

November 2004

# digit

YOUR TECHNOLOGY NAVIGATOR

## BEYOND VOICE

 **Mukesh Ambani On Voice, Data  
And Broadband Services**

**10** Secrets Of Your **Fixed Wireless Terminal**

 Discover How A **VoIP Phone Works**

100+  
Models

**India's Most Comprehensive  
Cell Phone Buyers' Guide**



**DVD-Writers And External Hard Drives**  
**37 Back-up Options Tested**



**Add Colour To Your Business  
With Sub-50K Printing Solutions**



**India's First  
Home-made Video Game**



**Web-Based Ad Solutions Earn  
Mediaware Infotech Rs 9 Crore A Year!**



**Mukesh Ambani, CMD, Reliance Infocomm,**  
envisioning communication as much  
more than just a phone call  
**EXCLUSIVE INTERVIEW INSIDE**

# Editorial

## How Broad Is Your Broadband?

THERE IS A joke going on around the country, and it is called broadband.

It has been a joke for quite some time now, but what grabs our attention is that companies selling 'broadband services' are actually going to town about how fast their speeds are, and how cheap their rates are. The lowest quoted rates "start at Rs 240."

The definition of Broadband, according to the new Broadband Policy of the Indian Government, is a service that is capable of "minimum download speeds of 256 Kbps."

Here is the real deal, the bitter truth. In almost all cases, home broadband in India has always meant speeds of 128 Kbps. And we are not even talking last mile here, as users of cable Internet have found to their chagrin for quite some time now.

So who are the so-called broadband service providers fooling? Well... you.

Call up any Internet service provider in India, and the well-trained, well-accented customer service representative would say that his company provides broadband services at speeds of 128 Kbps.

I asked a national-level service provider: "Will I always get speeds of 128 Kbps?"

Their reply: "No Sir, not always. But most times, definitely. It would depend on traffic on that particular day. It could range from 64 Kbps to 128 Kbps."

Next question: "Do you know that the government of India has specified that the minimum download speed at the last mile should be 256 Kbps for your service to even be called broadband?"

The reply: "Umm, maybe, Sir. But I am only going by what has been told to me, Sir." Click. Hang up.

In the US, 51.42 per cent of all home users of the Internet have broadband, while a mind-boggling 79.06 per cent of all office users have at least a T1 line to access the Internet. The corresponding figure for India? 0.02 per cent, according to the Department of Telecommunications.

The US figures were not created by magic, but because bandwidth has been freed up, and the government does not interfere with implementation.

Broadband is not a luxury. It is the fuel for growth, the seed that needs to be watered for a wide variety of personal and business applications. Lives can be saved



**Sachin Kalbag** Executive Editor

**"Who are the  
'broadband' service  
providers fooling?  
Well... You"**

when hospitals implement telemedicine over broadband; companies save lakhs in travel costs by implementing video-conferencing; international calls could be made cheaper, boosting business.

These applications are only the tip of the iceberg.

Service providers are making a mockery of broadband in this country, losing customer trust each day. When real broadband providers enter the home market, it will be scepticism that will greet them. It will not be a happy situation.

The joke going on around the country—called broadband—it's on us.

sachin\_kalbag@jasubhai.com

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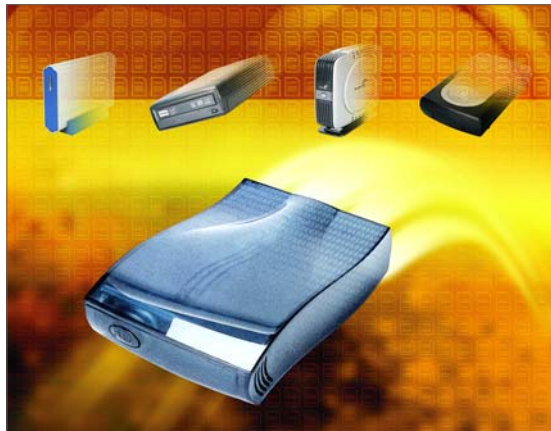


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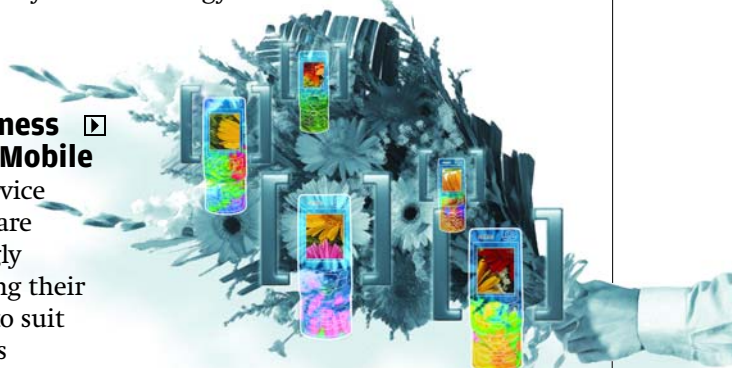


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# November 2004

## Digital Leisure

### 171 Dial-a-Hospital

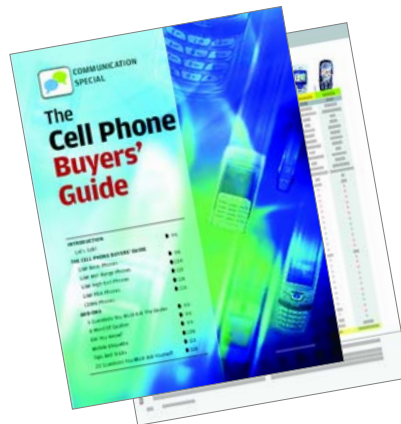
Telemedicine can make the dream of healthcare for all come true



## All You **Wanted To Know** About **Buying Cell Phones!**

### 95 The Cell Phone Buyers' Guide

A comprehensive listing of all the cell phones available, along with tips on buying and maintaining cell phones



Communication is this month's theme. Any story related to communication will have this logo displayed alongside

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**Note 2:** If you do not want to boot from the CD, remove it from the drive at startup

# Contents Interactive

DVD

## DIGITAL PASSION

### GAMERS

#### DOOM 3 Demo

462 MB Demo: One of the most awaited game demos of this year. Whether you run Windows or Linux, we provide you with the demo and latest updates for DOOM 3

#### UT2004 ECE Bonus Pack

The Editor's Choice Edition bonus pack for Unreal Tournament 2004 – 84.4 MB; six new characters; three new vehicles; four new maps



### DEV TOOLS

J2SE 5.0 Runtime Engine (JRE)  
 Windows / Linux  
 Java 2 Standard Edition 1.5 (J2SE 5.0) Documentation  
 J2SE 5.0 Software Developer Toolkit (JDK) Windows / Linux  
 Borland's JBuilder  
 Borland C# Builder Personal 1.0

### GAME VIDEO

Prince of Persia 2 - Free Form Fighting



### GAMERS

Latest Retail v1.1 update/patch for DOOM 3—both Windows and Linux

### GAME VIDEO

Vampire the Masquerade - Bloodlines



### SOFTWARE

Resource Hacker 3.4.0  
 MaSaI Editor 1.6.16  
 SwisSQL - SQL Server to Oracle Edition 1.8

### CONTRIBUTIONS

World Time  
 Madhyam  
 Colour Studio

## DIGITAL TOOLS

### MULTIMEDIA

- ACDSee PowerPack 7.0
- Media Audio Cutter 1.0
- IPIX Interactive Studio 1.3
- 3D-Album PicturePro 3.14
- Paint Shop Pro 9.0

### INTERNET

- 3B Browser 1.0
- DownloadStudio 2.0
- TIPS & TRICKS SINCE JANUARY 2003
- PAST 13 ISSUES OF DIGIT IN PDF

### SYSTEM

- Latest Nero 6 updates (four packages)
  - CyberScrub AntiVirus Lifetime Edition
- ### MOBILE
- Adobe Reader 3.05 (Palm OS)
  - Palm Desktop 4.0.1
  - Oxygen Phone Manager II for Nokia Phones 2.2.2

- Hero Commando (Limited Level Version)
- Pocket Quake (ARM) 0.062
- Mobile PhotoPleasure 1.7
- Polyphonic Wizard 3.7
- PocketFMS 0.9.52

### FROM THE MAG

- mIRC
- Trillian 0.74i
- Messenger Plus 3.2
- Invasion 2.0 Build 3515
- Yahoo! Messenger 6.0.0.1643
- ICQ 4 Lite and ICQ Pro 2003b

### MULTIMEDIA

- Audiophile 1.3.3
- Dr.Tag Plus 2.0.1
- Bravo Player 1.2
- ACDSee PowerPack 7.0

### INTERNET

- KazaaGhost 2.0
- SpyBlocker 8.1
- Maxthon (formerly MyIE2) 1.1.035
- 27 Tools-in-1 Wiclio Browser 3.5

### SYSTEM

- Antiy Ghostbusters Professional
- VIA Envy24 Family Driver 3.24c
- Kaspersky Anti-Virus Personal 5.0

### PLUS

Learn how to design better Web sites! Look for the free Web Design tutorials from ImageOnline

## DIGITAL BUSINESS

### OPEN SOURCE FreeBSD 5.2

Touted as the next step up from Linux, try your hand at FreeBSD—the most stable and trusted Open Source OS there is today. It's perfect for both Server and Desktop implementation. We provide you with both ISOs for a full free install, with all the originally bundled applications



### PRODUCTIVITY TOOLS

#### Microsoft OneNote 2005

Microsoft Office OneNote 2003 gives you an easier way to organise, and find your notes and information. With OneNote 2003, you get the flexibility to do even more. Capture virtually any type of information and share it easily



### WHITE PAPERS

#### Fast Ethernet

- Network Performance Evaluation on an IBM e325 Opteron Cluster
- Cisco Nonstop Forwarding and Timer Manipulation for Fast Convergence
- Cisco ONS 15302 and ONS 15305 Ethernet Over SDH Connection Services
- Maximizing Performance of a Gigabit Ethernet NIC Interface
- 10-Gigabit Ethernet Technology Brief



### PRODUCTIVITY TOOLS

- WorkgroupShare for Outlook 1.5.6
- SERglobalBrain Personal Edition 1.7.1
- NewWayService 2.18

## DIGITAL LEISURE

### BIG GAMES

#### Tribes Vengeance

The Empire of the Tribes is back. We give you the 374 MB demo



#### Scrapland [287 MB]

Over 40 hours of single-player gameplay and fantastic multiplayer action

### MOVIE TRAILERS

- Cellular
- The Incredibles

### BIG GAMES

#### Shade: Wrath of Angels

Miracles and murder; all leading to Hell on Earth



### MOVIE TRAILERS

- Ju-On: The Grudge
- Resident Evil: Apocalypse



### BY DEMAND

- Winamp skins
- Desktop themes

### MUSIC

Full Free Soundtrack from the game: The Chronicles of Riddick: Escape from Butchers Bay

### Goof-up:

Last month's DVD with the ELX Biz Desktop 4.0 ISO was supposed to have the following disclaimer mentioned:  
 "This is an evaluation copy of ELX BizDesktop 4.0 for non-commercial use only. To use ELX products for business and commercial use, visit [www.elxlinux.com](http://www.elxlinux.com) or e-mail [info@elxlinux.com](mailto:info@elxlinux.com)."  
 Our apologies to ELX and our readers for any inconvenience caused by the oversight



CD (Bootable)



World's most popular MMORPG

[www.level-up-games.co.in](http://www.level-up-games.co.in)

## Online

### By Demand

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

**Desktop themes**  
**Winamp skins**  
**Nero 6 updates**



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## Digit Reader Poll

### This Month's Question

How much did you spend on technology (computers, phones, audio equipment, etc.) this year so far?

- ☐ Less than Rs 10,000
- ☐ Rs 10-20,000
- ☐ Rs 20-50,000
- ☐ More than Rs 50,000

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

### Last Month's Question:

Apart from making and receiving phone calls, what else do you use your mobile phone for?



taste technology at

# [www.thinkdigit.com](http://www.thinkdigit.com)

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

### Software Discussion

Moderators: digitadmin, cabul, Raasho, Rxts, IdeXter

Users browsing this forum: None

[new topic](#) [Digit Forum Index](#) -> Software Discussion

- 1 Announcement: New Forum for Indian Open Source Development
- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 system file checker win xp
- 1 1ST 64BIT GAME HAS ARRIVED!!!
- 1 Help in SUSE 9.1

### Software Discussion

Discuss software—from the best tools to the greatest games

### Hardware Discussion

Moderators: digitadmin, Raasho, Rxts, IdeXter

Users browsing this forum: None

[new topic](#) [Digit Forum Index](#) -> Hardware Discussion

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Sticky: [ Poll ] GUIDE FOR FLASHING FIRMWARE (DVD ROM/CD/RW) [ 1 Date page: 1 ... 2 ]
- 1 Sticky: A newbie's guide to Overclocking an Athlon XP CPU [ 1 Date page: 1 ... 2 ]
- 1 fanATics vs Nvidias [ 1 Date page: 1 ... 2 ]
- 1 DVD drive doesn't open DVD's [ 1 Date page: 1 ... 2 ]

### Hardware Discussion

The hangout haven for hardware geeks

Digit		
Share your views with the Digit Community, exchange tips and tricks, look for previous		
<a href="#">thinkdigit.com</a>		
The time now is Fri Sep 24, 2004 12:36 pm		
<a href="#">Digit Forum Index</a>		
Forum	Topics	Posts
<a href="#">Digit Discussion</a> Interact with Team Digit members. Tell us what you think about the magazine (articles / sections), DVD contents and Web site. What you liked, what you didn't, and what you expect to see in the future... Moderators: <a href="#">digitadmin</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a>	59	846
<a href="#">General Discussion</a> Anything that doesn't fit into the other sections—from upcoming technology to personal anecdotes. Moderators: <a href="#">digitadmin</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a> , <a href="#">IdeXter</a>	2480	31980
<a href="#">QnA</a> This is the place to share what you know, and learn what you don't. Moderators: <a href="#">digitadmin</a> , <a href="#">cabul</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a> , <a href="#">IdeXter</a>	1091	12499
<a href="#">Software Discussion</a> Talk about the latest software products and technologies—from operating systems to office suites and much more. Moderators: <a href="#">digitadmin</a> , <a href="#">cabul</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a> , <a href="#">IdeXter</a>	976	7678
<a href="#">Hardware Discussion</a> Discuss a hardware product, or talk about new or old hardware technologies here. Moderators: <a href="#">digitadmin</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a> , <a href="#">IdeXter</a>	999	9651
<a href="#">Bazaar</a> An online marketplace for Digit users to buy or sell their second-hand IT goods. It's all here, from older Digit issues and CDs to computer parts and peripherals. Moderators: <a href="#">digitadmin</a> , <a href="#">Raasho</a> , <a href="#">Rxts</a> , <a href="#">IdeXter</a>	577	2932

### Digit Discussion

✓ Your feedback on the Magazine, the DVD, the CD and the Web site

### Digit Discussion

Moderators: digitadmin, Raasho, Rxts

Users browsing this forum: None

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- 1 Announcement: Upgrade-2-DVD offer by Digit [ 1 Date page: 1 ... 11, 12, 13 ]
- 1 Announcement: Any interesting snaps with technology? [ 1 Date page: 1 ... 2 ]

### QnA

✓ Thousands of answers to every hardware or software query you have

### QnA

Moderators: digitadmin, cabul, Raasho, Rxts, IdeXter

Users browsing this forum: None

[new topic](#) [Digit Forum Index](#) -> QnA

- 1 Announcement: [Forum Rules] Please Read Before Posting [ 1 Date page: 1 ... 21, 22, 23 ]
- 1 what is ip address

### Bazaar

Moderators: digitadmin, Raasho, Rxts, IdeXter

Users browsing this forum: None

[new topic](#) [Digit Forum Index](#) -> Bazaar

- 1 Announcement: [Forum Rules] Please Read Before Posting
- 1 Sticky: No Piracy Allowed!
- 1 Linkin Park
- 1 music vidz any!
- 1 X-Files?

### Bazaar

Have money, will buy! Buy or exchange hardware or software

### General Discussion

Moderators: digitadmin, Raasho, Rxts, IdeXter

Users browsing this forum: bshar, noxice

[new topic](#) [Digit Forum Index](#) -> General Discussion

- 1 Announcement: [Forum Rules] Please Read Before Posting [ 1 Date page: 1 ... 21, 22, 23 ]
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- 1 Sticky: All Gmail related posts should be posted here... [ 1 Date page: 1 ... 21, 22, 23 ]
- 1 Sticky: Cutting down large avatars [ 1 Date page: 1 ... 21, 22, 23 ]
- 1 linkinpark [ 1 Date page: 1 ... 17, 18, 19 ]

### General Discussion

From Linkin' Park to Doom III, it's all here

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### Hardware

#### New and Notable

00

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Cyber Acoustics portable amplified speakers CA-MP30  
D-Link DPH70 VOIP phone  
Nokia 7610 smart phone  
O2 Xda II  
Toshiba e400 Pocket PC

### DVD Writers

00

Aopen EHD-2412U  
Aopen DRW4410R  
Asus DRW-1604P  
Asus DRW-0804P  
BenQ DW1600  
Gigabyte GO-W0808A  
Iomega DVDWR4216E2D  
Krypton/BTC DRW1008IM  
LG GSA-4120B  
Lite-On SHOW-1633S  
Lite-On SHOW-832S  
Lite-On SHOW-812S  
Lite-On SHOW-1613S  
Lite-On SHOW-1213S  
MSI DR16-B  
Pioneer DVR-108  
Plextor PX-708UF  
Plextor PX-712UF  
Plextor PX-708A  
Plextor PX-712A

Samsung TS-H542  
Sony DRU-700A  
Sony DRU-540A

### External Hard drives

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Freecom FHD-XS 20GB  
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Iomega HDD 160GB  
Maxtor OneTouch 250GB  
Seagate ST3160024A 160GB  
Transcend StoreJet TS0GHDC2 30GB  
Transcend StoreJet TS0GSJ25 20GB  
Transcend StoreJet TS0GSJ25 40GB  
Transcend StoreJet TS0GSJ25 60GB  
Transcend StoreJet TS0GSJ18 20GB  
Transcend StoreJet TS40GSJ18 40GB  
Western DigitalMedia Center

### Printers

00

Canon LBP 2410  
HP LaserJet 2550  
Lexmark C510  
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Adobe Video Collection  
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E-mail: <a href="mailto:bibhor_srivastava@jasubhai.com">bibhor_srivastava@jasubhai.com</a>	
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### ATMs At Worm Risk?

Some anti-virus firms, including Trend Micro and Computer Associates, are trying to create a new market for themselves—by persuading banks, that ATMs running Windows need protection from worms. Rival companies are questioning this.



### Hi-fi Through Wi-Fi

Creative's "Sound Blaster Wireless Music" uses a Wi-Fi network to stream your MP3s to your stereo. The idea is that you keep your PC and wireless access point in one room, the receiver and the stereo in another, while you sit with your remote in a third room.



# Enter

## Kapil Dev

Cricketing Legend

**H**e led India to its sole World Cup win in 1983, and ended his 16-year long career as the highest wicket taker in test cricket. He now commentates and plays golf. **What does technology mean to you?**

It means progress.

Technology gives you knowledge; the evolution of man from a caveman to a master of machines shows its effect on our living.

**How do you use technology in everyday life?**

I am an SMS-freak, and my office uses technology to the maximum. Thanks to my PC, and the Internet, I get reports in no time.

**How has technology influenced sports?**

Cricket has benefited a lot. Run-out decisions have been eased, thanks to Hawkeye. Also, we get a better perspective of any match, unlike the old times where there was just a replay mechanism for viewers.

**Can technology ever replace umpiring?**

The instant reaction that one gets from an umpire can hardly be replaced by any machine. Technology will always assist umpiring. It is fun to see the umpire's hand going up rather than wait for the red light to flash.

**Who is more tech savvy—your wife or daughter?**

My daughter Amya is growing up with technology and so I think she is way ahead of both of us when it comes to using technology.

Aparna Krishnakumar

## DREAM ROBOT

# He's A Sony

**I**t's a cross between the Asimo and the Aibo: it's humanoid, like the Honda Asimo, and it's a pet, like the Sony Aibo. It's QRIO, Sony's "Dream Robot"—a "Small Biped Entertainment Robot" under development by Sony Corporation.

Walking properly, not falling, and so on, are feats amazing in themselves; but what is probably most fascinating about QRIO is that it recognises and understands spoken sentences, and responds through voice and body gestures.

How cool is that? As if that were not enough, QRIO can also distinguish individuals by vocal and facial features! By memorising and using information specific to an individual, QRIO will actually be able to hold "intimate" and "rich" conversations.

So has the future finally arrived? A little pet "entertainment" robot that holds conversations sure sounds like the future.

QRIO is capable of sensing and understanding its environment in three dimensions. It can locate the direction of a sound. It can walk avoiding obstacles, courtesy its stereo camera. With suitable landmarks around, QRIO will be able to kick a football. It can adapt to "inclined and irregular

terrain." It can walk, swagger, and dance. It will re-stabilise itself when "external forces affect its balance." And when it does fall over, it can bend over backwards to minimise the shock of the fall.

With such a repertoire, we are tempted to call QRIO a "he" rather than an "it" (He definitely looks male). QRIO is powered by three 64-bit RISC processors, and just three 64 MB DRAM sticks. He weighs about seven kilos with his battery. We're wondering how much he will cost if and when he hits the shelves.



## MUKESH AMBANI

# The Most Influential Person In Telecom

**M**ukesh Ambani, chairman of Reliance Infocomm and now, chairman of FLAG Telecom, has won this year's prestigious World Communication Award as the "most influential person in telecommunications in 2004". Ed McCormack, Executive Vice President, Corporate Development,

FLAG Telecom, received the award on the night of October 11 on behalf of Ambani at a ceremony at London.

The World Communications Awards are sponsored by the leading global telecom publication, *Total Telecom*. The most influential person in telecommunications is chosen by the publication's readers.

Acknowledging the honour, Ambani said in a statement: "The award is ... associated with a recognition of the rapidly growing influence of India in the global telecom arena."

"In India, Reliance Infocomm is spearheading a massive telecom revolution with the vision to become a



**Mukesh Ambani, is the "most influential person in telecommunications"**

major global player over the next decade. Also, the strategic acquisition of FLAG Telecom will place India at the forefront of the global broadband revolution."

Here's the interesting part for the rest of us:



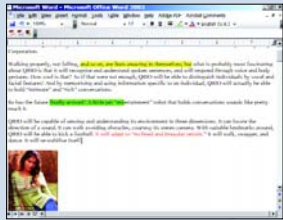


## Security Watch

### Microsoft Word Vulnerability

#### The Problem

On October 7, it was made public that a buffer overflow can be exploited in



a Microsoft Word document. An attacker could create a Word document that causes Word to crash when you open the document. What compounds the problem is that it's very likely that someone will open a Word document that comes as an e-mail attachment. Also, IE often opens Word documents in a browser window without asking the user if he wants to open it. The vulnerability has been confirmed in Microsoft Word 2000, but has also been reported in MS Word 2002.

#### Damages

Secunia rates this as "highly critical." An attacker could gain access to your system and launch DoS attacks.

#### Precautions

Open only trusted Word documents. IE users, set the security level for the "Internet" security zone to "High," or disable the "File download" setting. At the time of going to print, there was no patch available.

Ambani said that today, Reliance Infocomm has already constructed a pan-India optical fibre network, which will expand to over 100,000 kilometres of optical fibre, and which will connect nearly 5,000 cities and towns by the year end. The network will provide broadband connections to millions of homes and offices, offering the latest technology and direct connectivity to the rest of the world via the FLAG Telecom global network.

India's teledensity—fixed and mobile—is currently at less than nine per cent. Future growth potential is, therefore, staggering.

