Toolbars from the View menu, then selecting AutoText. Select the text you want for an AutoText entry, then click on the 'New' button on the AutoText toolbar. Make up a shortcut name for this entry. To use the shortcut, type the shortcut, then immediately press [F3].


MICROSOFT EXCEL

Locking A Range Of Cells

 If you want to lock only a particular range of cells along with the formula instead of locking the entire sheet, use the following steps. First, unlock all the other cells. This is necessary because all the cells start with their 'Locked' property set to 'True'. Select the entire sheet by clicking on the grey square to the left of the grey letter A at the top of column A. Go to **Format > Cells**. Click the 'Protection' tab. Uncheck the 'Locked' checkbox. Click


'OK'. Then, you can protect a certain number of cells. For example, let's protect A4:B10: select cells A4:B10. Go to **Format > Cells**. Click the Protection tab. Check the 'Locked' checkbox. Click OK. Now go to **Tools > Protection > Protect Sheet**. Enter a password if you want to. Now, only the cells in A4:B10 will be protected.

Disabling Specific AutoCorrect Features

 In Excel 2000, it may seem impossible to put "ehr" in a cell because Excel changes it to "her". You can fool it by concatenating individual letters, but an easier way is to disable the relevant AutoCorrect feature.

To stop Excel from doing this or any other similar change, follow these steps: go to **Tools > AutoCorrect Options**. On the first tab ('AutoCorrect'), in the 'Replace text as you type' section, there is a long list with a scrollbar. Use the scrollbar to go down to through the alphabetical list to 'e'. Find the entry for 'ehr'. Click that entry to select it. Now click 'Delete'.


Round Off Times

 Here's a formula that can round off a time to the nearest quarter hour: if someone clocks in at 7:07, it counts as 7 AM. If he clocks in at 7:08, then it should be 7:15 AM. To do this, use this formula:

=ROUND(A1*96,0)/96

If your times are in column A, you would enter a formula like this in column B. You will have to use **Format > Cells** and then format the cells in column B with a time format.

Easily Convert Numbers To Text

 If you have a column of numbers and you need to convert them all to text, you would select the column, then go to **Format > Cells**, and on the 'Number' tab, change the formatting to 'Text'. That doesn't quite do it though—the formatted cells will still work as numbers, which you can verify by using them in formulas. To convert them to real text, you need to press [F2] and then hit [Enter], for each and every cell. Here's a simpler way to convert a whole bunch of numbers to text. Let's assume you have numbers in cells A2:A1000. Insert a temporary blank column B. In cell B2, enter this formula:

=TEXT(A2,"0")

Copy the formula in B2 down to B3:B1000. We need to change these formula to values in order to have them become text. Highlight cells B2:B1000. Use [Ctrl]+[C] to Copy, then **Edit > Paste Special > Values > OK**. The entries in column B will now be text versions of the numbers in column A. Now, copy column B back to Column A. Delete the temporary Column A.

The key to this technique is the =TEXT() function. The second parameter describes how the number should be formatted before being converted to text. You may need to adjust this based on your numbers. The result of

=TEXT(123.25,"0")

will be 123.

The result of
=TEXT(123.25,"0.0")

will be 123.3.

The result of
=TEXT(123.25,"0.00")

will be 123.25.

To always keep only the decimals as entered, use
=TEXT(A2,"General").
This function is also useful for converting dates to formatted dates. Assuming

Bet You Didn't Know

Printing Out Headings


Say you have a row of headings at the top of your spreadsheet. To make this row appear at the top of each page when you print out the spreadsheet, go to **File > Page Setup**. In the 'Page Setup' dialog, there are four tabs across the top. Select the 'Sheet' tab. In the field for 'Rows to repeat at top:', enter 1:1. This will cause Row 1 to appear at the top of each printed page.

you've set Windows to use the Indian system for dates, if you have '10/05/2005' in cell A2, then using


=TEXT(A2,"d mmmm, yyyy")

will give you '10 May 2005'.

Add A Number To Every Cell

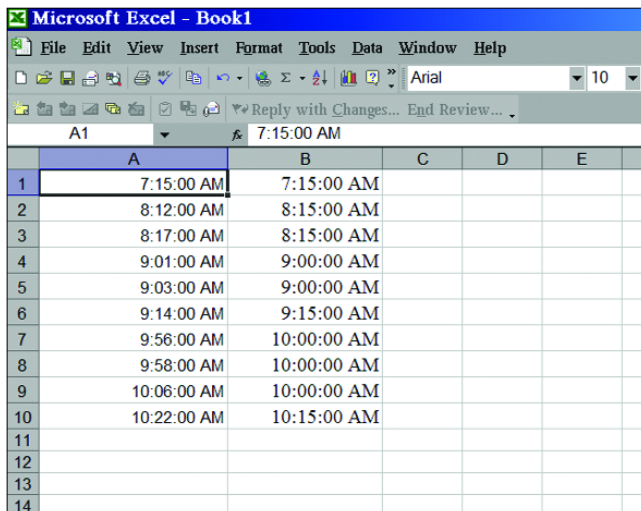
 Say you have a spreadsheet full of values, and you need to add 0.2 to every cell. To do this, find a blank cell in your spreadsheet. Enter 0.2 in that cell. Select that cell and go to **Edit > Copy**. Now, select every cell that the operation needs to be applied to. From the menu, go to **Edit > Paste Special**. In the Paste Special dialog box, select 'Values' in the top section, and 'Add' in the 'Operation' section. Click 'OK'. This will add the contents of the clipboard (0.2) to every number in the selected range.

Correcting The Placement Of The Minus Sign

 When you import from a text document into Excel, the minus sign may appear to the right of the numbers. To correct this in Excel 2000, use this function:

=VALUE(IF(RIGHT(A1,1)="-",RIGHT(A1,1)&LEFT(A1,LEN(A1)-1),A1))

In Excel 2002 and 2003, here's how to do it: in Step 3 of the Text Import Wizard, or in Step 3 of 'Text to Columns (select from Data)', click Advanced. Now, in the 'Advanced Text Import Settings' dialog box, select the 'Trailing minus for negative numbers' checkbox.



	A	B	C	D	E
1	7:15:00 AM	7:15:00 AM			
2	8:12:00 AM	8:15:00 AM			
3	8:17:00 AM	8:15:00 AM			
4	9:01:00 AM	9:00:00 AM			
5	9:03:00 AM	9:00:00 AM			
6	9:14:00 AM	9:15:00 AM			
7	9:56:00 AM	10:00:00 AM			
8	9:58:00 AM	10:00:00 AM			
9	10:06:00 AM	10:00:00 AM			
10	10:22:00 AM	10:15:00 AM			
11					
12					
13					
14					

You can use the 'ROUND' formula in Excel to round off times. In this example, we have rounded off times to the nearest quarter-hour



You've Got A Meeting

Make Microsoft Outlook do more than just Send/Receive

Aliasgar Pardawala

To schedule a meeting at work is not very difficult, provided it's at your workplace. All you have to do is pick up the phone and pass on the message, right? You could also send an internal mail or message and walk up to the people for a confirmation.

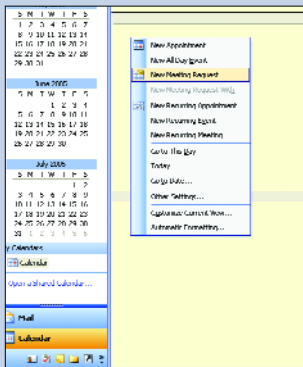
But what if you have to schedule a meeting where associates from all over the country are required to meet at a particular date? The task gets daunting, doesn't it? People might not be available when you call them up, your message might end up in a voice-mail box, and even if you do get them, verbal communication is not considered the most effective medium.

So you fall back on your trusted e-mail client to push the message across. But then, there is more to Microsoft Outlook than just Send/Receive. There are tons of features built into this nifty utility, which can help you manage your work-related tasks.

Thankfully, there's a way to reach out to multiple recipients and schedule meetings. You can also keep a tab on the run-up to the meeting, and make changes, either in the agenda or the timing.

1 STEP How To Get There

To schedule a meeting using Microsoft Outlook, click on the Calendar tab. Select the date when you want the meeting scheduled. Right-click on the date to open up the dialog box with options such as 'New Appointment', 'New Recurring Meeting', 'New

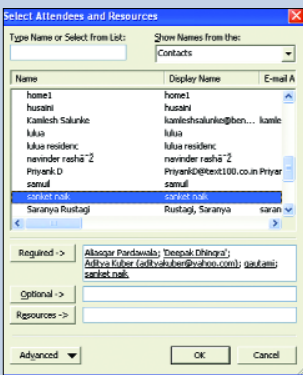


Right-click on Date in the Calendar to select a new appointment

Meeting Request', etc. Click on 'New Appointment' and a new window will open. In this window, you will be presented with options such as Appointment, Schedule, Reminder, etc.

2 STEP Enter Names

Now let's get the names of people from the Address Book. Click on 'Address Book'; this will open it up. Double-click on each of the contacts to add them to the recipient list. Click 'OK' once you are done. Selected contacts will be displayed beside the 'To...' tab. Clicking the 'To...' tab also brings up the Address Book.



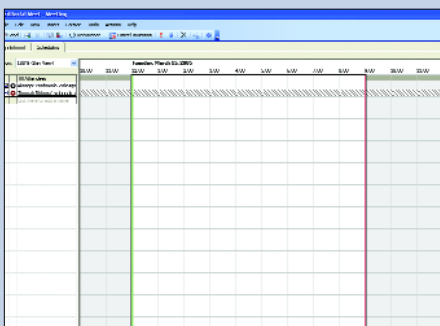
You can select multiples names from the address book just by clicking on their names

3 STEP Where And Why?

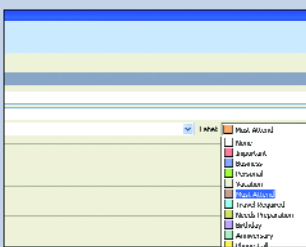
Write the 'Subject' and 'Location' in their respective fields. This gives the recipients the purpose of the meeting and the location of the meeting at a glance.

4 STEP What Time?

To assign the 'Start' and 'End' times for the meeting, click on the drop-down menu, or click on the 'Schedule' tab, and then set the time. This will reflect in the Start/End Time drop-down menu.



The green line indicates the 'Start' time, and the red line indicates the 'End' time

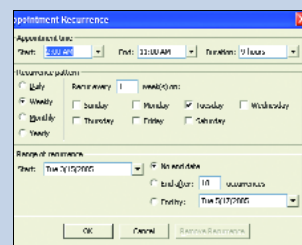


Appropriate labels will help your recipients understand the purpose of the meeting

The agenda for the meeting can be described in detail later, while you are drafting the mail, which will get sent to everyone. But once you are through with the above settings, you don't have to worry about the scheduled time, place, and recipients.

5 STEP Hit The Send Button

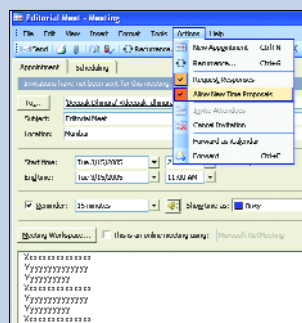
When you mail this schedule to the recipients, the task will get



Select recurrence if the meeting is going to be held at regular time intervals

added to their calendar. They, however, must accept the schedule. If any of the recipients declines the request, he/she will be out of the loop.

You can also make this a recurring



Select 'New time proposal' from the 'Action' menu to let others specify what time suits them

task, if the meeting takes place at regular intervals.

When this is enabled, the recipient will be reminded in advance every time the meeting is due.

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MS POWERPOINT

Print Without Opening PowerPoint

To print your presentation without even opening PowerPoint, go to **Start Menu > Run**. Type in **"powerpnt.exe /p filetoprint.ppt"** into the text field, replacing "filetoprint.ppt" with the name of the presentation you wish to print.

Using Your Toolbar On Other Machines

When you customise your toolbar configuration, its layout, icons, visible options, and positions are all recorded in a file called ppt.pcb. The ppt.pcb file is typically found at **c:\windows\application data\microsoft\powerpoint\ppt.pcb**, and by copying this file, you can port your toolbar customisation to other machines.

Resizing All Images And Pictures In Proportion

When resizing any image, picture, or element in PowerPoint, you may want to resize all the images and graphical elements in your PowerPoint presentation at the same time. For example, if you have three images and two graphic elements that you have to resize, but must stay the same size in relation to each other, select the first image you wish to resize. Hold down [Shift]. Click on the other two images. Still holding the [Shift] key, also click on the two graphical elements. Drag your mouse in the direction you wish to increase or decrease the size of the image, and the other selected items will scale accordingly.

Apply A Template To An Existing Presentation

Open your presentation. While your presentation is open, choose 'Apply Design Template' from the 'Format' menu. Navigate to the location of the PowerPoint Templates, or where the PowerPoint Template (.POT) file that you wish to apply to

your presentation is located, and select the template you want. A small thumbnail image of the design becomes visible in the navigation palette. Choose Apply.

Loop Music Across A Certain Number Of Slides

To play a background music loop or music file across a number of slides in PowerPoint 2002/XP 2003, and 2004, first choose 'Movies and Sounds' from the 'Insert' menu. Depending on what you want, select 'Sound From Clip Organizer', 'Sound From File', 'Play CD Audio Track', or 'Record Sound'. Locate the sound file you wish to play across any number of your slides. Insert the sound. At this point, if you don't want the sound icon to appear in the presentation, drag it off the slide. If you are asked "Do you want the sound to play automatically?", select "Yes". Right click the sound's icon, and select 'Custom Animation' from the popup menu.

The 'Custom Animation' dialog box will open and your sound file should be listed. Click the arrow directly to the right of the sound icon to pull down various options. Select 'Effect Options', and on the 'Effects' tab, select the radio button beside **Stop Playing > After**, and select the number of slides that you would like the music to continue to play through.

If you want the sound to continue through the end of the presentation, enter a very large number, such as 999. Now select the 'Timing' tab. To play automatically, the timing should be set to 'After Previous' with a 0-second delay. Click OK to close the dialog box. Your music track will now continue after you leave the slide on which you placed it, and play until it reaches the slide number which you entered to 'Stop Playing'.

Change The Colour Of Your Hyperlinks

To change the colour of your hyperlinks in PowerPoint 2002 and 2003 to match the colour scheme of

your presentation, choose 'Slide Design' from the Format menu. Click 'Color Schemes' in the 'Slide Design' window. 'Apply a color scheme:' appears beside the thumbnail images at the top of the window. Click 'Edit Color Schemes' at the bottom of the window, and the 'Edit Color Scheme' dialog box appears. Click the Custom tab. Eight coloured squares will now be visible. The bottom two squares, 'Accent and hyperlink' and 'Accent and followed hyperlink' are the colours used in your presentation for your text hyperlinks, and visited text hyperlinks. Double-click the 'Accent and hyperlink' colour square; this sets the colour of your hyperlinked text. Choose a new 'Standard' or 'Custom' colour in the colour selection dialog box that appears, and click 'OK'. Now double-click the 'Accent and followed hyperlink' colour square; this sets the colour of your visited hyperlinked text. Choose a new 'Standard' or 'Custom' colour in the colour selection dialog box that appears, and click OK.

Click 'Apply' if you wish to apply these colours to the current slide only, or click 'Apply to All' to apply the change to all text hyperlinks throughout your entire presentation.

Dual Displays

You can use PowerPoint to display your

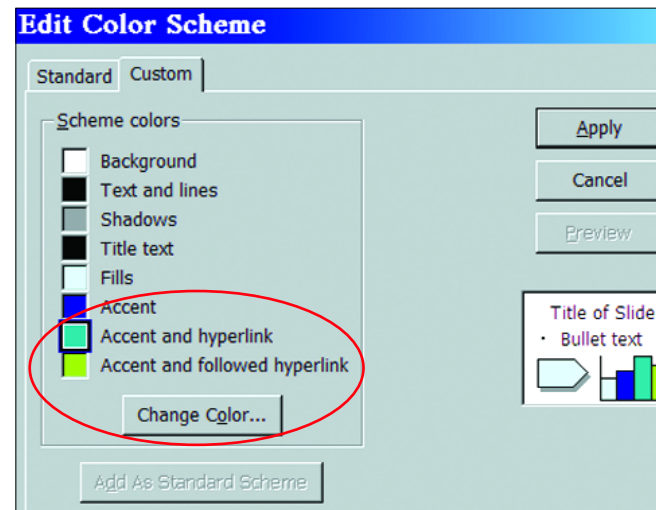
Bet You Didn't Know

Hide Slides In PowerPoint

When producing a presentation for different audiences, often, you may not want to show all the slides to all the audiences. To hide a slide, select 'Slide Sorter' from the 'View' menu. Click on the slide that you want to hide. Select 'Slide Show' from the main menu toolbar. Click on 'Hide Slide', and that slide will now be hidden.

presentation on one screen, or projector, to an audience, while you read notes, and control your presentation, from another screen without your audience seeing what you are reading. In order to achieve this, your system hardware must support dual monitors.


Open the presentation you wish to show on one of your monitors, screens, or projectors. Select 'Set Up Show...' from the Slide Show main menu option. The 'Set Up Show' dialog box appears. If you wish to use a projector, click the 'Projector Wizard' button. In the pull-down menu option under 'Show on:', choose which monitor, screen, or projector you wish to display your presentation on. Now go to **View > Notes Master**. Select 'Set Up Show...' again from the Slide Show main menu. This time, select which monitor, screen, or projector you wish to display your presentation notes on.

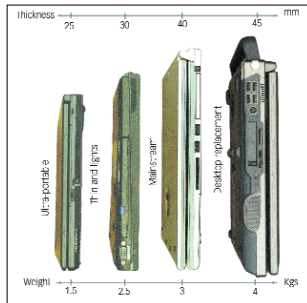


This is where you change the colours of your hyperlinks in PowerPoint. You might want to do it so they go with the rest of your colour scheme

BUYING A LAPTOP


Size Matters

 Size and weight are important considerations when buying a laptop. If you travel a lot,




opt for a laptop that is light in weight. Weights of laptops range from one to four kg. While checking the weight, include everything you will carry along with the notebook, such as the power adaptor or any external drives.


See Your Screen

 The size of the display screen directly affects the size, and in most cases, the weight, of the notebook. The larger the screen, the bulkier the notebook. A bulky notebook will be a problem to use in cramped locations such as in an airplane.

Power Struggle


 Though performance is not the most important criterion while purchasing a notebook, make sure you get enough horsepower for the applications you use or plan to use. While 256 MB of RAM should suffice for most, power users should opt for at least 512 MB.

All Work And No Play?


 If you want to play 3D games, or plan to use your laptop for some graphics-intensive applications, opt for a model that features good-quality graphics. Options available include Mobility Radeon 7500, 9700 and GeForce FX Go5200.

These will give you better graphics as compared to commonly-used platforms.


Go Wirefree

 Most notebooks today offer Wi-Fi capabilities. Check the Wi-Fi standard supported by the model you are considering for purchase. An 802.11 b/g device will give you higher data throughput as compared to 802.11b.


Upgrade

 Check if the notebook is upgradeable at a later stage. Some options to look for when upgrading your laptop are the RAM, the CPU, and the hard drive. Are the upgrades something you can do yourself, or do they require visits to a service centre?


Build Quality Is Important

 Since laptops are meant to be carried around, good build quality is essential. Opt for a notebook that has a rugged build quality that can withstand jerks and shocks. The optical drive tray, the screen hinges and latch, the panel on top of the keyboard, and the overall casing are good indicators of build quality.


Warranty Issues

 Warranty is also an important consideration. Make sure you get a global warranty if you travel abroad frequently. Even if you don't, make sure the service centre is easily accessible in terms of location and distance so you can get any problems rectified quickly.


Optical Drives

 Most notebooks these days come with a DVD/CD-RW combo drive by default. Make sure the notebook you plan to buy has a combo drive if not a DVD-Writer. A combo drive will enable you to read DVDs as well as write CDs.

Optical Drive Location

 Check for the location of the optical drive. An optical drive placed in the front may be a hindrance while working in cramped spaces, or when the notebook is placed on your lap.


Wider Is Better

 Notebooks that come with wide screens offer a better movie-viewing experience. They are also useful while working with




large spreadsheets. Also, look for decent quality integrated speakers if you want to enjoy movies and music on the move.

Hot Laps

 Make sure the notebook you plan to buy does not get too hot after a while. A hot laptop on your lap may pose a serious health risk!


Storage

 Most notebooks come with 40 GB hard drives. If this does not seem enough, see if you can get an upgrade to a larger capacity hard drive. The drive's




rotational speed also impacts performance. While 4200 rpm drives are the most common, look for higher rpm hard drives for better performance.


Go Legal

 When purchasing a laptop, make sure it comes with legal software. Some vendors may not provide you with legal copies of the software. Verify that the software that comes with your laptop is on an original CD, and has a software license or registration number.

Laptop Drivers

 Check and make sure you get all the required drivers on a disk along with the laptop. A recovery disk is also preferable, and will come in handy in case of a system crash.


Connectivity Options

 The available ports on a notebook will define the types and number of peripheral devices you can connect. Most notebooks come with 56K modems and at least 10/100 Ethernet integrated, so the notebook will have RJ11 and RJ45 ports for connecting a telephone cord and a network cord respectively.


Typically, you should look for at least two USB ports, a parallel port to connect a printer, a VGA port for connecting a projector or an external monitor, and Audio Out and Mic In ports to connect speakers and a microphone respectively.

PC card slots are also essential, and you should check the types of PC cards that are supported. An infrared port, if available, will let you connect compatible devices such as cell phones to your notebook, while a FireWire port lets you connect digital such devices as video cameras. Look for these ports if you feel you will require them even at a later stage. Additional ports such as S-video out are also welcome!

One-handed Operation

 Some notebook models, especially those with larger screens, come with two latches that will require you to use both your hands to open the device. This may be inconvenient in some situations, for instance, when you are speaking on the phone. Look for a laptop that has a single latch.

Touch The Pad

 Most notebooks these days feature touchpads. Make sure the laptop you plan to buy has one that is large and offers smooth and jerk-free control of the pointer. Some notebooks



Stain-free Printing

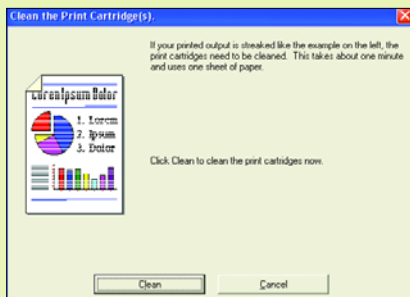
Maintaining your inkjet printer makes your printouts crisp and spiffy

Jayesh Limaye

The printer has become an indispensable tool for the home and SoHo segment these days. Almost every inkjet printer is capable of printing at a quality that was available only in high-end printing solutions a few years ago.

More often than not, though, you're stuck in a situation where your inkjet printer starts acting up, smearing your printouts with ink or showing banding. And what happens if this occurs when you need an urgent print? You'd start running helter-skelter: call the technician, who, in turn, might take a long time to get your printer fixed. This situation can be avoided entirely; all your inkjet printer needs is periodic maintenance and cleaning. Here's how...

STEP 1 Clean The Print Cartridge To start with, always use the cleaning utility provided with the printer driver interface. To access this utility, click on 'Start', then on 'Printers and Faxes'. Right-click on the printer listed, and click on



Cleaning using the printer driver utility

'Printing Preferences'. Now click on the 'Services' tab, and click on 'Service this Device'.

Place a blank paper in the paper tray and click on 'Clean the Print Cartridge', and then on 'Clean'. A test page will be printed and you have to gauge whether the printout is clean or not. You might have to repeat this step several times; if this does not help, proceed to manually clean the print head.

STEP 2 Clean All Surfaces You must be very careful while doing this; handle the printer gently to avoid any damage. Disconnect the printer from the power supply, moisten a clean piece of cloth in mild soap solution, and wipe the surface of the printer. Open the front flap and gently wipe



The cartridge cradle moves towards the centre when you power it on with the flap lifted up

all plastic surfaces, particularly those stained by spilled ink, and the rollers. Avoid touching any lubricated surface such as the slide bar.

STEP 3 Remove The Cartridges This step is only for thermal inkjet printers and should not be performed on printers based on piezoelectric technology, also known as 'On-Demand' inkjets. After the printer has dried, keeping the front flap open, connect the power cable and switch on the printer. The print cartridge cradle will now move towards the centre of the slide bar. Gently pull the ink cartridge towards



Remove the cartridge

you, and it will pop out of the cradle. Repeat the above steps for the other cartridge(s) as well.

STEP 4 Clean The Stubs You will now be able to see two small pieces or stubs attached to the bottom of the cradle on the left and right. This is where



The stub to be cleaned—this is where all the gunk accumulates



Use a lint-free cloth to clean the print heads

the gunk and ink accumulates, smearing your printouts.


Use the moist cloth to clean these stubs. Similarly, clean the ink cartridge print head using a lint-free cloth, soaked in denatured alcohol. A lint-free cloth (and not a cotton swab) must be used, so that the print head does not get clogged with cloth fibres.

Your printer should now be printing as good as new. But that's not the end of it—it requires periodic cleaning in order to be able to function at the peak of its efficiency.


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also provide pointing sticks as the pointing device. Go for one with which you are most comfortable.


Memory Card Reader

 If you own a digital camera or any other device that uses a memory card (such as SD, MMC, CF or Memory Stick), it makes sense to purchase a notebook that has an inbuilt memory card reader. This way, you can transfer data to and from the card without the need to buy a separate memory card reader. Check whether the card reader in the notebook is compatible with the type of memory card you use.

Ease Of Use


 Some notebooks feature scroll keys along with the touchpad keys to enable vertical and/or horizontal scrolling in large documents. Some also feature hotkeys for launching your favourite applications.

Additional Features

 Additional features, including integrated Bluetooth, biometric security, keyboard light and integrated Web cams, are offered in some models. Since these extra features also affect the pricing of the laptop, opt for one that has the features you need.

USING A LAPTOP

Shortcuts To Success

 Create shortcuts to your most commonly used applications, folders and files on the desktop. This way, you can access them quickly. If you like your desktop clutter-free, you can also create custom toolbars in Windows XP.


To do this, right click on the Windows taskbar, go to 'Toolbars' and click on 'New Toolbar'. Next, choose the drive or folder you want to access using the toolbar. You can create different toolbars for different drives and folders. To remove a toolbar you added, right click on the Windows taskbar, go to

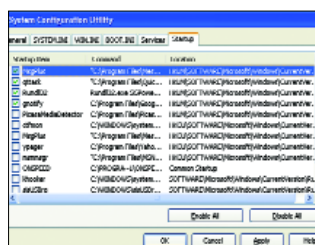


Toolbars in Windows XP

'Toolbars', and uncheck the toolbar. This is useful for sales executives who want easy access to presentations, proposals and other information on a day-to-day basis.

Boot Faster


 To make your notebook boot faster, remove unwanted programs from




Programs that run at startup

startup. To do this, go to **Start > Run**, type "msconfig" and press [Enter]. Go to the Startup tab and uncheck any programs you do not need. Click on 'OK' and then click on 'Exit' without restarting. The unchecked programs will not run the next time you boot.


Clean Up The Junk

 Uninstall any applications you do not use. Apart from saving on disk space, you will also prevent your notebook from slowing down.

Be Resourceful

 Keep backups of the operating system, drivers and commonly used applications on a secondary partition so that you can do some re-installing on your own if you face some issues while travelling. Carry driver CDs and recovery disks with you.


Prevention Is Better Than Cure

 Since a notebook may be connected to different networks, such as at a client's office, for example, it is essential you use a good anti-virus and firewall


software. Update your virus definitions frequently. An anti-spyware program is recommended.

LAPTOP SECURITY


Don't Be A Jerk

 Be careful while carrying the notebook. Do not subject it to any jerks and shocks. This will avoid damage to your hard drive and the precious data on it. Preferably, power the notebook off before moving it from one place to another.


Dusty Notebooks Don't Impress

 Protect your laptop from dust. Clean your laptop regularly to prevent dust accumulation. Do not leave your notebook on the floor and make sure all vents are clean to enable good air flow.


Drinks And Laptops Don't Mix

 Avoid having beverages while working on your laptop. Do not place any containers filled with hot or cold beverages near your notebook, to minimise chances of a spill.

Protect Your Laptop


 Do not leave your notebook unattended in a car or in a client's office. Be careful when going to a restaurant or when using public transport.

Backup, Backup, Backup!

 Keep backups of all your important files and e-mails in a safe location such as your desktop PC or an external drive. This way you


still have your precious data even in case your notebook is stolen.

Power Surges


 Use a surge protector with your laptop to protect it from power surges.

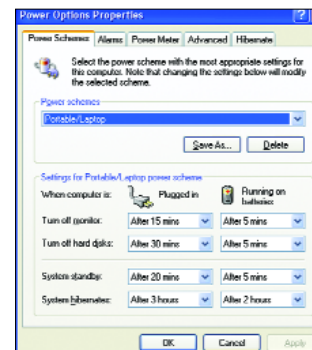
POWER-SAVING TIPS

Condition Your Battery

 A new battery needs to be conditioned—it must be fully charged and discharged a few times before it can use its full capacity.


Leave Power Management To The Pros

 Use the notebook's power management features to improve battery life. You can set the device to switch off the LCD screen and hard drive after set intervals of time.




Power options in Windows XP


Screen Scream

 The screen hogs a lot of battery power. To prolong battery life, dim the screen brightness when you are not connected to a power source.


Close Applications

 Close any applications you are not using when on battery power. Running applications increase CPU utilisation, thus reducing battery life.


Disconnect

 External peripherals and accessories such as external optical drives, PC cards and USB keyboard lights draw power from the notebook. Disconnect any such devices when not in use.

Suspend Your Notebook


 Booting the notebook when it is not connected to a power source draws a lot of power from the battery. Instead of shutting down your laptop in the middle of a meeting, choose the suspend mode if you wish to use it again after a short period of time.

Entertainment Is Bad For Your Battery

 Playing graphics intensive games, videos or music drains the battery quickly. Close any such applications when on battery to prolong battery life.


ACCESSORIES

Carry Safe

 A good carry case is essential for your notebook. There are a variety of options available. Choose one that fits your requirements and budget.

Apart from being sturdy, you should opt for one that has a padded shoulder strap and has enough space to hold additional stuff such as the power adaptor, CDs, papers, external drives, mouse and cell phone. Some notebook bags also double-up as overnighters.

Get A Mouse


 Users who do not find the notebook touchpad easy to use should opt for an external mouse. Though you can use a standard desktop mouse with your laptop,




specially-designed notebook mice are available. These are smaller in size and easy to carry around. Some even come with retractable cords to reduce the jumble of wires you need to carry. You can also opt for a wireless mouse. Most of the newer ones use the USB interface, so make

sure you have a free USB port on your notebook.

Go The Desktop Route

 Those who use their notebooks as their primary computer may want to invest in an external keyboard, mouse and even a larger monitor. This will be the closest to the feel of a standard desktop.

Additional Connectivity

 Some notebook models can be hooked up to compatible port replicators and docking stations. These devices allow for added functionality by providing additional ports and external drives.


Must-Have

 A USB thumb drive is a useful little piece of hardware for transferring small amounts of data between computers. These come in handy in situations where, for instance, you would like to transfer a presentation or a sales proposal to your client's PC at his office. Some USB




drives come with password protection option and provide a safe place to store confidential files. Instead of storing these files on the notebook hard drive, just carry them with you in the USB drive. You can work on them directly once the drive is connected. This way, your confidential files do not find their way into the hands of crooks even if your notebook gets stolen.

More Power

 An extra battery pack is a good investment if you plan to stay away from a power socket for long.


When In Rome...

 Different countries have different types of power sockets. Accordingly, check and carry the appropriate type. If you are a global traveller, opt for a universal adaptor. It offers a variety of



different plug types allowing you to connect your notebook power adaptor to power sockets almost anywhere in the world.


Stop Thief!

 Invest in a Kensington lock to prevent your notebook from being stolen. A Kensington lock features a strong cord that can be looped around the leg of a table or chair and then locks onto a slot in the notebook, thus preventing anyone from walking away with the device.



Some of the higher-end lock models also boast of motion sensors and emit high-pitched beeps if any motion is detected.

Enjoy The Trip


 If you enjoy movies and music on the notebook and find the integrated speakers to be good enough, you may purchase external speakers specially designed for notebook users. These are extremely compact and easy to carry. Most draw power from the notebook or from their own set of batteries.




These speakers may not offer the surround sound experience, but will definitely sound better than most integrated laptop speakers. However, if you like to watch a movie or listen to music while travelling in an airplane or a train, it makes sense to buy a decent set of headphones

so as not to disturb your fellow travellers.

Store More

 An external hard drive is a good option if you want to carry large files without stuffing your notebook's hard drive.


Charge Your Cell Phone From The Laptop

 If you are a cell phone junkie and find that your cell phone battery is not able to give you enough juice, buy a USB charger for your phone. These are useful for people who stay on the road for the better part of the day and are not able to access a power socket to charge their cell phones.


USB chargers are available for most commonly available cell phone brands and draw power from your notebook's USB port to charge the cell phone.

However, this will also shorten your notebook battery life, so make sure your notebook battery is charged enough to see you through till the time you can connect it to a power socket again.



Increase The Number Of USB Ports

 If you do not have enough USB ports on your laptop to connect all your devices, opt for a USB hub.

Light It Up

 A keyboard light is a good buy for those who want to work on their notebooks without disturbing their neighbours in a long-haul flight or their spouses in the bedroom. The light clips on to the top of the notebook screen, draws power from the USB port, and illuminates the keyboard so that you can work in the dark.

Additional Stuff

 A range of accessories including battery packs, Wi-Fi PC cards, USB to Wi-Fi adaptors, USB to Bluetooth adaptors, external optical drives and notebook coolers are available. Explore local dealers and online stores, and you are sure to find what you are looking for. 

Travel PAC FM Radio Handsfree

Ever wanted to hear a caller's voice on the surround speakers of your car or better still, on your fantastic home sound system? Well, now you can!

This latest hands-free from Travel PAC clips on to the earpiece of your cell phone and beams the caller's voice at the 88.6 or 106.1 FM frequencies. You can tune your FM receiver to either of these frequencies, and listen to him or her in Dolby Digital Surround! Only the caller's voice is transmitted; to reply, you still need to use the phone the usual way. The device is really tiny, but comes only with a car cigarette-lighter charger—which means you can only charge it in your car, and not at home. It's mightily priced at Rs 995, but is, even then, a device you should look at for the sheer ingenuity of it!



Company **Camac Holdings Pvt Ltd**
Price **Rs 995**
Phone **033-22207961**
Web site **www.pac.com.sg**

Rating

D-Link DCS-5300W

Private Eye

The D-Link DCS-5300W securicam is a versatile IP-based camera with motorised tilt and pan to cover almost an entire room.

To monitor a remote location, you need a high-speed Internet connection and a PC. If your office already has an ADSL connection with a cable modem and ADSL router in place, you can directly connect the camera to the modem, bypassing the PC.

Once the camera is plugged to the system, you type in the IP address as mentioned in the manual, or retrieve it through the IP installer utility to access the inbuilt Web server. This launches the camera user interface. You can control the movement of the camera from the interface or through the provided IR remote. There is a motion detection and trigger recording (both audio and video) facility that helps you view, at your leisure, activity in the area under surveillance.



Company **D-Link India Ltd**
Price **Rs 15,000**
Phone **022-26526696**
E-mail **sales@dlink.co.in**
Web site **www.dlink.com**

Rating

New & Notable

Motorola MPx

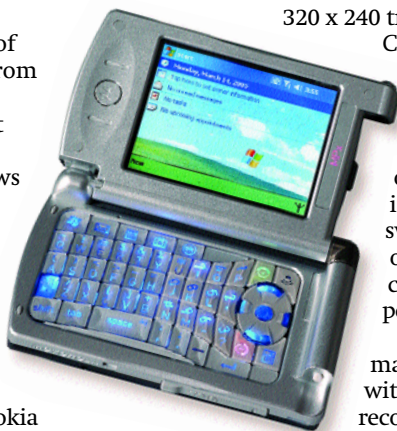
A Smarter Communicator

The MPx is the latest in the series of Pocket PC-based mobile phones from Motorola. It takes the Smartphone/Communicator concept ahead with its radically new design, based around a dual hinge that allows the phone to be flipped open in portrait as well as landscape mode. The portrait mode is ideal for using it as a phone, and the landscape mode is more conducive for data communication.

Though bulky in design, it is pretty much in line with other Communicator models such as the Nokia 9500, and the Treo 600. The body is made of plastic and sports a combination of dark metallic blue and silver hues, lending the phone executive looks. Fit and finish is top-notch.

Ergonomically speaking, the keypad is usable, but leaves a lot to be desired—especially when compared to the Nokia 9500. The blue backlight hampers legibility and does not help much. The stylus is placed in an awkward position with respect to the portrait mode.

There are two displays on the phone—the small external colour display is helpful but susceptible to blackouts in direct sunlight. There are three quick access buttons beneath the external screen, and these come in handy in putting the phone into silent mode, or to control MP3 playback—or to switch on the voice recorder. The internal screen is a regular



320 x 240 trans-reflective TFT capable of 65K colour depth.

Compared to other Pocket PCs, the screen on the MPx is diagonally smaller by around 0.7-inch, and this is instantly noticeable. That apart, the display quality is reasonably good.

Like a true communicator, the MPx 300 offers abundant connectivity options such as infrared, GPRS, Bluetooth and Wi-Fi. When switching to a Wi-Fi connection, you need to switch off the GPRS connection. A neat tool makes Wi-Fi configuration a simple task. Bluetooth, too, works perfectly without any problems.

On the media side, a camera capable of a maximum resolution of 1280 x 960 is integrated, with a short-range flash that fails to impress. No video recording is possible, but photo image quality is fairly good. Memory is, however, limited, and one gets just 15 MB for use. You can, however, increase the memory by way of an SD card.

On the software side, you get most what MS Pocket PCs have to offer. The speech recognition takes a while to get used to, but it works. The box comes with a Bluetooth headset, a sync cable, the power adapter and software CDs.

Company **Esource Global**
Price **Rs 62,000**
Phone **0-9820522208**
E-mail **sales@esourceglobal.com**
Web site **www.motorola.com**

Rating

Just Bring It On

In addition to VCDs, DVDs and MP3 CDs, the Mitashi DIVX-555 multimedia player can play MPEG4, JPEG, HDCD, and many other media formats. A two-channel audio and composite video cable to connect to a TV is also provided. Some more supported features are wide-screen TV support, an S-Video as well as Composite-out, a D-Sub connector to connect to a PC monitor, SP-DIF coaxial and optical output, Dolby Digital 5.1, Pro Logic II and DTS, to name a few.

We put it to test by playing DivX-encoded movies on it, and it performed without any glitches. When a non-standard compliant media is inserted in the player, an easy, Explorer-like interface pops up so you can navigate the folders on the media.

We then went one step further and tried to play a movie encoded with the newer and now very popular XVID (also an implementation of MPEG4) video compression and with Dolby 5.1 sound. We were pleasantly surprised to see that it not only played the movie flawlessly, it also correctly detected and played the Dolby 5.1 sound format.

We then popped in the February 2005 *Digit* DVD, which had lots of wallpapers, to see if we could view them. We found that we could view all the images—even as a slide show. Previews were available in the Explorer view. VCDs

and DVDs, as expected, had no problem playing. The image quality in all these tests was crisp, and the colours vibrant. Sound reproduction, both in 2-speaker and 5.1-speaker modes, was also very good.

One thing to note is that the DivX-555 has a 3D sound processor that can recreate



sounds according to seven different preset environments, and this feature actually worked.

Overall, this is a great player. Add a 29-inch TV and a 5.1-speaker set, and what you have is a full-fledged home theatre.

Company **Mitashi Edutainment Pvt Ltd**
Price **Rs 4,990**
Phone **022-25006661**
E-mail **rakesh@mitashi.com**
Web site **www.mitashi.com**

Rating

Benq FP231W

A Lovely Spread

This 23-inch LCD from Benq overwhelms you with its size, and is a pleasure to work with. It provides a range of connectivity options, including DVI-D, S-Video, Composite, and D-sub—which means that other than your PC, you can connect it to your DVD player, camcorder, game box and so on.

The OSD menu is very easy to use, but the buttons are on the left face of the panel, making it difficult to access. This model also has a picture-in-picture feature. It offers a cool 155-degree viewing angle in the Movie mode and 165 degrees in the Text mode, making it a perfect choice for viewing with friends around.

When we tested this model for performance using DisplayMate, it returned impressive results in the 'Point Shape' and 'Visibility' tests, where reproduction of a fine dot, as well as text on a coloured background, was crisp. The 16 ms response time claim, however, was shattered in the Passmark Monitor test, where tearing was visible in a white block moving at 100 pixels per second.

Graphics and CAD/CAM professionals who need accurate colour reproduction and accurate geometry must check out this panel. It is also highly recommended for movie buffs who can afford it—it's a lovely 23-inch spread, apart from being an LCD!



Company **BenQ India Pvt Ltd.**
Price **Rs 1,25,000**
Phone **022-25705230**
Web site **www.benq.com**

Rating

Looking for more information on any of the products featured here?

Please write to products@thinkdigit.com. The *Digit* Test Centre will be delighted to respond to your queries.

Ozaki NB001

These two-channel speakers are specially designed for notebook users. Encased in a slim silver panel and weighing just 150 gm, the device can be clipped onto the top of a notebook, and it connects through the USB port. It draws power directly from the USB port, so there is no additional power adapter required. What's more, the bundled cable is detachable and retractable, reducing the tangle of wires you need to carry around.

The speaker configuration allows you to simulate a 5.1-channel surround effect, and you can also adjust the sound to recreate different environments such as a living room, a hall, and several others. Apart from the manual equaliser settings, you can also choose from a range of presets.

With 1W RMS output, the Ozaki NB001 speakers are not a match for the 5.1 speaker system you have at home, but are definitely better than most speakers integrated into notebooks today. The product is a worthy buy for executives who would, for example, like to enjoy their own music and movies in their hotel rooms while travelling.



Company **Rashi Peripherals**
Price **Rs 1,200**
Phone **022-28221013**
E-mail **navinderc@rptechindia.com**
Web site **www.ozaki.us**

Rating

1 Poor: Has serious drawbacks and needs improvement before it can be used for its target application. **2 Mediocre:** Does not live up to expectations, needs improvement in many areas. **3 Average:** Reasonably competent but nothing spectacular about the product. **4 Good:** A good buy, better than most products in its category. **5 Excellent:** A brilliant combination of price, performance and features - far beyond expectations.

Intel Motherboards

Gigabyte GA-8I915G Duo

- ⊕ Excellent Performance at an affordable price

Contact Digi Giga System Ltd.
Phone 022-26526696
E-mail sales@digigiga.co.in
Price Rs 5,500



Gigabyte GA-8I915G-MF

- ⊕ Very affordable
- ⊖ Average performer

Contact Digi Giga System Ltd
Phone 022-26526696
E-mail sales@digigiga.co.in
Price Rs 5,100



Portable Hard Drives

WD-Media Centre 250GB

- ⊕ Very low cost per MB
- ⊖ Memory card reader slots

Contact Western Digital
Phone 022-25851085
E-mail ajay.kapure@wdc.com
Price Rs 15,999

Freecom FDH-2 Pro 80 GB

- ⊕ Extremely compact and bundled carry case

Contact J S Equipments
Phone 022-23810713
E-mail jse@vsnl.com
Price Rs 15,500



Projectors

Acer PD11

- ⊕ High 1600 lumens brightness support
 - ⊕ Big 330-inch diagonal image size capability
 - ⊕ Picture in Picture mode
- Contact Acer India Pvt Ltd
Phone 080 25219520
E-mail rajesh.aiyar@acer.co.in
Price Rs 62,999



Sony VPL-ES2

- ⊕ Easy to set up
- ⊕ Low running cost of lamp
- ⊕ Good performance

Contact Sony India Ltd
Phone 022-28313333
E-mail chiragk@sid.in.sony.com.sg
Price Rs 75,990

CRT Monitors (17-inch)

Acer AC715

- ⊕ high resolution of 1600x1200@75Hz
- ⊖ good finer details reproduction

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

Viewsonic E71f

- ⊕ Aesthetically good looking
 - ⊕ good geometry reproduction
- Contact Roop Technology Pvt. Ltd.
Phone 022-26680022
E-mail roop@vsnl.com
Price Rs 7500



The A-List

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

AMD Motherboards

ASUS K8N-E Deluxe

- ⊕ Excellent performance and great features
- ⊖ Lacks PCI-Express

Contact ASUSTeK Computer Inc
Phone 022-56290785
E-mail info_india@asus.com.tw
Price Rs 8,500



MSI K8N Neo Platinum (Gold)

- ⊕ Excellent performance and good features
- ⊖ Lacks PCI-Express

Contact Cyberstar
Phone 0-9323809599
E-mail navin@cyberstarindia.com
Price Rs 7,500



PDA Phones

Nokia 9500 Communicator

- ⊕ Full QWERTY keyboard
- ⊖ Slightly bulky

Contact Company: Nokia India Ltd
Phone 011-22677900
E-mail jay.bakshi@nokia.com
Price 39,359



O2 XDA II Mini

- ⊕ Small, thin and pocketable
- ⊖ One-handed operation not possible

Contact Creative e-biz
Phone 022-23828100
E-mail creative@goldkist.net
Price Rs 32,888

Cell Phones

Sony-Ericsson K700i

- ⊕ Extensive feature set, includes camera, MP3, FM radio etc.
 - ⊕ Fast processor
- Contact Sony Ericsson
Phone 0124-2560808
E-mail dhiraj.soni@sonyericsson.com
Price Rs 17,500

Nokia 6600

- ⊕ Brilliant display screen, Bluetooth
- ⊖ No FM radio, slow processor

Contact Nokia India
Phone 011-26779000
E-mail Nokia.ebag@nokia.com
Price Rs 14,999



CRT Monitors (19-inch)

Samsung SyncMaster 997DF

- ⊕ Good colour reproduction
- ⊖ Compact in size

Contact Samsung Electronics India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 14900



Samsung SyncMaster 957MB

- ⊕ brightness modes for different viewing environment
- ⊕ good colour reproduction

Contact Samsung Electronics India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 16500

LCD Monitors (15-inch)**CMV CT-522A**

- ⊕ High contrast ratio—500:1
- ⊖ Average quality inbuilt speakers

Contact Cee Vision Technologies
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 12,000

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

- ⊕ Economical, decent photo printing.
- ⊖ No output tray, No pictbridge

Contact Canon India Ltd
Phone 0124-5160000
E-mail www.canon.co.in

**Office Inkjet MFDs****Lexmark X7170**

- ⊕ Full featured MFD, fast printing, copying speeds. Decent quality photo prints
- ⊖ No memory card reader, B&W LCD screen

Contact Lexmark India Ltd.
Phone 022-2605 7755

Website www.lexmark.com
Price Rs 14999

**Laptops****ACI Emerald C2**

- ⊕ built in web camera
 - ⊕ Affordable price
- Contact Allied Computer International
Phone 022-56943260
E-mail hirji@aci-asia.com
Price Rs 44,999
Website www.aci-asia.com

**LCD Monitors (17-inch)****Samsung SyncMaster 173P**

- ⊕ Great design, superb contrast
- ⊖ Quite Expensive

Contact Samsung India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 30,000

**HP Deskjet 3745**

- ⊕ Fast print outs, excellent price
- ⊖ Below par photo printing

Contact Hewlett Packard India Ltd.
Phone 0124 2566 111
E-mail www.hp.com
Price Rs 2999

HP PSC 2310

- ⊕ Excellent text printing, fast photo printing
- ⊖ slow text printing, average photo quality

Contact Hewlett Packard India Ltd.
Phone 0124-2566 111
Website www.hp.com
Price Rs 11499

MSI MegaBook M510C

- ⊕ Terrific performance, typical feature set
- ⊕ High screen resolution
- ⊖ Average wireless LAN performance

Contact Maxtone Electronics
Phone 022-23011434
E-mail maxtone@vsnl.com
Price Rs 63,000

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

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

Contact Canon India Ltd.
Phone 0124-5160000
Web site www.canon.co.in
Price Rs 8495

**Photo Inkjet MFDs****HP PSC 2608**

- ⊕ Inexpensive, excellent and fast text and photo printing
- ⊖ None

Contact Hewlett Packard India Ltd.
Phone 0124-2566 111
Website www.hp.com
Price Rs

Fujitsu S2020

- ⊕ Hot swappable combo drive
- ⊕ Good graphic performance
- ⊖ Average screen readability in sunlight

Contact Fujisan Technologies Pvt Ltd
Phone 022-56368718
E-mail gathani.paresh@fujisan.co.in
Price Rs 78,000

**CMV-CT-722A**

- ⊕ Inexpensive
- ⊕ Good pixel response time of 16 ms

Contact Cee Vision Technologies
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 17,000

**Canon Pixma iP 4000**

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

Contact Canon India Ltd.
Phone 0124-5160000
Web site www.canon.co.in
Price Rs 10995

**Zenith Presidio Vu**

- ⊕ Good battery life
- ⊕ Built in web cam and SD/MMC card reader support
- ⊖ No recovery CD provided

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



Illustration: Shyam Shrivastava

Pixel Palette

The Web offers digital artists myriad resources to innovate and to enhance their skills

Meera Vankipuram

During the Renaissance period, artists such as Leonardo da Vinci attempted to observe, study, and recreate objects with a greater degree of realism than previously existed. Renaissance artists created lifelike images of people and animals, set against backdrops that presented the illusion of depth and distance—like in the famed *Mona Lisa*—by using certain stylised techniques.

Today, 21st century offerings such as Adobe Photoshop, Corel Painter, Adobe Illustrator, 3D Studio Max, Macromedia Freehand and SketchPro are helping artists go where the palette and brush weren't able to—achieve a greater degree of realism as well as manipulate the 'real'—through the medium of digital art.

The term 'digital art' is expansive—it can refer to purely computer-generated art or digital

image manipulation (synonymously used with terms such as 'retouching' or 'morphing') of images or scanned photographs created on vector-based programmes.

The Medium Is The Message

As a medium, computer-generated art has, and continues to evolve with technological advances.

While traditional art was confined to the canvas or paper, computer art can exist in different forms, such as images, an animated sequence, video, website, installation or 'kitsch' art forms. Photo manipulation is another emerging area of expression for digital artists.

Today, most advertisement banners (vinyl), animated films, and SFX sequences also employ variants of the digital art form. Digital art is an integral part of desktop publishing—consider jacket-design for books and cover design and/or layout for magazines and other periodicals.

Many traditional artists view digital art as a poor substitute for 'real' art. But, as artist and assistant professor G V Sreekumar of the Industrial Design Centre (<http://www.idc.iitb.ac.in/>) at IIT-Bombay says, "The visual grammar of digital art is entirely different from traditional art forms. Artists shouldn't try and recreate the

Web Resources

GFX Artists: www.gfxartist.com
 CG Talk: www.cgtalk.com
 Sijun: www.sijun.com
 Surf Union: www.surfunion.com
 CG Tantra (Indian CG Community): www.cgtantra.com
 Furiae: www.furiae.com
 Deviant Art: www.deviantart.com
 Digital Art Museum: www.dam.org
 ARS Electronica: www.aec.at/en/index.asp
 Rhizome: www.rhizome.org
 Leonardo Electronic Almanac: <http://mitpress2.mit.edu/e-journals/LEA/>

in its various guises—such as interactivity, artificial intelligence, surveillance systems, and so on, I use the term digital art as a reference to art created on a computer and then printed out as hard copy.”

According to Parthan, aspiring digital artists ought to “browse the Web regularly, to stay abreast of recent developments. They should not be afraid of trying out new software and techniques, and should also have a fair understanding of the way information technology is reshaping our perception of the world.”

Apart from a digital camera and a scanner, Parthan uses 3D graphics and image processing software to composite his digital prints. “When I work with media-based art such as interactive video installations, I depend a lot on Flash movies and action-script coding,” he says.

Shankar, a freelance designer based in Hyderabad nods in unison. He is quick to point out, “Digital art provides designers like me the opportunity to create paintings as authentic as those created by using a real brush. In addition, design software provides different textures, background lighting options, and many other useful features.”

For instance, software such as Corel Painter offers options such as Pencil, Charcoal, Acrylic, Oil Paint, and Pastel to name a few which help recreate the brush-and-palette effect.

same styles or effects, but should treat the two media differently.”

Artists like Sreekumar who first experimented with the digital medium several years ago still remember the Apple Macintosh fondly. “Back then we didn’t have the WWW and relied on our own experiments with Mac.” Sreekumar currently uses Photoshop CS, QuarkXPress, Macromedia Freehand and Fontographer.

IDC, which believes in intuition-based learning, conducts workshops on design software such as 3D Studio Max and Maya. Sreekumar himself uses “forums and the IDC Yahoo! Group” to keep himself up-to-date on the latest trends. Magazines such as *Folio*, *Computer Arts*, and *Publish* also offer valuable tips.

Today, digital artists have access to tools that offer a wide range of options—from colours to styles to layers, perhaps imbuing in them a greater urge to innovate. Artists such as Baiju Parthan (<http://snipurl.com/dhio>) for instance, work extensively on the digital medium.

Says Parthan, “Since there are several forms of media art that employ information technology



Aspiring digital artists should not be afraid of trying out new software and techniques

Baiju Parthan
Painter and
Digital Artist

Cyber-Communities For The Digital Artist

While most artists assert that there is absolutely no substitute to self-learning, meaning fooling around with software and discovering new shortcuts and effects, cyber-communities are also a useful resource for the cubicle-bound design professional.

Digital art forums are akin to the *Guru-Sishya* tradition where commercial artists exhibit their paintings, critique others’ works and offer useful tips. Online communities are a treasure-trove of data, software tips and tricks.

Designers, students of Fine Art, and commercial artists use the forums to interact with other artistes, enhance their skills, source projects, and offer invaluable guidance to their peers and newbies.

Photographers like Atul Sharma (<http://www.atulsharma.com/>), based in New Delhi, who use image-editing software for digital manipulation and enhancement, recommend Adobe’s online tutorials. Read the manuals carefully; but after a certain stage, the artist has to experiment with the software. The more styles you try out, the better your portfolio is going to look.

International Web communities such as Deviant Art offer newbies a platform to exhibit their work. Art forums such as CGTalk (www.gctalk.com), Sijun’s Forums (<http://forums.sijun.com>), and Surf Union (www.surfunion.com) are also popular haunts for digital artists.

Freelance designers like Shankar rely heavily on forums for work-related inputs, ideas as well as constructive criticism. “Not only do we obtain valuable feedback on our work, we also make a few good friends on the forum... sometimes, people who I’ve never met. Forums help us share our thoughts, ideas, and software tips with like-minded artists,” he says.

Perhaps the most interesting facet of online communities is the absence of the language barrier. This reinforces the ‘art has no boundaries’ dictum. By facilitating knowledge sharing, these cyber communities play a greater role—nurturing, perhaps, the Ravi Varma and Van Goghs of the digital world. ■

meera_vankipuram@thinkdigit.com

Guruspeak

Sanjeev Kothari (www.sanjeevkothari.com) is a name to reckon with in the world of digital photography and imaging. Hailed by photographers and artists across the globe as one of the most talented photographers in the media today, Kothari has offered his expertise to Adobe in the development of Photoshop 3 and 4. Currently based in New York, Kothari’s work has been featured in *Entertainment Weekly*, *GQ*, *Wired*, *Newsweek*, *Time* and *Fortune*. His philosophy regarding photography is “to embrace every possibility, digital or analogue, in the process of creating a more meaningful picture.”

Q: How does one evolve as a digital artist?

A: Well, I started off with Photoshop, then moved to Illustrator and other 3D programs. I think in an evolving medium, a combination of skills and inclination to innovate is imperative.

Q: Design software you work with?

A: I primarily use Adobe’s PhotoShop CS for photo design.

Q: Do you use any Web-based resources to upgrade your skills?

A: I frequent Shift (shift.jp.org), a Japanese e-zine that features new and innovative design and photography.



Illustration: Shyam Srinivasan

Your Ten-Step Guide To Home Employment

Home employment is not merely about registering on a website. It requires a lot of effort, active networking and acquiring requisite skill sets

Meera Vankipuram

There is no such thing as a free lunch. Neither is there an easy way to earn money, especially from home. To make yourself employable, you need to ensure that you have the required skill sets as well as good marketing and interpersonal skills. A sound portfolio (for aspiring writers, editors, photographers, designers, et al) is a must.

Today, several private companies and MNCs are employing people who prefer working out of their homes. A host of opportunities exist for home employment in areas as diverse as telemarketing, selling insurance, data entry, accounting, writing (academic and journalistic writing), editing and proof reading, web design, content development, Internet-based research for companies, graphic design and desktop publishing, programming, audio and video editing, and translation.

With a fair bit of technology skills (typing and word processing skills, being PC literate), entrepreneurs can use the worldwide web to start companies and work from the convenience of their homes. A network security firm in Mumbai, for instance, sourced almost all its initial jobs from the Internet—crawling through Google, advertising the website, and improving its page ranking on search engines so that users looking for a certain security solution, would hit their site as soon as they entered the particular keyword.

Before you get into the home employment groove, make sure you have the requisite qualifications, hardware, and time-management skills to convince potential employers that you are the right person for the job.