#### SERVER SOFTWARE

### Microsoft vs Linux. Again!

Microsoft is preparing to hit Linux where it hurts. By designing server software that is secure, modular and affordable, Microsoft hopes to be more competitive against Linux variants. Microsoft's Longhorn—the codename for the successor to its Windows XP operating system—is designed to be very modular in nature.

This should give Longhorn advantages that Linux currently enjoys. Being modular lets a company either use or discard components it does not need.

This flexibility facilitates not just speed of deployment, but also security. Currently, Microsoft's server and desktop operating systems

are based on the same unifying architecture. This leads to extraneous features for a server system, which is an unnecessary security risk.

By virtue of such a design, Microsoft also aims to be more affordable—both in terms of initial investment as well as total cost of ownership, as per maintenance costs. The biggest attraction of Linux is that it is open to tinkering. Governments and businesses can create customised operating systems from the Linux kernel by adding to or dropping services and features they do not need. This flexibility has seen Linux gain a foothold within the market; Microsoft's Longhorn hopes to flatten the competition.

#### LOGGING PERSONAL INFORMATION

### Is India Going The China Way?

All around India, governments are considering edicts, which, if passed, will make it compulsory for cyber-café to log personal information about their customers. First up, the Karnataka Government is seriously mulling over such an act. If passed, a user will need to supply personal information—name and address, to begin with—and show an ID card when using the services of a cyber-café,

#### HOT

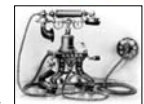
#### Cell phones



According to Gartner, cellular connections in India will reach 56 million by the end of 2004, a 96 per cent growth over 2003

#### Landline phones

#### NOT



India today has more mobiles than landline phones at this point in time (end-October). By September-end, landlines (43.82 m) were slightly more than mobiles (42.97 m)

failing which the person concerned will need to be photographed. The information gathered will need to be maintained for at least one year, during which period it will be open to regular scrutiny by the police force.

The idea is to curb cybercrime. The reaction to this has been largely negative. Apart from the inconvenience it will cause potential customers, the effectiveness of such a register has itself been questioned.

Ashish Saboo, cyber-café owner and President of the Association of Public Internet Access Providers, opines, "...keeping this type of register is completely ineffective to fight computer fraud or cyber-terrorism."

The Web site of the Calcutta police was recently



## One Silly Question What is KBps?



Oh yes, it's Kilobytes per sec, that's easy!  
Suraj Anand, Pune



It's Kilobytes per second, for sure!  
Amit Tankaria, Mumbai



Frankly, I do not know what it stands for  
Asmita Parelkar, Mumbai



Ahh, that's supposed to be Kilobytes per second  
Mihir Hardikar, Mumbai



It's Kilobytes per second  
Ramaswamy Kuppuswamy, Hyderabad



hacked and turned into a porn site. Following that incidence, a Calcutta proposal will make it mandatory for a cyber-café to not only register their customers, but also log the Web sites they visit.

The Mumbai police, too, are considering a similar diktat. Under the proposed system, a cyber-café will need a license to operate. The licensing norm will entail café owners shelling out an annual fee, and only those with a photo-identity will have access to cyber-cafés. Registering of customers, and maintenance of customer details will then need to be submitted to Mumbai Police HQ.

Apart from cybercrime, officials are also keen on cutting down on pornography by mandating the use of software filters at the expense of café owners.

Most cyber-café owners are small entrepreneurs looking to make a low-



Illustrations Harsho Mohan Chatteraj

margin living in an increasingly competitive space—estimates put the number of cafés in India at 3 lakh.

Regulations such as these will only remove from the bottom-line of most of these small businesses. Saboo says, "These new measures are likely to dissuade many Internet users from going to cyber-cafés, and could lead to the closure of almost half of them."

#### WINDOWS XP STARTER EDITION

## Emasculated Windows For India

Microsoft has announced plans to introduce Windows XP Starter Edition to India in 2005—this is the low cost, feature-light variant of its Windows XP operating system. The underlying theme, of course,



## Three Incredibly Useful Sites

### Online Education Courses

#### egurucool.com



#### www.egurucool.com

This Web site offers online Maths and Science tutorials for CBSE, ICSE and IIT-JEE. You need to buy the courses. The "Course Catalogue" runs you through the varied tutorials along with their price. Once the quote is bought, just follow the steps given to activate it and you are all set to go.

#### Netvarsity.com



#### www.netvarsity.com

This NIIT-run site offers a range of courses in IT, soft skills and project management—from the cost-effective 90-day "silver" subscription to the value-added six-month "platinum" subscription. The courses train you in leadership skills, prepare you for IT-certified courses, etc.

#### BBC Learning



#### www.bbc.co.uk/learning/courses/index.shtml

This is one place that offers its courses for free. Be it basic computer skills, gardening, history and journalism, you will find it all here. Make it a point to visit the Languages section. The modules here are ordered, and concise enough to arouse interest.



Photograph Mexy Xavier

# Beat That!

## Digit Caption Sachin! How's the elbow?

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

### Last Month's Winner!

Unfortunately, no one could send in a caption witty enough to be adjudged winner. Better luck this time!

Send your captions to [beatthat@thinkdigit.com](mailto:beatthat@thinkdigit.com) and win a book.

#### Computer Systems

A Programmer's Perspective

By Randal E

Bryant and

David O'

Hallaron

Published by

Pearson

Education



is the low cost; Microsoft hopes to cut down on rampant piracy of its operating systems. Sources suggest the price will be in the vicinity of Rs 2,000.

Starter Edition will be light on features and is aimed solely at entry-level systems from computer makers Acer, Hewlett-Packard, HCL and Wipro.



The variant will not compete with its higher priced brethren—the ability to do home networking has been cut off. So has the feature that allows more than one user to use a single PC. Additionally, the OS will only allow a maximum screen resolution of 800 x 600. Most importantly, a user will be limited to multi-

tasking solely between three open windows or foreground applications.

When it comes to regional languages, the Starter Edition will initially only support Hindi; the company says it might add additional languages in the future. It will also sport some seemingly inane “features” such as localised wallpapers and screensavers (perhaps the rolling green of a default XP installation will be replaced by a picture of the Taj Mahal?)

Windows XP Starter Edition seems like a sweet deal to OEMs, so that they are not tempted to look to Linux for cheaper solutions. Microsoft is apparently content with targeting first-time users of computers instead of offering genuinely low-cost and feature-rich solutions to a price-sensitive market. The effectiveness of the Starter Edition to curb piracy remains to be seen—how soon will a user switch to a “cheaper” and fully-featured Windows XP?

As soon as his or her friend hands over a copy, we imagine.

## REAL-WORLD APPLICATIONS CONTEST

# ZDNet India Developer Challenge

**Z**DNet India ([www.zdnetindia.com](http://www.zdnetindia.com)), India's leading technology portal, has announced the country's first ever Linux and Web Services developer contests

on the IBM Platform. The contest is open to both teams and individual developers.

The ZDNet India Developer Challenge comprises two different contests—a Linux Development Contest and a Web Services Development Contest for Windows. A panel of judges from the Industry will evaluate entries based on functionality, elegance and other factors. The first three entries in each category will be awarded an IBM ThinkCentre

## Best Buys

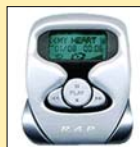


### Headphones

Rediff.com has a huge range of headphones to offer.

From stereo headphones to mono headsets for cellular phones, Rediff.com offers a healthy variety. Check the site out for some good deals.

Right from the HB Dynamic stereo headphones that cost as little as Rs 295 to the wireless variety from Portasound that start from Rs 799. If 5.1-channel headphones are what you are looking for, you can buy them as well for as little as Rs 2,199.



### MP3 Players

While still on Rediff.com, choose from a range of MP3 players.

Save Rs 1,250 as you snap up the Che-ez MP3 player

or opt for the high-end anti-shock VCD/MP3/CD player, complete with a remote and headset for as little as Rs 1,595.

Then there's the ultra-slim TechSound DVCD, MP3, SVCD, VCD Player for as little as Rs 1,799 and the Mitashi MX 3000 (Rs 2,840) which is a VCD, DVCD, and an MP3 player.

A Selection Of Best Offers From Popular E-commerce Sites

A50 817MQB (first prize), an HP Officejet 4255 (second prize), and a World Space Radio (third prize).

There are no restrictions on what problems contestants need to crack. Programmers can choose to build a Linux and/or Web Services application in the area of their interest and competence. There will be prominent display for the winners on the ZDNet India Web site.

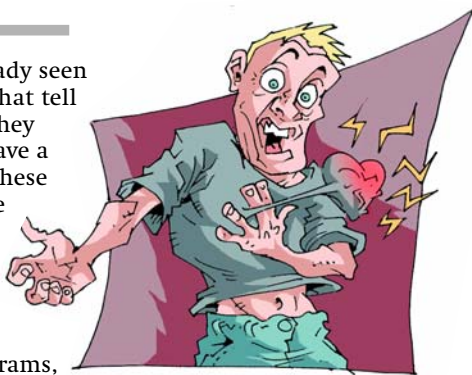
While the contest opened online on October 20, the last date for submission of entries is December 20.

The winners will be announced on January 5, 2005. For more information and registration details, visit [www.zdnetindia.com/devcontest/](http://www.zdnetindia.com/devcontest/)

## GERMAN INNOVATION

# Electronic Underwear And Heart Attacks

We've already seen devices that tell people when they are about to have a heart attack. These include mobile phones that you hold in front of your heart; and portable electrocardiograms, that require electrodes covered with gel stuck to the wearer's skin.



Now comes a German invention that removes the inconvenience those devices pose: electronic underwear that can detect imminent heart problems. The underwear is sensitive to fluctuations in the

wearer's heart rate. It has been developed by the Philips Research facility in Aachen.

The garment can automatically call emergency services when, for example, the wearer suffers a cardiac arrest. So how does it work? Sensors are woven into the fabric of the garment. These detect electrical fluctuations on the skin surface, which can tell how rapidly and how hard the wearer's heart is beating. Not only that, the garment also records activity and stress levels, which are important predictive factors in determining someone's risk of a heart attack.

The underwear concept is fantastic, because it is not only convenient—it is also an elegant solution. Heart-rate fluctuation detectors need to be in contact with the skin, and underwear always is. Besides, this way, the patient does not need to wear or hold anything that does not integrate with his lifestyle.

There is one hurdle to be overcome, however—there needs to be software that enables the device to distinguish between heart-rate fluctuations due to an impending attack, and fluctuations due to normal stress or physical activity.

## INTERNET DOMINANCE

# Of Google, Microsoft, Browsers And OSes

The idea of the Internet as an operating system was at first hyped; it then languished due to absence of real solutions and is now making a repeat appearance, somewhat shyly. The thinking was that one would log onto an online software, use it to do a task, and then log back out. Why should a user bother about patches and other associated headaches?

The idea is back. The Internet, now more than ever, is being touted as a platform for software deployment, and an increasing number of developers are building Web applications using markup languages such as XUL and XAML.

Some companies such as Google are banking on the idea, whereas others, such as Microsoft, would have things play out otherwise.

For Microsoft, Windows brings home the money; losing control of that platform is unthinkable, the kind of unthinkable which would have developers program for a browser rather than the operating system. After all, a browser isn't exactly locked onto a Windows platform... for a Google, a browser hosts ads and the more ubiquitous Internet browser, the more places the company can place its ads and thus gain revenue.

So while a Google looks to bring the Internet to the OS—Google has several software such as Gmail, Google Desktop, Picasa, Hello which integrate online with offline, apart from a rumoured Web browser that is in the making.

Microsoft hopes to keep developers, and hence users, pinned to Windows.

## GENDER



## BENDERS

### Abhishek Chintakindi vs Prajakta Korde Download the Sasser Patch from Microsoft's Web site



Abhishek Chintakindi, a second-year Computer Engineering student, sat down apprehensively at the monitor. Once at the Microsoft site, he wasn't quite sure where to look. Should I look under downloads? Probably search it off? Nearly seven minutes and no sign of the patch. A little change in the search string did the trick and a relieved Abhishek was all smiles as he downloaded the removal tool.



Prajakta Korde, also a second-year Computer Engineering student, was confidence personified as she took her seat. "The Sasser Removal tool, right?", she asked to confirm whether she heard it correctly. And then she was at it in full gusto. A minute passed as she made her way to the Downloads section. But look, there it is under 'Most Popular Downloads'. A quick click on the link and Prajakta had the download done.

Microsoft's strategy is to take XML and integrate it to such an extent with its upcoming Longhorn OS that writing applications for online usage will be dependent on its operating system.

Who will own the Internet—will it be the ubiquitous Web browser or the equally ubiquitous Windows? The one who owns the platform has the money in the bank.

This fight promises to be interesting.

#### GOOGLE DESKTOP SEARCH

## Google Beats Microsoft To The Desktop

Google has released a beta version of a desktop searching utility. Termed Google Desktop, the 400 KB software integrates Google's online search engine with an offline one for the desktop very nicely indeed.

The utility, in its beta avatar, can search within your e-mails (limited to Microsoft's Outlook and Outlook Express), your browsing history (limited to Microsoft's IE), and logged conversations on AOL's messenger (which not too many people use in India).

How useful is it then? Fairly so: it does gather data from within text, MS Word, Excel and PowerPoint files. It sifts through text files, Word files and the like, scanning their contents, so you can actually search for a file based on a word it contains. For pictures, PDF files and the like, the searching is based solely on filename.

The magic works on indexing—the software sits in the background and spiders your hard disk for supported files. It then creates an index of keywords and content, thus creating a local cache of your local files (it offers no support for network searches yet).

Think of it as Google for your hard disk. Sorely

lacking is content-searching of popular file formats such as PDF and support for other e-mail and chat clients.

However, it does the job and does it fairly well for early software. Searches can be linked to online results: if you say search for "flowers," at [www.google.com](http://www.google.com), Google Desktop will serve up files locally stored on your machine with "flowers" in them (perhaps an e-mail) while, at the same time, searching online for "flowers." Privacy concerns? The official line is that the software does nothing to breach your privacy. It does send across usage patterns, but that can be turned off.

**UPDATE:** A security vulnerability was recently patched in Google Desktop. The JavaScript vulnerability let third-party Web sites view the results of searches made on your local hard drive

#### PERSONAL DATA COMPROMISED

## Huge South Korean Scam

Personal details of a staggering one-fifth of the South Korean Internet population were allegedly compromised in July by 15 mobile phone workers and brokers, police found. The group of 15 were richer by \$314,000 (Rs 1.45 crore) after selling the information to a telemarketing company. In late October, police were still investigating how the scamsters obtained the data.

Details are emerging: *Chosun Ilbo*, a daily, reported that seven of the 15 sold data of about 920,000 mobile phone customers to the telemarketing company. The data consisted of names, phone numbers, e-mail addresses and type of phone used, and was used in attempts to get the consumers to switch mobile operators or sign up for broadband services.

One of the accused sold e-mail addresses of consumers to porn

spammers. The same person, a broker, allegedly sold data of about five million mobile phone users to operators and shopping malls, as reported by *Chosun Ilbo*. Three of the suspects have already been arrested. One of the chief suspects is president of a marketing company, and he is now on the South Korean police's wanted list.

#### FOUR CHINESE JAILED

## Online Porn? Go to Jail!

China has been complementing its edicts against online pornography: four men, in their twenties, were recently jailed for running a porn site.

They rang up a profit of about \$2,000 (Rs 90,000) during the few weeks their site was up. It attracted about 16,000 hits during that period. And the men have been jailed for between one



year and two-and-a-half years.

Since the time China began clamping down on online smut, around 445 people have been arrested, and 1,125 sites have been shut down. There are even rewards for reporting smut sites—around \$240.

China's government believes that the rampant increase in online smut is damaging the moral fabric of the nation, and of young people in particular.

One official said pornography "severely damaged social style, polluted the social environment, and harmed the physical and psychological health of the young people."



#### What is a plasma display?

A plasma display is a flat-panel display. It does not use a cathode-ray tube (CRT), which traditional TVs and monitors do. They are bright, have a wide colour range, and can be manufactured in large sizes—up to 80 inches diagonally.



#### How does a plasma display work?

In a plasma display, light is created by phosphors, similar to those used in TVs, excited by a plasma discharge between two glass panels. Plasma is a gas made up of free-flowing ions and electrons.

#### Who invented the plasma display?

The plasma display was invented in 1964 at the University of Illinois, by professors Donald Bitzer and Gene Slottow, and graduate student Robert Willson.

#### Why do we need plasma displays?

Plasma displays are ideally suited for HDTV. They are capable of producing bright pictures, and are good for use in high ambient light conditions. They are also extremely thin and wall mountable, which gives them great flexibility for integration into a range of rooms and viewing environments.

#### When were plasma displays first used?

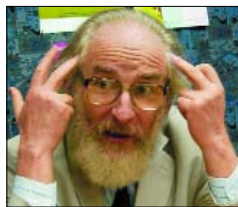
Although they were invented back in 1964, they first started becoming popular around 1999 or so.

#### Where can I find plasma displays?

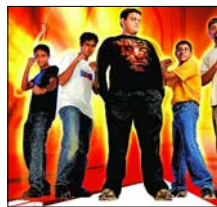
Plasma displays are relatively common now. They are especially used in home theatres. As of 2004, the cost is down to \$2,300 for a 42-inch diagonal screen model. In India, Samsung, Hitachi and Sony are the big players.



**36** Louiz Banks on Technology



**37** Language Onslaughts



**44** The Guys at Their Game

# Digital Passion

Fuelling the pursuit of technology knowledge

## Lead Feature

# The Man who saw Tomorrow

**Reliance Infocomm chief Mukesh Ambani says the future of communication will not be just voice services; it will be high-speed data. He tells 'Digit' how he plans to deliver that dream**

Sachin Kalbag



**T**he innocuously-named National Network Operating Centre (NNOC) at Reliance Infocomm's 140-acre Dhirubhai Ambani Knowledge City in Navi Mumbai is one of the 20-odd, post-modern buildings that the complex houses. Large Samsung plasma monitors line the large hallway with promotional films reminiscent of the subliminal messages delivered in George Orwell's 1984, interspersed with wall-mounted displays of the company's history, its achievements, its technologies, a few phone models, a Reliance

Web World, a Java Green coffee outlet—you get the picture. A few steps later, the well-appointed, well-rehearsed hostess in a well-starched sari takes you through a motion-activated door into what looks like an aerobridge. On either side of the passageway are James Bond-like glass walls that give you a bird's eye-view into a revolution.

It is mostly quiet here, and the engineers downstairs look at large LCD video walls—ones that allow them to monitor every single point on the Reliance network (see box 'What is NNOC All About?' on Page 28).

They seem to work with almost NASA-like efficiency to run India's largest cellular phone service. It is so efficient it gets boring after a while; suppressing a yawn becomes tough.

## The Man

Mukesh Ambani, Chairman and Managing Director, Reliance Infocomm, would





Instead of focusing on just rolling out services, Ambani concentrated on building a robust backend, including the sprawling Dhirubhai Ambani Knowledge City at Navi Mumbai. The strategy worked

not mind that. He, along with these couple of hundred engineers, and 15,000 others, has created a telecommunications behemoth in just 18 months. One that has more than 90 lakh subscribers, a fifth of all mobile subscribers in India; one that sells CDMA phones, where the lowest-end model has more data services than the highest-end GSM phone; one that is supported by a backend of more than Rs 15,000 crore in investments.

Enough to impress *Total Telecom*, the leading publication on telecommunications; enough for them to present him with the World Communications Award in mid-October for being the "World's Most Influential Person in Telecom."

## The Dream

"The idea is to straddle the infocomm value chain," says Ambani. "We want to change the socio-economic landscape of India. We can do this by linking mobile devices and broadband services to powerful digital networks."

It is not a distant dream, nor are these words egotistic. India is already adding almost 20 lakh new mobile subscribers every month, and by the end of October, had 4.5 crore mobile subscribers. Only a few other countries, such as the US (16.5 crore) and China (a staggering 31 crore) have more mobile connections. Despite the huge growth, India's tele-density stands at a pathetic eight per cent (as against the world average of 15), making telecom giants from across the world drool: India is fast becoming the world's hottest mobile market, just behind China, which adds 40 lakh new mobile users a month.

## It's Not Just About A Telephone Call

It wouldn't be exaggeration to say that it has been Ambani and his 18-month old company that have fuelled this growth. He has been able to do this by focusing on the fundamentals. In an interview with a business magazine last year, Ambani admitted that Reliance was six months late to take off (He later told *Digit*: "Yes, we were late, but when we entered, India was the most expensive telecom market in the world. Today, it is the cheapest."). However, it was also evident that Reliance was concentrating on building the backbone of India's largest and strongest fibre-optic cable network—one that spans the country.

This backbone has enabled Reliance to main-

tain a 99 per cent fault-free rate, and create the backend for more than a hundred data services on the mobile, including checking your bank account, paying your bills, booking a railway ticket, watching the latest news, and even checking your public-exam marks.

"We needed the world's most advanced technology, and the world's most advanced

network, to make this happen," says Ambani. "I believe the mobile phone

will become an information advisor, computer, entertainer, teacher, wallet, and friend in the near future. It is not long before you will be able to intelligently speak to your mobile phone to take you places. You already access video news, entertainment, and conduct m-commerce transactions."

Ambani's words are not prophetic—they are already a reality. Besides, he admits, he uses his company's R World services quite often. "I am a regular user of our broadband and data services," Ambani says with the same enthusiasm as would the owner of Rama Nayak, the famous Mumbai *Udipi* restaurant, who has a signboard put up at the entrance: "The owner of this establishment eats here." It invites a few giggles, but it also earns trust amongst the restaurant's customers.

The analogy is not bizarre. Mumbai's *Udipi* restaurants have perhaps the best delivery models in the service industry. You order, and you are served in not more than three to four minutes. A strange request, and the waiter will go to all lengths to fulfil it.

Profitability, here, depends on satisfying the customer's need.

## ? What Is NNOC All About?

The National Network Operating Centre (pictured on Page 27) is Reliance Infocomm's way of saying, "We have arrived." The 1.1 lakh sq ft NNOC is a single-point monitoring room that controls more than 3,000 sites and 5,000 elements. In short, the entire Reliance network of 1.2 lakh km of fibre-optic cable.

Insiders call it God—it can talk to each piece of Reliance equipment across the country; and it knows everything at all points in time.

The NNOC is divided into two sections—wireless and national/international long-distance. Since each operation is further divided into various other functions, the NNOC has teams dedicated to each—the surveillance group, the service-positioning group, traffic and capacity-routing group, performance-monitoring group, planned-events group and the applications support group. It is also one of the few such centres in the world that also records failed calls.

The 200-odd engineers here monitor the network 24x7, and everything they want to see can be visualised on the two 100 ft video walls each giving a 360-degree view of the operations. That is not surprising considering the video walls have 80 screens.

When a fault is detected, the NNOC informs the ground-level staff in the respective area. A team is then sent to the fault area, and the fault call is meant to be closed only when it is repaired. This increases accountability, and puts pressure on the ground team to keep the service fault-free.



## Data, Data, And More Data

Reliance chief Mukesh Ambani feels that the future of telecom is in delivering data services. And he goes to lengths to explain that Reliance Infocomm is not just about voice services. "So much so that, looking at the success of our data services, several other players are keen on providing them," he says.

Reliance has a multi-pronged strategy for delivering data services to the consumer: corporate broadband, 3G Mobile services, Reliance Netway, Reliance WebWorld, and Internet Data Centres.

"We already deliver corporate broadband services with Ethernet links at 100 Mbps. It is our endeavour to enter the home market at the same speeds," says Ambani. If that becomes reality

(market sources say this will be in the next financial quarter), homes will be connected using Reliance's high-speed optical fibre network (Reliance has identified more than 1 million homes across the country for this purpose), giving them access to services that go beyond the Internet.