The Checklist

1 STEP Make The Right Choices Before you consider quitting your day-job or begin working from home, take a piece of paper and list out your skills,

preferred areas of employment, and your comfort-level in each area. For instance, if you are a programmer, weigh the benefits of home employment versus working in a corporate environment. If you are a student, chart out your daily schedule and figure out how much time you can spare for a 'part-time' job, even if it doesn't involve stepping out of home.

Remember, you may or may not earn as much as you would in a full-time job, and freelance projects take time to source and payments are delayed, in some cases. Zeroing in on the right kind

The story titled 'Home Is Where The Money Is' featured in the February 2005 issue received nearly 700 e-mails, from readers across the country. While we cannot source jobs for our readers, we can recommend methods using which you can make yourself employable, without entering the 'corporate rat-race'.

of job is important. Don't get stuck with a job you don't like.

STEP 2 Set Up Your Workstation

Once you have narrowed down your choice of employment, you can set up your workstation. You need to make sure that your future work area is very comfortable—use ergonomic furniture, wherever possible.

For Writers/Editors: A fast PC is a pre-requisite, you may also have to install software such as MS Office/Open Office, QuarkXPress or Adobe InDesign.

For Designers: Although it's not important to invest in a Mac (Apple Macintosh), make sure your PC has enough RAM (at least 1GB), hard disk space, and install a good graphics card. You also need to install a design software such as Adobe Photoshop, 3D Studio Max, Quark, Corel Painter, or Adobe InDesign.

For Data Entry/Typing Assignments: A computer, MS Office/Open Office, or other data-entry software.

For Medical Transcription:



Use the Resume Builder feature on job-sites to prepare a top-notch resume

Medical transcription involves transcribing medical records dictated by doctors (patient history, records, notes, lab reports), usually located in clinics abroad. Basic requirements include a PC with about 20 GB hard disk space, 256 MB RAM (minimum), sound card and Internet access. You would also require headphones, word processing software, and a good dictionary.

STEP 3 Prepare Your Portfolio

Prepare a good resume, entering the right key words under 'Objective'. Use sites like Monster (www.monster.com), JobsAhead (www.jobsahead.com), Naukri (www.naukri.com), IT-

A caveat—online communities have their own set of protocols and etiquette. Remember to follow the rules; don't forward your resume to everyone you meet.

people (www.it-people.com), and Times Jobs (www.timesjobs.com) to get a basic understanding of the job profile. Use Resume Builder on these sites (needs registration) and on MS Word.

STEP 4 Set Up A Web Site Or Blog

Create a good web site (one that's not too garish, text or image heavy). Use services such as Godaddy.com or Net4India.com or free services such as, Geocities to purchase domain space. If you are a freelance photographer or graphic designer, put up thumbnails of your work on the site. You could also set up a web log (blog) on sites such as Blogger.com and LiveJournal.com. Don't forget to provide your e-mail address, resume, and contact details at a prominent location on the site.

STEP 5 Browse the Web

Use the best search engines in the business (Google, Yahoo!, MSN Search, and the right keywords ('freelance programming', 'freelance translation') to find the jobs you want. Don't provide personal details while registering on a website unless its absolutely essential. Rent-a-coder (www.rentacoder.com), a freelance-sourcing site has a ranking system to rate the work of freelancer programmers, and help companies choose people best suited for a particular project. Guru.com (www.guru.com) and I Hire Programmers (www.ihireprogrammers.com) are other popular freelance sites.

STEP 6 Network

It's very, very important to 'connect' with the outside world. Join networking groups such as Friendster (www.friendster.com) and Ryze (www.ryze.com), have your blog linked to blog rings, and enroll in forums, user groups and other specific online communities. A caveat—online communities have their own set of protocols and etiquette. Remember to follow the rules; don't forward your resume to everyone you meet.

STEP 7 Create A Work Schedule And Meet Deadlines

Create a 'work culture' for yourself. Just because there is no 'boss' breathing down your neck, you can't afford to slacken or miss

1 col AD

deadlines. In fact, you have to work twice as hard to ensure that the companies/clients hiring you have absolutely no reason to regret employing a freelancer.

STEP 8 Sell Yourself

Be your own boss, and brand manager. While it's important to have an online presence in the form of a website or blog, it's equally important to be aware of competitive pricing and different payment strategies.

Do not charge your clients less because you are working from home. Make enquires pertaining to the market rates for a particular project (say, web-design or coding), and charge them accordingly. Also, do not under-rate or over-rate your skills; and do not undersell or oversell yourself. Be as honest as far as possible.

Tip: To ascertain that Google throws up your site when users enter a certain keyword, make the title of your web page very specific ('Fashion Photographer' or 'Freelance Writer' as the case may be).

Ensure that your site is linked to other prominent ones, by publishing research papers online, being part of active online communities or regularly updating your web log with quality content.

STEP 9 Upgrade Your Skill-sets When you have time, enrol in training sessions, part-time diploma courses or distance education programmes to upgrade your existing skill sets. With technological advancements, there will be rapid changes in the employment scenario as well.

The IT industry, for instance, is continuously evolving. You may have to invest in software courses, at least once every year, to learn new programming languages, improve your design and editing skills, and so on. Not upgrading your skills periodically would reduce your chances of employment, in any field.

STEP 10 Exercise Regularly As the maxim goes, health is wealth. Working from home may reduce your travel time but it might also bring to a halt the little exercise you were getting earlier by walking to and from the train or the bus station. To ensure that you give your best to the projects you source, some physical exercise, yoga, and meditation sessions coupled with a balanced diet will help you stay mentally and physically in good shape.

Choose Your Weapon

Browse through the classifieds of your local newspaper. There are plenty of opportunities to 'earn from home', from growing mushrooms, to clicking on advertisements. Web Sites such as, click2freemoney.com, for example, employ people to click on websites and ad banners, in return for cash payment made through PayPal. The site currently pays 40 paise to Rs 2 (or 40 points to 200 points) per click, depending on the advertising revenue. You might have to 'share' some of the moolah with middlemen who charge a 'commission' on daily earnings.

But what makes the difference between a sustainable source of income and a flash-in-the-pan job opportunity is how you go about preparing yourself for a sustained, long-term effort.

As Confucius says, "The mechanic that would perfect his work must first sharpen his tools." So are you ready to hit the home-employment road?■

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Disclaimer: DIGIT does not claim responsibility for a) the accuracy of information on the websites we recommend, and b) any damage arising from the use of such services.

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Microsoft Word

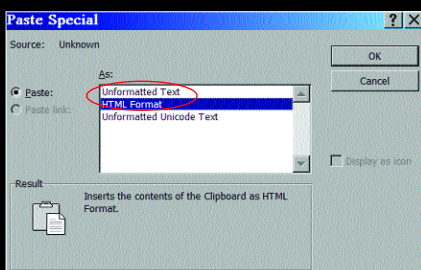
Word giving you trouble? Here are five common niggles, and what you can do about them

Ram Mohan Rao

1. When you paste text from a Web page, you get all unwanted formatting too

Reason: Word XP was designed so you could choose to either paste content as it is, or modify it to match the destination formatting, or keep only the text. Unfortunately, as it often happens, Word takes a long time to convert the Web page formatting to either plain text or to the destination formatting.

Solution: Use Paste Special. Go to the menu **Edit > Paste Special > As Unformatted Text**, and click OK. You can also use the



When copying and pasting text from Web pages, you often don't want the formatting

keyboard shortcut sequence, which is **[Alt] + [E] > [S] > [U] > [U] > [Enter]**.

2. Horizontal lines that you draw don't get deleted

Reason: When you draw a horizontal line using underscores, some of the lines get converted to double lines, and you find that deleting the lines and pressing [Enter] only results in more lines coming up. This happens because of the AutoFormat and Borders defaults in Word.

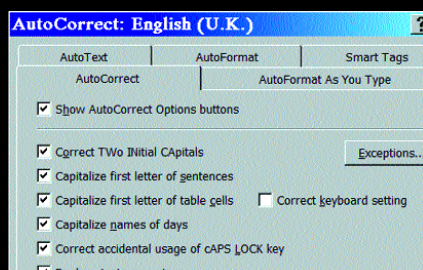
Solution: Once you have a document with some lines that you would like to remove, go to **Format > Borders and Shading > Borders** and click 'None'. Also go to **Tools > AutoCorrect Options > AutoFormat As You Type**, and under 'Apply as you type', uncheck 'Border lines'. At a later stage, you can enable the 'Border lines' and draw horizontal lines the way

you want. Remember, doing this will change the setting in the 'Borders and Shading' menu, so you will need to readjust that if you would like to remove the lines again.

3. Word keeps trying to help you

Reason: This, of course, is an inbuilt feature—Word was designed to help you as often as you might require it.

Solution: Go to **Tools > AutoCorrect Options**, and make changes under all five tabs. For instance, under 'AutoFormat', you can remove the automatic hyperlinking of Web addresses; under 'AutoFormat As You Type', you can remove the automatic generation of



Go to all five tabs in the AutoCorrect options to customise the way Word helps you

bulleted lists. Set everything the way you want it, so Word will help you as little or as much as you would like it to.

4. Word crashes or freezes as soon as it opens, or doesn't open at all

Reason: The odds are that your global template is corrupt, or something is loading automatically in your Word Startup folder that is wrongly configured.

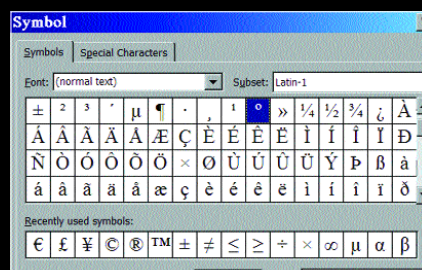
Solution: To check if it's a corrupt global template or some add-in that is loading on startup, go to **Start > Run** and key in "winword.exe /a" without the quotes. If Word launches fine, then it is mostly a bad normal.dot file or a corrupt add-in. To get yourself a new, uncorrupt template, simply close Word and search your computer for the 'normal.dot' file, and rename or delete it. If you find more

than one instance of normal.dot, rename or delete all of them. When you launch Word again, it will look for 'normal.dot', and if it cannot find it, Word will create a new one.

The usual location for 'normal.dot' is **<Drive Letter>:\Documents and Settings\<Your Username>\Application Data\Microsoft\Templates**

5. Inserting foreign characters is a pain

Reason: In order to insert a special or foreign character, you can either use the Insert menu or the Character Map. In case you feel wary of the thousands of signs that appear, there is an easier way to do it—using keyboard shortcuts.



For foreign characters you can either use 'insert symbol'—or keyboard shortcuts

Solution: Here are the keyboard shortcuts for various symbols:
à, è, ì, ò, ù, À, È, Ì, Ò, Ù: [Ctrl]+['] followed by the letter
á, é, í, ó, ú, Á, É, Í, Ó, Ú: [Ctrl]+[''] followed by the letter
â, ê, î, ô, û, Â, Ê, Î, Ò, Ù: [Ctrl]+[Shift]+[^] followed by the letter
ã, ñ, õ, Ñ, Õ: [Ctrl]+[Shift]+[~] followed by the letter
ä, ë, ï, ö, ü, Ä, Ë, Ì, Ö, Ü: [Ctrl] + [Shift]+[.] followed by the letter
å, Å: [Ctrl]+[Shift]+[2] followed by a or A
æ, Æ: [Ctrl]+[Shift]+[7] followed by a or A
œ, Œ: [Ctrl]+[Shift]+[7] followed by o or O
ç, Ç: [Ctrl]+[.] followed by c or C
ø, Ø: [Ctrl]+[/] followed by o or O
¿: [Alt]+[Ctrl]+[Shift]+[?]
¡: [Alt]+[Ctrl]+[Shift]+[!]
ß: [Ctrl]+[Shift]+[&] followed by s ■

ram_mohan@thinkdigit.com

Q&A

Your Questions, Our Answers

Auto-starting Viruses

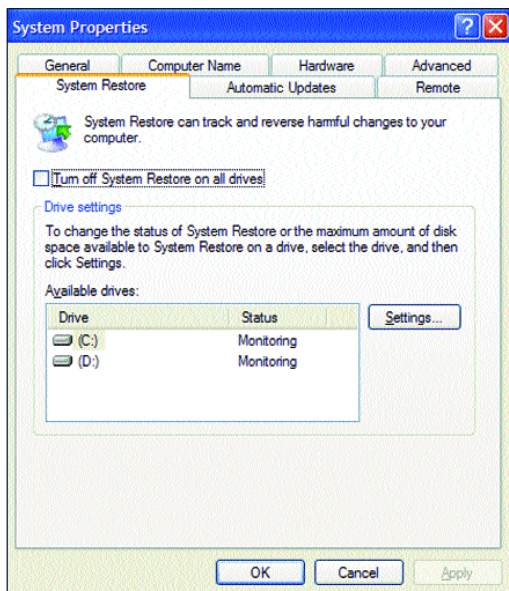
Q I have a Pentium III 500 MHz CPU, 128 MB of RAM, and an 80 GB hard disk running Windows XP Pro. My computer was infected by the W32.Passma virus, so I loaded Norton AntiVirus 2004 Professional and even updated it, but to no avail. Norton detects the virus and deletes files but does not clean the virus out. Help me get rid of this infection!

Girish

A Removing autostart entries from the registry prevents the malware from executing during startup. Here's what you need to do:

Log on as Administrator and open the 'Registry Editor' by going to Start> Run, typing 'regedit', and pressing [Enter]. In the left panel, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run and locate and delete the entry 'Service Manager = "%System%\SERVICEMGR.EXE"'. Close the Registry Editor.

The next thing you need to do is turn off system restore by pressing [Windows]+[Pause/Break] to go to system properties, click on the System Updates tab and check the 'Turn off



Open the System Properties dialog box and check the 'Turn off System Restore on all drives' option

System Restore on all drives' box. Click 'Apply' and then click 'OK'.

Start Norton AntiVirus, scan all drives and let it delete infected files. Reboot the computer after the scanning is done and then, if you want, re-enable System Restore.

Overheating Blues—Again

Q I have an original Intel 865 GBX motherboard with an Intel Pentium 3.0 GHz processor, 256MB of DDR RAM and an 80 GB HDD. I use an I-Box compatible cabinet. The problem is, my system heats up very quickly. I check the temperature using active monitor; immediately after being switched on, the system temperature rises in no time. I have installed an additional fan and also got the internal cables neatly fixed to a side, but the problem persists. Please suggest what I should do.

Kamesh

A It is extremely likely that your CPU fan is not mounted properly, and that the thermal paste has not been applied correctly. If that is not that case, then you have to check and make sure that your cabinet is properly ventilated. Simply adding extra fans won't necessarily solve the problem—the ventilation may not be adequate, and it is possible that your fans are circulating the same hot air inside.

An ideal setup would be where a front fan sucks in fresh cool air from the outside, and a rear fan sucks the air out from the rear of the cabinet, thereby ensuring there is cross ventilation in the cabinet. This is guaranteed to keep the temperature at acceptable levels.

Mismatched Modules

Q I have a Pentium 4 2.26 GHz and a Mercury motherboard with two memory slots. Each slot can hold a 1 GB RAM stick. There's 128 MB DDR RAM installed in one slot. I would like to install a 256 MB stick in the vacant slot. Would there be a problem if I have two memory slots with memory modules of different capacities?

Goutam Ghosh

A There should be no problem with putting in RAM modules of different capacities. However, you might encounter problems if the RAM frequencies are different.

If you would like to check your RAM frequencies, download a software called Everest from www.lavalys.com. Insert one module at a time and check for the core frequencies. If they match, you will most probably not face a problem.

However, it is not a sure-shot testing method, as different CAS (Column Access Strobe) latency timings might conflict. If the core frequencies match, you can put in the chips and test your system for stability. If the system is stable, keep them inserted, else discard the 128 MB module.

CD vs VCD vs DVD

Q I recorded and saved a TV programme using Pinnacle PCTV, and did a bit of editing using VirtualDub. I saved the file as a .avi file, and then compressed it to Windows MPEG. After that I burnt it onto a CD. Unfortunately, the CD does not play on my Philips DVD player, but it does play on my PC. Why?

K N Prasad

A Your DVD player probably does not support MPEG videos. To view it using your DVD player, burn a VCD rather than a regular CD. Your CD-burning software will then convert the file to a VCD-compatible format. You should be able to play the VCD on any regular VCD or DVD player.

However, keep in mind that depending on your specifications of your computer, the encoding process can take quite some time.

I Changed My Mind...

Q I recently downloaded a BIOS update from Intel's Web site. But now, I would like to roll it back. I want to know if there is a way to uninstall or remove the update? I have a P4 1.7 GHz computer, and the board is an Intel D845GLLY.

Bishesh Bhatta

A It is possible to roll back your BIOS by re-flashing it with an older version. If you have saved your previous BIOS, you can simply flash it from that particular file. If you didn't save your previous BIOS, you will need to download that version of the BIOS from the manufacturer's Web site.

Please be very careful while flashing your BIOS as it can render your motherboard unusable if done incorrectly.

Old Is Gold

Q I own a P4 3 GHz CPU on an Intel motherboard. There are two 40 GB partitions on my HDD. I use Windows XP on the C drive, and Win 98 SE on the D drive. My current default OS is Windows XP, but I would like to set Windows 98 as my default boot OS.

I would also like to modify the default time for which the boot menu is displayed.

Sanjay Kapoor

A As it happens, you don't need to go into the BIOS for this. You can do this right through Windows XP, by keeping XP in control of what happens during the boot process. Boot into XP, and under My Computer>Properties, go to 'Advanced', and click on the settings button in 'Startup And Recovery'. Under the default operating system drop-down menu, you can choose the operating system you would like to boot into by default.

In the same window, you can also set the time limit for displaying the boot menu.

Rolling Back DirectX

Q I am using Windows XP with SP1. I recently installed DirectX 9.0c from the *Digit DVD*. Can I uninstall it? Or can I simply install an older version over the newer version? Will this affect my system in any way?

Raj Pratap

A It is not recommended that you roll back or uninstall DirectX, as it is closely integrated with your video drivers. Also, you will not be able to roll back to a previous version at one go. You will need to download a utility called DirectX Uninstaller, located at <http://snipurl.com/dd6y>. This lets you uninstall your DirectX version 9.0c, and if you want, you may then install an earlier version.

Spyware Blues

Q I run Windows 98 SE, and every time I open Internet Explorer, I am taken to a site called www.cursormania.com. Even while browsing, I am often taken to this page. What do I do?

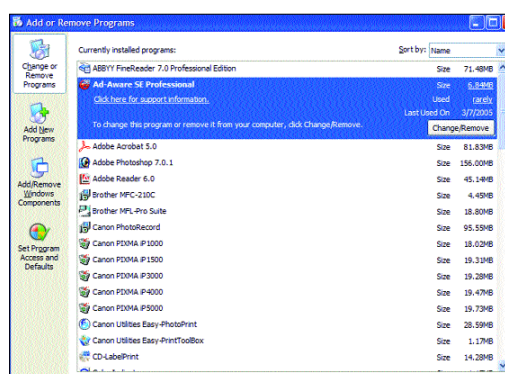
Via E-mail

A Your computer has been infected with spyware from companies such as Smiley Central. For some reason, the makers of Spybot Search and Destroy have deemed this particular piece of spyware a safe application, which means you cannot use that software to uninstall this application. You will have to remove it manually.

Go to Start>Run and type in "appwiz.cpl", which opens Add/Remove Programs. Find the application called "My Web Search (Cursor Mania)"—it should be there in the list—and then uninstall it.

Also look through the application list for programs from FunWebProducts, such as "My Web Search", "My Way Speedbar", "Search Assistant", and possibly others.

You can download HijackThis from <http://snipurl.com/dd6z>—download and run it. Also go to C:\Program Files, and delete all the folders that FunWebProducts, MyWebSearch and other similar Web sites created. This should rid you of your problem.



Programs such as MyWebSearch can get installed automatically—you can uninstall them manually



Increase Your Browsing Speeds

Have you given up over your sluggish Net connection? Check out Onspeed—a paid service that claims to increase your browsing speeds and block irritating pop-ups

Slow connection speeds have always been the bane of Internet users in India. Even 'broadband' connections aren't exactly lightning fast. India has more than one million Internet connections, out of which most users are on a dial-up or pseudo-broadband connections provided by the local *cablewallah*. For a dial-up user, waiting for ages for a page to load is the norm.

So, is there any light at the end of the tunnel? Well, there just might be. A British company, Onspeed, has launched a paid service that claims to increase your Internet speed by as much as 5X on a dial-up, 3X on a broadband and 8X on a GPRS connection. The utility works on Windows and Mac platforms. However, Linux users will have to wait a while for their version.

Modus Operandi

Onspeed has developed an algorithm that performs a 'content-sensitive compression (CSC)'. This means that it doesn't blindly compress anything and everything, but the compression ratio is applied depending on the content. At present, Onspeed compresses JPEG, PNG, GIF, BMP, HTML objects, texts, office documents such as Microsoft Word, Excel, PowerPoint, and Flash files. It also works for e-mails. According to Onspeed, the service was actually developed for the US military, and later released as a service in the public domain.

Content-sensitive compression is the name given by Onspeed to nine patented compression technologies, which work in the background to compress the data. This novel idea takes the approach of compressing data flowing through whichever Internet pipe is available rather than going for the thicker, costlier Internet pipes. The compression is done on the fly by the Onspeed server (<http://helium.onspeed.com>) and the final data is sent to you. So, you do not have to

change your ISP or get any additional hardware.

Let's Get Started

Since this is a software solution, all it asks for is, a modest 200 MHz processor, 128 MB of RAM, and 10 MB of hard disk space. The download size of this utility is a mere 1 MB. So even your dial-up connection can download this neat piece of code.

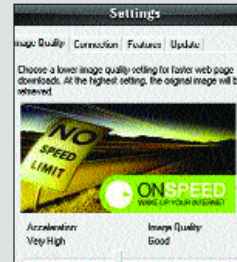
Go to www.onspeed.com and sign up for an account. Once you pay for the service using your credit card, the download will commence. Double click on the .exe file when download completes to start the installation, and that's it. You do not need to change any of your dial-up network settings or any settings from your Network Connection dialog box if you are on a broadband connection.

A green Onspeed icon will appear in the system tray at the end of the installation. Click on this to start the service. It will ask for a login name and password. You must make sure that you are connected to the Internet as it authorises your login and password.

Right click the system tray icon and click 'Settings'. This will present you with four options, namely, Image Quality, Connection, Feature, and Update.

From Image Quality you can set the compression ratio for the image, from high acceleration to best quality. When set to very high acceleration, the browsing speed will increase, but at the cost of the image quality. We used a dial-up connection to test this. At default settings when we downloaded a 400 KB image, it was compressed to 148 KB. We were getting around 2.1X to 2.5X acceleration and Onspeed was reporting a 'Current Connection Speed' of 37 Kbps. This speed is half of what Onspeed claims but the pages were loading really fast.

When the acceleration was set to a maximum, a 168 KB image was compressed to a mere 34 KB. However, the pixilations were quite evident—something that might not appeal to everyone. If the slider is moved to 'Good image quality', the original size of the image will be retained. This will in turn decrease your browsing speeds, defeating the whole purpose of having the service. To work around this issue,

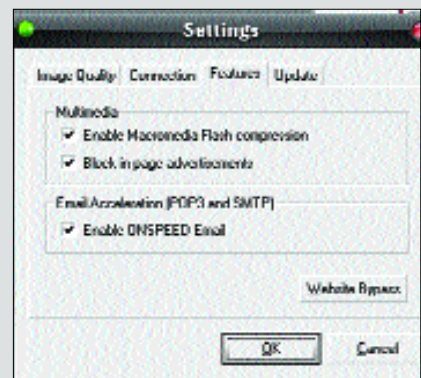


Move the slider to the left for speed and to the right for image quality

Onspeed has added an extra tab called as 'Show Original Image'. This feature loads the original image from the site, giving you the freedom to view select images at their true resolutions.

What Else?

Apart from increasing the browsing speed Onspeed also has pop-up blocker and in-page advertisement blocking. However, every time a pop-up was blocked an irritating beep was emitted. However, this can be turned off. Onspeed also worked with the Windows XP SP2 default firewall, without any problems. Currently the service does not support .exe, mp3 and Mpeg4 files. But the next version,

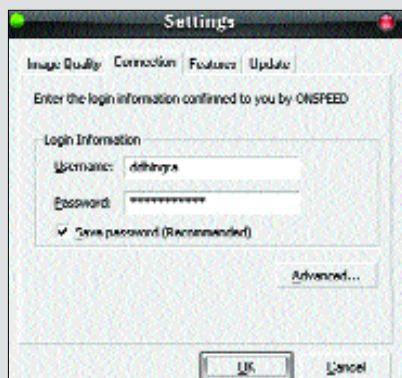


Enable email compression and pop-up blocker from here

expected by mid-2005 will offer supports for these formats as well. An Update tab provided within settings eliminates the need to go to the Onspeed site.

The Cost Factor

This service is available for £24.99 per year (Rs 2,100), or roughly Rs 175 per month. The amount is negligible if we consider the amount of time it saves by speeding up your connection. A dial-up user rarely downloads programs, therefore it still makes sense to opt for this service, even if it can't handle .exe and mp3 formats as of now. The good part is, it can be used in any part of the world and can be easily purchased online from www.onspeed.com.



Type in your username and password as you entered them during registration

Windows Is Not Windows

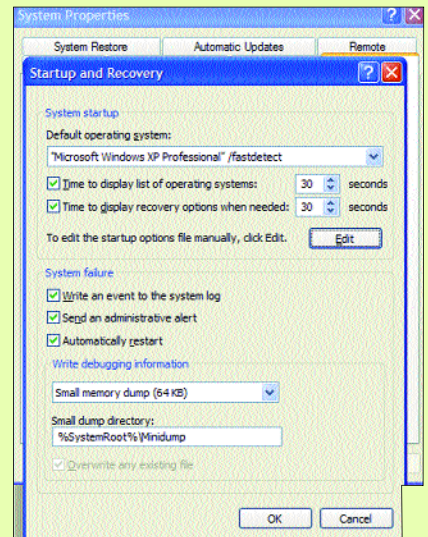
Q I copied the Windows XP SP2 final file from the *Digit* September 2004 DVD. When I tried to run it, the application extracts all the files but then displays "The core system file (Kernel) used to start this computer is not a Microsoft Windows file. The service pack will not be installed." Setup then aborts. How can I install SP2? I have a Pentium III 1.14 GHz and 256 MB of SDRAM running Windows 98 and XP Professional.

Ram Kishore

A This happens when your computer has a modified version of the Ntосkrnl.exe file that uses the /KERNEL switch in the Boot.ini file. This is due to a third-party application, such as BootXP or LogonUI Boot Randomiser, which customises the graphics that are displayed when your computer starts up.

To solve this problem, go to Start>Run, type in "appwiz.cpl" and press [Enter]. Select the program name you installed that customises startup graphics, and click 'Remove'.

Now restart your PC and try and install SP2. If this still doesn't work, press [Windows] + [Pause/Break] and go to the Advanced tab and click on the 'Settings' button under 'Startup and Recovery'. Under 'System Startup', click 'Edit'—this will open the 'boot.ini' file in Notepad. Locate and delete the line containing "/KERNEL =", and save and close the boot.ini file. Restart the computer, and you should be able to install SP2.



Here's where you edit the startup options file

Modem Madness

Q I own an AMD 2400+ based PC with an Asus motherboard and 256 MB of DDR RAM. Recently, I installed XP and a modem (Motorola SM65). I didn't have the XP drivers for it, so I installed the Windows 2000 drivers. My PC restarted just as the installation was about to complete. It kept restarting during the POST period. I thought it was a hardware problem, so I removed the modem, and the PC started.

I then downloaded the XP drivers, and again put on the modem. This time the PC started—then, just as I was installing the drivers, the PC restarted yet again, and it kept restarting until I disconnected the modem. Is this a hardware problem? If so, why does it happen only after I try installing the drivers?

Via E-mail

A Download your modem drivers from the Motorola Web site at <http://snipurl.com/dd6v>. Now, go to My Computer>Properties. Under the 'Hardware' tab, click on 'Device Manager'; your modem should be listed. Click and uninstall it completely. Reboot your PC and re-install the modem. If the problem persists, try installing the modem on a different computer; if it installs there, then you need to extract your modem driver files into a folder, go to 'Device Manager', select your modem, and under the 'Driver' tab, click 'Update Driver'. Give the location as that of the folder into which you extracted your drivers. It should work now.

The Sound Of Linux

Q I have a Pentium III 800 MHz with 256 MB of SDRAM. I also have an Xwave QS3000A PCI sound card. The problem is my sound card does not work under Red Hat Linux 9.0. I have

searched and asked all the technicians I know for various solutions, but none seems to be working. Is there any way I can use my sound card with Linux, or will I need to go in for a new one?

Sanjeev Prakash

A Red Hat Linux 9 by default does not come with bundled drivers for your particular make of sound card. But your Linux-specific drivers are available at www.alsa-project.org. Download the following from the main page: library, utilities and tools. Now, uncompress the files and recompile the Linux kernel with the new drivers. Your sound card should work now.