For instance, the Netway service gives options such as watching television channels, high-speed Internet telephony, audio and video-conferencing, video-on-demand, a jukebox, time-shifted television, t-commerce and even home-surveillance services in various Indian languages.

On the other hand, Reliance has already begun such services in 250 Web Worlds in India, offering the same services. WebWorlds are communication technology

outlets that offer Internet, voice, gaming, and even corporate services.

To add a bit of glamour, WebWorlds often host video chats with movie stars and other popular personalities. In what was clearly an out-of-the-box idea, earlier this year, WebWorlds across India let siblings in different cities talk to each other through video-conferencing for 15 minutes on Rakshabandhan day for a fee of Rs 375.

R World, meanwhile, delivers broadband services to the mobile phone. At present, R World has page views of 1.5 billion a month, and over a hundred services, ranging from ring tones and screensavers to checking your bank statements, downloading songs and videos, booking railway tickets and paying bills.

For Ambani, it is no different. "When we entered the business, the other players were looking at providing vanilla telecom services to an already under-served country like India," he says. "We have changed the model of communication and data services. I guess we are driven by the desire to become a facilitator, an enabler of business, by providing the entire gamut of communications services and not just telecommunication services. We have done that in just 18 months."

### GSM Or CDMA?

One of the key drivers of this silent revolution was the choice of the platform to deliver services. Before the entry of Reliance, there were dominant players in the GSM arena—Orange, BPL, Idea Cellular, Essar and AirTel. Reliance chose CDMA 2000 1X, (CDMA stands for Code Division Multiple Access).

"CDMA technology meant that we could use Enhanced Voice Rate Codec (EVRC)," says Ambani, "which ensured that the back-end is continuously scalable, and gave high levels of voice clarity." So much so that Reliance phone owners often have to keep the phone slightly away from their ears because of the enhanced voice levels. Thankfully, every mobile phone has a volume adjust button.

However, loud volume is only a minor issue

**We are on the verge of a digital revolution, one that will bring a new way of life to India**

when Ambani is investing \$5.5 billion in building a countrywide telecommunications network. In Indian currency, that will be Rs 26,000 crore, one-third of India's defence budget this year.

Ambani is convinced of the size of the investment, even though it may sound huge. "It is still very competitive in the global context," he says in a matter-of-fact way. "Other companies would have to invest at least three to four times this amount to reach the level of our large initiative."

Hindsight is an exact science, says Murphy's Law. However, insiders at Reliance say that Ambani has developed foresight into an advanced science. The adoption of CDMA meant that Reliance phones cannot be taken out of the country, but it also meant that Reliance could exploit a domestic market of data services—one that did not exist, or if it did, was restricted to downloading news headlines via SMS or downloading ringtones, screensavers, and wallpapers.

### The Services

Reliance spent time building the fibre-optic backbone, one that would allow it to get into the mobile data services (more than 120 at the time of going to print); create Reliance WebWorlds, where you get services such as Internet telephony, video-conferencing, digital suitcases, etc.; create a network for fixed wireless

terminals on the WLL platform; create Internet data centres for services such as Web-hosting and call centres (majors such as ESPN-Star, State Bank of India and Morgan Stanley are hosted there); anywhere-Internet services from your mobile phone; and now even international calling cards at previously unheard-of prices.

"We are on the verge of a digital revolution, one that will bring a



The Reliance WebWorld model works under a simple premise—provide personal services such as surfing and gaming (left), and corporate services such as broadband (right) under one roof using their existing fibre-optic network





new way of life to India," feels Ambani. "These services will let people watch television programmes and movies, and access the Internet as well. But before any of that, we feel our fundamental responsibility is to provide telecommunications services at affordable prices."

## The Road Ahead

Conventional wisdom would say that Ambani should concentrate on the big cities, to make money and keep the company going. He feels the answer lies elsewhere. "We are networking more than 5,000 cities and towns in India," he says. "We have laid more than 1.2 lakh km of fibre-optic cable. The same services that people get in a Reliance WebWorld will be the services that they will get at home. That would be real broadband."

But the trouble is, despite the huge array of services, India has traditionally been a country with a low adoption rate for paid services. For instance, all of Reliance's R World data services on the mobile phone are free (some of them would go paid soon), and this is the primary reason behind its popularity.

Ambani doesn't agree. "We need to challenge conventional cost structures and offer services at incredible rates. You will witness how the usage will boom for technology and data products, even if they are paid for. It's because people value relevant content, and they wouldn't mind paying for it."

He says he is confident that this growth will be exponential, making India one of the highest consumers of data products in the world. "Given India's diversity, data and communications services need to be a combination of affordability and the best in technology. People should view these services as enablers of personal economic growth. Take your neighbourhood vegetable vendor, the newspaper vendor as well as the fisherman; all of them use mobile phones to conduct and enhance their businesses."

This proliferation has made India the second-largest cellular handsets market after China. In a recent report, investment firm Morgan Stanley predicted that India will show a compounded growth rate of 40 per cent per year until 2007 in the cellular market.

## What is CDMA?

CDMA is short for Code Division Multiple Access, which uses multiple frequencies for transmission of voice and data. Simply put, it differs from GSM (Global System for Mobile Communication) in the way voice gets carried from one phone to the other. Because of the way it assembles multiple voices into the same frequency, CDMA increases voice clarity. The technology also helps you receive calls when the signal is weak.

Imagine a locked room where you and your friend are talking to each other. The room, then, is exclusive to you. Now imagine the room as a frequency band. This is how GSM works.

In CDMA, however, the same locked room (or frequency band) will have several pairs of friends talking to each other, but each of the conversations will be scrambled, thus ensuring privacy. Because CDMA uses the same frequency to accommodate several conversations by using multiple transmitters, the usage of available bandwidth can be optimised, leading to higher traffic density without the accompanying problems of failed calls.

This also gives CDMA service providers the flexibility to provide data and video services.

CDMA was invented during World War II when Allied forces wanted to get past the Germans by sending coded messages over different frequencies and giving them the ability to be accessed from different points—hence "Code Division Multiple Access."

"A one per cent increase in tele-density raises the country's GDP by three per cent," says Ambani. "That's good for us as a nation, and for us as a company. What is good for India, is good for Reliance."

What is good news for the consumer, however, is that Reliance will soon be entering the home broadband services sector. The fibre-optic network has already ensured that corporate broadband services are delivered at speeds of up to 100 Mbps. "We will now concentrate on providing high-speed Ethernet links to homes, too," says Ambani. Reliance has termed this Netway. "It is our way of changing the communication pattern in India."

## Up, Close And Personal

Ambani's words are chosen carefully, and they show determination and impatience in equal quantity. He wants to make things happen, and fast. "Not really," he says. "Impatience can never result in success. Yes, we are in a hurry, but we are running fast because we have to catch up with the rest of the world. We have to deliver."

It would seem he has the same level of enthusiasm of a first-time entrepreneur, not the been-there-done-that kind of attitude of the head of an empire that has yearly revenues of Rs 99,000 crore, or 3.5 per cent of India's GDP. Any spare time, then? "You have to make time," he says, "I spend my free time reading about the latest technology trends and books on management. But a majority of my free time from work is spent with my family. Business may be the driving force of your ambition, but family is more important."

Ambani says he spends considerable time using R World services, though he admits that there is none in particular he would choose as his favourite. "That would be like asking who you like most among your children."

Perhaps that is the secret of Reliance being India's largest telecom company in 18 months. Ambani nurtures it like his child; one that has shown enough signs of being the Big Daddy of them all. ☐

sachin\_kalbag@thinkdigit.com



Sit back and relax: A chat session featuring film celebrities at a Reliance WebWorld event

## THE CHALLENGE

### Replace the default Microsoft Windows XP "Copying..." animation

Each month, Digit will pose a query that will set you thinking. The challenge is to crack it. If you are successful in cracking the challenge, send in your answers to Digit with your full name, your address and other contact details to [takeacrack@thinkdigit.com](mailto:takeacrack@thinkdigit.com).

Digit's Test Centre will select the correct answer(s). In case of multiple correct entries, the winner will be decided by a draw of lots.



#### Last Month's Challenge Was

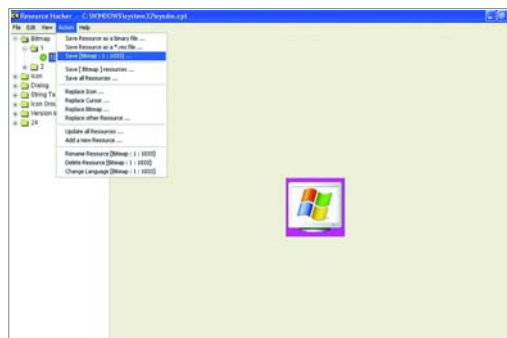
Replace the Windows XP logo in the General tab under System Properties with an image of your choice. The winner of the Microsoft keyboard and mouse is Amit Bhagat. Congratulations, Amit! His solution is published below ...



#### The Solution To Last Month's Challenge

Here's how to replace the Windows XP logo in the General tab under System Properties.

1. The Windows XP logo is controlled by the file `c:\windows\system32\sysdm.cpl`. We'll need to edit this first, for which we need a tool called Resource Hacker. This can be downloaded from <http://www.user.on.net/~johnson/resourcehacker/>.
2. Back up the file before proceeding.
3. Start Resource Hacker and open "`c:\windows\system32\sysdm.cpl`".
4. Expand the "Bitmap" folder, then expand the one folder there, and click on "1033." You'll see the Windows XP logo in the right pane.
5. Go to Action > Save [Bitmap: 1:1003] and save the bitmap image. Do not close Resource Hacker.
6. Open the saved image using any editor, and note its size. Now create an image of your choice of the same size and save it.
7. Now in Resource Hacker, replace the image with the edited image. Save it from File > Save As, in any location except `c:\windows\system32`, with the name "`sysdm.cpl`".
8. Restart your computer in DOS mode and copy your edited "`sysdm.cpl`" file to the `c:\windows\system32\` directory. Say "yes" when asked to overwrite the existing file.
9. Restart your computer and note the results.
10. To get your old logo back, just replace the "`c:\windows\system32\sysdm.cpl`" file, under DOS mode, with the original "`sysdm.cpl`" you backed up earlier.

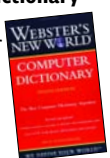


## THIS MONTH'S CHALLENGE

Replace the default Microsoft Windows XP "Copying..." animation with an animation of your choice



**Take a Crack and Win Webster's New World Computer Dictionary**  
By Bryan Pfaffenberger  
Published by Pearson Education



#### Rules and Regulations

1. Readers are requested to send in their answers by the 15<sup>th</sup> of the month of publication.
2. Employees of Jasubhai Digital Media and their relatives are not permitted to participate in this contest.
3. Readers are encouraged to send their replies by e-mail. Jasubhai Digital Media will not entertain any unsolicited communication.
4. Jasubhai Digital Media is not responsible for any damage to your system that may be caused while you are solving the problem.

# Banks On Technology

Technology helps Louiz Banks, the 'Godfather of Indian Jazz' create magic in the cyber-age



Louiz Banks gets cozy with his gizmos that include an HP laptop and an iMate Pocket PC

## Meera Vankipuram

**"I** love gadgets," declares Louiz Banks, whose exploits with the electric piano have earned him the sobriquet "Godfather of Indian Jazz". Nearly 7,000 jingles, several movie scores and stage shows later, Banks continues to churn out music that appeals to young and old—thanks largely to the fact that he's one of the few musicians who have managed to keep abreast of developments in music-related technology.

"If there is any new gadget in the market, I have to buy it," he says.

In a career spanning more than a decade, Banks has composed numerous ad jingles and toured with world music band Silk. He performs regularly in stage shows, including the by-now legendary Jazz Yatra in Mumbai.

His home studio is located in a quiet niche of the otherwise bustling Santa Cruz, a western Mumbai suburb. Says Banks, "Even in a small room like this, we can create good music with hardware that costs lakhs of rupees. Because of advancements in technology... we can do wonders with the limited space. All we need is imagination and intelligence, and we can create some of the world's best music."

Gadgets abound at his workplace. There's the HP Invent laptop synchronised to the iMate Pocket PC. The iMate integrates fully with Microsoft products, and is also a tri-band GSM phone. "It has an ActiveSync with the laptop so I can transfer data back and forth," says Banks. The iMate, besides being a mobile phone, also offers him about 2 GB of storage space.

A Sony MINI DV-CAM helps Banks create

DVDs from live shows. "We use the DV-CAM to record a show, bring it to the studio, hook it up to the laptop and we can create our DVDs." His latest buy and most prized possession? The Yamaha Motif ES top-of-the-line synthesiser.

The synthesiser can be connected to his laptop, and he can record directly to the latter. The laptop can play back tunes, through the keyboard.

The laptop has become an integral part of a musician's repertoire, says Banks. "There's no need to carry six keyboards or a bank of effect processors now, to a studio. Everything is software driven. One just needs a basic keyboard, loaded with all the software and effect processing tools you would require. I can create jingles at home, on the laptop; take it to the studio, provide other inputs and record the track. This is creating a whole new breed of musicians and producers, who can now become a one-man industry."

Team Banks includes sound engineer Neil D'Souza, who is an IT (as in information technology, not income-tax) consultant and "computer wizard," according to Banks. "He looks after all my computer needs. We work as a team, creating the music. All that I create here goes into his console. He records, processes, and mixes, and helps me polish the final product."

Man Friday Neil D'Souza says, "I spend 90 per cent of my time with music. This is one field in which you get to put technology to its fullest use."

Neil uses an assembled Intel Pentium III, 870 MHz PC. He also uses a digital mixer, the Yamaha O1v, "which interfaces the analogue audio we record with the digital world."

He also uses MOTU 2408 MKII—an audio interface that connects to the computer and aids in digital sound processing. This is connected to the mixer through a fibre-optic cable. MOTU is a universal sampler plug-in that helps import, audition, and load sound banks in several formats. "Together we have a 24-channel input/output setup, eight of which are dedicated digital (input/output) channels," says Neil.

Another system called MOTU MTP AV works as the synchronisation and MIDI unit.

Louiz Banks is one artist who has managed to successfully integrate technology with creativity, to create music that appeals to the modern generation, just like southern sensation A R Rahman.

Not only does he employ technology: his extreme thirst for knowledge makes him keep track of the latest technological developments in the field of music. As Neil affirms, "He's very techno-savvy. And I'm a hardcore IT guy. That's why we vibe well." ☑

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## The DJ's Devices

- ☑ **HP Invent Laptop** – Rs 1,40,000
- ☑ **Microsoft iMate Pocket PC** – Rs 40,000
- ☑ **Sony MINI DV-CAM** – Rs 50,000
- ☑ **Yamaha Motif ES (synthesiser)** – Rs 1,25,000
- ☑ **Yamaha O1v (Digital Mixer)** – Rs 1,20,000
- ☑ **MOTU 2408 MKII** – Rs 80,000



# The b3nd!ng ov the rul3z

**Once upon a time, there was communication... then technology happened. Is the written word doomed?**

**Ram Mohan Rao**

*My smmr hols wr CWOT. B4, we usd 2 go 2 NY 2C my bro, his GF & thr 3 :-@ kds FTF. ILNY, its gr8. ...*

That excerpt is from a Scottish schoolgirl's essay on her summer holidays. A translation goes like this: "My summer holidays were a complete waste of time. Before, we used to go to New York to see my brother, his girlfriend and their three screaming kids face to face. I love New York; it's a great place."

Instances such as these are ringing alarm bells in certain quarters. College students, too, are increasingly using SMS lingo in their essays and assignments.

Is our language taking a beating as a result of the use of technology? Will your children ever be able to understand Shakespeare and Keats? Will they write novels worth reading? On the other hand, are people thinking faster when they use techno-speak, and putting their point across better? What will these trends ultimately lead to?

That's a mixed bag of questions, but there are two basic sides to the debate: one which says that language is indeed degrading as a result of technology, and the other which says that it's all about evolution—that just as language has evolved with the times, there is now an accelerated evolution as a result of technology.

## Slips Of The Langue

Professor David Crystal, one of the world's foremost linguists, notes that Henry Alford, then the Dean of Canterbury, wrote a book called *A Plea for the Queen's English* in 1864, in which he effectively said that the English language was going to the dogs. Dr Crystal notes that it's always been that way—each generation condemns the slips in language, but what's happened ultimately is that the language has kept on growing.

"There has never been a pure language," he says. "Language is not always logical." We may infer that there is always room for change.

Naveen Halemane, a research scholar at Mysore University's Department of Linguistics

feels youngsters are the ones effecting most of the changes. He says, "Most informal expressions are created and used by youngsters. Older people usually get along somehow. Nevertheless, they bother about 'rules' being neglected. Most abbreviations these days are incomprehensible for older people. The use of 'u' in place of 'you' by youngsters has sometimes resulted in high-ranking officers rejecting applications."

This may be true, but things will change—even if it is just for the sake of the simple fact that today's youngsters will be the adults of tomorrow.

What about instances such as the Scottish schoolgirl's essay? Crystal is of the opinion that it is the teacher's job to instruct students in the correct use of language—that there is a place to be informal and a place to be formal, and the debate need not go beyond that.

Tech-speak shortcuts are to be found in Web chat. Be it in a Yahoo! adult chat-room or one between office colleagues, the use of shortcuts such as "gr8" doesn't raise any eyebrows.

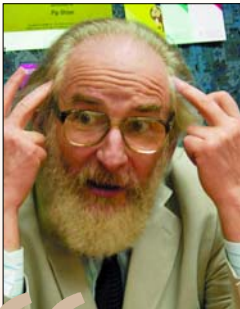
Not any more, at least. Many would say that shortcuts are shortcuts; it doesn't mean language is deteriorating. That may be true. However, the degradation of language is an intangible; it is a continuous process—something you cannot quantify, something that happens without your notice.

Consider the following response to a Digit contest:

*"....thx a lot...i can belive on my luck.....actually i was a bit late in sending my images and never expected to win....any ways... my postal add is as follows....."*

This kind of writing is at the centre of the debate. On one side, critics of tech-speak may say: What can be said of the

mind of a person who writes like this? It's obvious his or her language skills have been dumbed down. Can such a person ever participate in a debate over real issues? And so on. On the other hand, defenders of today's language trends say that there is no cause for alarm whatsoever, and that the person was merely shooting off a message hurriedly, without paying attention to detail.



**There has never been a pure language**

**Prof David Crystal,**  
Linguist and leading  
language expert





Halemane says there are enough reasons to believe that language changes today happen due to lack of time. "People today may just not have time to elaborate, nor do they have the time to pay attention to every small rule of language. They choose to communicate in the way they like."

He adds, "People using 'E-English' use e-mail and SMS extensively. It is the written form of what they speak, making it look informal. This could well be because youngsters dread order and formality. Fill-Gaps such as 'umm,' 'err,' 'like,' etc., are used just as they are in spoken language... they type as they think."

However, he also believes that language skills are not on the decline: "Technology has not affected spoken language much. The way people use language these days is just another societal transformation. We do not use the language Shakespeare used. And youngsters don't use the English we used 20 years ago."

Professor Crystal says each new technology has changed the language in some way or the other. For example, the advent of printing, and the advent of TV. Think of TV sports commentators, and its peculiar phraseology. The Internet, Crystal says, will effect another technological change, although it would be premature to predict how.

### Cr8ive And Po3tic?

Dr Jill Walker, associate professor in the Department of Humanistic Informatics at Norway's University of Bergen, says SMS-speak is "creative, sophisticated and can have poetic beauty when used well."

She says emoticons work well as additional cues for conversation. An "lol" may not always mean "laughing out loud," but it does usually mean that the person is smiling, or is amused. Face-to-face conversations support our language with body language as well. "We need those extra cues in conversation, because we don't have the time to carefully construct each sentence as we do while writing, say, an e-mail or a blog post or an article."

Dr Walker reckons we think faster as a result of SMS-speak. Again, there are two aspects to this: thinking faster might mean that we get more "communication" done in lesser time, but it might also mean that we express less, with only the essentials coming forth, and the nuances lost. That is at the core of what is happening.

There is an increasing tendency to express only that which is necessary to the topic at hand; we are losing out on the finer points. Technology seems to have made us blunter.

However, Halemane makes a point here: that it's change that makes us grow. He also says that we cannot predict whether the trend will continue: Crystal, in his book *Language And The Internet* says, "We can never predict language change, only recognise it once it has happened."

Here's what Dr Walker has to say about the possible evolution of language as technology



**[SMS-speak is] creative, sophisticated and can have poetic beauty when used well**

**Dr Jill Walker,**  
Associate Professor,  
University of Bergen,  
Norway



forces us—or allows us—to communicate in different and diverse ways: "Look at 'leet'—short for 'elite.' Leet looks a lot like SMS-speak at first glance, but rather than shorten 'you' to 'u,' leet substitutes numbers and other characters for many letters."

"Originating on the Internet, Leet itself is written '1337.' Leet is a cipher, a novel form of English spelling. (See this month's *Bluff your way through* for more on Leet.) It is characterised by non-alphabetical characters that stand in for letters to which they bear a superficial resemblance, as well as by a number of quasi-standard spelling changes such as the substitution of 'z' for final 's.' Leet is traditionally used on the Internet and other online communities, such as bulletin-board systems, sometimes to complement Internet slang or 'chatspeak.'

"There are artistes who write 'codework,' in a kind of pseudo-machine English that has a lot in common with leet. For instance, the artist N N's (apparently, this person's Web identity is that of a woman named Netochka Nezvanova, but no

one knows who he/she really is) words  
*mor konfused kr!!!!ketz. !*  
*sh!ne m! metal!k zurfazez*  
*modulated b! 01 z!lnz*  
can be translated into English as  
*More confused critics (crickets?)*  
*I shine my metallic surfaces modulated by*  
*silence*

"There is a certain beauty to it.

Whether languages like these remain slang for sub-cultures and artistic expressions remains to be seen."

There may be a certain beauty to N N's words, and there may be a certain beauty to Shakespeare's sonnets as well. Which will be considered "more beautiful" in the years to come—N N's works or Shakespeare's?

### Language: Like Fast Food

What's the problem with chatting the way we do, and in general, communicating the way we do? The answer lies in the articulation of ideas. Consider the following sentence from Arthur Schopenhauer, the influential German philosopher: "No truth therefore is more certain, more independent of all others, and less in need of proof than this, that all that exists for knowledge and therefore this whole world, is only object in relation to subject, perception of a perceiver, in a word, idea."

Schopenhauer was known for his long sentences. However, even though this sentence is long and involved, it is certainly not incomprehensible. But how many people—especially young people—who are used to SMS-speak, would understand this sentence without a second, or even a third, reading? There is a tendency to consume and deliver language like fast food.

### The SMS Novel

Earlier this year in July, Chinese writer Qian Fuchang began writing a novel as text messages. The messages would be sent via SMS to would-be readers. He divided his novel, "Outside The Fortress Besieged," into



60 chapters of 70 characters each. Interestingly, Xie Wangxin, vice chairman, Guangdong Literary Academy, told the official Xinhua News Agency in China that the novel was not a gimmick, and would be "a real literary work."

Some may question the state of a world where a series of SMS messages is considered a novel. While many would dismiss it as a novelty, other may think this is the beginning of a revolution—the end of the printed word.

One thing is for sure—our consumption of language, our perceptions about it, and how much leeway we give it are changing. We do seem to be becoming more liberal, more casual about how we deal with it. And that may just be a dangerous thing because it is language that distinguishes us from the apes.

Can the clarity and depth of, say, Schopenhauer's prose, be matched by the novels that will, one day, undoubtedly be written in technospeak? On the other hand, such writings will undoubtedly have their own appeal; they will communicate with their audience in ways we cannot clearly imagine now.