Partitioning Woes

Q I have a Pentium 4 3.2 GHz processor with 512 MB of DDR RAM and an 80 GB HDD. I have been using Windows 98, and now want to install windows XP Pro. I would also like to keep Windows 98. However, my hard disk is not partitioned, and I do not want to format it. Is there a way to partition a disk without formatting it? Or, can Windows XP and 98 SE be installed on the same partition?


Nitesh Kumar

A You can install Windows XP and 98 on the same partition by specifying different installation folders. This, however, can lead to various conflicts as the two OSes use entirely different drivers and system file versions. The best way to do it is to install the OSes on different partitions.

One of the best softwares that will let you accomplish this is Partition Magic 8.0. You can download it from <http://snipurl.com/cbdk>.

Note that you will need to purchase the software, as the demo version only shows you the partition creating process and will not actually create any partitions. ■

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MemoCards Demystified

CF, MMC, RS-MMC, SD, xD-Picture... huh? Here's the straight dope on memory cards

The other day I received a message from my dearest friend Abhijeet—no, not the Indian Idol guy—he had just bought a Sony Ericsson P910. I was eager to meet him, not just to tinker with his new toy, but also to show off my new Nikon digicam. We decided to meet up at his house and then go out to grab a 'byte' to eat.

I arrived, promptly 30 minutes late, as is my trademark. Abhijeet answered the door, earphones dangling from his ears. Did I mention that he's a music fanatic? Even at school, when we would bring tiffin-boxes, Abhijeet would bring his Walkman!

Twenty minutes later, we were sitting at our favourite Punjabi restaurant. Between mouthfuls of *Chhole Bhature*, Abhijeet complained about the dearth of memory in his phone. He could never have enough memory for his MP3s. I realised that my Nikon's 16 MB of internal memory was also far from sufficient for a shutterbug like me. It was decided that soon, we would embark on a search for good flash memory bargains.

The next day, driving to our destination, I began explaining why people need to be careful when buying flash memory. Quite often, they end up buying the wrong type of card, because they don't realise there are various types of flash memory—CompactFlash (CF), MultiMedia Card (MMC), SD (Secure Digital), xD-Picture card, Memory Stick Pro/Duo, and many more.

For digital cameras, the most commonly used format is CompactFlash. It's a large card, and is used in the medium to SLR range of cameras. But that's not all: you have CompactFlash I and II formats as well, and your camera supports either of the two. MMC and SD cards are most commonly used in PDAs, cell phones, camcorders, and the like. Newer phones, such as Nokia's 6600, 9500 and 7710, use an enhanced version of the MMC card, called Reduced Sized MMC (RS-MMC).

Most Sony digital cameras and cell phones use Sony's proprietary standard called Memory

The highest capacity of Compact Flash card that you can buy is 8 GB

Stick, and this has three different formats—the original Memory Stick PRO, Memory Stick Duo and Memory Stick PRO Duo, which vary in capacity. The xD-Picture card, by Olympus and Fuji, is extremely small and provides up to 1 GB of storage space.

We knew that the two best places to shop for flash memory in Mumbai are Heera-Panna and Alpha shopping centre. We visited Heera-Panna shopping centre first, and straight up, spotted a swanky-looking shop that had digicams and MP3 players on display. I walked in and asked for a CF memory card for my camera, as usual playing as dumb as possible. "There are many brands of CF cards; SanDisk is well known for its performance and reliability, and Lexar media is another well known brand that you should look out for," I was told. Apparently, both these brands have special Compact Flash ranges for professionals that offer higher speeds—especially good for those into sports photography. The highest capacity you can buy is 8 GB, but the vendor told me that he would have to call someone to enquire about the price—and was only willing to do so if I was serious about buying it. I wasn't, and decided to drop the subject.

I asked for MMC and SD cards, and was shown Panasonic, SanDisk, Lexar and Kingston cards. The highest capacity available for standard MMC cards was 128 MB. Then I saw a Kingston MMC Plus format that offered a whopping 1 GB of space. SD cards were available up to 1 GB as well.

When I asked for a Sony Memory Stick, I was shown original Sony Memory Sticks as well as those manufactured by third-party vendors such as Lexar and SanDisk. The price difference was negligible, and I was told that the maximum capacity supported by the Memory Stick format is 1GB.

I also asked to see a card reader—it eases the task of transferring data to and from the PC to assorted cards of different formats. I saw a 7-in-1 card reader for Rs 400 and a 19-in-1 card reader for Rs 550.

Eventually, we never made it out of Heera-Panna, and I ended up buying a SanDisk 512 MB CF card for Rs 2,400 and the 7-in-1 card reader for Rs 350. We also got a good bargain for a 512 MB Sony Memory Stick for Abhijeet's P910—Rs 4,500.



Memory Card Price List (Rs)

Capacities	Compact Flash	Memory stick Pro	MMC	SD	xD
128 MB	NA	1,100	800	950	1,000
256 MB	1,500	3,000	1,300	1,500	1,700
512 MB	2,400	5,000	2,000	2,700	3,000
1 GB	4,000	7,000	4,200	4,300	NA


Illustration Shyam Shriram

Want more of Agent 001? Turn over to read his answers to your buying questions

Where, And How Much?

Q I want to purchase an AMD Athlon 64-bit 3000+ Processor and an MSI K8N Neo Motherboard, but my retailer says it is not available. Where can I find retailers dealing in these products, and what would the prices be like?


Manish

 I cannot give you the address of a specific retailer in your locality, but I can give you the details of distributors who may be able to tell you where to purchase the items from. The distributors for AMD processors are Tech Pacific, and can be contacted at 022-55960101, and for the MSI motherboard, you should contact Cyberstar Infocom at 0-9323809599, or Tirupati Enterprises at 0-98310022600. A simpler way of getting around the problem is to post your query on our forums at www.thinkdigit.com/forum. Forum members who stay in or around your area will help you find the right place to buy these components.

Upgrade Now Or Later?

Q My system configuration is an Intel Pentium 4 2.4 GHz processor with HT technology, an Intel 865GBF original motherboard, and 256 MB of DDR 400 RAM. I want to upgrade my graphics card so I can play the latest games such as Half-life 2 and DOOM 3. The new series of cards from nVidia and ATI are expensive, so does it make sense to buy a MX-4000-based card for now and then later opt for the new cards when they get cheaper?


Ajit Das

 If you really want to play Half-Life 2, DOOM 3 and other upcoming games, then settling for an MX-4000-based card is not going to help you. In the next two years, graphics card manufacturers will move to the newer PCI-e interface, and it will become difficult to find a high-end AGP card. This will put you in a fix, and you will have no option but to upgrade your entire system, since your current motherboard does not support PCI-e. I suggest you invest in a good AGP card now, so that your system will allow you to play most of the upcoming games. Remember, when it comes to IT, there's always something better looming on the horizon, and if you keep waiting, you are bound to end up spending a lot of money on components you don't really want.

Recording Via TV-Tuner

Q I want to purchase a TV-tuner card, mainly to record content from my VCR and TV programmes. I want you to help me choose a good card with capturing capability. My budget is Rs 3,000.

G V V Rao

 For Rs 3,000, there are many good TV-tuner cards that you can buy. Aver TV GO 007, Pinnacle PCTV Pro and Compro Videomate are the cards you should be looking at. Though these cards support video capture, the output isn't exactly of a professional

If you are an avid gamer, you should consider adding the 6600 graphics card to your system—but remember, this board supports PCI-Express and not AGP


Product	Vendor	Price (Rs)
Aver TV Go 007	Access Pvt Ltd	2,950
Compro Videomate TV/PVR	Mediatech India	2,275
Pinnacle PCTV Plus	Pinnacle India	2,500

quality, just in case you are thinking of using such cards to convert your VHS tapes to CD. The price for these cards will vary between Rs 2,250 and Rs 3,000.

A Workstation And A Cabinet


Q I am currently in the process of building a workstation and need a full tower enclosure, but have been unsuccessful in locating a dealer. I would appreciate your help in locating a dealer, and if possible, please mention the brand and the price of the cabinet I should be looking at.

Kanav

 You can opt for Antec tower cabinets—they have some good models meant for workstations. Their 'Performance' series has an array of cabinets to choose from, I would personally recommend the Performance Plus 660AMG. You should also check out the roomy P160, which Antec claims they have made from recycled fighter jets.

Antec cabinets come with efficient and reliable power supplies and are hence more expensive than other products, so be prepared to spend a lot more. You can contact Cyber Space Abacus on 044-24917667, or visit their Web site www.theitdepot.com.

The Future-proofing Problem

 This month, I got a lot of queries regarding a good CPU-motherboard combination, or a good PC configuration that is at least two years future-proof. I decided to list down the components that you should be looking for.

The motherboard mentioned below is based on ATI's new Express 200 chipset and has integrated graphics that will let you play most games at playable frame rates. However, if you are an avid gamer, you should consider adding the 6600 graphics card, but remember, this board supports PCI-Express and not AGP. I have mentioned indicative prices for these components; remember that they will differ from location to location. ■

Future-proofing Your PC		
CPU	AMD 939 pin Athlon64 3000+ or 3200+	Rs 7,500
Motherboard	MSI RS480M2	Rs 6,500
RAM	512 MB DDR 400 Hynix	Rs 3,500
HDD	80 GB SATA Samsung/Seagate	Rs 2,650
Monitor	17-inch Acer 715	Rs 6,500
Keyboard	Logitech	Rs 300
Mouse	Logitech Optical	Rs 300
Cabinet	Any cabinet you like	Rs 500
Power supply	Antec/VIP 350 W power supply	Rs 2,000
Optical drive	Lite-On/Sony Combo drive	Rs 2,750
TOTAL		Rs 32,500
Graphics card	XFX Geforce 6600 card	Rs 12,000



Ask Away

Want a tech product, but don't know how to go about buying it? Send an e-mail to agent001@thinkdigit.com to get your queries answered

Kuro5hin.org

Technology and culture from the trenches

Robert Sovereign-Smith

At first sight, this Web site looks like just another news portal. However, once you read a couple of articles, you will realise that this is anything but. Kuro5hin, or K5, is what can only be described as news from the community, by the community.

K5 has no reporters, and no editor either. Sure, there are trusted members that look after the site in terms of policing the content, but the rules are pretty relaxed—only pornography and extremely offensive material are not allowed.

Where Does The News Come From?

From the K5 community, of course! And all you have to do to join the community is register on the site, wait for a confirmation e-mail, and start posting. Of course, you don't need to do any of that if all you want to do is read the news.

What's So Great About It?

Every registered user is something of an editor. A registered user can post a story, comment on stories, and even vote for stories that have been recently submitted. You can do this by looking for the 'Moderate Submissions' link on the right after signing in. From here, you read stories that have recently been posted, and then rate them.

The screenshot shows the Kuro5hin homepage with a navigation bar at the top containing links like 'Everything', 'Diaries', 'Technology', 'Science', 'Culture', 'Politics', 'Media', 'News', 'Internet', 'Op-Ed', 'Fiction', 'Meta', and 'MLP'. Below the navigation bar, there are several article listings with titles like 'Hot Dog: A Frank Story (MLP)', 'Moby Dick: A Book (Culture)', 'Judicial goblins (Op-Ed)', and 'Google's Autolink: getting to the real issue (Op-Ed)'. On the right side, there is a sidebar with links to 'Moderate Submissions (2/2/4)', 'Review Hidden Comments', 'User Info', 'Your Comments', 'Your Stories', 'Your Diary', 'Your Diary Entry', 'New Diary', 'New Story', 'User Preferences', 'Display Preferences', 'Comment Preferences', and 'Logout raaaboo'.

The Kuro5hin homepage is well designed. Everything you might need in order to navigate the site is right there on the homepage

After the predetermined voting time is over, the article is posted on the site, or not posted at all, depending on how much the community likes the story. This ensures that K5's content is always in tune with the interests of the masses, and everyone always gets to read things they find interesting.

Another Slashdot?

Well, yes—sort of. The difference lies in the fact that K5 looks a lot better, and is less of a nightmare to navigate. Moreover, K5 is a lot more than just

The topics are neatly and conveniently arranged along the top of the page, and offer a wide range of interesting reading material—from 'Technology' and 'Science' to 'Politics' and 'Fiction'.

Everything—from articles that teach you a thing or two, to features that tickle your funny bone—can be found under each section. For example, the 'Technology' section currently has articles about one person's experience with laser eye surgery; another write-up explains how a Scottish Mathematician used a chessboard to calculate in binary code; and a story about old, useful technologies that shouldn't have died out and so on.

The site also has 'Diaries', which could be called member blogs. This is your personal section, and you can post whatever you want to. No other member can post articles in your diary, but they can comment. All the members here have teeth, and can bite really hard—so make sure even your diary entries are well thought out and factually correct.

Kuro5hin has the potential of becoming a regularly visited bookmark. Add it to your Favourites folder, and it can provide you with knowledge that you never knew you might need, act as an outlet for your thoughts, and provide you all the reading entertainment in the course of a regular day. From laughs to learning, it's all here!

robert_smith@thinkdigit.com

The screenshot shows the 'Moderate Submissions' page on Kuro5hin. It features a table with columns for 'Title (topic)', 'Date', and 'Author'. The table lists several stories, including 'How To Get Rich & Famous By Blogging AL Work' and 'Ask K5: Starting an internet radio station'. Below the table, there are links to 'Moderate Submissions (2/2/4)', 'Review Hidden Comments', 'User Info', 'Your Comments', 'Your Stories', 'Your Diary', 'Your Diary Entry', 'New Diary', 'New Story', 'User Preferences', 'Display Preferences', 'Comment Preferences', and 'Logout raaaboo'. A red arrow points from the 'Moderate Submissions' link in the sidebar to the 'Moderate Submissions' link in the main content area.

Kuro5hin is a democracy, and every article needs to be voted for before it is posted on the site



Just Push Print

Print, copy, scan or fax... what would you like to do today?

Photograph Jiten Gandhi
Imaging Binesh sreedharan

Jayesh Limaye and Varun Dubey

Despite all the talk about the ability of technology to enable us to be more efficient, there is one aspect of work that has not really changed—and the corresponding paradigm shift has not actually materialised. We are talking about the paperless office.

The IT boom has subsided, but paper has stayed put in the office—in fact, we use more paper than ever. Every year, India churns out reams of papers in terms of filing everything in triplicate—thanks to our governance system. This brings to companies the question of how to print, where to print and what would be the cost of printing?

The sheer convenience offered by inkjet MFDs in this regard makes them ideal for your SoHo setup. They are a lot cheaper as compared to a colour laser printer/copier, and give you outstanding quality for all your presentations, brochures, company reports, and official documents.

For graphics professionals, the advantages are unparalleled, as you can scan pictures, edit them using your image editing software, and then print the same image, all from a single unit—giving you tons of space to do whatever you choose! Moreover, some of them even come standard with memory card readers and PictBridge functionality, so if you are Mr/Ms Sure-Shot, you can print your images straight off the camera with no intervening PC.

The dipping costs of good quality entry-level printers have prompted widespread acceptance. The cost of these printers may be low, but they are pretty high on performance thus making them ideal for a home user. Whether you would like to print text or pictures, they do a terrific job. In fact, they do a commendable job of handling almost all types of home printing you can think of.

Mid-range printers come with PictBridge functionality, CD/DVD printing, memory card readers and such life-like photo printing capabilities that you will never feel the need to go to the *nukkad* photo studio. Shoot with your digital camera and print images with your photo printer—now *that's* convenience!

Features

In terms of features, the iP1000 surprised us: it does not even ship with an output tray! This seems to be a trend now, since the 1500 didn't ship with one either. Thankfully, the other manufacturers were more considerate, and squeezed in an output tray.

All the printers came with a black and a colour cartridge. None of them came with PictBridge or automatic double-sided printing or the ability to print CD or DVDs, but hey, there's only so much you can get for Rs 4000! And if you really look at it, who doesn't mind saving a few thousand rupees and spending some extra time to print pictures through your PC rather than straight from your PictBridge printers (read costly printers)? Plus, you get the added ability to tweak them via Photoshop!

The Epson Stylus C45 and HP DeskJet 3845 looked really sturdy and sleek and rated high on build quality. The iP1000 was the worst looking with a pale grey finish, and none of the class exuded by its bigger brothers, or indeed, any of its peers in this segment.

Performance

After our initial tryst with it, our expectations had lowered considerably as far as the iP1000 was concerned. But we soon realised that it was a mistake to judge the book by its cover—in the case of the iP 1000, by the lack of a tray!

The test results surprised us so much, we conducted them twice! Twenty-two pages of our drain test document utilised a mere 10 per cent of its ink. We tested it for printing speed, and it left the others behind, printing our test document in 10 seconds flat.

The second-fastest printer was the HP 3745 at 16 seconds; 17 for the HP 3845. We then took an enforced break; we figured it was a better idea to have a cuppa tea as the Epson C45 printed the page, taking 35 seconds! The HP 3845 printed just two pages with 10 per cent of its ink. The figures for the HP 3845 and Epson C45 were seven and 10 pages respectively.

For our quality tests, we took pure text documents printed in B&W mode with the print quality set to Normal. The quality of the text printouts was largely the same, with the iP1000 giving us the crispest and cleanest results followed by the HP 3745. The Epson C45 had some trouble—we could

The cost of home printers today may be low, but they are pretty high on performance

discern a few cracks in the letters. We assumed that at home, you would want to print school projects or even presentations. So, we created a document, affectionately called 'combi-doc', consisting of text, a pie-chart and various graphics and photos, and tested the printers for speed and quality. The Canon iP1000 again boomed ahead, printing the combi-doc in 50 seconds; the HP 3845 came a distant second with 66 seconds, while the 3745 took 76 seconds. The Epson C45 brought up the rear with a ridiculous 127.7 seconds!

In terms of quality of the print-out, HP 3745 was snapping at the Canon iP1000's heels. The Epson C45 was a let-down again—it took forever to print the document, and did a really bad job of it.

As Canon claims—Pixma is all about fast image printing, we verified the marketing mumbo jumbo. We printed the image at the highest quality settings.

Well, this time, it wasn't just mumbo jumbo. The Canon iP1000 truly outclassed the other printers, printing the A4-sized document in 185 seconds, while the count was 592 seconds for the HP 3845 and 625 seconds for the HP 3745. And yes, we also tested the Epson C45, but we took a lunch break this time—it took 1179 seconds! That's almost 20 minutes!

In terms of quality of the photo, the iP1000 really made an impression—not only did it hammer its rivals, it even managed to keep up with our more expensive photo printers! So, if you want cheap high quality printing, get this before it goes out of stock! The HP 3745 had better quality, but was a touch slower; the HP 3845 was the exact opposite—it was faster than the HP 3745 but was wanting in terms of quality. The Epson C45 matched the HP 3845 in terms of quality, but it also took twice the time.

So, if you want good quality photos in a reasonable amount of time, opt for Canon iP1000. If you want to print anything with good quality and great speed, the iP1000 is the way to go.

Conclusion

There's no doubt about the winner here. The Canon Pixma iP1000 was the fastest, and the best printer in every aspect of our tests in the sub-Rs 4000 category.



Epson Stylus C45

We explored the overflooded market of inkjet printers and MFDs to bring you a blow-by-blow account of how they fared, and what you should use until that dream of a paperless office becomes a reality—if it ever does!

INKJET PRINTERS Home Printers

The printers that featured in the tests were in two categories: Home and Office/Photo printers, based on price. Initial price and running costs are a more telling factor than raw speed and performance, so they were accorded a higher weightage. Home printers were identified as devices available for Rs 4,000 or less. Printers falling into this category are the Canon iP1000, the Epson Stylus C45, and the HP DeskJet 3745 and 3845.



Canon Pixma iP 1000

The HP 3845 lost out to HP 3745 mainly due to its high price-per-page cost. The Best Buy Gold award goes to Canon Pixma iP1000 and the Best Buy Silver goes to HP DeskJet 3745.



HP DeskJet 3745



Office And Photo Printers

In this category, we had eight printers: the Canon Pixma iP1500, iP2000, iP3000, and iP4000; Epson Photo R210 and R310; the HP DeskJet 5748; and Lexmark P915, all priced over Rs 4,000.

Features

Features carried weightage, as did performance while, price was given slightly lower weightage.

The features we got to see on some printers really brought smiles to our faces. Soon enough, it became clear that it would be the Lexmark that would set the benchmark in terms of its sheer feature list, ease of use and looks.

When we unpacked the P915, we heard 'oohs' and 'aahs', with people flocking to the desk all the time trying to play with its colour screen. The Lexmark probably kept ease of use as the No. 1 priority while designing this printer.

The setting up was hassle-free, and there was even an animated display showing us how to replace the cartridges. The ink status display had a 'skinnable' interface and showed the display in real time. It supports PictBridge, and has slots for various memory cards. It even lets you do simple photo editing:

How We Tested

Our test bed comprised a Pentium 4 3.2 GHz processor plugged onto an MSI 875P Neo FISR2 motherboard with 512 MB of Corsair 400 MHz DDR RAM, a Gainward nVidia GeForce FX 5950 graphics card, and an 80 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. We also installed the USB patch for XP and connected the devices on the USB 2.0 port for optimum performance. Across the tests, 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 Kodak (A4 size)

Inkjet Printers

We divided printers into two categories: Home printers (sub-Rs 4,000) and Office/Photo printers (Rs 4,000 and above). The test process remained same for both groups; the only change was in the parameters to determine the winner.

Features

Printers were rated on various features: PictBridge, memory card readers, duplex printing, CD/DVD printing support, input/output tray capacity, input buffer and maximum resolution supported by the printers' LCD screens. They were rated on the basis of features they supported. Obviously, most of these features were standard on the higher-end printers.

Performance

We tested the performance on three parameters; speed, quality, and efficiency.

Economy Test

We conducted the economy test first to avoid miscalculations later, with half-full cartridges. We created a document that had eight per cent of text and 60 per cent of images and graphs. We then printed multiple copies of the same drain test document on regular paper. We noted an average ten per cent drop in ink and extrapolated it to get an estimate of the printer's ink usage.

Speed And Quality Test

We used a text document to test the raw print speeds of the printer. The quality settings used were Normal and Best.

To test the ability of printers to handle various aspects of a regular document, we created a combi-document with black text, interspersed with graphs and images. We clocked the time it took them to print this document in normal and best quality modes, and accordingly analysed the print quality.

The final test for printers was the photo test, where we used 270 g/sm Kodak Glossy Photo Paper to print an A4 image. We timed the process and examined it for quality of print. The settings used here were the highest quality available.

Inkjet MFDs

MFDs have a scanner, printer and copier. MFDs with fax facility earned more points.

Printer Test

The test process here was exactly the same as that for the inkjet printers.

Scanner Test

We tested the scanners for speed using an average of five previews of an A4 size image. This was done when the scanner was fresh

out of the box to incorporate the warm-up time. Scanners with a higher warm-up time didn't fare as well as the others.

We tested the warmed up scanners to negate any possibility that a scanner might scan faster than the others once warmed up. 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 with a little difference from the preceding one.

Next, we tested the resolution card to figure actual scanning capabilities by checking for its native resolutions. We scanned the card at 300 dpi to see how many boxes it could differentiate in between the lines. Most MFDs passed this test easily.

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 7.0, and scanned for wrongly-interpreted letters in the software. We then gave a percentile value to the devices.

Copier

We copied a text document in B&W and the combi-document in colour, and rated the MFDs on their speed and quality of printouts.

How The Awards Are Given

The scores from features, performance and price are given category-relevant weightage. An overall score out of 100 is calculated. The product that scores the highest here is adjudged the winner of the Best Buy Gold award for this category. The second highest score gets the Digit Best Buy Silver award.

cropping, rotating and resizing, without the need for a PC! None of the other printers had this. It also featured an automatic print head alignment function, where you just click 'align print head', and it does it for you.

The Canon printers had the worst ink status display as we had to restart our PCs to get an updated report. In most of the other cases, simply restarting the ink monitor did the trick. The point to note is that except for the Lexmark, none of them showed it in real time.

The only other printer with an LCD (B&W) was the Epson Photo R310, and you could neither see nor edit photos on it. Although it did not feature automatic print head aligning, it did have memory card slots. The Canon Pixma iP4000 did indeed have automatic alignment, but it lacked the colour screen and a memory card reader, which is strange considering this printer costs Rs 11,000, and is being touted as a photo printer!

One really innovative and unique feature of the Canon printers in this segment was dual paper feed; they can take papers from the top or from the bottom. This effectively doubles print capacity to 300 sheets. This lets you segregate different types of paper: you can put your photo papers at the bottom and regular papers at the top. Then, depending on your printing needs, you can use the dedicated button to select the paper source. This feature is very useful if you want to print in large quantities, as you can load up both trays and when one finishes you switch to printing from the other tray while the first one gets refilled!

The Canon iP3000, iP4000 and the Epson Photo R310 all supported CD/DVD printing.

Performance

The printers underwent the same test process as home printers. In pure text printing speed, the Canons were miles ahead of all others, with iP2000 printing the document in just seven seconds. The second-fastest was

iP1500 at nine seconds, while iP4000 and 3000 took 12 and 13.5 seconds each. The fastest non-Canon printer was HP 5748 at 16 seconds. The Epson R210 and R310 clocked 49.7 and 46 seconds each. The feature-rich Lexmark P915 turned out to be slowest with 45.1 seconds.

In the quality of text prints, it was all Canon again, with the Pixma 3000 and 4000 giving us some of the crispest printouts we have seen.

Since this is the office/photo printing category, we assumed that the combi-doc would have a significant role to play, and promptly put the printers through their paces. It was all Canon yet again, with the top two being the iP4000 with 27 seconds and the iP3000 with 31.1 seconds. The third-fastest was the HP 5748 with 47.4 seconds—a full 16 seconds slower.

In terms of quality of the combi-doc, the iP4000 and iP3000 tied for the top spot, with the iP2000 coming in a very close third.

The Lexmark was close to the Canons in terms of quality, and was closely followed by the HP 5748. Epson turned out some decent printouts, but those we got from the others were better.

If you print lots of official reports, trend charts, graphs and the like, the iP3000 and 4000 will do a smashing job.

Since this section is for photo printers as well, we gave significant weightage to printing photos, both in terms of quality and speed. No surprises again: the Pixmas shone, and the fastest photo printout was shot out by the Canon iP3000 in 177 seconds. This was followed closely by the iP4000 with 210 seconds. The third-fastest was the Lexmark P915 with 314 seconds. The HP 5748 took 463 seconds, with the Epsoms bringing up the rear yet again with the R210 and R310 printing the photo in 488 and 523 seconds respectively.

In terms of quality, the Canon iP3000 won by a hairsbreadth, with the Lexmark P915 and Canon iP4000 tying for second position. The iP2000 came in third, beaten by the iP4000 by just a fraction.



Lexmark P915

1 col AD

In fact, amateur photographers who would like to see hard copies of their photographs, the Canon iP3000 and 4000 will be the best and fastest bets.

For office users who primarily print sales brochures and other similar documents, these printers will do an extremely professional-looking job, and you will not have to keep negotiating with an outsourced printing firm for every brochure you would like to print.

Conclusion

After going through the various tests, Canon had done it again. This time, the iP3000 won, beating the iP4000 by an extremely small margin, primarily on account of its lower cost and lower running costs.

Special mention must be made of the Lexmark P915, as it came quite close to beating the Canon, but lost out mainly because of slow printing speeds and higher running cost. It is aimed at the home photo printing segment, and in that respect, it performs well enough and is competitively priced. If, for some reason, you would like to use this in an office setup, you can replace the photo cartridge with a black cartridge, which would reduce the running costs to a great extent.

Canon made a clean sweep this time round in both the home and office/photo segment, with their brand new Pixma range. Although the Lexmark came close in the office/photo segment, the iP1000 is far ahead of the competition with the HP 3745 scoring nearly 15 marks less. Canon has come and outdone them all—it's now time for the others to catch up!

MULTI-FUNCTION DEVICES

Installation

Although this department does not sway the overall scores much, we thought it worthwhile to mention it given our experiences at the Test Centre.

In today's plug-and-play era, one would expect much easier installation processes: the worst installers in this segment were HP's MFDs. Strangely, their printer installation was really smooth, but the MFD installer told us to wait as this could take 15-35 minutes depending on the system. On our test bed, it took us 20 minutes to install one MFD!

A close competitor for the HP on this front was Brother. The installation of their MFDs was cumbersome in terms of when to connect and when to disconnect, and then there was the waiting and the praying for it to get detected by the installer. More like plug-and-pray! On the other hand, the Epson and Lexmark installers were smooth.

For the rest of the testing, we divided the MFDs into two categories—office use and Photo MFDs.



Canon Pixma iP3000



Canon Pixma iP4000

Office MFDs

This category consisted of eight MFDs, and the usage pattern assumed during testing was that of a regular SoHo, with emphasis on performance, features and running cost and not so much on the initial cost.