Vocabulary and culture are important factors when one is talking about the manner in which we communicate. Consider the word "great" or "gr8." Your friend says, "gr8" when you say, "I've passed my exam"—what does it mean? Is he happy for you? Is he congratulating you? Would he like more information? It could either mean all, none, or some of these. Responses and expressions have become standardised. This "stock-phrase phenomenon" means we are losing out on the nuances of language.

Another aspect that has become more and more evident is the fact that this phenomenon is causing us to communicate more and more mechanically. There has long been a trend of expressing less than one would like to, which technology seems to be accelerating.

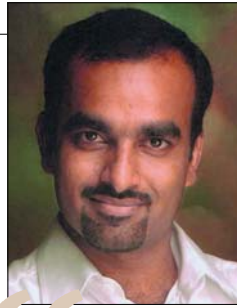
### Blogs: Too Much, Too Little

A majority of blogs on the Internet have nothing of real value to say, but that is not our concern here. We are concerned with the manner in which blog posts are written: poor punctuation is rampant.

Add poor grammar in almost every posting, and you have written pieces with hardly any articulation of thought. A well-written blog, therefore, is a rare pleasure. There is information overload here: there seems to be too many people expressing too many things.

We are also changing our notion of what constitutes communication. Take picture-blogs, for instance, or MMSes. What motivates people to put up pictures on Web sites and invite others to comment on them?

It could all be put down to a hunger for communication (or attention?). Experts have voiced several times that people who use the Internet excessively to chat, e-mail, etc., are typically socially maladjusted. They feel



**We do not use the English Shakespeare used. And youngsters are not using the English we used 20 years ago**

**Naveen Halemane,**  
Research Scholar,  
University of Mysore

the need for a creative outlet that empowers them to express themselves in the manner they wish to.

On the other hand, it could also be explained in terms of the allure of technology: people who normally would not want to express much, now have new avenues of communication; they use these for the sake of using them.

Taking current trends to their logical conclusion, there will soon be a time when, at the press of a button on a device, we will know everything we want to know—and more—about a person. What's wrong with that? But then again, what's wrong with information overload?

### Surviving Technology?

We live in interesting times, with everything moving at an accelerated pace. How will we communicate, say, 20 years from now? Are there certain things that will remain constant? Crystal says that certain things—like, for example, the notion of a sentence—are "hardcoded" in our brains. But of the 3,500 or so grammatical rules that Crystal estimates exist for the English language, how many of them are hardcoded? Not many, one would suppose. The language may well change dramatically.

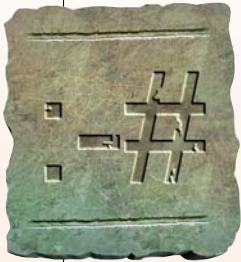
Will there be a standardised phrase-book from which our wearable computers choose phrases to utter—Terminator style—without us actually conveying anything? Will all linguistic nuances be done away with? Will our smartphones evolve into devices that communicate sound, smell, and taste? Will luddites occupy a niche, where communication will be conducted "the old way"?

Here, Professor Crystal says that it's all about formality—there exists a "spectrum of formalities," and we use formal or informal language according to what the situation demands. However, as the average age of the Internet user goes up, we are seeing more and more of the old styles coming in. Ten years ago, Crystal says, it was unusual to see an e-mail beginning with, say, "Dear Professor Crystal"; such formalities are becoming more common.

Whatever may happen, we are clear on three points: personal communication will see information overload; we would have to choose and discard. Second: language and expression will evolve, taking on exciting new possibilities. Three, we will be increasingly to-the-point.

While still on writing, Lynne Truss, Australian author of the bestseller *Eats, Shoots and Leaves*, probably puts it best: "I've come to a new conclusion recently, that it's not actually writing that people are doing, but talking," she says. "People have actually given up writing altogether. What they're actually doing is transcribing the spoken word." ☒

ram\_mohan@thinkdigit.com



**Honey, they  
shrunk the PC!  
A computer that  
fits in our  
pocket—yes,  
please!**

**T**he OQO calls itself a portable computer and it means it—with a profile of less than five inches, the diminutive handheld packs a Goliath-sized punch. Dig into this: a 1 GHz Transmeta Crusoe processor powers either Microsoft Windows XP Professional or its Home Edition; for display you have a 5-inch TFT screen capable of 800 x 480 resolution, supported by a dedicated graphics processor with 8 MB of video RAM; and what's more, the chip is capable of 3D acceleration. You want storage? A 20 GB hard disk and 256 MB of DDR RAM offer adequate space, while communication is via Bluetooth and 802.11b WiFi—all this in your pocket!

The OQO is meant as a desktop replacement. It is designed to free you of the need to maintain two copies of data—and the associated synchronisation headache. A slide-

the inbuilt or the on-dock USB or FireWire ports to connect peripherals such as a keyboard, mouse or a digital camera. The dock also sports an integrated Ethernet port for access to either a local network or the Internet. Gotta own it!

Still thirsty for more? Visit [www.oqo.com](http://www.oqo.com).



## OQO model 01

out QWERTY keyboard, a digital pen, and a thumbstick support data-input-on-the-go. But the coolest feature is the dock. With a desktop stand and a docking cable, the OQO transforms into a desktop computer: a VGA-out on the dock lets you connect the OQO to a monitor for a 1280 x 1024 display—use either





# Masters of the Game

**Fourteen  
Bangalore boys  
give the world a  
Made in India  
game**

**Yashraj Vakhil and Ahmed Shaikh**

**T**he two-storey house veils a covert operation. It is an innocuous façade to a clandestine project. You are expected to walk past, turning a blind eye to the acts of maximum chaos within. It seems to be designed thus. Let curiosity guide you inside however; try not to stare at the typical family that resides within. Do notice the glint in the son's eyes—he is hiding something! Take a flight of stairs to the portal that shields the secret...

Opening the door is akin to lifting an innocent rock in a sedate garden, only to find a hub of activity underneath.

We see Vikram and Keshav sniping at each other, arguing whether to approve the design of a particular game level. Snap! Snap! Argue, argue!

Ashray, the Design Lead has been up all night, tending to his polygonal gardens. Orthogonal surfaces, in numerous shapes and sizes, stare him in the face—they are trees, virtually speaking; always in need of pruning to fit the polygonal budget of a level...

A familiar scent hangs in the air. Smells like teen spirit. Nay, deadlines. The Lab is buzzing

with activity. Sheets are everywhere, with artists furtive in their need to pencil thoughts down. Scratch! Scratch! Erase, erase!

Posters, concept sketches, and level maps paint the walls; a small bulletin board hangs like a sword with razor-sharp deadlines.

Deadlines!

The hushed-word screams the loudest. Even the phones and PDAs hum missed calls, and beep to-dos gone past. Only Daisy seems unaffected. The beloved German Shepherd prances around in all her innocent glory. Quick! Somebody teach her how to code!

Welcome to Raptor Entertainment: an up and coming game development outfit in Bangalore—some say the best India has to offer the video-game industry.

## Children Of A Dream

Sandeep Kowdley and Jayanth K set up Raptor Entertainment in December 2001, a time when the video-gaming scene in India was nascent enough to be classified as non-existent. The challenge was to develop a game engine to power digital dreams. A unique challenge seen from any angle: if gaming was embryonic, game development in India was fantasy. "The greatest challenge has been getting a grip on the philosophies

and the working practices of an industry which in India is new and untested," says Ashray Gokul, Raptor's lead designer.

Sandeep and Jayanth started out with building a very small game concept to water their fantasies. As Sandeep puts it, the seed was a shared desire to create something that they cherished: "I was always fascinated with the depth of technicality that went into developing games. I had a background of building numerous applications, viruses (grins), 3D renderers—the ones you coded bit by bit (said with pride). It was natural to take it forward."

Vidyuth Srinivasan, business relations head, calls those at Raptor "children of art, music and technology". Ashray takes it further, "Sandeep, Vikram, Vidyuth and myself were part of a local rock band and we used to spend most of our chill-out sessions discussing games". He continues, "Initially, the project started out with only three full-timers while seven were part-time members. Gradually, as work piled on, the dynamics changed and Raptor had four full-time guys while the rest worked five to six hours a day".

Today, Raptor has 12 dedicated team members and two freelancers with the sole objective to develop Xtreme Forces, their maiden game.

Their designers work on nine machines powered by AMD processors and sundry 3D cards with monikers such as nVidia GeForce 6800 GT and ATi Radeon 8500.

### Name Of The Game

Surprisingly, despite a huge software industry and an even bigger film industry, game development has hardly seen any growth in this country. A primary reason could be that building a game has long been associated with software than with entertainment.

As Vidyuth observes, "The (global gaming) industry is currently worth \$40 billion. The promotions for games worldwide are mind-boggling. An armed-forces title

### There Is No Number One At Raptor

Sandeep and Jayanth say that without the entire team, Raptor would not have been possible. They give a big thumbs up to Vidyuth Srinivasan, Ashray Gokul, Akshay A V, Akshay B S, Joel Johnson, Keshav, Ravindra Kumar, Sudhir G N, Poorna Chandra Suraj, Vedavyas K P, Vijay R Sarthy, and Vikram Parthan. They say they are also indebted to the NVIDIA guys—Keita Iida, Darryl Still and Guy Grenier—in addition to Raptor Dad Narasimhan and Raptor Uncle Anand Mutalik.

recently saw soldiers staging a fake siege and then distributing free copies of the game to their 'hostages'. Talk about promotion! Entertainment drives the global economy today, and games are the biggest contributor."

Raptor's current project, Xtreme Forces has been in the making since October 2003. "I grew up reading about the Soviet Union and the cold war," says lead designer Ashray Gokul. "The elaborate and involved spy thrillers, (the works of) Boris Pasternak, Solzhenitsyn, the purges and the excesses of the Stalinist era... that's the stuff which fuelled my adolescent dreams. So it was natural for me to think of a game, based on events occurring after the fall of the Soviet Empire."

The highlight of Xtreme Forces has been the response and support the game has received from gamers, both in India and across the globe. The gaming community is tightly-knit—a ripple in the force is felt throughout the gaming world and a good creation is lauded almost as vehemently as a sub-par effort is mocked out of the collective.

Raptor Entertainment recently showcased a demo of Xtreme Forces at Game Developers Conference in San Jose, USA, in March this year. The Game Developers Conference, as the cliché goes, is the Mecca for the interactive art of game creation.

Far from being stoned or ridiculed, the response they received at GDC 2004 was excellent; these days many game publishers knock quite frequently on their doors. Raptor is wise beyond years though, as it patiently stalks the scene for a better deal in the offing.

### The High Of Creating

Game development and production is a complex, lengthy process, which involves the integration of many specialised streams—from art, to history, to mathematics—a game leaves nothing untouched.

"Game development is all about being creative; you are constantly pushing the boundaries of communication and interaction.



From left: Keshav Damodaran, Level Designer; Vijay R Sarthy, Artist & Scripting; Akshay A V, Operations and Quality Assurance

Photographs: Srivatsa Shandilya

## Buzzword of the MONTH

### Podcasting

Podcasting is an exciting innovation. Thousands of people are doing it these days: audio blogs, radio shows, etc. are made available as MP3s; Podcasting entails using software—such as iPodder—to port

these MP3s from your computer to an iPod or any other MP3 audio device. It is thus a subscription service which comes from an original source—the 'PodCaster'—to an aggregator and then to you. How's that for democratic, ad-hoc radio?



From left: PoornaChandra Suraj, Artist; Vikram Parthan, Level Designer

The buzz and the high of creation... there is nothing like it in the whole world!" gushes Ashray.

"The fact that you can create digital content within a massive game world, own it and then sell it in the real world means that boundaries between simulation and real life are blurring. And gaming as an industry has been at the forefront of this crossover".

No gaming company in India has developed more resources under their roof than Raptor: a weapons engine, a camera engine, a particle/composite-particle engine, a physics engine, a character engine, a terrain-rendering engine, a sound engine, a shadow engine and a scripting engine, all created inhouse.

Architect-in-chief Sandeep, is responsible for research, development and engineering of the 'XForce Engine'. How does the XForce (XF) stack up against engines that power internationally renowned behemoths such as DOOM III and Half-Life 2? The XF Engine is good, but as Vidyuth puts it, "Doom III and Half-Life 2 have too much technology for us to implement with our limited budget... we do hope to get there someday. The XF Engine cannot be compared to those but most certainly can be compared to the likes of the X-Ray Engine and the Crytek Engine." The XF Engine also implements shaders and volumetric shadows, "Technologically, things are advancing at a very rapid pace," says Sandeep, "...staying in sync, is one of the most challenging tasks!"

### Driven By Passion

Raptor hopes to continue to build high-quality games; future plans include taking their creation(s) to consoles. There are also plans of

licensing their engine, "One of the main constraints that have plagued growth of game development in India is the time and money consumed in setting up your technical platform. The quicker approach of licensing a quality game engine is almost unaffordable.

In the future, we plan to license our engine to fellow Indian developers at extremely nominal costs", says Sandeep. This is definitely good news and we hope he follows-up on this plan as affordable tools are of paramount importance to Indian developers.

"If the BPO sector of gaming such as Sound Design and Production can be developed in India over a given period; it will bring down costs drastically," says Vidyuth. "I see India's cost-effectiveness playing a huge part in the progress of this industry."

Making a game is a gargantuan investment in cash (A good international title is often budgeted to cost a few million dollars). What is more impressive then is that Raptor Entertainment is completely self-funded. Sandeep: "Managing a team of 14 is certainly difficult, especially with funding coming from our own pockets! I must thank my dad, Mr. Narasimhan, for understanding our wavelengths and being generous in helping us through our tight situations."

The other side of being financially independent is that they do not have a single game release to their name in the more than three years of their existence. Will Raptor be able to sustain itself until the time their game is released? They certainly have the passion to see it through.

The fervour and dedication that the 14 possess is evident as Sandeep speaks of hard times. He looks back at times when the team worked its "backside off" without taking any money home.

"We would skip a meal a day and work! The team never lost its drive or focus, (adversities) just made us look the challenge of making a world-class game, in the face." They will need that fire to sustain themselves as time progresses. Creating a game is no play but we have faith in our boys from Bangalore. Go get 'em, Raptor! ☒

*Xtreeme Forces is scheduled for a worldwide release towards the end of 2005.*



From left: Sudhir G N & Ravindra Kumar, Technical Engineers

### Write In

Assembled something just as geeky? Tell us about it. Write to [editor@thinkdigit.com](mailto:editor@thinkdigit.com)



**52** Test: Backup Solutions



**70** Fixed Wireless Terminal Secrets



**84** A .com For Your Business

## Digital Tools

Technology For Personal And SoHo Productivity

Jumpstart

# Making Sense of the Mad Ad World

**In 1995, three friends had an brainwave—use the Net to deliver advertising solutions. This is the story of how a simple idea turned into a moneyspinner**

**Meera Vankipuram**

**W**hen Sachin Karweer of Hinduja TMT's Digital TV services—Incablenet, was looking to offer an Electronic Programme Guide (EPG) to his subscribers, he turned to Mumbai-based Mediaware Infotech ([www.mediaware-infotech.com](http://www.mediaware-infotech.com)) for help. Thanks to Mediaware, a media solutions provider, "Incablenet is today India's first MSO (Multisystem Operator) to offer EPG to its viewers," according to Karweer.

Mediaware offers HTMT, and several other media organisa-

tions in India and abroad, customised database and workflow management solutions. Mediaware's software solutions are employed by advertising agencies, media researchers, media buyers and planners, client accounting staff at ad agencies, advertisers, and TV channels.

Mediaware maintains a comprehensive database of non-syndicated media related information, collected, updated and maintained in an electronic format by the Mediaware Database Group. The database can be accessed by paying a subscription fee, and benefits media buyers, advertising agencies, advertisers, print publications, TV channels, PR and market research agencies. This is essentially a collection of ad rates, circulation details, contact information (for print publications), and



Illustration: Anil Deshmukh

programme diaries and related information for TV channels.

Apart from the database, Mediaware also offers customised software solutions for the media. Their media operations software, for example, automates all functions from planning, estimating, approval and releases to billing, bill matching and posting to accounts.

Mediaware's financial accounting software is specifically designed for ad agency business—it boasts of an extensive taxation module, multi-branch capability and bill matching, among other features. This software imports billing and receipt data seamlessly from any other media operations system.

### The Internet As A LAN

Mediaware saw in the Net, a relatively cheap, public network for

Mediaware initially envisaged and constructed a media-rates database, which would be updated regularly.

This was targeted mainly at media executives. Soon they evolved a workflow and financial accounting software, in addition to customized modules for diverse clients. Mediaware now makes available database updates via the Internet, through their DOCX service.

The Mediaware team, which started out with a staff of 25, has today grown to about 100 employees, mainly programmers, with an annual turnover of about Rs 9 crore.

### Solution Seekers

Founded in 1995, Mediaware supplies software and database solutions to nearly 400 customers across India and in

**“There was a need to maintain extensive databases of client-related information, especially among media organizations**  
**Biswajit Das**  
Founder Mediaware

### What Is On Offer

Apart from the media database, and special modules for financial accounting and budgeting, Mediaware's services extend to virtual data entry, web services broking servers, pay-per-use technology platforms, remote data entry, and more importantly, seamless end-to-end integration of disparate application software across multiple locations.

The Mediaware team has also developed services to connect ad agencies, and has introduced e-documents into the workflow process. They have also developed server software as well as programmable IM software.

As Das puts it, “Our team regularly updates our media database. The updates are delivered to clients through a web-based automatic reporting system, connecting different software applications via e-document exchange.”

Their applications are bundled with attractive add-ons such as automatic desktop pop-ups which alert clients to database updates, electronic document exchange via XML which eliminates paper completely from the workflow process as well as keeps the client up-to-date on the status of a particular project, and online publishing of web folders and documents.

Their message and web service broking server software makes it possible to connect disparate software applications and deliver electronic documents, with ease. Mediaware's programmable Instant Messaging Servers can be connected to any software application. These double up as CRM solutions as well as help integrate applications via the Internet.

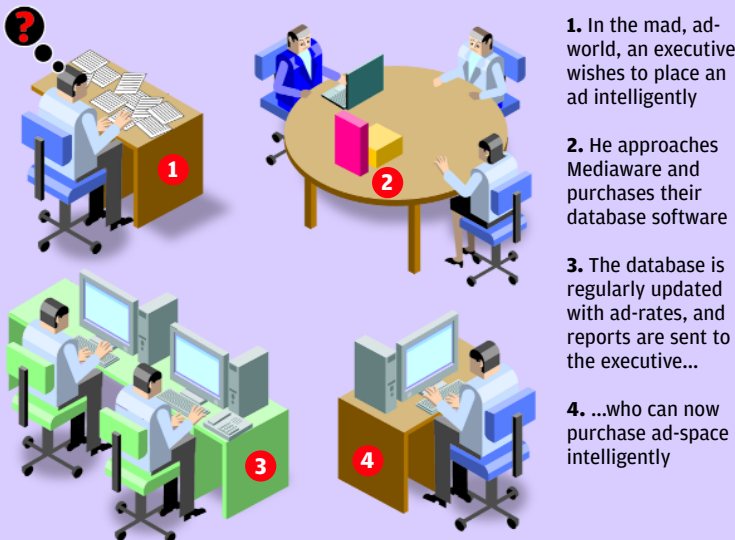
Mediaware's tools can also be adapted to build e-communities and to implement e-documents with digital signatures. (See the *Digit DVD for Mediaware's E-Community Builder tool*)

The company also provides technical support to its customers, at every stage.

### Workflow Made Easy

Mumbai-based ad agency Media Directions has been using Mediaware's database solutions for a few years now. They also purchased customised client-interface software from the company. Sandip Tarkas, CEO of Media Directions: “The single source access to a database of

### How Mediaware's Solution Works



data, which could be deployed as a LAN.

Coupled with the effort to make it easy for software to ‘talk to each other’, Mediaware has developed software and database applications for the advertising and media industry in India and the Middle East.

The company was founded in 1996 by Biswajit Das, Deepak Chheda and Laxmikanth Kulkarni. Says Das, “We realised that many companies wanted to automate their workflow processes. We also found that there was a need to maintain extensive databases of client-related information, especially among media organisations.”

the Middle East. Corporate houses employ Mediaware's solutions to automate and monitor advertising and promotion activities, TV media houses use the software for asset management, print publications and other broadcast media, in automating their operations.

A veritable who's who of the Indian media feature on Mediaware's client list—agencies such as Rediffusion, Publicis, FCB Ulka, Enterprise, Euro RSCG, RK Swamy, Carat, Madison and Percept, broadcast networks such as Sahara TV, Hinduja TMT, Jaya TV, and companies such as Videocon, Parle, and Living Media among others.



Mad about ads: (L to R) Vishwajit Das, Deepak Cheda and Laxmikanth Kulkarni

contacts as well as ad rates is rather useful, especially for media organisations. With constant tinkering, the customised applications are particularly effective.”

One of Mediaware’s recent clients, Parle Products, was looking for a solution to curb escalating media budgets. They also wanted to track and monitor media activity, and expenses related to advertising and retrieval problems.

Mediaware, which has taken up this project, will design an Oracle-based database solution for Parle on a .NET platform. Their solution will help Parle eliminate paper from the entire process, by receiving and sending reports from Parle’s media agencies in the form of e-documents, receiving telecast certificates online, in electronic format, automatic bill passing and transferring purchase vouchers and credit notes online, among other things.

The solution will also aid Parle integrate their media agency’s (Rediffusion/TME) software with their new software system to receive estimates electronically from the latter—in a secure manner.

Parle officials say, “Until now, we didn’t have a process in place. With this solution, the workflow will be smooth and work will be allotted in a better manner.”

Life Insurance Corporation (LIC) is another big organisation that found the need for Mediaware’s solutions. Venkateshwaran, Executive (Publicity) for LIC (Mumbai) says, “We purchased the AMW software (software + database solution) to automatically prepare estimates and budget details. I find it a rather useful tool. We have been using this software for several years now.”

## On To Convergence

Mediaware’s Kulkarni affirms, “I think we succeeded because we have domain knowledge built over time and our clients prefer that. By utilising an existing network like the Internet, we were able to provide a boost to our database and workflow-related services—especially for prompt delivery of updates.”

Mediaware plans to expand their target market to advertisers as well, in addition to ad-agencies and media houses.

The trio foresees a healthy future for advertising. “Although agencies are not really cutting down on budgets, they want to find innovative ways to catch the customer’s eye. They now offer more promotional schemes and bargains,” says Das.

Convergence is another trend to watch out for. Das opines, “Internet advertising is on the rise. But it is only about one per cent of the ad spend in India. However, I think convergence is closer than we think. A combination of Internet plus TV will provide advertisers more reach than ever.”

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1/2 pg H Ad

# Second Chances

All your hard work and valuable information can disappear in the blink of an eye, if you don't back up your data. This test will help you choose between optical drives and external hard disks as backup solutions



Aliasgar Pardawala

**W**e go about our daily work communicating, documenting and in the end, produce results.

Software is replaceable, but the data you've generated putting in personal effort isn't. You stand to lose hundreds or thousands of hours of work if you do not have a backup solution in place.

There are various backup solutions to choose from—the one you choose depends on your requirements. The most affordable ones are CD or DVD burners, and internal hard disk drives—perhaps in a RAID setup—followed by external hard drives, tape drives, etc. Then there are online backup solutions provided by Web sites such as XDrive and IBackup, which are convenient since there is no physical medium that you need to safeguard. Unfortunately, online backup solutions are yet to make their presence felt in India, as they, naturally, rely heavily on broadband access.

CD or DVD burners are affordable, and so are the media they use. They are not the most convenient though, as they require you to sit down and burn disk after disk. Backing up is an important part of office work, but you do not want it taking up an entire day of your working week!