Features And Build Quality

All the MFDs we received came with LCD panels except for the Epson CX 1500. Some of the LCDs were decidedly better than the others. The Brother LCDs were the single line, B&W variety, and the contrast was so abysmal that we had to literally move around to get a reasonable viewing angle and read what the screen said. The Lexmark P6250 was the sleekest-looking device, and looked identical to the P915 printer. Other devices, such as the HP 5510 and the Lexmark X7170, came with ADF. None of the Epsoms were equipped with dial pads for faxing, and this was also missing on the HP 1608.

All the MFDs supporting fax came bundled with telephone wires. Some MFDs, such as the HP 4255, even had standard RJ45 sockets to connect them to a network—an extremely useful feature for a SoHo setup.

Score Board for Inkjet Printers

Device	Interpolated Resolution	Type of cartridges	PictBridge/Mem. Card Reader	Tray Capacity (In/out)	LCD Screen/ Type	Overall Score (Out of 100)	Price (Rs)
Home Printers							
Canon Pixma iP1000	4800x1200	B/W and Color	No/No	150/No Out Tray	No/NA	56.37	3195
HP Deskjet 3745	1200x1200	B/W and Color	No/No	80/50	No/NA	41.56	2999
HP Deskjet 3845	1200x1200	B/W and Color	No/No	100/50	No/NA	37.94	3999
Epson Stylus C45	2880x720	B/W and Color	No/No	100/50	No/NA	40.24	3295
Office/Photo Printers							
Canon iP1500	4800x1200	B/W and Color	No/No	150/No Out Tray	No/NA	42.84	4495
Canon iP2000	4800x1200	B/W and Color	Yes/No	300/NA	No/NA	53.17	6495
Canon iP3000	4800x1200	CMYK (4)	Yes/No	300/NA	No/NA	60.39	8495
Canon iP4000	4800x1200	CMYK (6)	Yes/No	300/NA	No/NA	59.1	10995
Epson Photo R210	5760x1440	CMYK (6)	Yes/No	120/80	No/NA	38.77	9895
Epson Photo R310	5760x1440	CMYK (6)	Yes/Yes	120/80	Yes/B/W	51.94	13495
HP Deskjet 5748	4800x1200	B/W and Color	No/No	100/50	No/NA	39.07	5999
Lexmark P915	4800x1200	Photo/Color(2)	Yes/Yes	100/70	Yes/Color	55.81	8999

For the complete scoreboard, log on to www.thinkdigit.com

Jargon Buster

ADF (for MFDs): An Automatic Document Feeder (ADF) lets you automatically load multiple-page documents into the scanner: you do not need to keep feeding individual pages to the scanner.

Optical Resolution: The optical resolution of a printer or scanner refers to the real hardware capabilities of the device. Nowadays, the resolution of a device can be increased by up to 8 to 9 times based on the software assisting it.

Interpolated Resolution: This is the software-enhanced resolution of the device.

Input Buffer: This is the onboard memory that a printer has, to keep a document in. It assists in speeding up the printing process when printing multiple pages.

PictBridge: This technology allows you to directly print photos from your camera onto your printer. You just connect the camera to the printer, and select the photo to be printed.

Number Of cartridges: As a thumb rule, the higher the number of cartridges, the more accurate the printout. Most high-end

photo printers come with six cartridges. Besides the CMYK cartridges, they also have light cyan and light magenta.

Ink Drop Size: This is usually measured in picolitres—a trillionth of a litre. The smaller the drop size, the better the print. Manufacturers offer printers that can print drops as small as one picolitre.

PPM: This is the abbreviation for pages per minute, used to state the number of pages a printer prints in a minute.

TWAIN: TWAIN was designed to provide a universal public standard that links applications and image acquisition devices such as cameras, scanners and the like. A common misconception is that TWAIN stands for 'Technology Without An Interesting Name'. This is incorrect. It is in fact from Kipling's "The ballad of East and West"—"... and never the twain shall meet..." to show the difficulty faced, at that time, in connecting scanners and personal computers. It was capitalised to TWAIN to make it stand out. This led to the popular belief that it was an acronym.

WIA: Abbreviation for Windows Imaging Architecture, this is an interface provided

natively in Microsoft Windows XP and ME enabling interaction with devices such as scanners and digital cameras.

Print Media: The contribution of printing paper towards the resulting printout is grossly underestimated. If you want to optimise your printing results, you must use suitable media. Today, in the market, you probably have more of a choice with print media than printers!

Paper sizes that are available will cater to every need you could think of. There is a multitude of brands to choose from. The more popular ones are Kodak, Novajet, and Berga. The quality of the paper is dependant on its density, which is measured in g/sm (grams per square metre). As a thumb rule, the higher the g/sm, the better the paper quality.

Photo papers are classified into photo paper, glossy photo paper and matte photo paper, depending on the kind of finish you are looking for. You can get an A4-size 15-sheet pack of 275 g/sm Kodak photo paper for approximately Rs 200.

CD Printing

A lot of the mid to high-end printers today support CD/DVD printing. They come with a special attachment tray where you can print any image you choose on the CD/DVD. This feature makes your compilations look professional. To do this, you need to have a printer that supports this, and a CD/DVD with a printable coating. If your CD/DVD media does not have that coating, you can print the image on paper and literally cut and paste it onto your CD!

Print Requirement	Print Media	Approximate Cost
Regular everyday printing	70-80 g/sm paper	Rs 125 for 500 sheets
High Quality text prints (résumés, applications etc)	100-120 g/sm paper	
Normal photo prints	170-210 g/sm photo paper	Rs 200 for 20 sheets
High quality photo prints	270+ g/sm photo paper	Rs 200 for 15 sheets

In terms of scanning features, not all MFDs had flatbed scanners, and some, like the Brother 3240c and the HP OfficeJet 4255, had a sheet-fed scanner that made multiple-document scanning an inconvenient task. But the HP 4255 had the advantage of being extremely compact in design. The Brother MFD, thanks to the sheet-fed scanner, was also bulky as such devices normally are.

On the other hand, the Brother MFDs sorely lacked build quality. The cheap plastic was quite obvious even without opening the box!

Performance Printing

The HP MFDs really shone in our text document speed test. The fastest time was clocked by the HP PSC 1608 at 16.68 seconds. The runner-up was another HP, the HP PSC 2310 at 17 seconds. Not quick

by any standards—the Canon Pixma iP 1000 did the same document in seven seconds—still pretty respectable. The fastest non-HP device was the Brother 3240C at 23 seconds with its sibling, the 210C, clocking 25.5 seconds. As in the printer tests, the Epson stylus CX 1500 brought up the rear with 37 seconds!

So if you believe the bulk of your printing requirements would be text documents, the HP PSC 1608 is the fastest, and is nearly the most economical—second only to the Lexmark X7170.

In the next stage, we put the printers through our combi-doc test. Surprisingly, the Brother MFC 3240C outshone others, printing the document in merely 46 seconds. It was followed closely by the HP PSC 2310 at 48 seconds. The Lexmark X7170 took a leisurely 78 seconds, with the

Epson CX1500 in the bottom spot again with 253 seconds.

Although we are not really looking at the photo printing capabilities of the devices in this section, it never hurts to print the occasional office picnic photo, right? In our photo printing tests, the fastest printer was the HP PSC 2310 which printed the A4-sized image in a respectable 289 seconds. The Lexmark X7170 did the same job in about 375 seconds, while Epson (yes, again) with 1,159 (you read that right!) seconds was last.

It must be mentioned here that the Brother MFDs did not fare too well, with the MFC 3240 and 210 clocking above 1,000 seconds each! If you want to print a picture



Epson Stylus PHOTO CX1500

or a brochure, you should definitely go in for the HP. But if you want an economical MFD, nothing even comes close to the Lexmark X7170, which printed a whopping 22 pages in the 10 per cent ink usage test. The closest anyone got to it was the Brother MFC 3240C, which printed a decent 17 pages. The HP 2310 came fourth, with 15 pages, after the HP 1608, which printed 16. The Epson proved to be an ink-hungry beast, printing just two pages—and there wasn't any difference in terms of quality!



Brother MFC-210C

When buying an MFD or a printer for your home or office, always find out the cost of printing a single page. Naturally, lower is better. This applies especially to offices where the printing load is greater.

Scanning

Remember never to go by the marketing jargon of maximum dpi and interpolated dpi. These are software-enhanced resolutions and are not the real hardware capabilities of the device. Always insist on finding the real optical dpi of the scanner. The concept is similar to digital zoom and optical zoom on digital cameras. While you may have digital zoom in excess of 40x, it will never give you the clarity as that of a 24x optical zoom.

The first thing we tested was the warm-up time of the scanner. For this, we took a cold scanner and scanned an A4-size image five times over, and averaged the recorded times. The fastest device here was the Lexmark X7170 with nine seconds, followed closely by the HP 1608 at 11.1 seconds and the HP PSC 2310 with 14 seconds.

The Brother MFC 3240 failed this test, and we could not get preview values. The other sheet-fed scanner, the HP 4255, did let us do a preview job, although it was not pretty—it took 42 seconds!

This time, Epson took a break from bringing up the rear by finishing second-last; the rear was brought up by the HP 5510 at 16 seconds.

While testing for the resolutions with a resolution card, almost all scanners were able to scan 3/5 boxes at 600 dpi, except for the two Brothers and the HP OfficeJet 5510. They could manage only 2/5 boxes. The reason we did not expect any of the scanners to scan the remaining two boxes was that they were created at a much higher resolution of 1200-2400 dpi, and are not really needed for an office scanning environment—so we restricted our scanning tests to a resolution of 600 dpi.

We then got out the iT8 card to test the scanners' ability to distinguish different shades of colours. This test was given the highest weightage. Here, surprisingly, the HP 4255 and the HP 1608 outshone the rest by reading all 22 shades of black. They were closely followed by the Lexmark X7170, which detected 21 of the 22 shades.

The Brother MFC 3240C came a consistent third here. Here, the

When buying an MFD or a printer for your home or office, always find out the cost of printing one page

rear was brought up by HP 5510 and the other Brother device.

One thing is for sure: if you do a lot of scanning and are particular about accuracy, you should give the Epson Stylus CX1500 a look. Although it is ink-hungry when it comes to printing and is slow in terms of scanning, it does not compromise on clarity.

Copying

Now, by virtue of having a scanner and a printer in the same package, the device can also double up as a copier. To test the copying functionality of the MFDs we used the copier as a stand alone function without the device being connected to the PC. We tested the speed of copying (both black and colour) as well as the quality of the copies produced.

In terms of sheer speed, the Lexmark X7170 outpaced everyone else by copying the B&W document in 20 seconds and the colour document in 39 seconds. It was followed closely in B&W copying by the HP PSC 2310 at 22 seconds, although it did stutter in colour copying, giving a time of 54 seconds!



HP officejet 5510 all-in-one

The second-fastest in colour copying was the Brother MFD 210C at 41.9 seconds. It was also the best quality copier in this test, although the Lexmark X7170

Canon
Delighting You Always

PIXMA

SHOOT. CONNECT. PRINT.

did come close. The Brother, though, edged ahead to claim victory by virtue of better quality.

In terms of the B&W copying quality, the Lexmark 7710 and the HP 5510 tied for the top spot, with the HP PSC 2310 and the Brother 3240 tying for second place.

In case, you are required to do a lot of copying—whether text or colour—a smart choice would be to go in for the Lexmark X7170. Although you may have to do a minor compromise in terms of speed, the X7170 provides you with really good printouts, which are sure to come in handy during presentations or meetings.

OCR

The last test we conducted was the OCR (Optical Character Recognition) test. We scanned a newspaper article using Abbyy Reader 7 Professional, and let the software read the characters without any tweaks and at all the default settings. We were checking for errors given by the software. The HP 2310 and the Epson CX1500 gave us zero errors! They even read the characters embedded in an image (a logo). The worst was the Brother MFC210c, with 10 errors!

The only problem Lexmark X7170 gave us was that it did not read the image file too clearly but, the text part of the document was completely error-free.

All said and done, and as the smell of ink and the reams of papers were cleared up, the Lexmark X7170 came out the clear winner on account of its competitive pricing, extensive feature set and miserly usage of ink during printing. Yes, it was not the top in all segments but if you look at the whole picture, it fared consistently better than

the others when taken as a package. So, let's hear it for the Lexmark X7170, the Best Buy Gold winner!

The Best Buy Silver award goes to HP PSC 2310. Though cheaper than Lexmark X7170, it lost due to its running costs. Cartridges are costlier by almost Rs 500 than the Lexmark ones and print around seven pages less with 10 per cent ink.



Lexmark X7170

Photo MFDS

Only three MFDS qualified for this segment—the Lexmark P6250, the Epson RX630 and the HP PhotoSmart 2608.

Features

All the above mentioned MFDS came with MMC Readers and were PictBridge compliant. They also had some of the sleekest LCD screens we have seen, some of the top cell phone screens included!

The build quality of all of these printers was excellent and really sturdy; the Epson RX630 even came with a transportation lock for the scanner element. None of the other systems had this feature.

Performance Printing

In our Printer tests, the test process was the same as that for Inkjet Printers. The fastest one here was the HP PhotoSmart 2608, which printed our test document in 11 seconds, while the Epson RX 630 and Lexmark P6250 were distant runners-up with 31 and 56 seconds respectively. So, if you want fast printouts from your

MFD, the HP PhotoSmart 2608 is the one to go for—it will save you tons of time to get on with your business or whatever else you want to have time for!

The same story was repeated in our combi-doc and photo printing tests. The HP PhotoSmart 2608 took 31.3 and 263.8 seconds respectively, as compared to 39 and 473.81 seconds for the Epson RX 630 printer and 145 and 312 seconds for Lexmark P6250.

The great thing about this HP printer is that it's not only devastatingly fast, but also does a stellar job of printing in terms of quality. The text printouts were crisp and sharp. Eventually, though, in terms of pure quality of the picture, the HP was pipped to the post—by a marginal difference—by the Epson.

Since these are classified as photo MFDS, the bulk of the emphasis is on photo printouts, with speed and quality both being important. As always, though, quality is preferred over speed.

In terms of printing speed, the HP PhotoSmart 2608 was blazing fast, with a text document printing time of 11 seconds, as compared to 31 and 56 for the Epson and Lexmark.



HP PSC 2310 all-in-one



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Score Board for MFDs

MFDs	Scanner Optical Resolution	Type of cartridges	Fax	PictBridge/Mem. Card Reader	Tray Capacity (In/out)	LCD Screen/ Type	Overall Score (Out of 100)	Price (Rs)
Office MFDs								
Brother MFC-210C	1200x1200	CMYK(4)	Yes	No/Yes	100/25	Yes/B/W	50.16	9900
Brother MFC-3240C	1200x6000	CMYK(4)	Yes	No/No	20/50	Yes/B/W	50.83	9900
Epson Stylus CX1500	600x1200	B/W and Color	No	No/No	100/50	No	33.14	5695
HP PSC 1608	1200x4800	B/W and Color	No	No/Yes	100/50	Yes/B/W	53.26	11700
HP Officejet 4255	600x1200	B/W and Color	Yes	No/No	100/20	Yes/B/W	48.01	7999
HP Officejet 5510	600x1200	B/W and Color	Yes	No/No	100/50	Yes/B/W	43.81	12499
HP PSC 2310	1200x2400	B/W and Color	Yes	No/Yes	150/50	Yes/B/W	53.58	11499
Lexmark X7170	1200x4800	B/W and Color	Yes	Yes/No	100/25	Yes/B/W	63.33	14999
Photo MFDs								
Epson Photo RX630	2400x4800	CMYK (6)	No	Yes/Yes	120/20	Yes/Color	43.96	24295
HP Photosmart 2608	2400x4800	B/W and Color	Yes	Yes/Yes	150/50	Yes/Color	55.33	14999
Lexmark P6250	1200x2400	CMYK (6)	No	Yes/Yes	100/25	Yes/Color	49.7	12999

For the complete scoreboard, log on to www.thinkdigit.com

The same is true for the combi-doc, where the HP 2608 printer took a mere 31 seconds as compared to 39 for the Epson RX630 and 70 for the Lexmark P6250. Again, in the photo test, the HP printer did the job in 263 seconds, while the Epson RX630 took a whopping 473.81 seconds and the Lexmark P 6250 took 312 seconds, nearly 50 per cent more time! In this section, the focus is more on quality than speed.

In terms of text quality, the HP 2608 and Lexmark P6250 tied, leaving us with more tests to do.

In the image and combi-doc quality, HP PhotoSmart 2608 was significantly better than the others, though Lexmark P6250 did give HP 2608 a pretty tough run for its money.

Scanning

In the scanner tests, the procedure was no different, and HP PhotoSmart 2608 simply outclassed the rest by detecting all 22 shades of black with amazing clarity. The Epson could detect only 20 while the Lexmark P6250 detected 19.

In the resolution tests, the HP PhotoSmart 2608 again detected all three boxes whereas the Lexmark detected only two. The Epson could detect all three, but only when scanned at full colour resolution at the highest possible bit depth.

The HP was also the fastest scanner and the only one that could read 3/5 squares in the reso-

lution card. Epson and Lexmark detected only two boxes. This proved their native scanning capabilities were not as good as those of the HP 2608. So, if you want to scan fast and accurately, go for HP.

Copying

For these photo MFDs, the copier test was the same as before, and here as well, the HP PhotoSmart 2608 came out tops with the most vivid colour and print quality of the copied document.

The speed of the HP PhotoSmart 2608 in copying documents, especially B&W ones, was sensational. It took 17 seconds to copy a B&W document, as compared to the 37 and 41 seconds taken by the Lexmark P6250 and the Epson RX630 respectively.

In colour copying, the HP PhotoSmart 2608 and the Lexmark P6250 tied in terms of speed, with both taking 39 seconds, while the Epson RX630 took a leisurely 49 seconds to copy our coloured document. It got beaten by a small margin in the quality of the colour copy by the Epson RX630. The margin, however, was extremely small.

Conclusion

This was a no-brainer! The clear winner is the HP PhotoSmart 2608, given its reasonable pricing of Rs 15,000, and its performance as well—which is far superior to the other printers in this category. In fact, this device could have given the Lexmark X7170 a

run for its money. It has super copying abilities, extremely fine scanning abilities and its printing prowess is excellent. Though a bit of an ink guzzler—it printed 12 pages using 10 per cent of its ink as compared to 16 pages by the others—the category it is placed in is one where a few pages less don't really matter.



HP Photosmart 2608 All-in-one

Overall Conclusion

In the printer section, Canon blew the competition away with their latest range of Pixma printers. If you primarily need to print photographs, it would make more sense to go for one of the higher-end Pixmas than a mid-range MFD, although they have the disadvantage of not having a scanner. You could always click pictures of your document and print them!

In the MFD section, it was HP all the way. It was head and shoulders above the rest and stamped its authority across the category.

In the coming months, with manufacturers sure to launch new products to match and beat the Canons and the HPs, it's going to be an interesting battle. We will be in the thick of it... for you. Watch this space. ■

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Contact Sheet

Printers and MFDs

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Epson	Epson India Ltd.	080-30515000	vasu@eid.epson.co.in	www.epson.co.in
HP	Hewlett Packard India Ltd.	0124-2566111	saranya.rustagi@hp.com	www.hp.com
Lexmark	Lexmark International (India) Pvt.Ltd.	022-2605 7755,45,44	lavanayaw@lexmark.com	www.lexmark.com



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Digital Business

How Technology Can Help Your Organisation

Case Study

Dude! Where's My Truck?

Need a system that keeps a tab on your mobile assets? MobiApps seems to have a logistical tool ready for you

Preethi Chamikutty

Tracking your cargo has always been a logistical nightmare. With a large number of variables affecting the safety and arrival time of your cargo, this has been a major area of concern for many transporters.

Logistics and transportation applications have long been touted, but have been slow to reach wide market acceptance. Though the benefits of accessing asset information are clear to logistics companies, its practical

implementation have been hindered due to steep prices.

Companies are looking forward to technologies to support their needs, such as Global Positioning System (GPS) and Differential Global Positioning System (DGPS). Terrestrial networks that provide more coverage, SMS, and GPRS as a medium for data transfer have enabled companies to keep their productivity high, lower operational cost, improve efficiency, reduce turnaround

Photographs: Mervyn Xavier
Setup: Visual Execution and Imaging, Bleesh Sreedharan,
Ajay K. Narayanan, Atul Deshmukh, Shyam Shriram





their vehicles, provide information about over-speeding vehicles, unscheduled stops and a host of other in-vehicle conditions.

It streamlines the management of fleets by providing reports and analyses of vehicle journeys, and provides complete journey records for all vehicles. This helps in planning, tracking, and scheduling. It also assists fleet managers to have better control over operations while enhancing value-added services to their customers.

What Does It Do?

The m-Trak system is a real-time vehicle tracking system with a tamper-proof unit having a built-in keyboard and a LCD panel. It can show the real-time position of the vehicle or play back the vehicle's travel path on a digital map. The information will include the current location of the vehicle, distance travelled, vehicle speed, number of stops made, and the location and duration of the stops.

Its user interface enables two-way voice and text communication. It also has an external handset attachment for voice communication, an inbuilt address book, call-log facility, one-key predefined messages, built in GSM/SMS communications, optional RF wireless communication, and an optional SOS switch. It can be configured using a remote, can be customised to meet client-specific requirements, and is also capable of monitoring events occurring inside the vehicle.

m-Trak's functionality integrates a host of technologies. The GPS receiver determines the vehicle's location; after identifying the location, the information is sent via SMS to the fleet manager's control station. The m-Trak control station software then plots the vehicle's location on a display map, which can be viewed by the fleet manager. (See infographic)

cycles, and enable timely delivery, resulting in delivering better service.

Taking advantage of this, MobiApps, a Bangalore-based provider of hybrid terrestrial and satellite technologies for commercial communications has developed a mobile vehicle tracking system, which helps track, manage, access, and monitor all your trucks or other mobile assets developed m-Trak, an online asset-tracking solution that has been designed to support logistics and transportation.

m-Trak provides real-time information on fixed and mobile assets. It helps address issues such as tracking, monitoring, managing, and communicating with all mobile assets in real-time. m-Trak integrates GPS technology, mobile telephony (GSM), and the Internet, to provide a solution that addresses these key challenges with real-time, location-relevant, and time-sensitive information. The m-Trak system helps receive alerts from the assets, track assets on map, generate reports, replay routes, and communicate with the asset drivers.

m-Trak is available in three variants: m-Trak 50, m-Trak 75, and m-Trak 100. m-Trak 100 helps fleet managers pinpoint the location of

How It Works



The Technology Behind It

MobiApps has designed the m-Trak solution mainly around the Global Positioning System (GPS).

The GPS technology offers accurate information such as latitude, longitude, altitude, date and time, speed, moving direction, and distance (derived). In tangent with GPS, MobiApps also uses terrestrial wireless communication systems such as GSM and the Internet as the medium for user interaction.

MobiApps adopted GPS, as it is a worldwide radio navigation system based on a network of 24 satellites. These satellites determine the position of any object on earth, provided these objects have a GPS receiver. These GPS receivers

tune to a particular frequency and listen to the signals coming from the GPS satellites. The number of satellites transmitting signals to the receiver determines the accuracy of the reading.

However, GPS receivers do not have the ability to relay this information. This is where the need for a wireless network arises, which could be terrestrial networks such as GSM, CDMA, CDPD, VHF, etc. It could also be a non-terrestrial network such as a satellite network, which is capable of transmitting data from the object to the asset manager's control room.

Next, the 'short messages' provided by the GSM network can be used to relay the data from the m-Trak device to the asset manager's office/control room. The GSM modem periodically receives these messages in near real-time. The GSM modem then transmits these to the m-Trak software, which processes them and plots them on a visual map.

The m-Trak device provides support for off-line storage of location data in the device as well. This is useful when the asset is in a remote area where the terrestrial network coverage is absent. So, there will be a brief period when the asset manager would not be able to track the asset in real-time. In such a scenario, in order to prevent loss of tracking data, the software allows for storage of location data locally in the device. Once the asset comes back into a coverage area, the stored data is transmitted back to the control room. The asset manager would now be able to view the path taken by the asset in the off-coverage area.

Customers Galore!

Asset tracking can be cost-effective for the following customers:

- Industries where a production assembly line depends on raw materials arriving 'just in time'
- Hazardous chemicals and gas manufacturers who require safe transportation of their goods
- Companies manufacturing high value goods that require safety against pilferage
- Transporters of frozen/perishable goods
- Courier and express cargo companies who require tracking of consignments
- Taxi operators, who require optimal usage of their fleet by despatching the nearest cab to a customer point
- Public transportation systems that require tracking of buses to provide real-time updates on arrival and departure to passengers
- Companies that require a billing of mileage
- Police force for patrolling, etc.

Currently, MobiApps' list of clients includes the Bangalore Metropolitan Transport Corporation (BMT), Karnataka State Road Transport Corporation (KSRTC), Safexpress,

Dell, Ford Motor Company, General Motors Corporation, Hyundai Motor India Limited, Praxair Inc., Transport Corporation of India, Ltd. (TCIL), Life Fitness, Mercury and Wipro, amongst others.

To understand what customers think, we spoke to Ankit Kumar, manager, Network HICON, Safexpress Pvt Ltd, a bangalore based provider of a range of logistics and supply chain solutions including door-to-door distribution, single source invoicing, reverse logistics, packaging solutions, etc. Their network comprises over 513 locations of more than 2,400 vehicles, operating over 750 routes, 365 days a year. MobiApps is providing fleet management solution to track and manage their logistics operations.

"We have about 3,000 vehicles in all on our fleet, for which we have started planning implementation of the tracking system. We started using the m-Trak system about eight months ago



and have been very satisfied. We have noticed a huge difference in the stoppages, time taken, departures, etc. and are quite satisfied with the system," says Kumar.

Looking Forward

After a tie-up with the Tata Group MobiApps is very bullish about its future. "There is a large customer base that we are yet to tap into," says Amitabh Satyam, Country Head, MobiApps. Like any other Indian IT-services provider, MobiApps too to expand its business beyond India shores. Southeast Asia and the Middle-East are the areas of focus for this logistics application provider.

But is the Indian market ready for a high-tech tool such as m-Trak? MobiApps says that it has a survey to back-up its claims about the large customer base. However, convincing the smaller transporters about the long-term benefits that can be derived from using the software is not going to be easy. And considering that the Indian transport sector is largely unorganised and survives on very small margins, only time will tell whether MobiApps, with its fancy logistical tool, will be able to crack the market. ■

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Let's Meet Online

How real-time video sessions take place over an ISDN line or broadband connection

What You Need:



Cameras

One or more webcams or small video cameras, with video input connections



Speakers

To receive audio input from the client's end



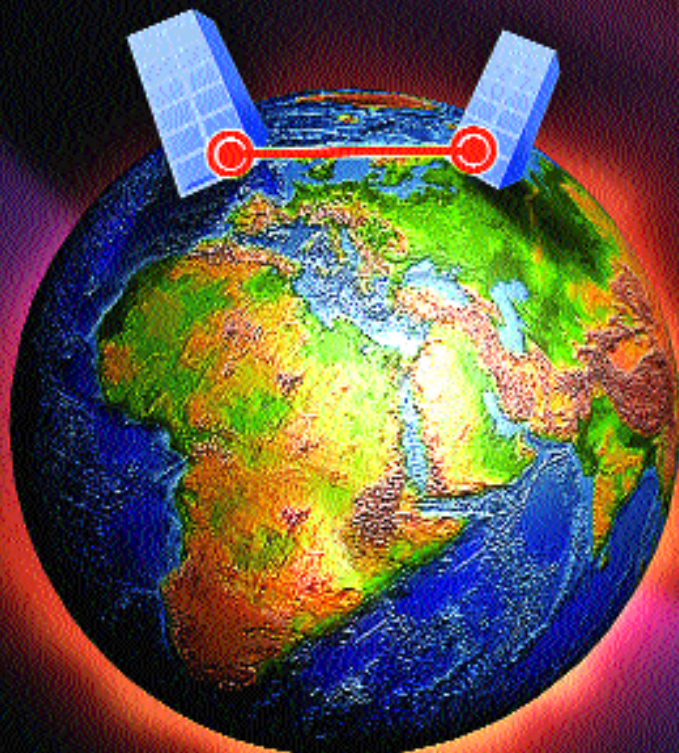
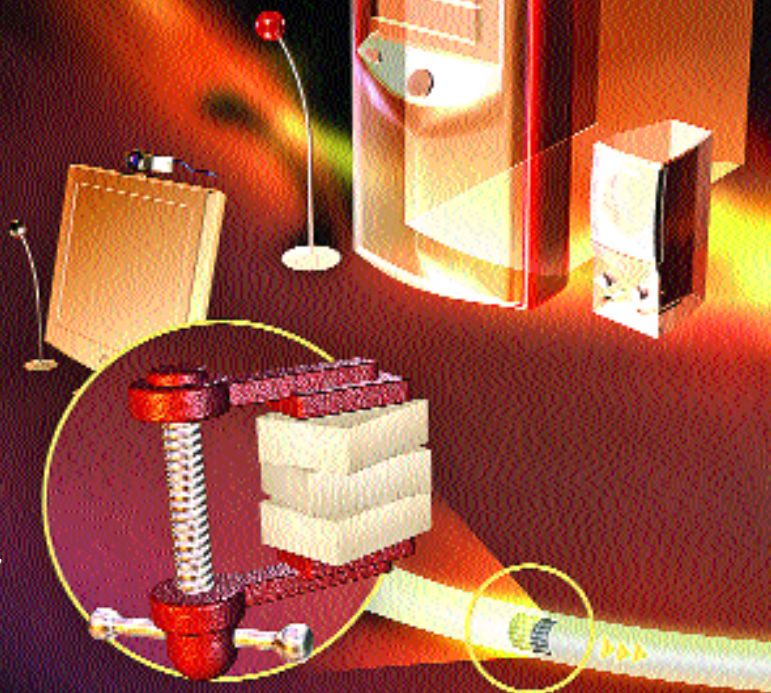
A Microphone

To enable audio input



A LAN Card

A Network Interface Card connects your PC to a LAN, which provides access to a broadband connection. Else, connect directly to a dedicated ISDN line.



1 Videoconferencing Sessions

Can take place between clients in different rooms within the same premises, different offices within a city, as well as in different countries. In a multi-party session, a multipoint control unit (MCU) is used to mix the audio and send the video of the predominant speaker to every screen. Like a telephony PBX, a video PBX is used to switch calls and provide call forwarding and call transfer.

Codecs

You will also need to install a codec—hardware or software that compresses and decompresses audio and video data streams. Codecs reduce the size of audio and video samples so as to speed up transmission.

First Steps

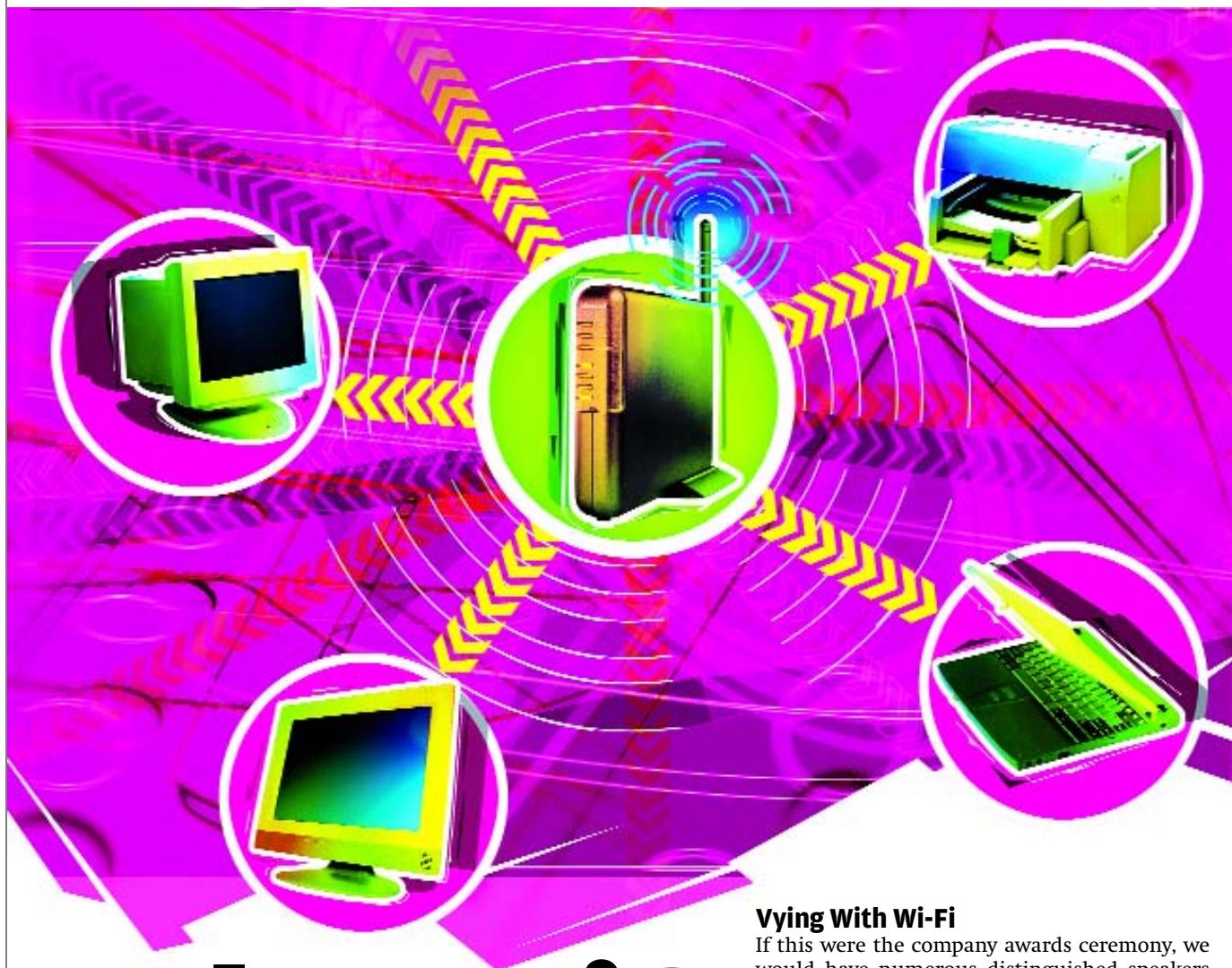
Set up the PC with the requisite components to facilitate an audio-visual session. Connect the PC to a dedicated ISDN line or broadband connection. Install the

videoconferencing software; ensure that the software on the client's end is compatible with yours. Dial the client's number. Once the two sides are connected, you will be able to share audio-visual data.



2 Web-based Videoconferencing
Can take place using chat software such as Yahoo! Messenger, or videoconferencing software such as Microsoft's LiveMeeting or the WebEx client. WebEx requires just a Web browser and a phone.

3 Videoconferencing Over Virtual Private Networks (VPNs)
Some companies set up private Wide Area Networks spanning large geographic areas to connect branch offices. A VPN uses encryption, and provides a secure tunnel over the network with a guaranteed bandwidth.



Why-Fi?

That's the question most medium-sized businesses are asking themselves...

Robert Sovereign-Smith

Computers invaded us, and won. The very nature of businesses today demands mobility and instant, anywhere access to critical information. While the Internet has given us this much-required data mobility on a global scale, the same does not hold true within our own offices. Unfortunately, the desktop has been the ruling party so far, and mobile devices are only just gaining popularity.

We tend not to realise how chained we are to our seats at work. Executives jet across the world, access their e-mails in airports worldwide, meet with clients in hotels and restaurants, and download presentations; yet, within their own offices, they are confined to a 4 x 6 foot space called a cubicle—and all because of a short wire with an RJ45 connector on one end. Networking, the bane of mobility!

Vying With Wi-Fi

If this were the company awards ceremony, we would have numerous distinguished speakers gushing superlatives, introducing the persona that single-handedly revolutionised mobile computing. Yes, that's perhaps the most apt introduction to Wi-Fi. Without it, every mobile device, from laptops to PDAs, would be nothing more than external hard drives—absolutely useless on their own, but great for transporting data from one network to another.

But should all businesses set up a Wi-Fi network? If only it were that simple! New companies have no problem deciding: Wi-Fi is the way to go—the setup is quick, easy and affordable, and shifting offices is as easy as packing and unpacking the equipment. However, existing businesses really have to weigh the mobility offered against the costs. If you have a huge inventory management setup, and lots of employees using equipment such as laptops and barcode scanners, you should seriously consider Wi-Fi as an option.

I'm Sold. What Now?

You need to do a site survey, and then decide upon the number of access points you need in order to be able to provide seamless network coverage. You also need to keep in mind that there's no such thing as a true wireless LAN (WLAN) with no trace of wires. Your servers and access points need to be connected via a regular wired LAN to give them the connection

stability they need. You also need to make sure that you overlap the access point coverage areas sufficiently to offer the maximum possible network speeds to your users.

You will obviously need a lot of Wi-Fi-enabled equipment to make use of your WLAN setup, and if this equipment isn't already deployed, this cost needs to be factored in as well.

The Site Survey

A proper Radio Frequency (RF) site survey is a requisite, and it can be done in two ways—as a task left to the firm you hire to deploy WLAN, or done by your in-house IT deployment team. Of course, smaller businesses could have a systems engineer using one access point and a laptop to set up and walk around the site checking signal strengths. Whatever the case, your WLAN deployment needs planning, as anything, from a wall to machinery can disrupt the wireless signals.

You must also consider actual working conditions when planning your WLAN setup. For instance, a warehouse where a site survey is done when there is less activity and no goods are stored; after deployment, however, you may find that running machinery, or even piled up goods, can interfere with the wireless signals.

You should recognise the dynamics of your environment. As explained above, a warehouse may require different deployment tactics than a regular office. In an office, users will be at their desks most of the time. However, a regular office will also have cubicles, walls and other obstructions that will adversely affect the signal.

A Seamless WLAN

A seamless WLAN setup is one where users can stroll across the covered area, and at the same time have constant access to the network. This is easier said than done, and is a lot more complicated than just setting up access points to cover the desired area. The 802.11 specification offers 14 different channels, or frequencies, at which access points can be set. The problem is, these frequencies are too close together—a difference of just five MHz between channels—and interference is caused. To overcome this inter-

1/2 pg V. AD

Access Point Antennas

Perhaps the most ignored feature when choosing an access point, antennas should be given considerable thought. Most access points come with omni-directional antennas, which means that the access point sends out a signal in the form of a sphere all around itself. This is especially useful when placing an access point in the centre of a smaller office, as it can cover the entire office area easily. However, it is when we reach larger offices—where numerous access points are needed—that directional access point antennas may offer you some relief.

Directional antennas also offer some relief for those obsessed with security, as you can ensure that all your access points offer a known and fixed coverage area. Directional antenna-based access points could be set to ensure that no one ever gets a signal outside the office walls, and thus cannot hack into the network. Directional antennas also help you plan and position your access points better, so as to offer maximum coverage. Their biggest advantage, however, is the fact that they offer greater bandwidth and range, as a result of being focussed in a single direction.

When deploying a WLAN in a large multi-storeyed office, uni-directional antennas will be needed to ensure that there is no overlap of signals of access points running on the same channel, thus breaking the seamless network.

Planning Access Point Placements

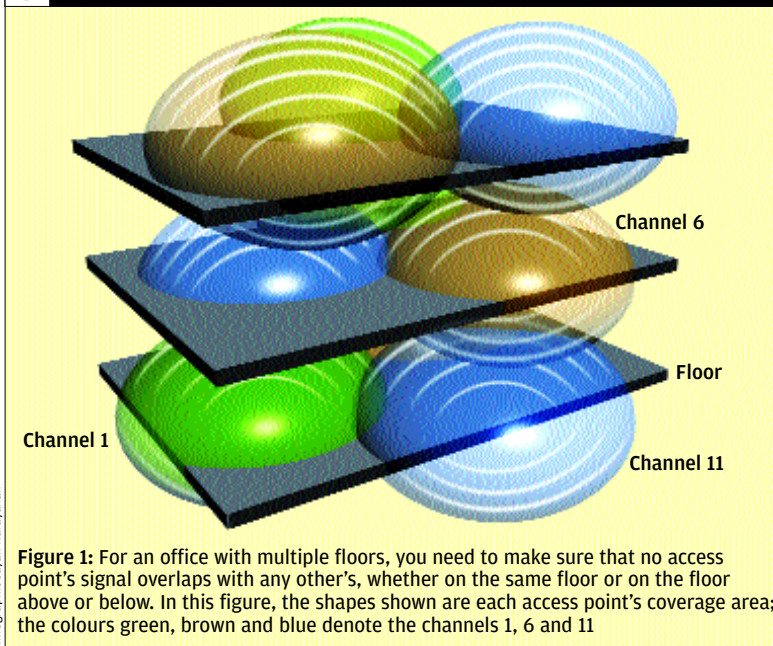


Figure 1: For an office with multiple floors, you need to make sure that no access point's signal overlaps with any other's, whether on the same floor or on the floor above or below. In this figure, the shapes shown are each access point's coverage area; the colours green, brown and blue denote the channels 1, 6 and 11

ference, the three standard channels used are 1, 6 and 11. To offer seamless roaming around the coverage area, you will need to ensure that any three neighbouring access points are configured to run on these three different channels.

This is easy when setting up a two-dimensional coverage area, say, on a single floor. However, when you have to do this for a building, with access required on multiple floors, sketch a 3D view of your coverage area and make sure that all access points—on all the floors—are set to operate on different channels. A good blueprint of your office building will come in handy. You will also need a wireless network monitoring tool to test the actual setup.

Bandwidth

Every network needs to provide its users with the bandwidth they require, and this is where wired LANs definitely have an edge. A standard wired LAN will offer your users a theoretical bandwidth of 100 Mbps, almost double the theoretical bandwidth of 54 Mbps for a WLAN. However, just as you do not expect the full 100 Mbps bandwidth from wired LANs, you cannot expect anywhere close to 54 Mbps for WLANs.

The most logical calculation is to halve this bandwidth and divide it by the number of users you plan to provide access to in a given area. For instance, if there are 10 users on a WLAN per access point, each user will get $27/10 = 2.7$ Mbps of maximum bandwidth, which will suffice for most. Only users who constantly transfer large files to and from a server will need more bandwidth. Take into account this user-density factor when deploying your WLAN.

Security

Now that you have your WLAN plans in place, your biggest concern will be security. No one wants to have their private office LAN visible to the outside world. Apart from people snooping around your LAN, you will also be put at risk by worms and viruses from neighbouring WLAN setups or wireless devices. What you need to do is ensure that your WLAN is as secure as it can be.

First of all, get a WLAN monitoring tool. In case your system administrators largely use Linux, then 'kismet', the default WLAN monitoring tool for Linux, will do the job. Windows users can choose from a huge list of commercial as well as free tools.

A seamless WLAN will need all access points to have the same Service Set Identifier (SSID). The primary thing systems administrators should do is change the SSID so as to leave others guessing. Default SSIDs for various

The Interference Dilemma

The biggest thing that afflicts a WLAN is interference. A WLAN signal is fragile and can easily be disrupted by something as simple as a wall, so the last thing you need are pesky devices sending your WLAN crashing. The 802.11 protocol runs at about 2.4 GHz, and this frequency is prone to interference from numerous sources. The problem with interference is the additional load that is put on your networks. If one wireless device is sending data packets to another, and interference occurs, the receiver gets a packet with errors.

Most often, receivers are programmed to not respond to the sender when this happens, and this results in the sender transmitting the packet once again. The problem here is that all these packets being re-sent can use as much as half your bandwidth, which will hurt the overall WLAN performance. Some devices that can cause interference with WLANs are:

Cordless phones running at 2.4 GHZ

These are the latest cordless phones that offer a longer range from their base station. However, the problem lies in the fact that these cordless phones use the same frequency as WLANs, and thus turn out to be the biggest source for interference. If you have any of these phones installed in your office, you will need to get rid of them whenever you install your WLAN or be ready to face pathetic speeds.

Bluetooth-enabled devices

Many mobile phones and PDAs today are Bluetooth-enabled, and this can cause interference if a user uses such a device where the signal strength of an access point is already low—far away from the access point and close to a device connected to the WLAN. Thankfully, current research, driven by the increase in popularity of both Bluetooth-enabled

devices and Wi-Fi, will soon put an end to this menace.

Microwave ovens

Every time employees heat their food, you might find users in the immediate surroundings yanking out clumps of hair. Placing an access point next to a microwave oven is a definite no-no, as these ovens emit signals that clash with Wi-Fi.

Power Cables

Improperly shielded power cables can interfere with wireless signals, and it is best to keep access points positioned away from power cables or power junction boxes.

Other WLANs

Most companies in India share buildings, floors or even offices with other companies. In such a scenario, a neighbouring office's WLAN could cause interference with your own deployment. This is something you should inspect and test thoroughly when doing your RF site survey.

**Software Saviours**

Possibly the best way to check your security is to use the very tools someone would use to gain unauthorised access to your WLAN. Here's a short list of tools that are built either to attack or defend:

AirSnort: A WLAN sniffer tool that recovers encryption keys by passively monitoring transmissions. It calculates the encryption key after it has received enough packets. It can be downloaded from <http://snipurl.com/dgif>

WEPCrack: This uses the latest RC4 key scheduling to crack a WLAN's WEP code. Get it from <http://snipurl.com/dgih>

NetStumbler: This tool lets you 'discover' any WLANs or access points in your vicinity. This tool can also be used for your site survey, as it will inform you of any existing WLANs that may cause interference or help you know your signal strength at different points. It can be downloaded from <http://snipurl.com/dgij>

Internet Scanner: The Internet Scanner provides an automated network vulnerability assessment. It performs distributed or event-driven probes of network services, operating systems, routers/switches, servers, firewalls, and application routers to identify potential risks. Try an evaluation version at <http://snipurl.com/dgil>

Wireless Scanner: This detects and analyses your WLAN access points and clients. It identifies and reports unauthorised and misconfigured devices. Try it by going to <http://snipurl.com/dgim>.

BlackIce PC Protection: This is a personal firewall for laptops and Wi-Fi-enabled desktops with the ability to protect you from intrusions and client-to-client attacks. Download a trial from <http://snipurl.com/dgio>

You should also visit www.iss.net, the homepage of Internet Security Systems, a leading security consultant to companies and governments world-wide. Here, you will find some of the tools mentioned above, and also many security solutions for enterprises, educational institutions and even governments.

If you are paranoid about security, program each access point to filter requests by MAC addresses

access point manufacturers are well known, and hence these should be changed immediately. Make sure you don't use your company name or initials as the SSID.

Also, you must enable encryption of signals so that unauthorised users cannot use wireless Ethernet sniffers to spy on the network. Even the 128-bit WEP encryption is fallible. For details on problems that WEP faces, visit <http://snipurl.com/dggs>. The latest 802.11i standard addresses these problems and is recommended for its use of AES encryption.

Turn off broadcast pings to make access points invisible to sniffers and simple network analysis tools. If you are paranoid about security, program each access point to filter requests by MAC addresses, though you will need to add every single wireless device's MAC address to every access point in the network. Or simply secure your network by information overload. Once you set up WLAN, go to <http://snipurl.com/dgh4> and download FakeAP. When you run this, any intruder will see thousands of access points—so your actual access points are hidden by vast numbers.

In Sum

Though there are costs involved, and security at stake, the fact is that as wireless technologies get faster, better and more secure, Wi-Fi could give your business a welcome boost of steroids. In fact, in certain cases, you might find that Wi-Fi is the only option.

Look out for the Fast Track book on Wireless Networking, free with the May 2005 issue of *Digit!* ■

robert_smith@thinkdigit.com

1 Col Ad

Wired LAN v/s Wi-Fi

Is it time to replace the conventional wired LAN with a Wi-Fi network? Find out...

Transition to Wi-Fi with the added burden of logistics and management is not feasible

ICICI bank has a network of 505 branches and more than a 1000 ATMs in the country. It also has its presence in UK, Canada, Singapore, and other countries. ICICI chiefly uses wired Local Area Network (LAN) for its scale of operations.

"Almost all the ICICI offices work on wired LAN. As a bank we do not need to have a complete Wi-Fi setup because the staff would prefer to work on desktop computers rather than laptops. Besides, Wi-Fi definitely works better with laptops and just for the sake of having a Wi-Fi connection we cannot afford to replace our existing desktops with new laptops.

Photograph: Mexy Xavier



Pravir Vohra
Chief Technology Officer,
ICICI Bank

Banks function on closed networks, where it is not advisable to have Wi-Fi connectivity

"However, a few of our branches do use Wi-Fi in areas such as conference rooms and training centres to name a few. Since we are using wired LAN at the moment, the transition to Wi-Fi and the added burden of logistics and management is not be feasible.

"Another major concern for us is security. If an outsider gains access to our customers' account or to insider information, the damage could be colossal. Banks function on closed networks, where it is not advisable to have Wi-Fi connectivity.

"Nevertheless, we are using Wi-Fi as a pilot run in some branches. For instance, at these branches, we provide our hostesses with a tablet PC and they assist customers who are waiting in queues by solving their queries and doubts. Through Wi-Fi, they can tell account holders whether their cheque has been cleared or not, prepare drafts and provide other similar services. This method prevents queuing as customers are not required to go to the counter any more.

"Such experiments are being conducted using Wi-Fi. Further deployment of Wi-Fi in our branches will depend on various parameters, an important one being customer feedback. Having said that, I still feel Wi-Fi will not replace our wired LAN office environment."

In terms of expenditure, Wi-Fi will prove to be more reasonable and effective than wired LAN

A five star hotel in Mumbai, Hotel Marine Plaza has a lodging capacity of 68 rooms. Though the rooms are yet to be Wi-Fi (Wireless Fidelity) enabled, all the restaurants, business rooms and terraces at Marine Plaza are Wi-Fi hotspots.

"We are living in an era where there is a constant need to stay connected, not only to our workplaces but also various other setups worldwide. Wi-Fi comes to your rescue in such cases. At Marine Plaza, we access the wireless Internet service through Wi-Fi technology. Guests staying at the hotel have access to a high-speed wireless Internet connection.

Photograph: Jiten Gandhi



Anurag Bajaj
General Manager,
Hotel Marine Plaza

Our business needs to be completely Wi-Fi enabled in order to function better

"Along with EZ-COMM, our provider for Wi-Fi access, we have adopted a model, which eliminates most of the disturbances that occur in a typical LAN network and we are able to have an uninterrupted Internet connection. We can offer our guests a broadband connection of 512 Kbps. Moreover, they have the facility to buy prepaid cards that can be used at any of the EZ-COMM wireless locations across India.

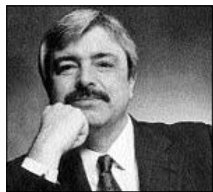
"An organisation may function in different time zones, and at times it becomes unavoidable to do official work from home or even during vacation. Some guests may be on a business trip. We also have international guests staying at the Marine Plaza. It is true that many customers prefer to stay with us as they consider the availability of Wi-Fi connectivity an added advantage to their package.

"Altogether, we have six floors including the ground floor of our building on wired LAN network. That apart, most of our guest area is equipped with Wi-Fi for Internet access. I believe that our business needs to be completely Wi-Fi enabled to function better. Wi-Fi will definitely help us serve our customers better. In terms of expenditure, Wi-Fi will work out to be more reasonable and effective than wired LAN."

As told to Preethi Chamikutty (preethi_chamikutty@thinkdigit.com)



100...And There Was Order!



106 Modem Man



120 Hackers Did It!

Digital Leisure

Technology Beyond Work

Touched By Tech

Creating A Million Smiles

Mobility, technology and digital photography combine to offer livelihood, and a smile

Renuka Rane

Babulal Mishra, of Jamuna Park, Delhi drives a unique auto rickshaw to his workplace—the courts, at Delhi. He is a digital photographer tending to the passport photo requirements of applicants, or litigants near the courts. His auto is a converted, mobile digital studio, and attracts a lot of attention from onlookers. Mishra simply clicks a picture with his digital camera, and takes a printout from a photo-printer, all within a matter of minutes!

He gets anywhere between 20 to 60 customers

each day, and has been doing this for a year and a half now, ever since he became part of HP Digital Photo Studio's—Project Muskaan.

The Genesis

HP Digital Studio, a chain of instant, digital, photo print service has integrated digital printing. 'Project Muskaan', or the 'HP Digital Photo Studio' project, was launched by HP India in May 2002 as a platform to generate sustainable self-employment, and enable revenue generation for people from urban and rural India.

Explaining the objectives behind the venture, HP India's digital photography products, consumer segment manager, Ashwini Aggarwal says, "Project Muskaan was launched in May 2002 to drive the concept of

digital photography into the Indian mainstream photography segment. We wanted to explore how technology could be used in emerging markets and be fitted into new products, which would specifically address the needs of emerging markets in India."

Existing photo studios and new entrepreneurs have setup shop through Project Muskaan by using the HP Digital Studio package provided. The project has an ever increasing 5,000-member franchise network servicing over two million customers a month, and is spread across 75 cities and 1,000 villages in India.

Products And Prices

An individual photographer, or an existing photo studio can avail of the HP Digital Studio package, which includes a multi-media personal computer,



photo printer, scanner, digital camera, and the HP Digital Studio software. All of it comes at a cost of Rs 50,000, as opposed to a year ago, when the price was around Rs 1.5 lakh. However, in villages, where affordability is a prime area of concern, the company offers a photo printer along with a camera for as low as Rs 15,000. Moreover, one can take advantage of easy bank financing options, thus making the package more affordable.

Most of the photographers did not want the computer interface—all they wanted was a digital camera and an appliance for printing. So, the company introduced a lightweight Photosmart printer, where one can simply insert the memory card of the camera into one of the card-reader slots on the printer, see and select the images, set print size, quality and print crisp pictures. This made the job easier for photographers, who didn't have to resort to the computer for either manipulating the images, or for printing.

Bridging The Digital Divide

Project Muskaan aims to take technology to the rural and urban masses, by converting conventional photo labs into digital photo studios. "We wanted to narrow the digital divide between urban and rural Indians. To target emerging markets, we opened our first lab in the Kuppam constituency, of district Chittoor in Andhra Pradesh. Our visits to villages received a tremendous response and people showed enthusiasm towards using digital photography," explains Aggarwal.



Our visits to villages received a tremendous response and people showed great enthusiasm towards using digital photography

Ashwini Aggarwal
Consumer Segments Manager,
Digital Photography Products, HP India



A digital photographer, this village belle in Andhra Pradesh is now an independent and confident young woman

Creating Entrepreneurs

The company also targeted commercial photographers, analogue photo studios, street photographers, and tour operators whose services include passport size photos, photo identity cards, posters, and visiting cards.

Consider Suniti, a young village girl from Kuppam district. When she shuts shop for the day, she has earned a respectable Rs 200 per day from her profession as a digital photographer to double her family household income.

"A significant revenue earning stream, Project Muskaan is proof that such an endeavour can be made financially sustainable, and even profitable. In rural India, photo prints are now available on the spot, at affordable prices and people don't have to face the delay of getting the prints developed and delivered from a nearby town," says Aggarwal.

In rural areas, Project Muskaan serves to create employment, encourages entrepreneurship, and also aids economic and social development. The Digital Studio project has gained prominence in north India in the Sirsa district in Haryana, Manas village, Rishikesh, Uttaranchal, and also in southern India by giving villagers—men and women, young and old alike, an opportunity to turn entrepreneurs.

From Polaroid To Digital

So, is the transition from the conventional forms to digital photography advisable? It's a win-win situation for both the customers as well as the photographers as Mishra is quick to point out, "Customers get instant pictures and we get instant payment. So both of us are happy! Moreover, foreign tourists insist on instant digital photographs."

The instant turnaround time, coupled with fade resistant images and high print quality has helped users to increase their daily margins leading to higher profits.

Ease of use, low cost, and mass appeal of instant solutions has tipped the scales in HP's favour. This strategy helped HP gain a wider presence, and remove misconceptions about digital photography being costly and difficult to handle.

What Is Available

The HP Digital Studio package includes an HP personal computer, HP photo printer, HP scanner, HP digital camera, and the HP Digital Studio software for Rs 50,000.

In villages, HP offers an HP photo printer along with an HP camera for as low as Rs 15,000.

Harish Mendiratta, owner of Sanjay Photo studio in Pahadganj, New Delhi says, "When we were using Polaroid print, it cost us Rs 35 to prepare a set of four passport sized photographs. We went digital a year ago and now it costs us Rs 12 for the same. We also have a quick return on investment, ease of printing and richer colours. We can now develop all sizes of digital photographs—from passport-sized ones to large posters."

"Earlier, we had to click pictures, then develop them in a dark room. Thanks to digital photography we have bid goodbye to this lengthy and cumbersome process. We also perform colour correction such as increasing or decreasing the contrast and so on. So there are many options available to us at an affordable price," Mendiratta adds.

Evangelising Digital Photography

D P Chauhan's Chayya Photo Studio in Noida, Uttar Pradesh, is nearly 12 years old. Chauhan became part of Project Muskaan in 2003. He explains, "Representatives from HP provided me with the basic training. Through brochures and practical demonstrations they explained what digital photography is all about. They helped me with the installation of the equipment and frequented my studio for three to four days until I was comfortably settled."

The company provides retail franchisees and members of Project Muskaan with marketing support initiatives such as training, branding, promotional materials such as user account management, loyalty programs, and special pricing.