A quicker option is an external hard drive. You can get an external drive with a capacity that matches or exceeds that of your workstation or server hard drive(s). Making a complete disk mirror takes a short while and almost no effort after the initial configuration and software setup. The biggest advantage that external hard drives bring is data portability.

This hardware test takes a look at currently available backup solutions: DVD burners and external hard drives. We divided DVD burners into three categories: single-layer burners, dual-layer burners, and external burners. The external hard disk drives were categorised according to size. It's up to you to pick a solution to suit your need.

## DVD WRITERS

For this test, we received 23 DVD burners from 13 different vendors. Of our three categories: Single-layer DVD writers, dual-layer DVD writers and external DVD writers—the maximum number of drives were single-layer, internal DVD writers.

We were glad to see eight drives from seven different vendors with dual-layer DVD-writing support. This showcases the speed with which technology is adopted. Dual-layer writing support was also seen in external DVD burners of IOmega. Availability of optical DVD media—especially dual-layer—is currently an issue, but this too shall pass with time.

### Single-layer DVD Writers

Single-layer DVD burners can burn up to 4.3 GB of data onto single-layer DVD media. By current CD standards, 4.3 GB is large indeed. A typical SoHo workstation is likely to have 40 or 60 GB of disk space, a complete backup of which will fit on just 10 to 15 single-layer DVDs. Besides, the cost per MB for single-layer media has dropped enough to rival that of CDs. Add to this the convenience offered by DVDs, and they seem even more attractive. Of course, a dual-layer burner means higher capacities, but lower-cost single-layer disks are sufficient for most scenarios.

In this category, we had one drive each from Sony, ASUS, Gigabyte, Samsung, AOpen, and Krypton; two from Plextor; and three from Lite-On. All, except the AOpen, were capable of burning to both DVD+R and DVD-R. The AOpen only supports DVD+R. Even Pioneer, the pushers of the DVD-R format, offers full DVD+R compatibility with their drives.

### Features

The two Plextor burners we tested—the PX-708A and the PX-712A, at 8X and 12X respectively—offer a winning set of features: Mt Rainier support—which is the new standard in packet writing technology, designed to do away with specific software such as InCD and Direct-To-Disk; excellent build quality; and a generous 8 MB of buffer memory in the 12X variant. Since the other drives offer only 2 MB, Plextor's 12X model performed well.



## How We Tested

## DVD WRITERS

Our test-bed for DVD burners comprised an Intel Pentium 4 3.0 GHz on an MSI 875P NEO motherboard, supported by 512 MB of DDR400 SDRAM and a 200 GB Seagate Barracuda SATA hard disk. Microsoft Windows XP with SP1, along with the latest drivers, was the operating system used.

## Features

Features such as Mt Rainer support, data buffer, silent operation, etc., were rated on a scale of five.

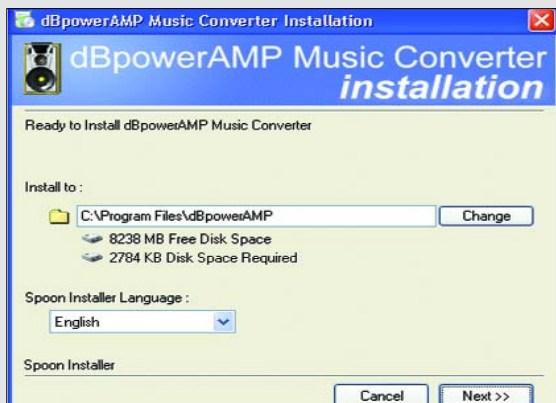
## Package Content

Here we checked and allocated points to accessories that added value, such as data cable and blank DVD media, provided along with a drive. Similarly, a drive with DVD-authoring and playback software was awarded more points.

## Performance

We ran a battery of tests—a mix of synthetic and real-world—to gauge the performance of the drive. Nero Burning ROM 6.3.1.20 was used as the authoring software to burn data on CDs and DVDs.

**Nero Speed:** Nero Speed was used to measure transfer rate and data throughput, in addition to access time and CPU utilisation of the drives in question. This test offers insight on a drive's performance.



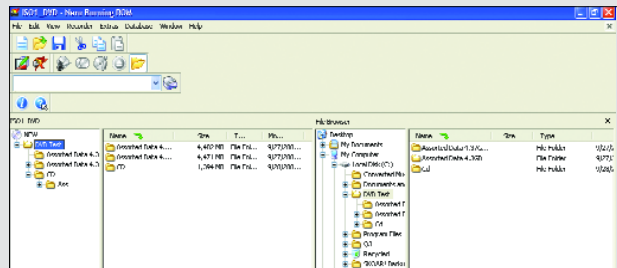
We used dbPowerAMP to test CD Ripping

**SiSoft Sandra 2004:** SiSoft Sandra is a synthetic benchmark that measures the sequential and random read speed of a drive. It does this by constantly reading data at the maximum speed supported. It also measures the access time.

**CD Ripping Test Using dbPowerAMP:** In this test, we encoded an audio CD of 13 tracks and noted down the time taken by each drive.

**DVD Video Extraction Using DVD Decrypter:** Using DVD Decrypter 3.5.1.0, we encoded a DVD movie and noted down the time taken by each drive to complete the task.

**Burning Test For A CD/CD-RW:** In this test we burned 700 MB of assorted data and a 700 MB file on a CD/CD-RW. The time taken by each drive was then noted. We also noted the time needed to erase a re-writable disc. We used 52X Moser Baer CD-R and Mitsubishi 24X US (Ultra Speed) CD-RW as optical media.



Nero Burning ROM was used to burn DVDs

**Burning Test For A DVD:** A 4.3 GB file and assorted data were written on a Memorex 8X DVD-R, a Verbatim 8X DVD+R and a Sony 4X DVD+RW media. We ran additional erasing tests for DVD+RW media and noted the time taken. For the dual-layer drives we used a Verbatim 2.4X and noted down the time taken to burn 8.5 GB data on it.

## EXTERNAL HARD DRIVES

Our test configuration, consisted of an Intel Pentium 4 2.6 GHz processor on an i845 chipset-based, ABit BG7E motherboard. The rig had 256 MB of DDR SDRAM and a Seagate 40 GB hard disk. The latest drivers for the motherboard and USB ports were loaded. To maintain a standard environment, we installed only the required benchmarking utilities and the needed test files.

## Features

We looked at various inbuilt characteristics and qualities of each drive. Considering that every product was marketed as a portable device, we laid emphasis on a drive's weight.

Portability was awarded less importance for a 3.5-inch drive, since their usage will primarily be as a stationary backup device.

Build-quality was also assessed, with particular importance given to the sturdiness of the product. Bonus points were awarded for miscellaneous features such as extra USB/FireWire port, configurable buttons, and also for useful software included.

## Performance

Both synthetic and real-world tests were conducted to gauge performance. SiSoft Sandra Professional 2004 was used to assess theoretical read and write speeds, as well as the average access time. We also tested with HDTach 2.7 and noted the average CPU utilisation of each drive.

For real-world performance evaluation, we transferred a set of assorted files of varying sizes, totalling 1 GB, back and forth, from the system hard disk to the external hard disk, and noted the time taken during each transfer. Similarly, to test the sequential speeds, we transferred a large image of 1 GB between the system and the external drive.

## Price Index

This was calculated taking into account the ideal price for which an external hard disk is available.

## How We Awarded

Scores granted to Features, Build Quality, Performance and Price were given weightages relevant to specific categories. An overall score out of 100 was then calculated. The product that scored the highest here was adjudged the winner of the Digit Best Buy Gold award for its category. The runner-up was awarded the Digit Best Buy Silver award.

The PX-712A and the Lite-On SOHW-1213S were the fastest at burning CDs—at speeds of 48X. CD burners may have reached 52X, but 48X is pretty fast. All the other contenders topped out at 40X. The Lite-On SOHW-1613S was the only one in this category to be able to burn DVD+Rs at 16X, making it the fastest to do so. AOpen's DRW4410R supported CD-R, CD-RW, DVD+R and DVD+RW, and it came with a decent software bundle—but no DVD-R support. The DVD+R and CD-R speeds of the AOpen maxed out at 4X and 12X respectively. All the others lapped the AOpen on this circuit.

The Plextor burners also offer notable features: VariRec, a recording mode that lets you adjust the power of the laser to produce CDs and DVDs that are compatible with non-PC hardware—such as music systems and desktop DVD players—and are also more reliable. GigaRec lets you burn 1 GB of data on a standard 700 MB CD-R, and SecuRec allows you to password protect data on your disks. These features add value to the drives.

### Performance

While taking server backups, you are talking several hundred gigabytes of data. Writing speeds are therefore very important when making a buying decision. Remember that read speeds matter too, since you will also need to restore the data you backed up.

The Plextor PX-712A aced the performance tests with the fastest DVD+R times at 12X as well as the fastest DVD-R burning times at 8X, coupled with great CD-R/RW scores. Media reading was also the fastest with the PX-712A. Surprisingly, the Plextor PX-708A failed the CD-RW tests with both UltraSpeed (24X) as well as UltraSpeed+ (32X) media. Also, the DVD-R

speed was limited to 4X despite its rated 8X, and DVD+RW scores were comparatively lower. The Sony DRU-540A posted some pretty impressive



**The Plextor PX-712A**

DVD±R/RW burning scores, followed by the Lite-On SOHW-1213S and the Asus DRW-1604P.

Amongst the losers was Samsung's TS-H542. While most burners could even overburn at 12X on 8X-rated DVD-R media, the TS-H542 only managed to write at 4X—even after a firmware upgrade.

Our assorted DVD+R test took almost twice the time that the sequential test took, which was quite strange since almost all the other writers gave very similar times for these two tests. The AOpen DRW4410R also had a 4X maximum speed for DVD+R burning, and as mentioned earlier, offered no support for DVD-R.

The Krypton DRW1008IM disappointed us with below-par DVD-R burning at 4X and DVD+R burning that started off at 8X, but, more often than not, dropped to 4X. We tried to upgrade the firmware hoping to improve the drive's media compatibility. However, we were unable to even get the update patch to recognise the Krypton as a compatible target drive!

### Price

This is totally Lite-On territory: With prices as low as Rs 4,495 and extremely competent performance, its SOHW-812S makes for the ultimate option, if your wallet is what you are thinking with. The next on the price podium is another Lite-On—the SOHW-1213S at Rs 4,750.

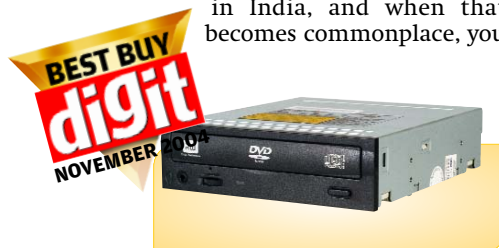
The Krypton drive may not have performed too well in the tests, but is affordable, at Rs 4,850. Plextor's 8X variant, the PX-708A, is competitively priced at Rs 5,500, but since it failed our CD-RW tests, we recommend you steer clear from it. The other Plextor, the PX-712A, at Rs 7,000, is the second-most expensive drive in this category, but has great per-

formance and features to back it up.

You might say you get what you pay for, but unfortunately, that's not true for all the drives: what the Sony DRU-540A gains in performance, it loses out in pricing. At Rs 7,500, it is the most expensive.

### Conclusion

Plextor's PX-712A is undoubtedly the best performer in the single-layer category. Though it has a comparatively high price tag of Rs 7,000, the extra features it provides, makes it a good deal. As of now, even 8X media is rare in India, and when that becomes commonplace, you



**The Lite-On SOHW-812S**

will be looking for 12X media.

Thus, buying the Plextor PX-712A (which has a 12X DVD+R speed) will future-proof your investment. But wait—the Plextor's score of 70.43 is not the highest. The Lite-On SOHW-812S runs past it by a whisker—70.47. How did that happen? Two factors: great price and decent performance.

Even so, the scores are too close to push one off to a lower level, so we decided to have a tie—both the Plextor PX-712A and the Lite-On SOHW-812S earn the Best Buy Gold award,



**The Lite-On SOHW-1213S**

and they deserve it.

The Best Buy Silver goes to the Lite-On SOHW-1213S for decent performance and affordable pricing.

### Dual-Layer DVD Writers

Most movie DVDs have 8 GB of video on what are called dual-layer DVDs or DVD9s.

They have been around for long, but consumers were deprived of this technology and

### FireWire

An external interface, first popularised by Apple. There are two types of FireWire ports, often referred to by their throughput—FireWire400 and FireWire800. Firewire400 is a relatively old standard and has a throughput of 400 Mbps, whereas the newer FireWire800 offers twice that speed.

had to make do with single-layer DVDs or DVD5s, until now. Get ready to cram 8.5 GB of data on just one disk! For the typical workstation backup we mentioned earlier, you can pack it off in only 5 DVDs instead of 10.

Dual-layer burning means you will not need applications such as DVD Shrink to compress DVD9 movies to make them fit on a DVD±R.

We tested a total of eight dual-layer burners in this category: drives from Pioneer, Lite-On, LG, MSI, Sony, ASUS and BenQ. All of them burn dual-layer media at 2.4X. The ASUS DRW-1604P and the Pioneer DVR-108, though go up to 4X.

## Features

As was seen earlier, ASUS and Pioneer lead the features pack with the fastest dual-layer burning speed—4X. Strange though it may seem, they also have the lowest CD-R speed at 32X. Every other drive does 40X, barring the Lite-On SHOW-1633S which zooms ahead at 48X.

The ASUS DRW-1604P is a rebagged version of the Pioneer DVR-108, much as the single-layer ASUS DRW-0804P is a

rebagged Pioneer DVR-107, which we haven't tested. Speaking of rebagging, even the Sony DRU-700A is a Lite-On SHOW-832S! The Pioneer we received was a bulky OEM piece—it came sans a box, in a plastic wrap with only one CD containing Sonic RecordNow.

LG receives special mention here for being the only drive to offer DVD-RAM burning at 5X. Only the Pioneer and the ASUS drives support reading DVD-RAMs. Also interestingly, the BenQ DW1600, shipped by default as a single-layer drive can be upgraded to the next model, the DW1620, by a free, official firmware upgrade! We naturally upped the firmware for the tests.

The Sony drive also came with an extra faceplate—a new trend for others to follow? Nokia did it for mobile phones; perhaps Sony will do it for optical drives.

## Performance



The Pioneer DVR-108

## Demystifying Burners

Not all burners are created equal. Not all of them read and write the same way even if their operational speed is the same. Here are a few strategies that different burners employ:

**Constant Linear Velocity (CLV):** The advantage of CLV is a constant data-transfer rate. Depending upon the location of the data on an optical disk, the rotational speed of the burner varies: less amount of data is stored near the centre of the disk, so the disk spins fastest to maintain data throughput. As data is read from portions closer to the outside of the disk, its speed slows down, since more data is read per rotation. With CLV, the rotation speed of a disk changes according to the location of the data on the disk.

**Zonal Constant Linear Velocity (Z-CLV):** Z-CLV uses the CLV mode and further divides a disk into different parts, called zones. A Z-CLV burner starts writing at 6X, and steps up to 8X for the next zone, 12X for the zone after that, and so on. Most high speed burners use this technology.

**Constant Angular Velocity (CAV):** Quite the opposite of CLV, here the rotational speed remains constant regardless of the physical location of data on the disk. If read in sequence from the centre of the disk right to the periphery, the transfer rate increases smoothly.

The average transfer rate is generally lower than the advertised speed—for example, 16X.

**Partial Constant Angular Velocity (P-CAV):** P-CAV is a mix of CLV and CAV. Like CAV, the transfer rate goes on increasing until the speed tops out at the rated speed of the burner. From then on, the drive slows down and the data transfer rate remains constant, akin to CLV—by varying the rotational speed of the disk. Using the P-CAV method, burners reach the rated maximum speed faster than burners using CAV, thus achieving a higher average transfer rate.

As far as usage is concerned, Z-CLV is not the best-performing method, because the average performance of a CAV or a P-CAV method is better. For Z-CLV, the time taken to step up the speed to the next zone can add extra time and lower the performance. As an example, the Plextor PX-712A, which uses P-CAV writing, is faster at 12X than the Pioneer DVR-108 at 16X, which uses Z-CLV—the Pioneer burner doesn't step its speed up from 12X to 16X until about 4 GB is burnt. In other words, if you don't burn a full 4.3 GB on the disk using the Pioneer, you'll never reach the 16X zone, essentially making the drive a 12X! If the Plextor was a dual-layered drive, we think it would have taken the Gold away from the Pioneer burner.

The Pioneer and the ASUS were head-to-head in all the performance tests, while also being ahead of the others, thanks to 4X dual-layer burning.

They burned a disk in a little under 27 minutes. The BenQ drive almost caught up, with very competitive reading scores and higher CD scores, but fell back because of its 2.4X dual-layer speed. It took 45 minutes, which was more or less the average score for the rest of the drives.

These three drives—the Pioneer, the ASUS, and the BenQ—all performed well in the DVD+R and DVD-R tests, burning at an impressive 12X. However, the BenQ was the fastest here because of the CAV-writing method as opposed to the Z-CLV method used by the Pioneer and the ASUS.

The LG lagged behind with the lowest scores in both reading and writing—only 4X DVD-R support, and a 12X DVD+R support which actually averaged around 6X. MSI missed out on the DVD-R scores as well. It also revealed a near 4-minute difference between the assorted and the sequential tests.

## Price

The Lite-On SOHW-1633S steals the show in this category. Very affordable at Rs 5,750, it is marginally more expensive than its sibling, the SOHW-832S, but offers double the speed for DVD+R media—a very big plus. This is the cheapest 16X dual-layer drive in the market.

The Pioneer and ASUS drives, at Rs 6,300 and Rs 7,250 respectively, offer higher dual-layer performance. LG loses the price battle badly with skimpy performance and Rs 8,000 on the bill, along with Sony, also priced at Rs 7,999—for the extra faceplate? Thanks, but no thanks...

## Conclusion

A 16X drive with 4X dual-layer burning for Rs 6,300 is simply unbeatable. Yes, the Pioneer DVR-108 is an OEM piece that is supplied to PC manufacturers such as HP to sell with their PCs, and for that reason, it comes with no media or manual, but we have yet to see those facts make a notable difference to the market. The drive works well, and is cheap. It wins Gold with an overall score of 72.77, and makes for a great choice for speedy backups.

1/2 pg V AD

Silver has to be handed out to the ASUS DRW-1604P for an overall score of 69.90. Lite-On's SOHW-1633S gets a consolation prize for extremely good

pricing, together with a decent performance. If your budget is too tight for the Pioneer or the ASUS, the Lite-On is for you.



**The ASUS DRW-1604P**

### External DVD Writers

Mobility in backup solutions is an important aspect to consider. With an external DVD writer, the process of backing up becomes more efficient as it only involves unplugging the device from one machine and plugging it into another.

You do not need to shutdown the machine(s) in question, since these are all USB or FireWire-enabled devices. Additionally, if you plan to copy data from one machine and burn it on another, you save time otherwise spent waiting for data transfers over the network. You can travel around with an external burner, effortlessly plugging it into any capable system and getting the data out when you need it.

We had two external DVD burners from Plextor, and one each from Iomega and AOpen.

### Features

The Plextor burners were USB 2.0/FireWire versions of the exact same drives that we tested in the single-layer internal category: the PX-708UF and the PX-712UF, where UF stands for "USB2.0/FireWire." The A in the single-layer internals stands for "ATAPI." The specs of the PX-712UF were obviously the same: 12X DVD+R, 8X DVD-R, and 48X CD-R, which was the best in the category. The Iomega drive was up to par with DVD speeds, and almost there with 40X CD-R writing. But it was the only drive capable of burning dual-layered DVD+Rs.

The AOpen lost out because of its 2.4X DVD+R speeds, and again, no DVD-R support. Also, the CD-R speed was the lowest in the whole range including the single-layer drives—only 12X. However, it came with the best bundle—a DVD+R, DVD+RW,

### The Speed Trap

**F**or regular optical CDs, you have speeds going from 1X all the way to 52X. But for CD-RW media, we have speed "brackets," and they are named accordingly. As of now there are four types of CD-RWs available:

- Multi Speed: 1X - 4X
- High Speed: 4X - 12X
- Ultra Speed: 16X - 24X
- Ultra Speed+: 24X - 32X

Burners have to support that speed to be able to burn on a CD-RW disk from that bracket. If the CD-RW is rated higher, your burner may not be able to write to it. You can still read the disks, though. All the DVD burners we tested are UltraSpeed compatible, but only a few—such as the Pioneer, ASUS, BenQ and the Iomega—support UltraSpeed+ CD-RW, albeit only at 24X.

CD-R, CD-RW, and good software, just like its internal "brother", but that didn't do too much to boost its overall score.

All the drives except the AOpen came with USB 2.0 as well as FireWire support. The AOpen only had USB 2.0 support.

## Performance

Since USB was common across all the drives, we did not test FireWire performance. The

Plextor PX-712UF obviously turned in the best burning speeds with DVDs as well as CDs. It is, after all, a faster



The Plextor PX-712UF

drive. However, the Iomega turned in better read scores.

The Iomega, though, failed the DVD+R dual-layer burning test, making it the only dual-layer drive in our entire shootout to do so.

Since the Iomega was the only dual-layer drive in this category, and it failed, we had to nullify the results of the dual-layer test to put the drives on par with each other. The AOpen drive was the slowest in reading DVD-ROMs and writing DVD+Rs, but it was faster

at DVD+RW than the Plextor PX-708UF, finishing up a minute earlier. Both of them, however, failed the CD-RW test.

## Price

At Rs 11,000 for the 8X variant and Rs 13,500 for the 12X variant, the Plextor drives come out on top of the low-cost countdown. This is surprising, since Plextor products are generally not the lowest-priced—at least when other generally low-cost players such as AOpen are in the reckoning.

By the way, the underpowered AOpen is a scorching Rs 14,900 a piece, which we think is obscene for a drive with no DVD-R support and the lowest read/write speeds across all media. The Iomega was the most expensive at Rs 15,750; though, it does have dual-layer DVD+R burning.

## Conclusion

From the performance point of view, and considering price-to-performance ratio, the Plextor PX-712UF comes out as winner of the Best Buy Gold award. For about Rs 1,500 extra over the PX-708A, you get a 12X DVD+R, 48X CD-R, and 24X CD-RW along with full Ultra-Speed+ compatibility. Can't beat that, can you?

The runner-up is also a Plextor—the PX-708A, thanks to its low cost and acceptable performance rating. If you



The Plextor PX-708UF

can afford to spend a few minutes more on your backups, the 8X write speed will cost you Rs 1,500 less.

## EXTERNAL HARD DRIVES

An external hard drive is the peripheral of choice if there is a lot of data to be backed up, and if it needs to be accessed frequently. The faster USB 2.0 and FireWire interfaces found in most of these drives significantly reduces the time taken to back up large chunks of data.

Currently, these drives are available in three form factors. The first package is the one that houses 3.5-inch drives. These external hard drives are large, heavy, and need an external power supply. They usually ship in capacities as high as 250 GB. The other two packages house 2.5 and 1.8-inch drives respectively. These tiny drives are very light and pocketable—especially the 1.8-inch variety. They draw power from the interface.

Since these drives will be used for backup, vendors bundle along the necessary software. We gathered 14 models from five brands in our external hard drive shootout to bring you the best in the market in terms of performance and price.

## The Heavyweights

There were total of five drives: one each from Freecom, Iomega, Maxtor, Seagate and Western Digital. The combined capacity of these drives was 1,040 GB, which can store around 120 to 200 DVD movies, or 1.8 lakh MP3s!

## Features

Since all these drives featured 3.5-inch drives, they were bulky. The Iomega HDD 160GB was the lightest at 817 gm, and was compact. The packaging of the Freecom, which weighed 900 gm, was impressive. At 1,450 gm, the Western Digital was the heaviest. Except for the Freecom FHD-1 120GB, the rest of the drives were stackable, and

## DVD Writers Scoreboard

Brand	Model	Basic Specifications—Write speeds							Score	Price (Rs)
		DVD+R	DVD-R	DVD+RW	DVD-RW	DVD+R DL	CD-R	CD-RW		
External DVD Writers										
AOpen	EHD-2412U	2.4X	NA	2.4X	NA	NA	12X	10X	41.41	14,900
IOmega	DVDRW4216E2D	12X	8X	4X	4X	2.4X	40X	24X	48.35	15,750
Plextor	PX-708UF	8X	4X	4X	2X	NA	40X	24X	58.60	11,000
Plextor	PX-712UF	12X	8X	4X	4X	NA	48X	24X	61.20	13,500
Dual-Layer DVD Writers										
ASUS	DRW-1604P	16X	16X	4X	4X	4X	32X	24X	69.90	7,250
BenQ	DW1600	16X	NA	4X	NA	2.4X	40X	24X	68.46	7,999
Lite-On	SOHW-1633S	16X	8X	4X	4X	2.4X	48X	24X	68.63	5,750
Lite-On	SOHW-832S	8X	8X	4X	4X	2.4X	40X	24X	68.20	5,550
LG	GSA-4120B	12X	8X	4X	4X	2.4X	40X	24X	59.00	8,000
MSI	DR16-B	16X	16X	4X	4X	2.4X	40X	24X	65.81	7,000
Pioneer	DVR-108	16X	16X	4X	4X	4X	32X	24X	72.77	6,300
Sony	DRU-700A	8X	8X	4X	4X	2.4X	40X	24X	62.23	7,500
Single-Layer DVD Writers										
AOpen	DRW4410R	4X	NA	4X	NA	NA	24X	10X	56.13	5,690
ASUS	DRW-0804P	8X	8X	4X	4X	NA	24X	24X	63.21	6,750
Gigabyte	GO-W0808A	8X	8X	4X	4X	NA	40X	24X	65.41	5,500
Krypton/BTC	DRW1008IM	8X	4X	4X	2X	NA	40X	24X	63.97	4,850
Lite-On	SOHW-812S	8X	8X	4X	4X	NA	40X	24X	70.47	4,495
Lite-On	SOHW-1613S	16X	8X	4X	4X	NA	48X	24X	67.96	5,595
Lite-On	SOHW-1213S	12X	8X	2.4X	4X	NA	48X	24X	69.13	4,750
Plextor	PX-708A	8X	4X	4X	2X	NA	40X	24X	65.70	5,500
Plextor	PX-712A	12X	8X	4X	4X	NA	48X	24X	70.43	7,000
Samsung	TS-H542	12X	8X	4X	4X	NA	40X	24X	61.62	6,000
Sony	DRU-540A	12X	8X	4X	4X	NA	40X	24X	62.22	7,500

## Media Speedia

There are quite a few DVD burners available now that support write speeds of up to 16X. However, availability of 16X DVD media is still a big problem, even outside India. In fact, branded 8X media have just started selling here. We had quite a few problems sourcing branded media for this test, and were actually saved by one of our colleagues who got us branded media from the United States. The media we used are the 8X Verbatim DVD+R and the 8X Memorex DVD-R, both of which are capable of writing at up to 12X speeds. After spending almost Rs 10,000 to purchase the blank media required for this test, the Digit team can proudly claim to have some of the most expensive coasters!

came with stands for vertical mounting. Western Digital also supplied rubber pegs, to safeguard the body from scratches.

USB 2.0 was the interface of choice. Since many graphics professionals prefer Macintosh systems to run their graphical tools, FireWire was supported. The IOmega, however, didn't support FireWire.

Disk-side USB connectors used in hard drives were standard, unlike in digital cameras where vendors modify their shape—which forces users to buy proprietary USB cables at premium rates. All the drives came with the standard USB connector, cables for which are readily available in the market.

Another great development of late, in external hard drives, is the application launch button on the device itself. The button launches the backup software provided with the drive. Although not a revolutionary feature, it saves a few mouse clicks.

Maxtor called this button the One Touch, Seagate called it Backup, whereas Freecom called it SYNC. Western Digital went one step ahead and incorporated 2 buttons—one each for automatic and manual backups.

All five drives came with good software. The Freecom FHD-1 120GB came with Acronis True Image, which can create an image,



The Western Digital Media Center

restore data, write an image to a CD or DVD, and also restore from a network.

Iomega came with Norton Ghost 2003; the Maxtor and Western Digital were bundled with Dantz Retrospect Express, which is capable of locating the files to be backed up on the media without user intervention. It can even create restore points.

Seagate provided BounceBack Express, which can restore lost data, and back up data from any mapped drive on the network.

It would be an understatement to call the Western Digital Media Center an external hard drive. It is rightly named "Media Center," because it not only functions as external hard drive, but also has an 8-in-1 card reader and two extra USB and one extra FireWire port—which makes it a USB/FireWire hub.

Freecom and Seagate were the only other drives that had extra FireWire ports. The IOmega came with no extra ports.

### Build Quality

Since external drives house very sensitive insides, the package has to be sturdy enough to take the shocks and jerks associated with a portable medium. It also has to be splash- and dust-resistant for smooth operation over a long period of time.

All the drives featured very good build quality, with Freecom topping the chart. The Freecom FHD-1 120 GB had a tiny fan at the back to regulate the heat generated by its 7,200-rpm drive.

Seagate and Western Digital, on the other hand, had a cage design for air regulation, which also exposed the drive and its electronics to dust and water—not a very good idea. None of the drives came with a carry case.

### Performance

We performed three sets of tests to gauge the performance of the drives. We ran two synthetic benchmarks—HDTach and SiSoft Sandra 2004 Pro, to get the data transfer speed, access time and CPU utilisation.

In SiSoft Sandra, we got slayer DVD writers, dual-layer DVD writers and external DVD writers—the maximum number of drives were single-layer, internal DVD writers.

We were glad to see eight drives from seven dif, internal

DVD writers. We were glad to see eight drives from seven difecom and Maxtor One Touch managed a respectable 31 MBps in the sequential read test. This means that these drives will take the least time to restore a drive image, which is a single, large file. In the random write test, the Maxtor One Touch reached a high of 17 MBps, which is a good score for an external drive.

In HDTach 2.7, the Freecom FHD-1 120GB drive returned decent scores. It logged an access time of 13.3 compared to the 21.2 logged by Maxtor, because of its multiple platters and heads.

The Seagate ST3160024A 160GB edged passed the Freecom by a few decimal points in average write speed, logging 18.3 MBps. The sore point in this test was the CPU utilisation, which was in the range of 28 to 45 per cent. Western Digital needs 44.8 per cent of the CPU cycles while transferring data, whereas Seagate needed 28.4 per cent—the lowest in the test.

These drives, if plugged into older machines, will bring them to their knees, and



The Maxtor OneTouch 250 GB

wouldn't allow any CPU-intensive processes such as Photoshop to run while data is being transferred.

To test for real-world scenarios, we copied a single 1 GB image and assorted 1 GB data to and from an external hard drive.

In this test, the Maxtor One Touch was faster than the rest. In the sequential write test, where we copied a 1 GB image from a local drive to the Maxtor One Touch, the transfer took 52.23 seconds. This means that the drive will be very useful to image artists and videographers, because their files usually are a few GB.

The Seagate, despite running at 7,200-rpm with 8 MB of buffer, took 62.78 seconds—which may not make for a major difference if we consider just 1 GB of data

## Firmware

Similar to the BIOS on your motherboard, all devices have their respective BIOSes, often called "the firmware". Some drives have upgradeable firmware, while others don't offer this feature for end users.

transfer, but if the file were around 20 GB, the difference would be considerable.

In the sequential write test, the Maxtor, once again, finished its job ahead of the rest, at 46.9 seconds. The IOmega was sluggish in this test, with 64.07 seconds. In the assorted write test, the IOmega HDD 160GB edged passed the rest, logging the lowest time—61.23 seconds. The Maxtor One Touch here was the slowest—it completed the task in 75.62 seconds.

Overall, it is the Maxtor One Touch that will be sufficient for the needs of users across the board, because in general, there will be both sequential and assorted data to be backed up and restored.

## Conclusion

In this category the Western Digital Media Center topped the chart, being the only drive packed with features: it offered card readers, and USB and FireWire hub support.

It offered decent performance and a low price per MB of just 8 paise, which won it the Digit Best Buy Gold award.

The Maxtor, on the other hand, with its good features, better performance and solid build quality won the Silver Best Buy Award. It offered the lowest price per MB—just 6 paise—which makes it the most affordable backup solution.

The others were not far behind in either performance or features. Freecom would have topped the chart on the basis of its performance and build quality, but its price index of 11 paise per MB held it back.

## Thin and Slim

There were a total of nine slim drives in this category. A few were quite good-looking, with capacities from 20 GB to an astonishing 80 GB. One wouldn't mind keeping them around on one's desktop. The Transcend TS0GHDC2 was the only odd-

capacity drive at 30 GB. They were all palm-sized, and a few, such as the Transcend TS20GSJ18 20GB, made cell phones look fat.

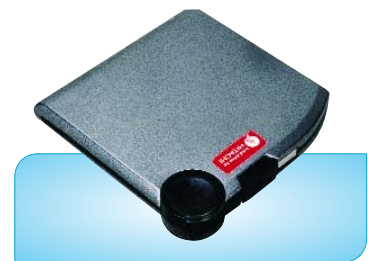
## Features

The drives in question were eminently pocketable. The Transcend TS20GSJ18 20 GB and the TS40GSJ18 40 GB were the lightest drives, weighing just 140 grams each. Both these sported the body colour and make of the Apple iPod. The Freecom FHD-XS 20 GB and 40 GB models were the smallest external hard drives in the comparison. Both these were just 12 mm thick, and occupied the least space.

All nine drives sported USB 2.0, except for the Transcend TS0GHDC2 30 GB, which also had FireWire support. Of the nine drives, just three—all from Freecom—came with an application launch button. None of the Transcend drives had this.

Like the drives, the packages, too, were compact, and came with a quick-install guide, a software CD with an electronic manual, and an interface cable. That was all that was bundled with these drives. Only the Transcend TS0GHDC2 30GB came with a 6-pin to 4-pin FireWire cable converter.

All the drives drew power from the interface, which means that some older systems, especially laptops, might not be able to power them. To overcome this, all the Transcend 2.5-inch drives came with an extra power inlet. One can purchase a



The Freecom FHD-XS 40GB

power adapter separately if the need arises.


## Build Quality

All the drives were sturdily built. The Transcend TS20GSJ18 felt the sturdiest. The Freecom FHD-XS came with a short, fixed USB cord, which is adequate for laptops—but a desktop PC might demand a USB extender cable.

## Performance

In SiSoft Sandra 2004 Pro, the Transcend TS0GHDC2 30 GB drive gave the best drive index in this category—18,939. This, with a sequential read score of 28 MBps is comparable to any laptop drive. The random read score of 4 to 5 MB was scored by drives across the board, which is not bad, though the random read score for desktop drives is around 8 to 10 MB.

Both the Freecom FHD-XS drives returned poor results in SiSoft Sandra. They scored just half the score of the other drives, despite having the same USB 2.0 interface and 4,200 rpm drives. In access time, all the drives took 10 to 12 ms. This is

 External Hard Drives					
Brand	Model	Basic Specifications—Write speeds		Score	Price (Rs)
Desktop Hard Drives					
Freecom	FHD-1 120GB	120 GB, 3.5-inch platter, 900gm, 2MB buffer, USB 2.0/FireWire		72.78	14,000
IOmega	HDD 160GB	160 GB, 3.5-inch platter, 817gm, 8MB buffer, USB 2.0		72.19	10,950
Maxtor	OneTouch 250GB	250GB, 3.5-inch platter, 1400gm, 8MB buffer, USB 2.0/FireWire		73.37	16,500
Seagate	ST3160024A 160GB	160 GB, 3.5-inch platter, 900gm, 8MB buffer, USB 2.0/FireWire		71.84	11,000
Western Digital	Media Center	250 GB, 3.5-inch platter, 1450gm, 8MB buffer, USB 2.0/FireWire		73.75	19,500
Portable Hard Drives					
Freecom	FHD-XS 20GB	20 GB, 1.8-inch platter, 150gm, 2MB buffer, USB 2.0		44.60	15,000
Freecom	FHD-XS 40GB	40 GB, 1.8-inch platter, 150gm, 2MB buffer, USB 2.0		48.88	21,000
Freecom	FHD-2 PRO 80GB	80 GB, 1.8-inch platter, 175gm, 2MB buffer, USB 2.0		52.07	21,000
Transcend	StoreJet TS0GHDC2 30GB	30 GB, 2.5-inch platter, 240gm, 2MB buffer, USB 2.0/FireWire		49.37	9,000
Transcend	StoreJet TS20GSJ18 20GB	20 GB, 1.8-inch platter, 140gm, 2MB buffer, USB 2.0		40.36	9,000
Transcend	StoreJet TS40GSJ18 40GB	40 GB, 1.8-inch platter, 140gm, 2MB buffer, USB 2.0		47.83	11,000
Transcend	StoreJet TS0GSJ25 20GB	20 GB, 2.5-inch platter, 180gm, 2MB buffer, USB 2.0		50.37	7,800
Transcend	StoreJet TS0GSJ25 40GB	40 GB, 2.5-inch platter, 180gm, 2MB buffer, USB 2.0		47.92	14,330
Transcend	StoreJet TS0GSJ25 60GB	60 GB, 2.5-inch platter, 180gm, 2MB buffer, USB 2.0		50.67	16,900



## Contact Sheet

Brand	Company	Telephone	E-mail	Web site
Aopen	Xserve India	080-51131001	info@xserves.com	asia.aopen.com.tw
ASUS	ASUSTek COMPUTER INC	022-56290787	info_india@asus.com.tw	www.asus.com.tw
BenQ	BenQ India	022-25705230	SalesEnquiryIn@BenQ.com	www.benq.co.in
BTC Krypton	Priya Ltd	022-56663100	sejal.shah@priyagroup.com	www.priyagroup.com
Freecom	J.S Equipments	022-23810713	jse@vsnl.com	www.freecom.com
Gigabyte	Digi Giga Systems	022-26526696	sales@dlink.co.in	www.gigabyte.com.tw
IOmega	Neoteric	022-39828600	sales@neoteric-info.com	www.iomega.com
Lite-On	Mediatech India	022-26361111	info@mediatechindia.com	www.liteon.com
LG	LG Electronics India	0120-2560900	ARastogi@lgezbuy.com	www.lgezbuy.com
Maxtor	eSys Distribution	022-56910348	yogi@maxtor.com	www.maxtor.com
MSI	Maxtone Electronics	022-23011919	maxtone@vsnl.com	www.msi.com.tw
Pioneer	Prime ABGB	022-23896600	primeservices@vsnl.com	www.pioneer-eur.com
Plextor	Zeta Technologies	022-24102277	sales@zetaindia.com	www.plextor.com
Samsung	Samsung India Electronics	011-51511234	hari@samsungindia.com	www.samsungindia.com
Seagate	eSys Distribution	022-56910348	response.india@seagate.com	www.seagate.com
Sony	Rashi Peripherals	022-28260258	ho@rptechindia.com	www.sonymstyle.com
Transcend	Mediaman Infotech	022-23828100	sales@mediamangroup.com	www.transcendusa.com
Western Digital	Western Digital	022-25851085	ajay.kapure@wdc.com	www.wdc.com



**The Freecom FHD-2 PRO 80GB**

quite high, and could be due to the external interface bringing in an overhead.

In HDTach 2.7, the TS0GSJ25 40GB logged 22.2 MBps of sequential read, followed by the TS0GSJ25 20GB which logged 21.9 seconds. The Transcend TS20GSJ18 20 GB drive managed just 10 MBps. In the sequential write speed test, the Transcend TS0GSJ25 20 GB logged the highest value—30.7 MBps—which is awesome.

However, this drive also needed 25.7 per cent of the CPU cycles; only the TS0GHDC2 30GB was hungrier for attention, demanding an even higher 26.4 per cent.

In the real-world performance test, for the sequential read test, the Freecom FHD-2 Pro took 54.93

seconds to read a 1 GB image off a local drive. The Transcend TS0GSJ25 40 GB took 167.86 seconds for the same test on the same machine over the same interface.

In the assorted read test, the Transcend TS0GSJ25 20 GB took 58.51 seconds to read hundreds of small and large files from a local drive.

The TS0GSJ25 40 GB took 163.82 seconds. These times are quite high. In the assorted write test, the Transcend TS0GSJ25 60 GB took 72.26 seconds, whereas the Transcend TS20GSJ25 20GB took 164.05 seconds. It is strange that these drives, both from the same vendor, gave such varied results.

### Conclusion

Overall, it was the Freecom FHD-2 Pro that secured the Digit Best Buy Gold award—thanks to its performance, decent features and lowest price per MB. The drive looks decent and also has a large storage capacity—80 GB.

The Silver winner, the Transcend TS0GSJ25 60GB, also sported good storage capacity of 60 GB. The drive returned a commendable performance score, and had good features. The price per MB was a little higher at 28 paise, than our Gold winner.

All 1.8-inch drives make good companions for those who need to carry their data with them. If portability is not of prime importance, it makes sense to go for a 2.5-inch drive, for the best mix of performance, features and portability. ☐

*aliasgar\_pardawala@thinkdigit.com*

1 col Ad



**The Transcend StoreJet TS0GSJ25 60GB**

### Cyber Acoustics Portable Amplified Speakers CA-MP30

This device integrates two speakers and a woofer into one small casing that can be carried wherever you go. Its face incorporates circular speaker grills on either side of a 2-inch woofer, along with a power switch, volume control and a tiny reflex port for the woofer. You can power these speakers with the bundled power adaptor, or four AA batteries. Ideal for presentations on notebooks; you can also use the speaker set with portable music players such as cassette players, MP3 players and FM radios.

Tested with a Wipro 1000D notebook, the sound output is decent enough, but not meant for audiophiles.

Company **Arc-Max Technology Company**

Price **Rs 2,500**

Phone **044-26440062**

E-mail **ca@arc-max.com**

Web site **www.cyberacoustics.com**



### Toshiba e400 Pocket PC

#### Slim And Sleek

Toshiba's new e400, an entry-level Pocket PC (PPC), looks stunning in its cobalt blue outfit. Measuring a mere 0.4 inch in thickness, this is the slimmest around.

The e400 is driven by Intel's PXA261 300 MHz processor, has 64 MB of RAM and 16 MB of ROM, and comes with a 65K colour transreflective screen, which has a resolution of 320x240. A 980 mAh non-user replaceable battery provides enough juice to power the PPC for 3.5 hours of continuous multimedia usage. An SD slot, and the infrared and USB interfaces complete the memory and data connectivity options.

A bulky power adaptor, USB cable and manuals are bundled. The CD-ROM bundles MS Outlook 2002 and MS Active Sync 3.7, Toshiba also includes a text-to-speech and voice-commanding application. Sensibly priced at Rs 19,500, the Toshiba e400 should fit most pockets.

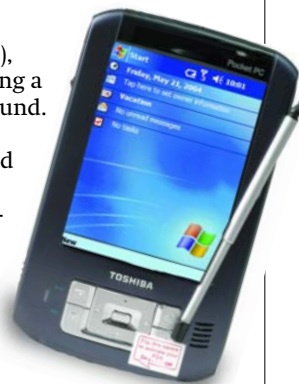
Company **Esource Global**

Price **Rs 19,500**

Phone **022-26732929**

E-mail **sales@esourceglobal.com**

Web site **www.toshiba.com**



# New & Notable

## O2 Xda II

### A Phone In Your Handheld

The O2 Xda II is finally here in India! The much awaited successor to the original Xda smoothens out most of the chinks in its predecessor.

With triband GSM and GPRS capabilities, the Xda II measures 69.9 x 130 x 19 mm<sup>3</sup> and weighs 190 gms. There is no unwieldy external antenna, making it quite pocketable. The front facia boasts of a 240 x 320 pixel, 65K colour, transreflective screen with two buttons to access calendar and contacts, and a five-way navigation button flanked by a 'send' and an 'end' call button at the bottom. Two LEDs placed at the top indicate Bluetooth and GSM connectivity, as well as battery charging status, new messages or missed calls.

Powered by an Intel XScale 400 MHz processor, it has 128 MB of RAM and 14 MB of flash ROM storage—enough horsepower to run most of the supported applications, games and play movies. Add more memory or additional functionality such as WiFi via the SDIO slot. Inbuilt Bluetooth connectivity lets you pair the device seamlessly with compatible devices. However, the lack of the OBEX file transfer profile makes it incapable of exchanging files directly using Bluetooth.

Running Windows Mobile 2003 for Pocket PC, the bundled software includes Pocket versions of Outlook, Word, Windows Media Player, Internet Explorer, Microsoft Reader, MMS, Photo Caller ID, PPT and PDF Viewers,

and XBackup. You can synchronise the device with a PC using the bundled ActiveSync 3.7 application and the USB cradle.

The inbuilt digital camera captures stills at a maximum resolution of 480x640 pixels and video at 240x320 pixels. The images captured are not that great though, and turn out grainy. The Photo Contacts application lets you assign images to contacts, thus enabling the photo-caller ID feature.

Calls come through clearly even at locations with low network coverage. If needed, press and hold down the green send button to activate the speakerphone.

Apart from the detailed user manual and software CD, the package includes a stereo headset, a spare stylus, a power adaptor, a leather carry case and a USB cradle that has an extra slot for charging a spare battery. You can also charge the unit directly by using the power adaptor and a bundled converter, so you don't need to lug around the cradle everywhere you go. The user-replaceable 1200 mAh Li-ion Polymer battery lasts just over 4 hours while playing MP3 music at full blast with the backlight set to half its intensity.

A top-notch performance (with features to boot) make the Xda II ideal for the global traveller who wishes to stay connected while on the move.

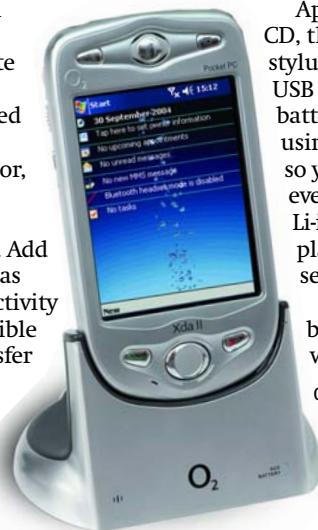
Company **Creative E-Biz.Com Ltd**

Price **Rs 35,999**

Phone **011-51619800**

E-mail **creative@goldkist.net**

Web site **www.myxda.com**



## Nokia 7610 Smart Phone

### Add Flair To Your Life

The 7610 is the latest 'Series 60' phone from Nokia that succeeds the 6600 and adds a bit of flair with its odd design and striking colours.

The unfamiliar keypad is a bit of a bother. However, we found that it is not as difficult to work with as it seems to be.

The heart of the 7610 is its crisp and brilliant display that is unmatched even by the Sony-Ericsson K700i. The 65K colour screen is paired brilliantly with the inbuilt 1 megapixel camera.

The photos taken from the 7610 are quite good; however the phone will not replace your digital camera. Also, the time taken for the Click-Save-Click process does leave one frustrated.

The 7610 captures 10 minutes of video which can then be played back using the bundled Real player. The phone comes equipped with 8 MB of internal memory and a 64 MB RS-MMC.

Bluetooth works flawlessly when paired with a Bluetooth USB adapter for the PC and other phones. The 7610 kit comes bundled with a USB Sync cable and Nokia's unintuitive PC Suite.