HP India's initiative to bring photo printing to the masses has sparked off a digital imaging revolution in India. ■

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Of Hacked Sidekicks

1 Name the innovative lighting product, a desktop-sized device, which splits three electronic lasers, high-intensity blue and ultraviolet LEDs, and throws them into a hand-cut faceted crystal to create impressive mood lighting.

a. Laserbulb b. MoodPod
c. MoodLight d. Laserpod



2 An interactive programming language developed in 1990, by Guido van Rossum, originally as a scripting language for Amoeba OS, is now an open source project, managed by a non-profit foundation. Name it.

a. Ruby b. Java
c. Python d. Visual Basic

3 Name the company which offers the popular blogging service LiveJournal, and open encyclopaedia Wikipedia.

a. Wikimedia Foundation
b. Wmedia Foundation
c. Wiki Foundation
d. World Media Foundation

4 Intel is technically aiding a project by Richard Wool (University of Delaware), who wishes to recycle discarded _____ to make circuit boards, replacing petroleum-based components with keratin-based composites.

a. Chicken feathers b. Eider feathers
c. Chicken wings d. Frog's legs

5 The contents of this A-list celebrity's T-Mobile Sidekick were recently published online, after being allegedly hacked into. It contained phone numbers of Eminem, Vin Diesel, Christina Aguilera, Andy Roddick and Anna Kournikova. Name her.

a. Britney Spears b. Paris Hilton
c. Jennifer Lopez d. Cameron Diaz

6 EduVision's pilot project at Mbita Point primary school in western Kenya involves students using a handheld computer with a stylus to work on exercises in their digitalised school textbooks. What is the device called?

a. E-vision b. E-slates
c. E-text d. E-pod

7 Name the Microsoft Outlook companion released recently by WinZip, which allows users to zip files (automatically or manually) when attaching them to messages. Users can also encrypt them using Advanced Encryption Standard (AES) encryption.

a. Ziplock
b. ZipOutlook
c. WinZip Companion for Outlook
d. WinZip Outlook Add-On

8 Jef Raskin, who conceived Apple Computer Inc's _____, died on February 26 this year, at the age of 61.

a. Mac OS X b. Macintosh Computer
c. iPod d. iPod photo

9 Name the recently-unveiled 'alternate-reality game', an extremely complicated series of puzzles involving coded Web sites, real-world clues (such as newspaper ads or midnight phone calls from game characters), set to unfold on a global scale.

a. Night Rider b. Complex City
c. Perplex City d. VR World

10 What does the Windows desktop shortcut 'Windows-SHIFT-M' do?

a. Empty Recycle Bin
b. Restart the PC
c. Minimize all open windows
d. Undo minimize all windows

Answers

- | | |
|-------------------------|---------------------------------|
| 1. Laserpod | 7. WinZip Companion for Outlook |
| 2. Python | 8. Macintosh Computer |
| 3. Wikimedia Foundation | 9. Perplex City |
| 4. Chicken feathers | 10. Undo minimise all windows |
| 5. Paris Hilton | |
| 6. E-slates | |

Worldwide, companies with 100 e-mail addresses or less have received up to 10 times more spam than those with 10,000 addresses or more (according to research firm Postini).

Did you know?

Win!

Send in your answers to the crossword to TQ@thinkdigit.com. One lucky participant will win a Professional Java Programming

by Brett Spell, published by Shroff Publishers
Winner of March 2005 Crossword is Neelima Premsankar, Calicut.

Got an interesting question? Send it in with the answer to editor@thinkdigit.com

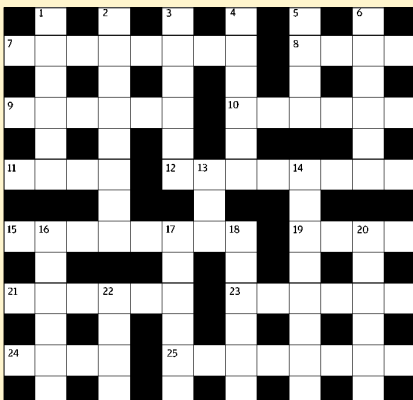
Crossword

Across

7. Convert into data or image form processed by a computer (8)
8. Application-specific Integrated Circuit (abbr) (4)
9. Bombard attempt to violate computer security (6)
10. Accounting journal upsets red gel (6)
11. Ultra Large Scale Integration (abbr)(4)
12. Expert in circuit design (8)
15. Professional beans as software (8)
19. Short for computer advertisement (4)
21. Application software for Macintosh computer (3,3)
23. Wear off unit of instruction (6)
24. _____ Code, final ready-to-manufacture software (4)
25. Teething ring is a conciliator (8)

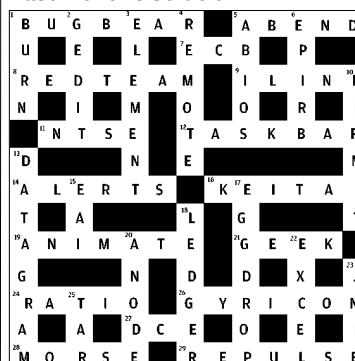
Down

1. Contraction of Windows and Intel (6)
2. Software theft rearranges a pit ring (8)
3. 'Ni' in Ni-Mh batteries (6)
4. Temporary loss of contact by a server (6)
5. Range of frequencies used for transmitting a signal (4)
6. Anemic burns theatre (6)
13. Unit of electrical resistance is a mystic syllable, it's heard (3)
14. Restrict information in a categoric arrangement (8)
16. Start off treachery for rational motive (6)
17. To receive connection request



- from host (6)
18. Pick out highlighted text with cursor (6)
20. Purplish-blue colour of mouse (6)
22. Esau reversed the operational state of a computer (4)

Last Month's Solution





...And There Was Order!

A look at two Image Managers that bring order to your photo collection

Sanket Naik

A digital camera has its advantages, such as low running costs, instant access to results, and so on. However, managing the images after transferring them onto your computer is a gargantuan task. With a film camera, all you had to do was click and send them to the studio for developing, and they even would give you an album to store your photos!

With digital cameras, though, your photos are now stored as files on your computer. Searching through a number of un-indexed files on your computer can be a veritable nightmare.

The problem is akin to when MP3s were the rage. You would have thousands of these files on your hard drive with none tagged properly, and searching for a particular song was tedious. Then, someone came up with a multi-feature MP3 manager that

allowed tagging, simplifying the whole process.

Similarly, today, we have managers that take impeccable care of your digital photographs. They allow you to take complete control of your digital assets, be they photographs or videos. They let you capture your photographs, tag them, fix minor problems such as red eye, apply basic effects such as blur, and share them in the form of slideshows, calendars, VCDs and much more.

To take you through some practices that you should help you take care of your digital photographs, we have chosen two of the best available managers; Adobe Photoshop Album 2.0, and Picasa 2 from Google.

As we proceed, we will look into their utility value in terms simplifying the image management process.

Taking Those Images In

Typically, images on a PC have multiple sources; they could be

those shot using your digital camera, a scanned photograph, photos taken by your mobile phone or even wallpapers downloaded from the Internet. So, an image manager should have the option of capturing images from all possible sources. The process of acquiring images is often termed 'importing'.

As you will see, Photoshop Album 2.0 has a neat, simple interface for importing photographs. It has options for importing from cameras, scanners, mobile phones and folders on your hard disk.

Picasa 2, too, has a similar, simple-to-use interface, but lacks the structured segregation offered by the Adobe product.

Once the photographs are imported from the respective devices, they are stored on your hard drive. In Windows XP, 'My Pictures' is the default folder for storing images. However, as far as possible, avoid storing your photos in this folder. There are

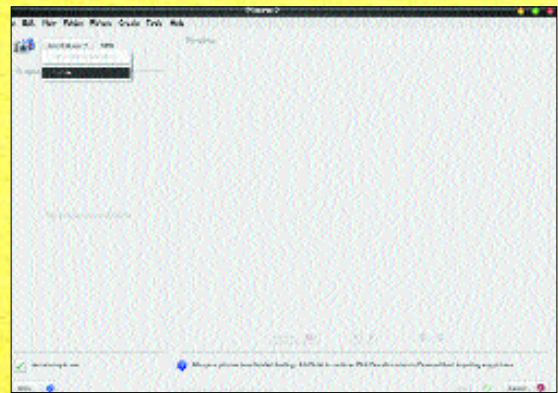
need to be arranged; this is done by cataloguing or categorising.

Cataloguing is the most important step in image management. It decides how fast a particular photograph can be searched from your collection.

There are many ways of categorisation; the simplest is similar to the directory and file structure we have on our computers.

A parent-child relationship exists between the directory and files. The disadvantage of such classification is that a single file cannot be linked to two separate instances unless two copies of the same files are put into two separate folders. This is especially true in the case of photographs, as they are connected to a person on multiple levels such as, the event, the involved people, the place or a variety of factors.

So, if you want to segregate your photographs, you have



Importing photos is a one-step job in Picasa 2

same image. This is achieved by means of 'Tags'.

Tags allow you to append extra information to the same photograph so it can be linked to multiple occasions or people.

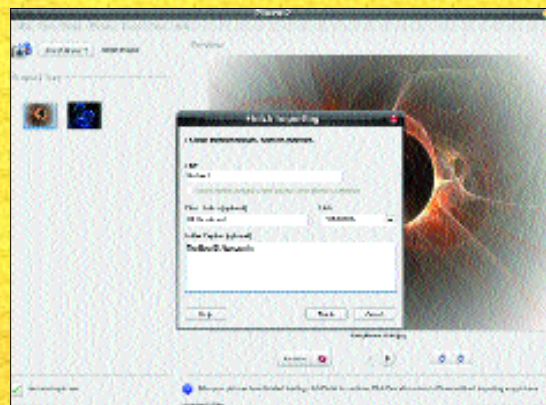
Picasa 2 allows you to add the folder name, captions for the folder, information about the place you shot the photos, and the date at the end of the importing process. This is the first level of categorisation.

Once the photos are arranged in a folder, you can add captions to individual photos too. So, while searching, a filter can be applied for these captions.

For adding tags to a particular photograph in Picasa 2, you need to select it and then click on the 'Label' button in the bottom pane. Every label entry is displayed on the top left hand corner. So for searching, you can go through the label entries, or type in the label or caption.

In Photoshop Album 2.0, once the 'Import' function is completed, images are placed in a temporary folder—Photowell. The next stage is to organise them.

Images can be tagged either by applying pre-defined tags or by creating new ones. You can even create sub-tags under a main cate-



Categorising images in Picasa 2—you can add captions too!

multiple options to consider; should they be categorised under an event, people or place?

To get past this hurdle, you need another method for classification, which runs parallel to the simple directory and file structure and eliminates the need for having multiple copies of the

two main reasons for this.

First, in case of a virus, where your OS fails to boot, a backup of this folder would be required before you can reinstall the OS.

Second, as the 'My Pictures' folder is in the root drive, C:\, the eventual increase in the folder size will slow down your system.

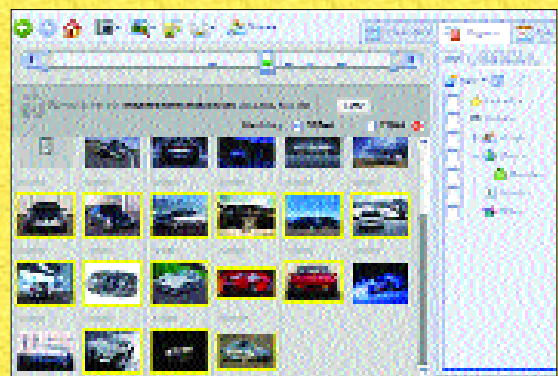
The best option is to create a dedicated folder on a partition of your hard drive, and then set the appropriate path in the image manager. You could even move the entire 'My Documents' folder to a different partition for safety.

Cataloguing

Once you import the images, they

From The Word Go

When you take a photograph with a digital camera, the camera automatically attaches some information related to the photograph to the file. This information is known as meta-data, which includes the date, time, resolution, exposure settings and other technical information. Image management applications often use this information to organise photographs, especially if the manager has a 'Timeline' feature. It is therefore advisable to set the date and time of your camera before you start shooting. All digital cameras allow appending names to the photographs. Clever use of this feature reduces your post-shooting work and also takes care of basic organisation of photos. For example, append 'party' to photos taken at a party, so when you download them, they will automatically be named as party001, party002, and so on.



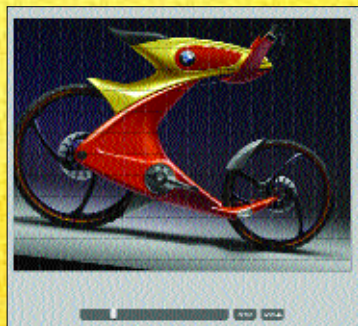
Adding tags in Photoshop Album 2.0 is a drag-and-drop process

gory, for example, under the main tag 'people', you can add 'family', 'friends' etc. It also allows you to collect random photographs and group them as a collection (album). This comes in handy when you want to collect, say, all the photographs of cars that are on your hard disk, into one collection called 'Cars'.

Now, when you need to search for any particular file, you can do so using a tag. A point to note is that Photoshop Album 2.0 does not allow you to search by typing; it has checkboxes against the name of the tag. When you search by applying a particular tag, you select the check box against that tag. You can also check multiple boxes so that it does an 'or', 'and' and 'not' search. This search methodology is not available with Picasa 2.

Straightening Out Those Rough Edges

No matter how diligently you

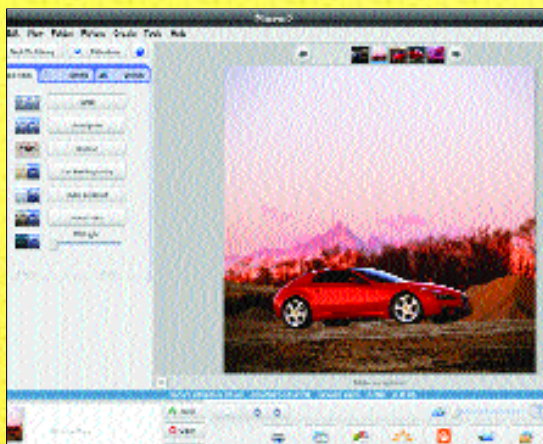


The 'Straighten' tool in Picasa 2 lets you correct wrongly-framed photos by simply moving the slider

take those pictures, they lack that extra bit, you think, would make them outstanding. In digital photography, the trick lies in post-shooting touch ups that can transform mediocre photographs into breathtaking shots. Red-eye, blur due to shaky hands, and dark photographs due to improper lighting are some common ailments in digital photography, and any image manager worth its salt should be able to correct these aberrations.

Picasa 2 comes with some neat, handy tools that let you play around with your photographs and bring in that professional touch. These tricks are divided into three categories—Basic Fixes, Tuning and Effects.

Basic Fixes offer a one-click solution for some common problems, such as Auto Contrast, Auto

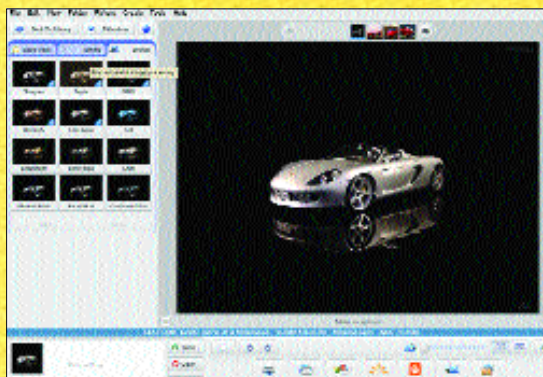


Fixes to the most common problems such as Red-eye are just a click away in Picasa 2

Colour, and Fill Light. It also consists of a 'Cropping' and a red-eye removal tool. One feature in particular that we found quite unique and interesting was the 'Straighten' tool. It allows you to straighten a tilted photograph i.e., it aligns the subject along the vertical axis.

'Tuning' provides that extra control over lighting conditions and shadows. Here, too, you have a one-touch correct option, which that does the magic, in case you fall short of the requisite creative ability.

Finally, 'Effects' allows you to



Your images can be enhanced by Effects such as 'Soft Blur' and Sepia tone in Picasa 2



Photoshop Album 2.0 lets you preview effects before you apply them

apply digital effects by using filters. In all, there are 12 effects that can be applied on the fly, at the click of a mouse. In case you don't like the final output, there's always 'Undo'!

Compared to Picasa 2, the touchup options in Photoshop Album 2.0 are limited, though it does offer the necessary tools cutting out the fancy bells and whistles.

For fixing your photographs, you need to click on the 'Fix' button in the main menu, which opens a window. The fixes are classified into General, Red-eye, Crop and Filters.

The fixing window has 'Before', 'After', and 'Before & After' panes that let you view the photo to be touched up in three versions as the names suggest. We found the 'Before & After' pane useful since the resultant effects after applying a fix are easy to notice.

For applying any fix in Photoshop Album 2.0, you need to click on the check box that automatically applies the fix. Clicking on the adjoining 'Expand' button reveals options for finer control over the fix.

Spreading The Warmth

The best part about digital photography is that you can make as many copies as you want at a click of a button and share them with friends and family. You can also put them up on your Web site, make an e-card, a photo-VCD, or a slideshow.

When it comes to sharing photographs, Picasa and Photoshop Album have some unique features. Photoshop Album 2.0, though, scores over Picasa, as it offers significant, yet unique and simple ways to share photos.

Photoshop Album 2.0 allows creation of your own albums, slideshows, VCDs, eCards, calendar, and photo book. It provides you with more templates than you would need for creating that special album or calendar.

In fact it requires just six steps to make any of the above (Refer explanation below). While slideshows are common, albums, calendars, and VCDs require some optimisation for proper printing and running. Photoshop Album 2.0 does all necessary optimisations for printing an album on your desktop printer.

Picasa 2 has options that help

create posters, collages, screen-savers, and even a movie, straight from the selected photographs. Once created, you can print them, e-mail them or send them directly to blogger.com for sharing using hello.com.

Backup

Like all other digital assets that can vanish off your hard drive in the event of a crash or any other outage, digital photographs are prone to the same fate; a backup is therefore a must.

A good image manager

should provide you the option of backing up your photos onto CD/DVD or to some other machine on your network.

Both Picasa 2 and Photoshop Album 2.0 have backup options built into them, which work flawlessly. Moreover, both applications allow incremental backup, thereby saving precious space on your hard drive.

The Verdict

To conclude, Picasa 2 and Photoshop Album 2.0 are excellent in what they do, although Photo-

shop Album 2.0 comes across as a full-fledged professional application. Picasa 2, though, is excellent considering it's free.

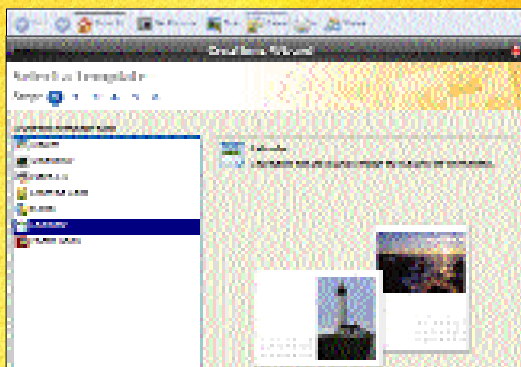
We recommend Photoshop Album 2.0, though, to those who have to deal with a lot of photographs on a daily basis. For an amateur, Picasa 2 is more than enough.

It's important to remember, though, that digital photographs can add up in numbers rapidly, and maintaining an easy-to-remember system of tagging and nomenclature is a must. ■

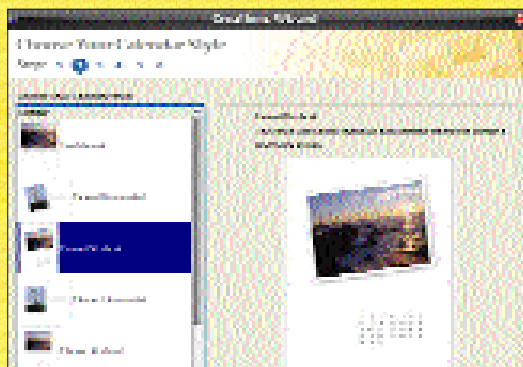
sanket_naik@thinkdigit.com



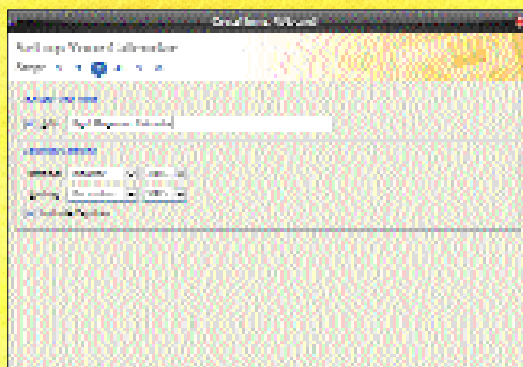
Creating A Calendar Using Adobe Photoshop Album 2.0



1. Click on 'Create' and select 'Calendar' to begin



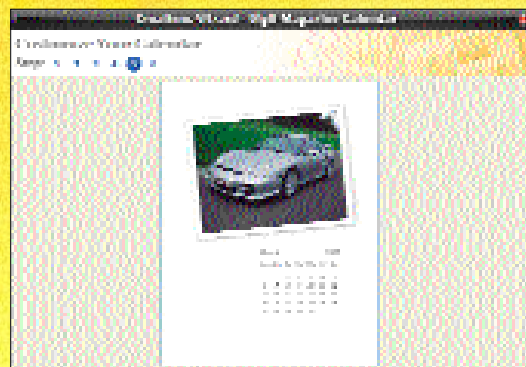
2. The next stage is to choose a template



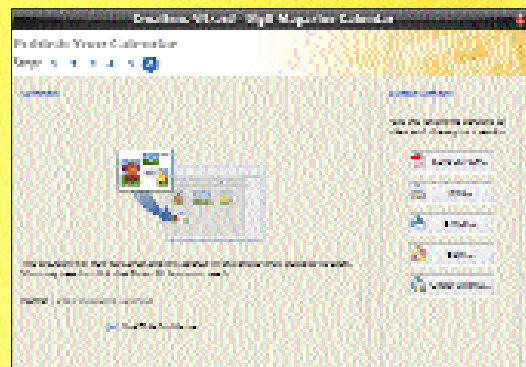
3. Name the calendar and decide the year you want it for



4. You can add photos for each month of the year



5. A preview of what the calendar will look like



6. You could e-mail, print or make a PDF of the calendar

A copy of this calendar is available on the April 2005 Digit DVD

Newsweek, March 14

History Is Going, Going, Gone

STEVEN LEVY, NEWSWEEK'S Senior Editor, has always been writing technology articles with a twist. His expertise lies in tying in technology and culture, and how it impacts the common man. Here, once again, he is at his usual best...

ALMOST 30 years ago I came to possess a little piece of computer history. At the time, it seemed to me a fairly straightforward handwritten letter acknowledging my request to terminate an apartment lease, with instructions on how I could recover my security deposit. What I did not know then was that my landlord, a fellow with the unforgettable name of J. Presper Eckert, was a pioneer of the digital era, a co-inventor of one of the first operational electronic computers.

The idea that this note might qualify as a historical artifact dawned on me a couple of weeks ago as I examined the 254 lots in the "History of Cyberspace" collection auctioned at Christie's on February 23. The earliest items were from the brilliant minds of the pre-computer age such as Charles Babbage, the 19th-century visionary who designed a programmable machine known as the "the

Difference Engine." But the meat of the collection consisted of documents from the vacuum-tube cowboys who made the early giant computers, especially my landlord Pres Eckert. His key papers were up for grabs, including the first business plan ever written for a computer company. Other items included his badge for that company (which became Sperry Rand UNIVAC), and his letters, though none concerning an apartment building on the Wayne Avenue in Philadelphia.

Jeremy Norman, the California bookseller who built the collection, was thrilled that the auction garnered unprecedented advance publicity. But on the morning of the auction, he seemed nervous that the big money might not show up. Indeed, a disappointed Norman afterward conceded that the results were "mixed." Though some of the most desirable items, such as a letter from Lady Ada Lovelace, who wrote the first programmes for Babbage's never-built machine (she was also Lord Byron's daughter), went for prices in the high five figures, barely half the lots were actually sold.

Specifically, the auction lacked spirited bidding wars between moguls who made billions in computers and cyberspace. The only PC legend in attendance seemed to be Lotus founder and venture capitalist Mitch Kapor. If Bill Gates (who once paid \$30 million (Rs. 1,305,750,000) for a Leonardo da Vinci codex) or Larry Ellison had been taking him on, we might have seen some fireworks.

Want to read more? Visit http://snipurl.com/digit_history



Wired, March 2005

The Fox Is Lurking

WIRED REPORTER REGINA Lynn writes how the Internet has changed our concepts of dating, love, and even sexuality. And that, she says, may not necessarily be a bad thing.

REMEMBER the days when hooking up with romantic partners online was considered weird? Something only geeks or losers did?

Even three years ago when I had an online dating profile, people thought it was strange that anyone would try falling in love "with a computer". Three years before that, when I flew across the country to meet a chat buddy in person, all the media could talk about was how dangerous it was to get involved romantically (or sexually) online.

Meet in a public place! the magazines screamed. Don't trust anything! Your intuition could get you killed!

Meanwhile, thousands of people less wired than I were

quietly finding companionship and sex through the connections they made online. It wasn't just the nerds. It was people fed up with the singles scene, people unhappy with their current relationships, people seeking escape into the drama of a romance novel or a porn film come to life.

And it was people finding the loves of their lives.

These days, if you're single and have Internet access, you're about as likely to have an online personal as

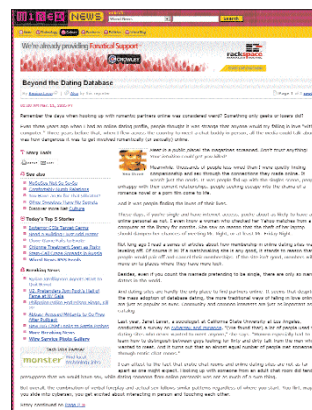
not. I even know a woman who checked her Yahoo! matches from a computer at the library for months. She saw no reason that the theft of her laptop should dampen her chances of meeting Mr. Right, or at least Mr. Friday Night.

Not long ago I read a series of articles about how membership in online dating sites was leveling off. Of course it is! If a matchmaking site is any good, it stands to reason that people would pair off and cancel their memberships. If the site isn't good, members will move on to places where they have more luck.

Besides, even if you count the marrieds pretending to be single, there are only so many daters in the world.

And dating sites are hardly the only place to find partners online. It seems that despite the mass adoption of database dating, the more traditional ways of falling in love online are just as popular as ever. Community and common interests are just as important as a catalog.

Last year, Janet Lever, a sociologist at California State University at Los Angeles, conducted a survey on cybersex and romance. "(We found that) a lot of people used the dating sites who never wanted to meet anyone," she says. "Women especially had to learn how to distinguish between guys looking for flirty and dirty talk from the men who wanted to meet. And it turns out that an almost equal number of people met someone through erotic chat rooms."



Visit http://snipurl.com/digit_date for the complete picture

The New York times, March 8

A New Direction at Google

GOOGLE NEVER FAILS to make news; if not for products, it manages to hit headlines with developments in the technology market. Bob Tedeschi of the *New York Times* asks why Google is now interested in domain names.

AFTER Google disclosed last week that it had been granted the right to sell domain names, the question in many minds was, "Why?" Why would the company, which just reported click-advertising sales of more than \$1 billion (Rs. 43,525,000,000) in the most recent quarter, compete in a relatively low-margin business with Network Solutions, Yahoo!, GoDaddy and others? Would it use its new registrar status to snap up expired domains and show ads to wayward surfers? Is this a move toward Google world domination?

"In a few years, you'll be driving your Google to the Google to buy some Google for your Google," read one posting on Slashdot, an online technology forum.

Eileen Rodriguez, a Google spokeswoman, hardly quelled the speculation by explaining that the whole thing was really a learning opportunity for the company. Google "has become a domain name registrar to learn more about the Internet's domain name system," she said recently in an e-mail. "While we have no plans to register domains at this time, we believe this information can help us increase the quality of our search results."

Ms. Rodriguez would not say how having registrar status might help Google improve search results. But Bret Fausett, who publishes Lertext.com, a Web log following the domain name industry, and who first disclosed the news that Google had become a registrar, said Google could improve the quality of

search results by getting better access to the list of expiring domain names—a list available only to registrars.

When a domain expires and changes hands, Mr. Fausett explained, Google can now more easily find, scan and index the new site, so it does not mistakenly point searchers to a site with irrelevant content, or place advertisers on sites with content that does not match their products or services.

That alone could profoundly affect the domain name market, which has rebounded partly because of another Google

service, AdSense. Through AdSense, Google pays publishers to display text ads related to a site's content. Speculators often buy the expiring domains of even marginally popular Web sites and replace the site's content. But because the practice diminishes the usefulness of Google's search engine, the company has long sought ways to curb it.