Voice clarity and signal reception is exceptionally good; we didn't come across any quirks on this front. However, the sluggish interface leaves a lot to be desired.



Company **Nokia India Ltd**

Price **Rs 28,499**

Phone **011-26779000**

Web site **www.nokia.co.in**



## AOpen XC Cube AV

### PC For The Living Room

The AOpen XC Cube AV is a Media Center PC in a Small Form Factor (SFF). It has a variety of modes—DVD/VCD, CD/MP3, FM and TV/PVR—all catering to home entertainment, such as . The entire experience is enhanced by the presence of Home Theatre software and a remote control that is bundled along.

The Cube can play a DVD, a VCD, an MP3 or radio, even while the PC is off; it uses a monitor to display information. It also has slots for flash-based media such as SD, MMC, Memory Stick, and CF—you can directly play songs or video from any of these media.

A minor bother: under Windows and while a video plays in the background, you can switch to another application via the remote only if the Home Theatre software is active. Overall the software is an attempt to mimic Windows Media Center but it still has a long way to go in achieving the latter's level of ease and smoothness.

The product comes with a 15-inch LCD and 5.1-channel speakers, which makes it a good buy. Its performance is good enough for its intended purpose as an advanced TV/Music entertainment.



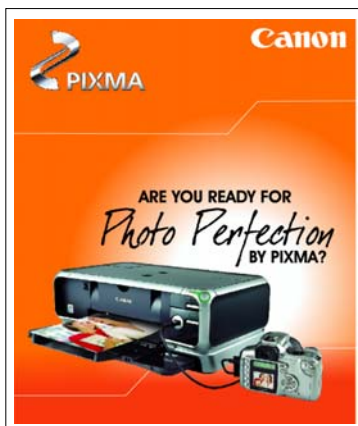
Company **Xserve India Pvt Ltd**

Price **Rs 78,990 plus taxes**

Phone **080-51131001**

E-mail **info@xserves.com**

Web site **xc.aopen.com.tw**



## D-Link DPH70 VOIP Phone

If your business demands international calls then the DPH70 VOIP phone will help cut communication costs. It comes with an inbuilt modem and a speakerphone. A quick guide helps you configure ISP parameters and calling card settings. Once done, just press the Dial-Up button—the hotkey to connect to the ISP. Once it connects, you hear a dial tone. We used VSNL as our ISP, an IPYantra calling card and dialled two separate international locations—Kuwait and Taiwan.

Though it had a high time lag, the call to Kuwait was crystal clear. The lag increased significantly when we dialled Taiwan—the conversation in this case was almost meaningless. Hence, it is advisable to check the numbers you dial frequently during office hours before you make the purchase.



Company **D-Link India Ltd**

Price **Rs 5,500 plus taxes**

Phone **022-26528914**

E-mail **sales@dlink.co.in**

Web site **www.dlink.com**



## Adobe Video Collection Professional V 2.5

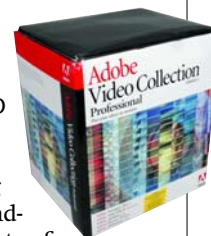
An assortment of the finest application from Adobe's extensive range of A/V editing and composing tools, for professionals.

The new line up consists of Adobe Premiere Pro 1.5, Adobe After Effects, Adobe Audition, Adobe Encore DVD 1.5 and Adobe Photoshop CS.

The collection comes in a well-packaged box consisting of extensive manuals for all application and a training DVD for the video products.

This well-conceived suite is suitably integrated, something other manufacturers of mix-and-match products should take note of.

If you are into A/V editing and creation we heartily recommend Adobe's Video Collection Professional.



Company **Adobe India**

Price **Rs 1,03,000**

Phone **0120-2444711**

E-mail **sandeepm@adobe.com**

Web site **www.adobe.com**



**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.

**Looking for more information on any of the products featured in New & Notable?**

Please write to [products@thinkdigit.com](mailto:products@thinkdigit.com). The Digit Test Centre will be delighted to respond to your queries.

### Motherboard

#### MSI 875P Neo-FISR

- ⊞ Excellent features and performance
- ⊞ None

Contact Cyberstar Infocom Ltd.  
Phone 080-2276986  
E-mail navin@cyberstarindia.com  
Price Rs 13,000



#### Intel D875-PBZ

- ⊞ Good performance and rock solid stability
- ⊞ No onboard sound

Contact SES TECH Limited  
Phone 022-26822299/88  
E-mail kp@sesindia.com  
Price Rs 11,440



### 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 19,500

#### Maxtor OneTouch 250GB

- ⊞ Hotkey for backup application launch
- ⊞ Heavy

Contact eSys Distribution  
Phone 022-56910348  
E-mail yogi@maxtor.com  
Price Rs 16,500



### Speakers

#### Creative Inspire 5700D

- ⊞ Plethora of features matched with equally good output
- ⊞ The bass lacks a good punch

Contact Creative Technology  
Phone 0-9820357713  
E-mail rajshekhar\_bhatt@ctl.creative.com  
Price Rs 23,999



#### Creative Megaworks 550

- ⊞ Mind-blowing sound
- ⊞ Expensive

Contact Creative Technology  
Phone 9820357713  
E-mail rajshekhar\_bhatt@ctl.creative.com  
Price Rs 23,999

### Colour Laser Printers

#### Lexmark C510

- ⊞ Blazingly fast at 24 pages per minute
- ⊞ Colours come out dark

Contact Lexmark International (India) Pvt. Ltd  
Phone 022-26057755/45/44  
E-mail sandeepk@lexmark.com  
Price Rs 39,990  
Web site www.lexmark.com

#### Samsung CLP500

- ⊞ Good overall speeds
- ⊞ Printing quality not to the mark

Contact Samsung Electronics  
Phone 011-515-11234  
E-mail farrukh\_quazi@samsungindia.com  
Price Rs 39,990



## The A-List

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

### AMD Motherboards

#### Asus A7N8X-Deluxe

- ⊞ Superb performance and good feature set
- ⊞ None

Contact ASUSTek Computer  
Phone 022-56926013  
E-mail info\_india@asus.com.tw  
Price Rs 8,750



#### Asus K7V600

- ⊞ Perfect balance of features and performance
  - ⊞ Marginally over-priced
- Contact ASUSTek Computer  
Phone 022-56926013  
E-mail info\_india@asus.com.tw  
Price Rs 8,750



### Portable Hard drives

#### Freecom FDH-2 Pro 80 GB

- ⊞ Extremely compact and bundled carry case
- ⊞ Low cost

Contact J.S Equipments  
Phone 022-23810713  
E-mail jse@vsnl.com  
Price Rs 21,000



#### Transcend StoreJet T50GJ25 60GB

- ⊞ Sturdy build quality
  - ⊞ FLOW access time
- Contact Mediaman Infotech  
Phone 022-23828100  
E-mail sales@mediaman-group.com  
Price Rs 16,900



### Printers

#### Canon Pixma iP4000

- ⊞ Good features, excellent performance
- ⊞ None

Contact Canon India  
Phone 011-26806572  
E-mail rajeev.singh@canon.co.in  
Price Rs 7,000



#### HP Deskjet 1100D

- ⊞ Rugged, can take heavy loads
- ⊞ Relatively slow

Contact Hewlett Packard India  
Phone 1600-444-999  
E-mail seema.dawar@hp.com  
Price Rs 14,299

### Monitors (17-inch)

#### BenQ V773

- ⊞ Good screen geometry
- ⊞ Not a flat-screen monitor

Contact BenQ India  
Phone 022-25705230  
E-mail SalesEnquiryIn@BenQ.com  
Price Rs 6,500

#### Philips 107E5

- ⊞ Acceptable performance for its cost
- ⊞ Not a flat-screen monitor

Contact Philips India  
Phone 022-56912325  
E-mail PCP.India.Info@philips.com  
Price Rs 18,500



**CRT Monitors (19-inch)****Philips 109P4**

- ⊕ Aperture grille for more accurate geometry
- ⊖ Bad implementation of the on-screen display for changing a setting

Contact Philips India  
Phone 022-56912325  
E-mail PCP.India.Info@philips.com

Price Rs 18,500

**Philips 109E5**

- ⊕ Maximum resolution of 1920 x 1440
- ⊖ Inexpensive
- ⊖ None

Contact Philips India  
Phone 022-56912325  
E-mail PCP.India.Info@philips.com  
Price Rs 18,500

**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 27,000

**Heavy-duty Multifunction Devices****Samsung SCX-5315F**

- ⊕ Offers good features and good performance
- ⊖ Expensive

Contact Samsung India Electronics  
Phone 011-51511234  
E-mail vikram.negi@samsungindia.com  
Price Rs 65,000

**Xerox SCX-M15i**

- ⊕ Good performance at a reasonable price
- ⊖ Bundled software not appealing

Contact Xerox Modicorp  
Phone 012-42561930  
E-mail kuldeep.malhotra@ind.xerox.com  
Price Rs 58,000

**Laptops****MSI MegaBook M510C**

- ⊕ Terrific performance, typical feature set
- ⊖ Slightly tacky keyboard

Contact Maxtone Electronics  
Phone 022-23011919  
E-mail NA  
Price Rs 74,990

**Wipro CPQ 15**

- ⊕ Perfect balance of performance, features and price
- ⊖ Built-in speakers, mediocre

Contact Wipro Limited  
Phone 1600-333312  
E-mail littlegenius@wipro.com  
Price Rs 73,990

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

- ⊕ High contrast ratio of 500:1
- ⊖ Built-in speakers, mediocre

Contact Cee Vision Technologies  
Phone 022-26733353  
E-mail chemoplastmumbai@vsnl.net  
Price Rs 20,000

**Laser Multifunction Devices****Samsung SCX-4216F**

- ⊕ Fast, feature-rich and priced sensibly
- ⊖ Slightly expensive

Contact Samsung India  
Phone 011-51511234  
E-mail vikram.negi@samsungindia.com  
Price Rs 35,000

**HP LJ-3380**

- ⊕ Prints 20 pages per minute, fastest in its class
- ⊖ None

Contact Hewlett Packard India  
Phone 1600-444-9999  
E-mail seema.dawar@hp.com  
Price Rs 54,724

**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 20,995

**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 19,309

**LG LM50**

- ⊕ Stylish looks and good performance
- ⊖ Lower battery life

Contact LG Electronics India  
Phone 0120-2560921  
E-mail rajeevsaxena@lgezbuy.com  
Price Rs 1,40,000

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

- ⊕ Great design, superb contrast
- ⊖ Expensive

Contact Samsung India  
Phone 011-51511234  
E-mail marketing@samsungindia.com  
Price Rs 47,500

**Compaq X1237AP**

- ⊕ Future-proof features, executive looks
- ⊖ Battery life marginally lower than average

Contact Hewlett Packard India  
Phone 1600-444-9999  
E-mail seema.dawar@hp.com  
Price Rs 1,59,990

# 10 Great Things Your Fixed Wireless Terminal Offers

## 3-way Call

Call conference connects you to two distinct numbers, allowing you to talk simultaneously to both of them



## SMS

You can send SMSes to a cellular number and receive them as well!



## Emergency Call

Make an emergency call, even if your phone is disconnected



## Tamper-proof

All connections are secure. It is not possible to hijack or tap your phone signal



## Internet Access

With an integrated modem, you do not need a separate ISP connection. You can access the Internet at around 115 kbps





### Keep Surfing

Receive calls when there is no data transfer while you are logged on to the Internet



### Voice Mail

Allows a caller to leave a voice message on your phone in case you are busy or unreachable



### Multiple Users

Share the same wireless terminal with other users via a PBX machine



### Call Log Register

You can track all calls made or received



### Hotline

Your phone can automatically dial a specified number when you pick up the receiver

Text Suprotip Ghosh, Imaging Jayan Narayanan  
Model Rakesh Harjai, Photograph Mexy Xavier

# Shaadi.com

One of the best matchmaking destinations on the Web

Ram Mohan Rao

If you are looking for an online matchmaking site, we recommend shaadi.com. It is comprehensive, well-laid out, easy-to-use, and is packed with features. The index page reflects this.

You can navigate to sub-sites organised according to community, religion, and country. There's a free newsletter that has good articles and advice on topics ranging from pregnancy to marriage counseling to

register your profile, view profiles without restriction, contact other members, and respond to messages you receive.

With the paid membership, you can, in addition, message members who are online, use advanced matchmaking tools, etc.

Other membership features include checking compatibility based on Vedic Astrology, featured listings, the ability to place ads in Indian newspapers all over the world with a few mouse clicks, and the facility to purchase gifts.

You can search, without registration, by basic criteria

Profiles are comprehensive, with almost everything you'd like to know

sexual health. If you want to decide whether or not to use the site, you can take a quick tour.

There are over two million members, and the site claims a 100,000+ "success stories" and 500,000+ photo profiles. You can chat online with members. There's a range of tools to "shortlist your matrimonial partner."

On the front page, you can search for a partner according to your specified criteria. You don't even need to register for matches to show up! Navigation is easy—you can jump from any kind of search to any other using the friendly interface.

The only complaint? The site is so packed with links it can get a little confusing.

## Membership

There are two kinds of membership—free and premium (paid). Paid membership costs between Rs 900 for three months to Rs 2,400 for 12 months.

Free membership allows you to

## Main Navigation

The main navigation consists of two sections—"Partner Search" and "My Matches".

"Partner Search" includes saved searches; advanced search; keyword search; photo club—a place where you can see photo profiles; "Who is Online"—where you can look for other shaadi.com members who are currently online; "Matrimonial Sites"—

You can check out thousands of well-laid out photo profiles

which takes you to a navigation page where you can browse by Indian religion, countries, Indian communities, Indian castes, Indian states, and even US states; and "Special cases"—where, for example, you can search for physically challenged members.

"My Matches" contains such links as "My favourites", "Members who I contacted", "Members who contacted me", and so on.

## Registration

The first registration page asks for the basics—your e-mail ID, gender, date of birth, and so on.

Once you are done with this, the second page asks for almost everything about you that a potential partner would like to know, such as body type, complexion, religion, caste, mother tongue, family values, smoking status, and so on and so forth. Here, you can add something about you and your family background.

## It's Free! Partly, At Least

Probably the best thing about shaadi.com is that you can find potential partners without having to shell out a paisa.


Of course, the paid membership does have its benefits, but you can try the service out for free—you submit comprehensive information about yourself, you view thousands of potential matches, you search according to your specified criteria, and you can communicate with potential life-partners through the site, and otherwise—all for free.

What more could you ask for? ✉  
ram\_mohan@thinkdigit.com



## Windows Messenger

### Prevent Windows Messenger from running

 You installed MSN Messenger, and you now want to uninstall Windows Messenger. The standard method for uninstalling Windows Messenger often do not work, but you can prevent it from running at all. In the Run menu, type in "gpedit.msc." In the window that appears, look in the right pane—you'll see "Computer Configuration" and "User configuration." Click on "Computer Configuration," then on "Administrative Templates," then on "Windows Components," and finally on "Windows Messenger." Right-click "Do not allow Windows Messenger to be run," and choose "Properties." Choose the "Enabled" radio button. Do the same for "Do not automatically start Windows Messenger initially."


### Change The Background

 You can change the background image in Windows Messenger. Click Run and type in "regedit", then navigate to HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MessengerService. Double-click the InstallationDirectory value to verify the location of your Windows Messenger installation. By default, this location is C:\Program Files\Messenger.

Create the background image you want to use. Save the image you created as a .gif file named lvback.gif, and place the file in the Windows Messenger folder.

Exit the regedit, and restart Windows Messenger for the change to take effect. Depending on how large the picture is, it will occupy part of the messenger window. For example, if it is 640 x 480 pixels large, and you have dragged your Windows Messenger window to be around 200 x 200 pixels, only the lower left-hand corner of the picture will be displayed.

### Change Sounds


 You can change the sounds you hear in Windows Messenger. Go to C:\Program Files\Messenger, and change the .wav files to any other .wav files. When you are changing them, remember to back up the old files first. Also remember their functions: 'online.wav' sounds when a buddy logs in; 'newemail.wav' is when you receive a new e-mail; and

careful to keep it short—you will be hearing a lot of it!


### Change Font Colour

 Would you like your text to appear in a custom colour? Here is a plugin that allows you to choose, using sliders for red, green and blue, exactly what colour you want in your fonts: <http://members.home.nl/t.gorissen/custom%20msn%20colors.exe>.

### Cool Stuff

 For animated smileys, interesting plugins, cool display pictures and the like, go to <http://www.mess.be/>

### Emotise Your Nick

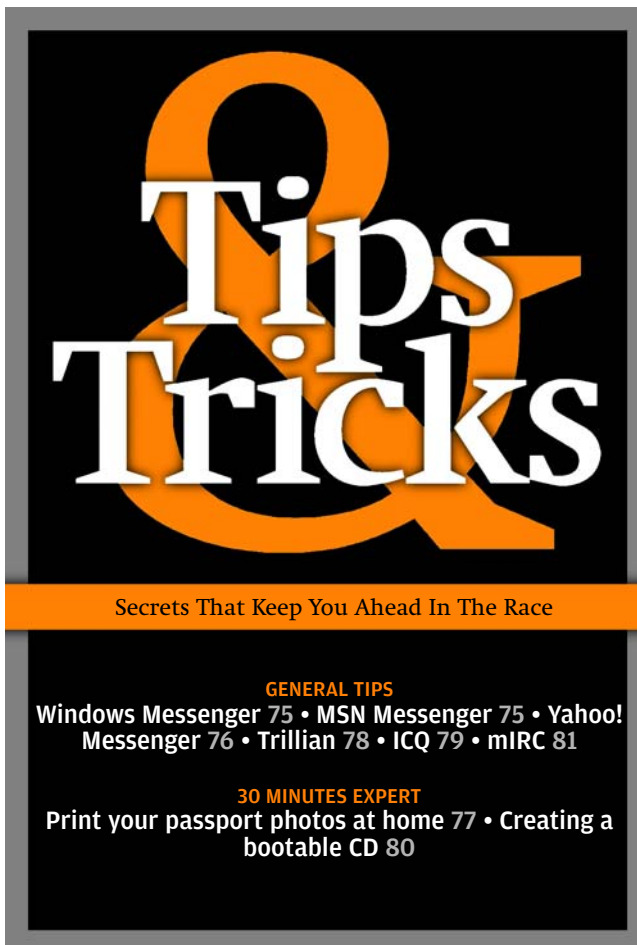
 You can add an emoticon to your nickname—the name that appears when other people receive messages from you. Go to Tools > Options, then in the 'Personal' tab, type in your name as you would like it to appear, along with the keyboard shortcut for the emoticon. For example, if you would like your name to appear as "Wolfhound" with a smiling face after it, simply type in "Wolfhound :)" here.

### Two Instances Of Messenger

 Do you have two Hotmail (or MSN) accounts, and would like to make use of them by opening two MSN Messenger windows? You can do that by downloading a program, which is easy to install and creates a shortcut on the Start Menu. The download location is <http://members.home.nl/t.gorissen/several%20msn%20sessions.exe>

### Clear Histories

 If some friends have signed into MSN Messenger using your computer, you might want to remove their histories. Go to Control Panel and select User Accounts. Click on your Windows XP user name, and go to Manage my network passwords. Here, you will find a list of the e-mail addresses that have been used to logon to Messenger. You can delete the ones you don't want.



'type.wav' is the sound you hear when you receive an instant message, so if you are changing this sound, be

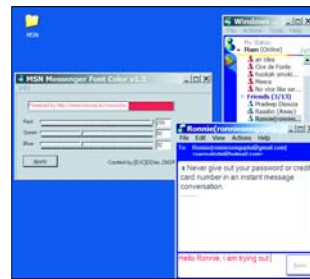


You can easily change the display picture in Windows Messenger

## MSN Messenger

### MSN Messenger: The Latest Version

 Download the latest version of MSN Messenger from here: <http://download.microsoft.com/>. Run the .exe file mentioned there to install Messenger. Alternatively, find the current latest version on the DVD accompanying this issue. You can also download the messenger from <http://download.com>.



Using Custom MSN Colors, you can change the colour of your font to any colour at all



Organise your contacts better using the features in Plus!

### Who's Added You?

To see who has added you to their contacts list, simply go to **Tools > Options > Privacy**, and then click **View**.

### Think Outside The Contact List

To send an instant message to someone who is not on your contact list, right-click on the MSN Messenger icon in the system tray, click 'Send an instant message', and then choose the 'Other' tab. Here you can enter the e-mail address of the person you want to message.

To prevent other people from sending you messages this way, go to **Tools > Options > Privacy**, and tick 'Only people on my Allow list can see my status and send me messages'.

### View By E-mail Address

People use nicknames such as "Look who's

here" or things like that, which is what you see when you log in to Messenger. Since people change these nicknames often, you might not know who a contact is until you run the mouse over the nickname (the display name). If this is an annoyance, you can view all your contacts by their e-mail address. To do this, go to **Contacts > Manage Contacts > View Contacts by**, and select **E-mail address**.

### Lots Of Emoticons—Free

When you want to send an emoticon in a message, you typically click on the smiley in the conversation window to get more smileys. There are many more emoticons that you can use, each with its keyboard shortcut. For a list of all emoticons available for various versions of Messenger, look at <http://www.bigblueball.com/im/msn/msn-emoticons.asp>

### No More Tabs On The Left

If you find the tabs to the left of the contact list annoying, you can turn them off. They are not much use anyway. Simply go to **Tools > Options > Privacy**, and tick 'This is a shared computer so don't display my tabs'.

### Plus!

Plus! is a freeware add-on for MSN Messenger. It offers various Messenger tweaks, advanced logging, enhanced notifications, security and privacy control, etc. You can get it

at <http://www.msgplus.net/>, or install it from the DVD. If you want a full list of the enhancements that Plus! offers, go to <http://www.msgplus.net/features.php>.

### Log Your Chats

To keep a log of all your conversations so you can retrieve them later, you can go to **Tools > Options**, click on the **Messages** tab, and tick 'Automatically keep a history of my conversations.'

### Turn Emoticons Off/On

You can choose whether or not to display emoticons and/or custom emoticons in the messages you receive. Simply go to **Tools > Options**, go to the **Messages** tab, and tick or untick 'Show emoticons...' and/or 'Show custom emoticons...'

## Yahoo! Messenger

### Yahoo! Messenger—The Latest Version

The latest version of Yahoo! Messenger is a significant improvement over previous versions. Go to <http://messenger.yahoo.com/> to download it, and to see what's new. You can find the current latest version on the DVD accompanying this issue.

### New Mail Alert

To be alerted in Yahoo! Messenger whenever you receive new mail in your Yahoo! account, do the following: Select **Login > Preferences**. Go to the **Alerts and Sounds** category. Under 'Alert me when:', highlight 'I receive a mail message'. Select the desired notification options under 'Alert me by:', and click **OK**.

## Bet You Didn't Know

### Disable Windows Messenger

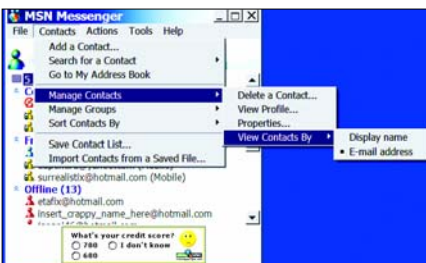
Windows Messenger automatically loads up when you start your XP computer. It also starts up at certain other events. To prevent it from loading at startup, or at any other event, do the following: Go to **Start > Run**. Type in "GPEDIT.MSC". In the window that comes up, navigate to **Computer Configuration > Administrative Templates > Windows Components > Windows Messenger**. Here, you will see 'Do not allow Windows Messenger to be run' and 'Do not automatically start Windows Messenger initially.' Go to each of them and enable them. Close the Group Policy window, and you're done.