Google's continuing refinement of its search technology underscores the intensifying competition in that market, which has carried Internet advertising back to life in recent years. MSN, Yahoo! and others have seen Google parlay popular search technology into a dominant business by selling text advertisements to marketers whenever consumers search for words related to a business.

Read the full report at http://snipurl.com/digit_google

How secure is your digital information?

Protect your information with the Data Security Kit from Sharp. Financial facts, personnel records, customer lists, networked copiers/printers process sensitive information every day. Unfortunately, their hard drives can also be accessed via the network, contributing to 160 billion worth of information theft every year. To protect this week link in your corporate security, we've created our Data Security Kit. It's the first copier and printer protection to be validated by Common Criteria, a government-sponsored program, and it's available only with our Digital IMAGER™ series of copiers/printers. Sharp's Data Security Kit. Enhance information protection at your fingertips. sharpusa.com/security

2004 Award Winner
Innovation Award - Best Security Solutions

SHARP

License to steal?

The focus here is on how easy it is to steal digital information, and the big button in green gets the point across very effectively.

SPAM

HAS LEFT THE BUILDING

GTA FIREWALLS
Now with Anti-Spam and Anti-Virus

Mail Sentinel
1-800-775-4GTA • www.gta.com • info@gta.com

The Spaminator

Playing upon the movie title 'Elvis has left the building', this one uses an Elvis look-alike to create an unusual ad setting. No boring computers here. And the words "left the building" drill it into you that your entire office will be protected.

Teen Convicted Under Internet Piracy Law

Parvin Dhalwal, 18, is the first person in the US to be convicted, under state laws, for illegally downloading music and movies off the Net. He was sentenced to a three-month deferred jail sentence, three years of probation, 200 hours of community service, and a \$5,400 (approx. Rs 2,35,500) fine.



A Robot In Every Japanese Home

Officials have compiled a report predicting that every household in Japan will own at least one robot by 2015. Robots are already used as receptionists, night watchmen, hospital workers, guides, pets and more. This trend may, scientists say, change lifestyles more radically than computers did.



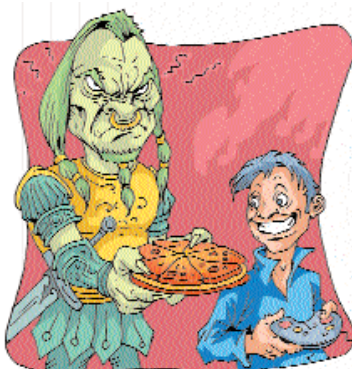
Escape

KEEP GAMING

Virtual Pizza—For Real

How'd you like to order a pizza by visiting a pizza store in a game? Sony has recently made it possible to do just that: one can now order pizza while playing the online multiplayer game *Everquest II*. The idea is to not leave the game while you are ordering the pizza; one simply needs to type in '/pizza' within the game. This leads one to the online ordering section of Pizza Hut to place an order. Soon, players will be able to pay for such orders via their monthly gaming bill.

Although it's not a big deal quitting the game and ordering a pizza the regular way, it is certainly a novelty to be able to order within the game itself. The concept adds to the virtual gaming experience—and it could



Illustrations: Harsho Mohan Chatteraj

certainly mean more pizza orders, what with the number of *Everquest* subscribers. Schemes such as free games, as long as one spends more than, say, \$30 a month on purchases, seem almost sure to come.

Sony Online Entertainment said that it thinks this is the first time a game has been able to accept orders for real-world items. It certainly won't be the last.

CELL USE WHILE DRIVING UP

Driving Under The Influence

In an earlier issue of *Digit*, we reported that people talking on cell phones, while driving have their mental age reduced to approximately that of a 10-year old, in terms of response times. And now, as per a survey released by the United States National Highway Traffic Safety Administration, more people than ever are using their cell phones while driving. The survey was conducted at 1,200 road sites across the country and, in some cases, supplemented by telephone surveys. It showed that 8 per cent of the drivers were using hand-held or hands-free cell phones during daylight hours last year, a 50 per cent increase since

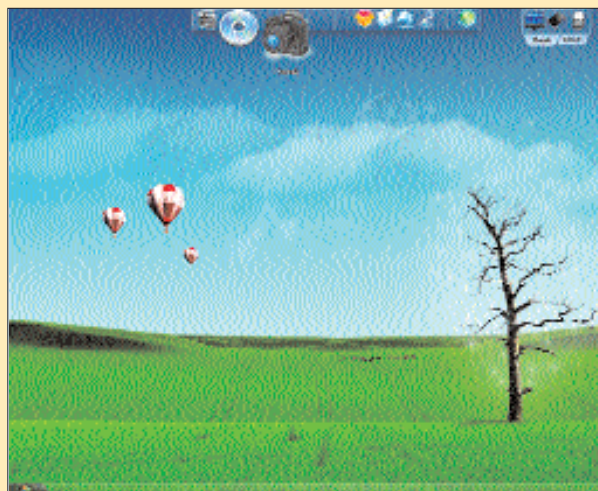
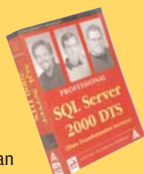
Win!

My Desktop

Think you have the most beautiful, most innovative desktop around? Send it to mydesktop@thinkdigit.com, and Digit will publish the most eye-catching of them each month.

The winner receives a copy of professional **SQL Server 2000 DTS**

By Mark Chaffin, Brian Knight and Todd Robinson, published by Shroff Publishers & Distributors P. Ltd. This month's winner is Rajneesh Raghu, Fareedabad



Rajneesh's desktop has an Apple-style dock. Sent in by Rajneesh Raghu, Fareedabad

UNUSABLE!

www.nellikkal.com



This site, called 'Nellikkal Computers', is the Web site of a computer company based in Nagercoil, Tamil Nadu. For some strange reason, the site's builders seem to think that tantalising you with pictures and terms is better than actually offering clickable products. For instance, clicking 'Networking' leads you to a page that helpfully lists a few networking terms. 'Laptop' takes you to a page where there are, umm, pictures of a few laptops. No prices, though—and nothing like "available here" or anything. Ostensibly, we are to assume that these laptops are available at the store.

Clicking 'Computers' takes you to a page where three computer configurations are given. It's not even clear whether these configurations are available at Nellikkal Computers. But at least that's better than just pictures, isn't it?

An 'under construction' sign would have helped us make some sense of this, but there's none.

The rest of the links don't work—and they don't give errors, to the site's credit: they are conveniently not clickable.

The only link that's of any use is 'Contact us'—but we wonder who'd want to contact them after a look at the site!

DigiPick of the month



Who was it that said "And never the twain shall meet"?

This month's winner is
Dhawal Damle from Delhi. He wins

NBA LIVE 2004
worth **Rs 1,299**
from Gayatri Impex
Pvt Ltd

Express your game
with new freesyle
shooting, signature
moves, mid-air shot
adjustments, and more.



WIN!

A Mini Keypad by Travel Pac just by sharing an amusing picture with a tech angle to it. The picture should be shot by you, and should not have been published earlier. Send your picture to digipick@thinkdigit.com. The prize-winning picture will be published each month.



Cell use while driving is on the rise

2002 and a 100 per cent rise in four years. Drivers aged between 16 and 24 increased their talking on cell phones by 60 per cent between 2002 and 2004.

"While we don't have hard evidence that there's been an increase in the number of crashes, we know that talking on the phone can degrade driver performance," NHTSA spokesman Rae Tyson said.

Washington DC and the State of New Hampshire no longer allow talking on hand-held cell phones while driving. Some communities require hands-free cell phones.

The National Transportation Safety Board said it wants all the 50 states of the US to ban those with learner's permits from using cell phones, or other wireless devices while

driving. So far, however, only two such states have passed such a law.

MICROSOFT TECHFEST

Baby-sitting Bots!

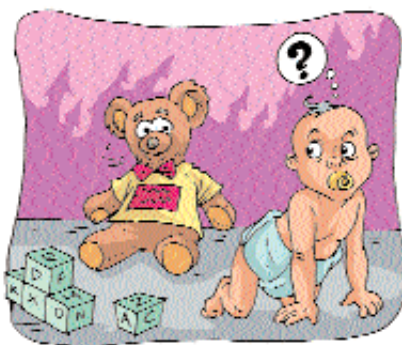
Think about a teddy bear sitting in the corner of a child's room, his head following the kid around using a face recognition program, also allowing a parent talk to the child through a special phone—or monitor the child via a camera and wireless Internet connection. The prototype, on display at Microsoft's annual gadget showcase, is one of several ideas researchers have for

robots. The idea is to create a virtual being that can visit the neighbouring cubicle for a live telephone chat while the owner is travelling thousands of miles away, for example.

The 'Teddy' project was one of about 150 projects on display at Microsoft's TechFest, a two-day event that gives Microsoft's worldwide team of researchers the chance to show product developers their creations. TechFest opened on March 2, mainly to full-time Microsoft employees. The company expected about 6,000 to attend, including Chairman Bill Gates and other executives.

Another idea at TechFest came from Raman Sarin, a Microsoft development engineer. Sarin's invention is SmartPhlow, a program that not only monitors current traffic patterns but also uses real-time and archived data to predict when the next traffic jam might occur.

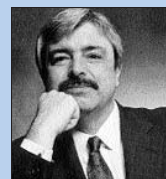
SmartPhlow, which can work on



People Who Changed Computing

Modem Man

We take the humble modem for granted, but the fact is that the Internet could not have become what it is without the invention of the PC modem. It was Dennis Hayes who set the stage for massive computer-to-computer communication by inventing the PC modem in 1977. This established the



Dennis Hayes

technology that would allow the then online and Internet industries to emerge and grow.

Hayes had been working at a computer services firm that used leased-line modems for point-to-point connectivity between microcomputers. He wanted to open those lines of communication so any one system could talk to another, and created the standard AT command set, a software string that let any computer with a serial port activate features on an intelligent modem.

In January 1978, he founded D C Hayes & Associates, Inc, the company known today as Hayes Corp. Innovations at Hayes' company resulted in performance enhancements and cost reductions that led the industry in the conversion from leased-line modems to the intelligent-dial modem, or PC modem. The PC modem was initially sold to hobbyists. Soon, D C Hayes & Associates became a 1,500-employee company, operating in 44 countries.

Hayes' eyesight began deteriorating in the '70s, and he today champions Net accessibility for the visually and hearing impaired.

Bluff

YOUR WAY THROUGH

IT Law

You already know that lawyers use such terms as 'hereinafter' 'wherefore' and so on. But what kinds of terms do IT lawyers use, under the Information Technology Act of 2000? Here's a sampler.

Computer: According to IT lawyers, this does not refer to the box you're so familiar with. It manipulates electronic, magnetic, or optical impulses, and for good measure, includes all input, output, processing, storage, and blah blah, that are connected—or even related—to the computer.

Access: No, this is not about usernames and passwords. Access is, as it turns out, "with its grammatical variations and cognate expressions," gaining entry into, instructing or communicating with the logical, arithmetical, or memory resources of a computer. Phew! Actually, there's more to it than that, but we didn't understand it. **Time and place of despatch and receipt of electronic record:** We doubt that even the lawyers understand this section of the Act. It says in the Act that the despatch of an electronic record occurs when it enters a computer resource "outside the control of the originator." This is something related to AI and robotics: computers communicating all by themselves, without human intervention...

Penalty for damages: It turns out that whatever damage you inflict upon a computer, you don't need to pay the owner more than Rs 1 crore. If you download a virus onto someone's computer, expect a lawyer to refer to it as "introducing, or causing to be introduced, any computer contaminant or virus into a computer." 'Contaminant'? Wonder what that means... **Residuary Penalty:** Whoever contravenes any rules or regulations under the IT Act is liable to pay Rs 25K to someone hurt by your activities! So next time someone makes your Windows crash, remember to ask him to shell out.

Digitisers In Distress

The bosses at Digit think they are god's gift to workaholism. So, on a balmy March afternoon, they lug us all the way to Khandala, to talk about various official things. It is called mixing business with pleasure, but we privately call it torture. Khandala is this cool, little hill station some 100 km north of Mumbai. And trust our guys to put us all in some claustrophobic conference room for three hours with biscuits for company. Credit to them, when they said three hours, they actually meant two, so we were out in two hours.

Anyway, the point of this story is not to grumble about the bosses—we can fill a whole new section on that someday—but to talk about the ineptness of some drivers. The worthy chap who was cabbng us to Khandala thought that just like a newly-married couple that lives on love and fresh air, his Toyota Qualis too

would live on two litres of diesel and will power until Khandala.

Sadly for him, and tragically for us, it did not. And we were stranded right in the middle of nowhere on the Mumbai-Pune Expressway. So there we were, nine people trying to get to the destination desperately, but helpless like a maiden in a Hindi film. Our man wanted fuel, and there was no fuel. The closest fuel station was 12 km away. The next 20 minutes looked and sounded like the Indian Parliament. There was much consternation, shouting, buck-passing, and ultimately one person even wanted to stage a walkout, only to be prevented by vehicles zipping at 120 Kmph along the expressway.

Ultimately, another driver, who dropped off the previous nine people, came back and picked us up, and took us

to our destination, where we spent the aforementioned two hours inside the claustrophobic room.

DIGIT DIARY

an advanced smartphone or on a desktop computer, takes into account everything from weather, to sporting events, to accidents, in making its predictions. It also looks at traffic relationships—if, for example, a northbound freeway is jammed, it may be able to gauge the ease or difficulty of a westbound commute.

Sarin said at least 2,000 Microsoft employees are now using a prototype of the product in the Seattle area.

DEADBEATS AS CRIMINALS

Buyers Beware

Bay, with its massive reach and member base, can be the starting point for violent crimes as well. Dewan Horne, 24, was indicted early March by a US federal grand jury: he first auctioned vintage cars on eBay, cars he did not own, and then had two partners rob the would-be buyers at gunpoint. The partners are still at large.

In one of the robberies, which occurred in December, a father and son were forced, at gunpoint, to lie down. Horne and his partners then took more than \$9,000 (Rs 4 lakh) in cash and equipment from their truck before leaving in Horne's car.

Horne is charged with robbery and conspiracy under the Hobbs Act, which prohibits interference with interstate commerce by threats or violence, and for his partners' alleged use of firearms during the crimes. He could face prison time and a fine, if convicted, prosecutors said.

On eBay, though, Horne probably got away with just two negative ratings. If the people who were robbed, bothered to rate him, that is.



EDIBLE NANOTECH

Eat Your Silicon

Nanotech may soon find its way into your stomach. It's not about nanobots—tiny programmable robots; rather, it's about particles that could enhance the absorption of food and medicine—meaning programmable drinks and more effective drugs.

"We're creating nanoparticles that can assemble themselves and that are made of materials already found in food," said physicist Anthony Dinsmore at the University of Massachusetts in Amherst.

Edible nanoparticles can be made in a wide range of shapes, from spheres to pipes, and are composed of materials either relatively inert in the body, such as silicon or ceramics, or materials that react with the body's heat or chemistry, such as polymers.

A key advantage edible nanoparticles have over

whatweretheythinking.com

www.belch.com

You wouldn't believe it, but this site is exactly what the name says—a collection of belches. Don't get it? OK, we will spell it out for you. The site contains a whole bunch—and we mean a whole bunch—of downloadable audio files containing recorded belches submitted by different people.

To be honest, the titles given to all belches are hilarious. Consider, "Who says French Canadians can't do anything right?" or "Here is Michelle and her 'popcorn' belch", "This long grumbling belch is courtesy of 'Zode'", "Trisha is sweet sixteen, and she has an equally sweet burp", and so on. Do you really want to download those belches and listen to them? In fact, has anyone ever downloaded those belches and listened to them?

There are extras such as celebrity belches, a guide to 'Things that make you go *Buurrp*', a brief section called 'What is a belch', and so on. Titles such as "Sangria, a girl, pushes out this 36 second belch" may perhaps tempt the weirdo in you to actually listen—but nah, a burp is too gross to actually go all the way.

As with our previous selections in this space, someone who actually spends more than a minute on this site needs psychiatric help. To its credit, the site does make fun of itself—it says it's the 'dumbest site on the Net'. We'll concede this much: the site makes for a funny two-minute read—but no belches, please!



larger particles "is how nanotechnology can take something that is extremely insoluble in nature, like some drugs, and by breaking them up to the nano-level help release them in the body," said Roger Aston, strategy director of pSivida in Perth, Australia.

In terms of enhancing the nutritional quality of food, "You can imagine there are some things that you would want to deliver to, say, the intestine and not the mouth," Dinsmore said. "For administering drugs to a patient, you can imagine delivering a medicine to the part of the body where it's needed most and not have to go everywhere else, so the overall dose you use is lower but the drug is used more effectively."

Aside from carrying drugs with precision, nanoparticles have the capability to break open upon command, something that could lead to smart, programmable foods and drinks.

Another concept under development involves nanoparticles that can stick to specific parts of the intestine. To enhance the absorption of medicines, researchers are creating nanoparticles that can hook onto the gut and thus stay longer, increasing drug uptake.

The future of edible nanotechnology could be silicon, Aston suggested. Unlike nanoparticles made of polymers, he noted, silicon does not need exotic chemical bonds to hold each nanoparticle's contents in place, bonds that conceivably could alter the content's properties. Aston explained, "The edible silicon made by pSivida has the capability of holding processors, so you could program chips in foodstuffs like you would computers or air conditioners." ■

Compiled by Aditya Kuber,
Meera Vankipuram,
Ram Mohan Rao and
Renuka Rane

Blog WATCH

From the fascinating world of blogs this month: what a really smart home should be, according to 'Mavromatic'; Carl Salminen's demand for baseball players in games to have the option of using steroids; yet another university computer system that got hacked into; and something about being alerted about elephants via SMS.

Carl Salminen
<http://snipurl.com/digitblog1>

Dope My Games

With all the hullabaloo surrounding steroid use by Major League Baseball players I think it's time that Electronic Arts pick up on the trend. After all, the motto for EA Sports is something like "If it's in the game, it's in the game". With that in mind, I demand that next year's baseball game include an option to inject steroids in my players and mutate them into Hulk-like monsters who knock out 100 home runs every year.

Mavromatic
<http://snipurl.com/digitblog2>

Two Years, Plus Two More

So I'm almost done with the construction of my new home, it has been two years of actual construction and two years of planning. High on my list was to design and install a complete home automation system in the house. My goal is really simple. There is no need to automate a toaster or have a TV screen built into my refrigerator. I believe a 'smart home' should be just that. Smart. It should be bright enough to know when I'm in proximity. Lets say I pull into my driveway and open the garage door at 10 pm. The house should turn on the lights leading to my bedroom at 45 per cent brightness. If I turn lights on after midnight, to get a drink of water or go to the bathroom, the switches should know to only turn the

lights on 25 per cent, as I don't want to be fully awakened. A video server will play a major part...

Heath Dixon
<http://snipurl.com/digitblog3>

Speaking Of Which, Another University Gets Hacked

California State University, Chico, announced that it has informed more than 59,000 people that their personal information may have been compromised in an attack on the school's servers earlier this week.

The school reports that computer hackers gained access to a University Housing and Food Service system. The system contained personal information—including names and Social Security numbers—of people with different ties to the university.

Roland Piquetpaille
<http://snipurl.com/digitblog4>

Elephants Send SMS to Tell Where They Are

Two months ago, I told you that the Wildlife Conservation Society was planning to count elephants from space. So I was very intrigued by a very short article from the Inquirer, "Elephants text their location."

This teasing story said that when elephants start to approach their fields, the farmers are alerted by SMS in time to politely ask the elephants to move over and save their crops. The whole story is told on the Save the Elephants (STE) site.

Anti-piracy. What's up with that?

sunnydiv
Digitized!

When I look around, I see all the companies using and looking for better anti-piracy techniques; I want to put forward a question.

Do they really work? As far as I know they don't, all they do is cause more and more pain to those who purchase the original copies, pirates always find a way to pirate!

Example: Microsoft XP! Now they are asking real buyers to call Microsoft to activate Windows. And you have to do this on every reinstall!!! For Pirates, a simple and easy keygen; no call, no nothing, put in key and its done

Games: Real buyers have to insert the CD every time they play, lose the CD and that's about it for them. Pirated games are copy protection free, you can make an ISO image, you can even find a crack where the CD isn't required.

Now they are working on inbuilt hardware piracy protection; that's going to give the real buyer more problems.

Software companies need to remember: They are only causing pain to the people who actually pay. And Pirates, always find a way

rajkumar_personal
Resident Techie

A POST THAT NEEDS EVERY1's attention! Well said mate! Hope that many ppl take notice and do something about it!

gamefreak14
Digitized!

Sunnydiv, Your colourful explanation of pirates being the happiest really opened my eyes. I never knew such a free, free world ever existed. And all this while, I was being tortured. Why discuss the obvious? There are people who'll even "pirate" Linux. Anti-piracy measures are intended to stop casual piracy—of the harmless kind.

I lost Rs 500 when I lost my wallet yesterday. Since I couldn't make an ISO of my cash, I expect you to reimburse it. Got it?

goobimama
Resident Techie

Location: Goa

TOTALLY SUPPORT SUNNYDIV

I'll tell you an incident with an original Windows Installations. My friend, who had opted for the government scheme "The Cyberage Scheme" got a computer with Windows XP Home Edition installed. Now, somewhere down the line something got screwed up (as it always does). So, he asked me how to reinstall. After reinstalling, he had to activate it. No modem. So, he tries dialling those numbers that were given. Always engaged. Gets really frustrated and asks me what to do. I go and install my pirated copy of Windows XP Professional with SP2 (Microsoft claims "only original Windows has SP2"!)." He's happy now. Pirates and crackers will always find a way, they are smarter than those who created the software. Also, as the saying goes "everything that is made can be broken"

Putting A Spim On It

Sachin Kalbag's editorial on the issue of mobile spam or spim ('Don't piss me off', March 2005) had just the right tone. I am not a regular victim of spim, but I completely agree with the need for iron-cast laws on spimming. We have already entered the era of low cost text messaging, and it is high time authorities took notice of the inherent dangers of spim-and take action to protect our privacy and rights.

The problem is, in a technologically illiterate nation-headed mostly by equally illiterate ministers-how do we make our leaders sit up and take notice of this gradually-spreading evil?

I believe spimming is illegal in the US, or at least, some sort of legal recourse can be taken against it by victims. But can this be happen in India?

The March editorial couldn't have come at a better time. Given current trends, mobiles seem to be the ideal gateway for the Indian masses into the digital world, as these gadgets provide cheap computing and connectivity to a number far greater than those with access to a PC. Therefore, the problem of spim will increase only exponentially as the market expands.

It will be compounded when mobile phones become the preferred Internet gateway, which is inevitable. It needs to be nipped in the bud. Now!

You suggest that we all call them back and give them a piece of our minds. But I don't think they (the spimmers) will be bothered one bit—they are thick-skinned enough to simply ignore the few angry calls they get.



The ThinkDigit blog: By the readers and for the readers

I find it hard to visualise technocrats putting up a 'dharna' to ban spim! Nor would politicians understand the importance of such a law.

Whatever the case may be, the situation is definitely going to get worse in the coming years.

Arjun R
Via e-mail

The law isn't a solution either: on what grounds do we punish them? Doing business via SMS? Sending unsolicited SMSes? If there were such a law, it would be the most misused law in the country, and could be used by anyone against anybody.

The solution, I think, must be implemented at the service provider's end as in the case of spam. Somebody (Digit, perhaps?) is bound to figure out a way to do so, before the problem gets out of hand.

Ojas Amalnerkar
Via e-mail



Dear Arjun and Ojas, Digit's editorials usually reflect what most technology users are thinking about at any given point in time. Spimming is indeed a menace that deserves the axe; and the earlier the better. The trouble with taking a legal recourse in India is also that it is a long-drawn process. Besides, it may be in the media's spotlight for a day or two, and then everybody gets back to their respective jobs. For instance, has a single print publication



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or a television channel followed up on the 'Marketing calls on Mobile' case? The spam and spam cases, as and when they happen, require as much media attention as an individual's.

As Arjun rightly points out, it is hard to imagine technocrats sitting on a *dharna* to protest against spam and spam. Even if they do, will the law makers understand what the hullabaloo is all about? Yet, we must not lose hope. With technologies such as DomainKeys, and progressive service providers instituting a Do Not Disturb regime (Hutch, for instance), there may still be a way to fight people like Vipin Saxena.

—Executive Editor

The Digit Blog

I started a blog called Thinkdigit at <http://thinkdigit.blogspot.com>. I would love this blog to grow into one of the most popular technology blogs in India. Some of the forum members have supported me, and they have joined the blog.

Our problem is we don't have any active team members to regularly post new stuff on the bog. I would like to request you to publish this letter so that some members get to know about the blog. They can mail me at lwadhwa@gmail.com if they want to work as blog team members.

We need at least 10 talented users from different fields—such as programming, graphics, animation, and so on. Also, the 'thinkdigit' wiki at <http://en.wikipedia.org>, which I started, has gotten a good response, and is growing every day

Lovedeep Wadhwa
Via e-mail

Dear Lovedeep,
That is a fantastic gesture on your part. We sure do love it at *Digit*!

—Executive Editor

Zero To Hero

I have been a subscriber for the past two years—two great years. From 'dumb', you turned me into a geek. I got so geeky that my girlfriend left me. But I let her go. Why?

Because I can find another girl like her, but another magazine like *Digit*? No way! I used to get a shock every two or three months because of your surprises. Not any more. But not because you don't spring surprises anymore—I've become immune to them! Your latest addition—the *Fast Track* book—just proved it. It was awesome! Excellent work, guys.

Snehasis Ghosh
Via E-mail

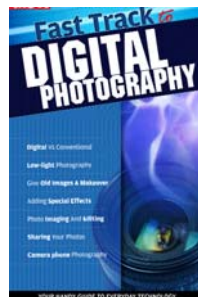
Just What I Needed

The March 2005 issue was like a God-send. I had been searching for Grand Theft Auto-2 in all the showrooms, and I just couldn't find it. Imagine my joy when I found that the DVD with the March issue came with the full version of GTA-2! Thanks a million.

Pulkit Sharma
Via e-mail

Fast Track To Technology!

I read *Digit* regularly. I was pleased to see the *Fast Track* book with the March issue—it was an amazing, marvellous and a wonderful book. I'm looking forward to the books with the forthcoming issues. When I purchased a DVD drive, I didn't have any DVDs; *Digit*, at the same time, started giving out DVDs. And when I purchased a digicam, *Digit* came up with a book on digital photography! Whatever technology I upgrade to, *Digit* always seems to be by my side to guide me.



Ramji V K
Via e-mail

Dear Ramji,
Your words do put a smile on our faces, and make us more responsible to our readers. It is real hard work for every single *Digit* team member who work non-stop to bring the *Fast Track* book. Yet, it is also an enjoyable project. We love bringing it to you, as much as you love reading it.

—Executive Editor

Corrigendum

With reference to our article titled "Anywhere You Roam" published in the March issue, we wish to clarify that the price of Acer TravelMate 4002WNLci was incorrectly mentioned as Rs 51,999 on Page 94. The correct price of this notebook at the time of publishing that article was Rs 69,999.

Since price is a critical parameter in deciding our winners, the Acer TravelMate 4002WNLci is no longer the Best Buy Gold Winner. The new title holder is MSI Megabook M510C, while the Best Buy Silver award goes to ACI Emerald C2.

—Executive Editor

Appearances Are Deceptive

The March 2005 issue of *Digit* held out a big promise, only to deceive. As soon as I opened the package, I was thrilled to see the book *Fast Track to Digital Photography* included with the magazine.

However, my heart sank as I turned the cover page. A book on digital photography, that too from the publishers of India's top IT magazine, amply illustrated with photos and screenshots—all in Black and White!

This book, otherwise superbly written and designed for its size and scope, is totally ruined because of the monochrome illustrations of colour images. I often read reviews of commercial books on image processing, even when mostly complimenting, ending with a sigh: "Alas, illustrations are, once again, only in B & W!" Explaining colour image processing with illustrations in B & W? How silly can one get!

Nevertheless, I did not expect a publication ostensibly written and designed by the much revered technical staff of the *Digit* magazine to deliver this disappointing feature. Now, this book, which includes the screenshots of the colourful cover page (in B & W, pages 44-47), couldn't possibly have been created, on the PC, in B & W.

Therefore, this book can be useful as a quick reference, but can be easily complemented by a digital copy in full colour in the CD/DVD accompanying the May 2005 issue. That will also be the best way to fully justify, and truly acknowledge, the painstaking effort of your staff responsible for the production of this book.

I am sure this is not too much to expect from the *Digit* magazine which routinely feeds us with about 4.3 GB (not counting the CD) of games, other software and useful digital data such as eBooks, wallpapers and even movie trailers—all on a single DVD!

In this context, the eBook on Physics is an example par excellence, and I am sure most readers of *Digit* like me highly appreciated it. So, come on *Digit*, show us your true colours. Yes, the pun is intended!

Subhendu Joardar
Via e-mail