### All The Smileys You Want

Want to know about all the smileys you can use in Yahoo! Messenger, along with their keyboard shortcuts? Point your browser to <http://www.bigblueball.com/IM/Yahoo/yahoosmileys.asp>

### YEmote2

Download it from <http://www.camgrab.tk/>. YEmote2 adds several interesting features to Yahoo! Messenger, such as advanced Webcam capture, easy smileys selection, advanced message archive viewer, an auto-reply feature, and much more. Go to <http://www.andy.w2s.co.uk/yahoo/YEmotePlus/index.htm> for more on YEmote2.



In MSN Messenger, you can choose to view contacts either by nickname or by e-mail address



Nokia, Samsung, Sony-Ericsson, or...  
Who will reign the Cell Phone Kingdom?

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# Print Your Passport Photos At Home

All you need is a photo or inkjet printer, and you'd never have to go a photo studio again for prints

Aliasgar Pardawala

If you have a computer and an inkjet printer, we have good news—you no longer need run to the nearest photo studio each time you want a passport-size photo! The news is sweeter still if you own a digital camera—you can then shoot yourself, digitally touch the image up, and print it out on appropriate media.

## STEP 1 Preparing Your Photograph

Find or shoot an appropriate photograph of yourself. The first thing to note is that a photo meant for printing needs a resolution of 300 dpi and a preset size. To ensure this, start Adobe Photoshop, open your picture. Click on **Image > Image Size**, in the dialog box that follows, you will need to supply the 'Document Size': width of 3 cm and height of 4 cm; in the 'Resolution' field type 300 pixels/inch. Now click on OK.

## STEP 2 Preparing Your Photograph, Part II

We will now create a blank image within which we will paste our resized photograph. The blank image should have a white background since this colour will form the frame of the photograph. Go to **File > New** and specify a 3 cm x 4 cm image with a 300 pixels/inch resolution and a white background. Head to the photograph, which we earlier resized, press [Ctrl] + [A] to select the

photo, [Ctrl] + [C] to copy it, then select the new image file with the white background and paste it there.

## STEP 3 Framing Your Picture

You will now need to create a 'frame' around the pasted image. To do this, press [Ctrl] + [T] then press [Shift] and resize the image, making sure that some white space is kept around it as the frame. Once satisfied with the size of the frame, double-click on the image to render it to the new size.

## STEP 4 Printing Your Picture

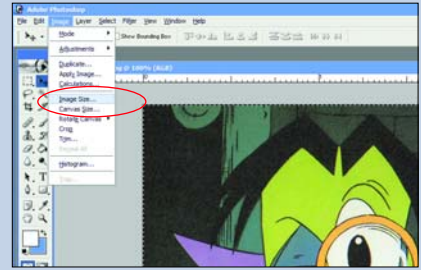
This step will use a Photoshop tool to create an A4 size page full of your passport-sized pictures.

Head to **File > Automate** and click on 'Picture Package...'

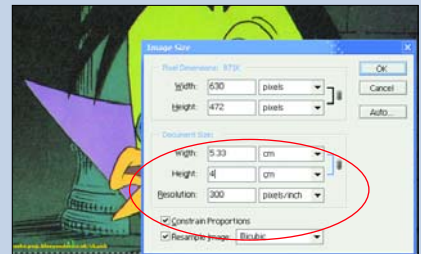
In the 'Picture Package' window that appears, here is what you need to do: Select a 'Page Size' of 8.0x10.0 square-inch (this is the standard photo paper size). Next in the 'Layout' drop-down menu select (9)2.5x3.25—this will basically tell Photoshop to create nine images, each of 2.5x3.25 inches-square—which is the standard size of a passport photo.

Now we need to select a Resolution of 300 pixels/inch. That's it! Click on [OK] and you are done! Well, almost done...clicking on [OK] will create an 8x10 square-inch image which you can print to your inkjet printer.

Cut out along the white frame and use the passport-sized photos as you desire.



Click this to change your photo's size



Specify the photo size and resolution here



The white border is the 'frame' of your photo



This is what the final step will look like, only less green. Your photos all in a row



Digit Zero1 Awards

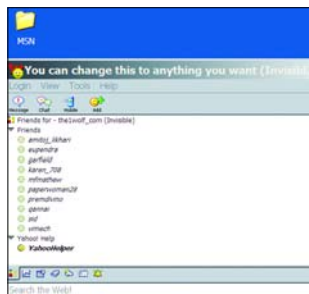
Seagate, Samsung, Maxtor, or...  
Who will win the Hard Disk race?

Find out India's top tech products of 2004 across  
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**Change The Title Text**

Here's how you change the title text that appears at the top of the Messenger window. By default, this is "Yahoo! Messenger", followed by your status. Simply edit the ymsg.ini file, which you will find in the same folder as the Messenger program, in your Program Files folder. Locate



You can easily change the text that appears at the top of your Yahoo! Messenger window

the file and open it in Notepad. Then, at the end, add the following:

```
[APP TITLE]
caption=YOUR TEXT
```

Here, "YOUR TEXT" is whatever you want in the title bar. Save the file and close Messenger. When you restart it you will see your text in the title bar.

**Multicast A Message**

To send a message to several recipients at once, right click on the group title in your contact list, on select Send Message to all in this group. Alternatively, hold down [Ctrl] and left-click on the contacts you wish to send a message to. Once you've highlighted the required names, simply right click on a name and select 'Send a message'.

**I Don't Want To Be Your Buddy**

Ever wanted to remove your name off someone else's buddy list? Download a plugin to do this, from <http://www.zakie.fsnet.co.uk/nobuddy/>

**Multiple instances of Yahoo! Messenger**

To run multiple instances of Yahoo! Messenger, which is useful if you have multiple Yahoo! IDs and want to use them all at once, download this useful program from <http://www.softpedia.com/public/cat/10/4/1/10-4-1-111.shtml>

**Change The Size Of The Contacts Window**

Here's a patch to change the size of the contacts window in Yahoo! Messenger to whatever size you want it to be. The file location is [http://www.angelfire.com/creep/yahoo\\_heretic/Yahoo6\\_MinSize\\_Patch\\_All.zip](http://www.angelfire.com/creep/yahoo_heretic/Yahoo6_MinSize_Patch_All.zip)

**Extra Smileys—Free**

For adult-themed, rude, and just plain naughty smileys for Yahoo! Messenger, navigate to <http://www.geocities.com/basefaces/>. You will find a



You can skin Trillian so that it looks like MSN Messenger, to the extent that you won't know you're not using Messenger

link there to download a zipped archive.

**Trillian****Download Trillian**

Trillian is an award-winning, multi-network IM client that allows you to seamlessly integrate all your communications into a single, sleek package. It is touted by many as "the ultimate chat program". You can stay in touch with contacts spanning multiple networks, and get the latest news, stocks, and other information with a versatile array of plugins. Download the latest free version from <http://www.trillian.cc/>, or find it on the DVD accompanying this issue.

**The Smileys**

The Trillian emoticon reference, along with keyboard shortcuts, is available at <http://www.bigblueball.com/im/trillian/trillian-smileys.asp>

**Make Trillian Look Like MSN Messenger**

There's a very popular skin for Trillian that makes it look and feel a lot like MSN Messenger. Get it here:

[http://www.ceruleanstudios.com/downloads/downloads.php?d\\_type=skins&componentID=216](http://www.ceruleanstudios.com/downloads/downloads.php?d_type=skins&componentID=216)

**Trillian Everywhere**

You can use Trillian wherever you go, by installing it on your Zip disk, CD,

**Tip Of The Month****Disable unknown users from paging you in mIRC**

You probably hate it when you are chatting and suddenly a window opens up with somebody saying "Hi" or "m/f". Fortunately, with mIRC, you can get rid of this. You can configure mIRC to inform you, in your active window, all the following: The nick of the person who is querying or messaging you. The content of the message. To accept or reject the message. First, in General Options, in the IRC Switches tab, tick 'Queries in active window.' Then copy the following into Remote.

```
on 1:TEXT*:?:{
if ($nick isin $active) { goto halt }
else {
splay
c:\mirc\events\hello.wav |
/set %mnick $nick
echo $active To Close message Hit F3
echo $active To Accept message Hit F2
}
:halt
}
```

Also put this in Aliases:

```
/f2 /query %mnick | /unset %mnick
/f3 /notice %mnick Sorry can't chat now, c ya around %mnick :- ) | /ignore -pntiu60 %mnick 3 | /closemsg %mnick | /unset %mnick
```

Here, the /f3 alias should be on one line. Don't forget to leave a space before and after the 'l'.

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**HP, Canon, Epson, or...**  
Who will bag the Printer Gold?

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or any other type of portable medium, and take Trillian, your preferences, and your contact list with you wherever you go. You can use a fully functional Trillian anywhere, on any computer with an internet connection, instead of online clients with limited functionality such as AIM Express and ICQ Lite.

There is an online guide that will walk you step-by-step and show you how to achieve this. No technical knowledge is necessary. Follow the steps of the online wizard at this site to create your own installation of Trillian that will work wherever you go using any portable media that you can use: <http://www.trilliananywhere.com/wizard-1.html>

### Check Out Trillian Pro

 Trillian Pro comes packed with a whole lot more features than the free version. It costs \$25. Check out all the features it offers at [www.ceruleanstudios.com/products/](http://www.ceruleanstudios.com/products/)

### Custom RSS/XML Feeds

 With Trillian Pro, it's easy to add a live, custom RSS/XML feed. All you need to do is install the News plugin from the Trillian Web site ([www.ceruleanstudios.com](http://www.ceruleanstudios.com)); then go to **File > Preferences**, select the News option under the plugins category. Now, you have the option to add a custom feed, or add an already installed feed. To view a custom feed, click Add Custom Feed, then enter the title, and then the site name (you will need to find this from the site).


### Bet You Didn't Know

☐ To remove the flashing banners at the bottom of the ICQ window, open the ICQ folder with windows explorer. This is typically **C:\Program Files\ICQ**. Delete the file 'ICQHttp.dll'. Be careful—do not delete 'ICQHttp .dll' (note the space).


Re-start ICQ and you'll find no banners.

## ICQ

### Get The Contact List Out Of The Way

 Usually, ICQ's Contact List hovers over all other windows. You can get it out of the way in ICQ 2000 by clicking 'Always On Top' in **ICQ > Contact List Options**. In ICQ 99, click **ICQ > Windows/Alerts > Always On Top**.

### Custom Away-Messages


 With ICQ, you can leave custom away-messages, like an answering machine. Just click the Services button on the front of the ICQ screen. If the Services button is not showing up, go to **ICQ > Preferences**, and make sure you have Contact List selected from the navigation bar on the right. Click the Design tab, and tick the box in front of Show bottom ICQ buttons.

Now, choose Answering Service and click the top-left drop-down menu to find the appropriate status. The second drop-down menu shows the titles for the messages that appear in the box to the right. Select one to display for each state in the

top list, or compose your own using the empty selection at the bottom and typing in your own remarks in the message box. For example, you could type something like, "I'm away at the moment, but I'll be back online at 1:30 PM." After you have finished choosing which messages to display for which states, save your preferences by clicking 'Save'.


Choose your status by clicking the flower on the bottom right of your ICQ screen. Now, when you are away from your computer for a break, just click the appropriate flower, and your friends will know to stay online until you get back.

### Make An "Invisible List"

 If you want to appear invisible to a particular user, click the contact's name, select 'Alert/Accept Modes' from the pop-up menu, click the Status tab, and select 'Invisible To User.' You will appear to be offline to that contact until you send him or her, a message.


To add more than one user to your "Invisible List" at the same time, go to **ICQ > Security & Privacy**, click the Invisible tab, and fill in the info. There is also a 'Visible' tab where you can list users who will see you as visible even when you are invisible to everyone else.

### Get Rid Of The Pop-up

 If you are tired of the announcement box that pops up every time you start up ICQ, you can get rid of it. Go to **ICQ > Preferences & Security > Preferences**. Click the Contact List tab, and look for the 'Don't Show Announcements' checkbox on

the right side of the window. Tick this box. In ICQ2000, go to **ICQ > Preferences > Miscellaneous**, and leave 'Show ICQ announcements' unchecked.

### Float A Contact Name

 In ICQ, you can 'float' a contact name on top of any other program you're running. Basically, you can message your key contacts while keeping your ICQ window minimized by floating their names on your desktop. To do this, drag a contact name—or names—from the ICQ window to anywhere on your screen, and then minimise the ICQ window. This copies that contact name to your desktop, where it remains on top of other applications.

Click a floating name to send and receive messages just as you normally would

### Bet You Didn't Know

☐ If you're not doing something with it, ICQ can automatically get out of the way. In ICQ 2000, go to **ICQ > Preferences**, select Contact List, and tick the 'Auto Hide Delay' box. In ICQ 99a, click **ICQ > Preferences**; in ICQ 99b, click **ICQ > Preferences & Security > Preferences**; and then turn on the 'Auto Hide Delay' function on the Contact List tab.

Now ICQ will automatically minimise to the system tray when it's not in use. When you need to send or respond to a message, bring ICQ back by double-clicking the flower icon in the tray.



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## Creating a bootable CD

We help you create a bootable CD-ROM using Nero Express

A bootable medium is a life-saver. Sooner or later something will go wrong with your computer and you will need a boot disc to rescue it.

Current computers can boot off a CD-ROM or a DVD-ROM disc. The benefits of using an optical disc, as opposed to the traditional floppy, are twofold. The major benefit is that of reduction of data

create bad sectors on a floppy. A CD medium is free of such hassles.

Of course a CD is not without its drawbacks—the biggest concern being that of scratches across its readable face.

The other advantage is that of the storage space offered. A bootable CD should also carry backup and restore software along with an antivirus solution,

### 1 Create A Boot Image

You will first need to create a bootable floppy the old way. To do this in Microsoft Windows XP, insert a new floppy in your drive; head to 'My Computer' and right-click the floppy drive icon. Select 'Format' from the menu and select 'Create an MS-DOS startup disk' and then click on 'Start'.

### 2 Using Nero Express

In order to create the bootable disk, we will use Nero 6 Express.

Start the application and from the Nero Express menu and select the 'Bootable data disc' option under the 'Data' menu.

### 3 Adding Files To Your Bootable

If you need to add any files or applications to your bootable disc, the next window is where you should do so. If you do not wish to add any files, you can skip this option and move to the next step by clicking on the 'Next' button.

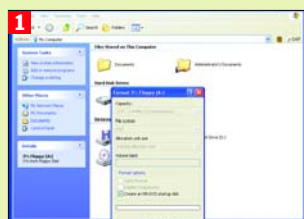
### 4 Pointing Out The Boot Image

The next step is to point Nero to the bootable 'image' file. To use the floppy click on the 'Read boot disc in drive' radio button and select your floppy drive. If you have your own image (IMA) file, point Nero to it. Now, click on Next.

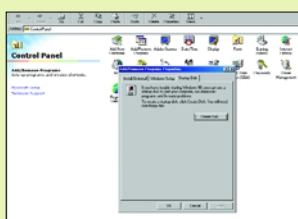
### 5 Burning Your Bootable Disc

This final step requires that you select your CD-Writer, then name your bootable disc.

Click on the 'Burn' button and be patient as your bootable disc is burnt.



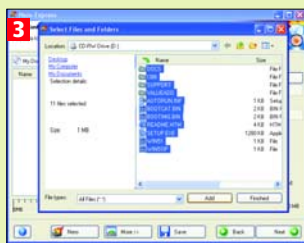
Create a bootable floppy disk—this will form a boot image



Creating a bootable floppy under Windows 98



Start Nero Express to create a bootable CD-ROM



You can add files other than the boot image to your CD-ROM



Choosing the boot image, created earlier on the floppy



The final step: a bootable CD-ROM is minutes away

corruption. An optical disc by virtue of its design is immune to stray magnetic fields which are so common around a personal computer. Such fields would lead to frequent data corruption and

a program to partition your hard disk, maybe even an image of your desktop. This article will tell you how to create a bootable CD-ROM using a popular application called Nero Express 6.

If you are using Windows 98, go to 'Add / Remove Programs', found in the 'Control Panel' and select the 'Startup Disk' tab. Now insert a blank floppy disk and click 'Create Disk' button.

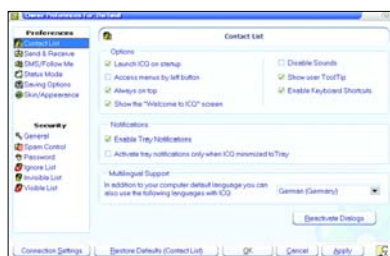


Creative, Altec Lansing, Artis, or...  
Who will scale the Speakers' Mt. Everest?

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You can turn off the "Welcome to ICQ" screen that comes up when you start ICQ

with the window open. To remove the floating name from your desktop, open the ICQ window and drag the name back off the screen and onto the ICQ window.

### ICQ's Pager Service

People who do not have ICQ installed can contact you through their e-mail clients using the ICQ WWPager service. To use e-mail to send an ICQ message to someone, address the message to the user's ICQ ID@pager.mirabilis.com—for example, 4566134@pager.mirabilis.com. Type a subject and a message of up to 450 characters. The message will be sent through the ICQ Web site to the ICQ user.

### Re-indexing Your Database

You might sometimes want to re-index your database in ICQ. This is if any of the following problems occur: ICQ crashes on startup or gives "Abnormal Termination Errors", or, even after having cleared the message history, the history file still contains deleted messages. First, back up your contact list before you begin. Then, follow these steps: Go to **Start Menu > Programs > ICQ > ICQ Database**

**Converter.** Choose 'Fix New Database' and click 'Next'. Choose which owner you want to fix the database of, and how much history you want to retain. Then click 'Next'. Let your database be reindexed, and when it's done, click 'Next'. Click 'Convert / Fix Another ICQ Owner' if necessary, or click on

'Done' and wait for ICQ to load. You are done.

Remember that if the process crashes, try again and choose "No History"—you may want to keep a backup of your history in case you want to retrieve it later.

### Require Authorisation

If you want to stop spammers and other unwelcome visitors from invading your ICQ space, you can set ICQ to require your authorisation before contacts can add you to their list. To set ICQ to require authorisation, go to **ICQ > Security & Privacy**. In the 'Change Contact List Authorization' section of the Security tab, or the General tab in ICQ 2000, select 'My authorization is required'. From now on, when a user wants to add you to his list, you will automatically be asked for authorisation.

### Organise Your Contact List

If your contact list is getting a bit unwieldy, you can organize them into groups. Go to **ICQ > Windows/Alerts**, and check the Group Mode tab. Next, group your contacts into different groups—family, friends, and so on—by dragging a contact name to its group. To access contacts

in a particular group, click the group name, and choose Open Group from the menu. If you want to go back to viewing all your contacts at once, click the Groups button at the top of the ICQ window. In ICQ 2000, you can view groups and manipulate them by going to **ICQ > Contact List Options**, and choosing Contact List Groups.

### Turn off pager messages

You can turn off pager messages from the Web in ICQ. Simply go to **ICQ > Preferences & Security > Security & Privacy**. Click the 'Ignore List' tab, and tick the 'Do not accept WWPager messages' checkbox.

### No Event Logging

If you do not wish your history to be saved, go to **ICQ > Preferences > Events**, and tick 'Do Not Log Event History.' You can also delete all your history by shutting down ICQ, and running the ICQ database converter: go to **Start > Programs > ICQ > Database Converter**. Now, select the owner of the account, and under 'history options', choose 'No History (Contact List Only)'. Then click Next. After the conversion is completed, click 'Done'.

### Multicasting A Message

To send a message to multiple recipients on your contact list, first open a new message by clicking the name of one of your intended recipients and selecting Message. Then, type your message in the window as usual. When you are ready to send the message, click the 'More' button at the bottom of the window, then click the 'Multiple Recipients' button.

Tick-mark the people on your contact list to whom you want to send the message, and click the 'Send' button.

All the recipients you selected will receive your message. The recipients of your group message will know that you sent it to multiple users, but they won't be able to see who else was on the recipient list.

### Multiple Personalities

You can register for more than one ICQ number if you want to maintain multiple ICQ 'personalities'—for example, one for work and one for home. In ICQ 99, just click the ICQ button and choose Add/Change Current User. Select Add Another Registered User (or Register a New User) and follow the prompts. In ICQ 2000, just click the My ICQ button and choose Change User on this Computer/Add Another Registered User (or Registration to ICQ/Register a New User), and follow the prompts. When you want to change personalities, go back to 'Add/Change Current User' (ICQ 99) or 'Change User on this Computer' (ICQ 2000), then select 'Change the Active User' and click what you want.

### mIRC

#### Set Up A Pager

To set up a pager in mIRC, copy the following into the **Remote\Commands** folder, after making sure that listening is turned on. This will allow others to send you messages when you are set as away, and will play a sound (here "file.wav") when you receive a message.

#page off



Digit Zero1 Awards

Nikon, Canon, Kodak, or...  
Who will click right in the DigiCam world?



Find out India's top tech products of 2004 across  
28 categories in the Digit December issue

## Bet You Didn't Know

To turn off the annoying screen that comes up when you start ICQ, go to ICQ > Preferences > Miscellaneous, and uncheck 'Show ICQ Welcome'.

Similarly, in MSN Messenger, to turn off the MSN Today that appears after you sign on, go to Tools > Options, click the General tab, and uncheck 'Display MSN Today when Messenger signs in'. In Yahoo! Messenger, go to Login > Preferences, and under 'Misc.', un-tick "Show Yahoo! Insider when I login".

CTCP 1:PAGE:/wawplay file.wav | /notice \$nick Page received

#page end

To ensure that the pager stops after you set your status back to Available, paste the following into your popup.ini file in the Channel folder:

Away Pager

Away:/ame is away! \$\$?="Enter Reason:" If you need me type /ctcp \$me \$+ \_Away PAGE | /enable #page | /set %nick \$me | /nick \$me \$+ \_Away | /away \$\$!

Back:/ame is back! ctcp page is disabled | /nick %nick | /disable #page | /away

### Being Invisible

mIRC can make you invisible if you tick 'Invisible mode' in Setup > IRC servers. If you want to do it manually, type in "//mode \$me +i".

You should see the following in the Status window:

\*\*\* <\$me> sets mode:+i

If you want to be always

invisible, copy the following into the General Options > Perform tab: /mode \$me +i

Invisible mode makes you invisible to the /who #channelname command, meaning that other people cannot find you by searching on IRC unless they know your exact nickname.

No wild carded search on you by the /who command on your IP Address or real name will deliver your current nickname or other information to others. However, it does not make you invisible to people in the same channel as you.

### Easy Exiting

To quickly leave a chat session without having to type in much, try the following. Make a new text file and name it Part.txt. Put it in your mIRC directory, typically C:\Program Files\mIRC\\*. Type the following lines into the Part.txt file:

/me wants to stay but duty calls... must go :-)

/me must go... bye everybody... c u later.

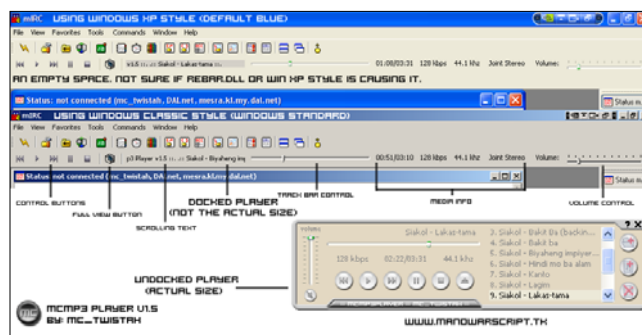
/me thanks everybody and leaves \$active. Bye.

Of course, you can type in any message you want.

"\$active" is the name of the currently active window. Now, make a new alias:

/pp /\$read \$\$?  
C:\mirc\part.txt

Next time you're in a channel and you want to leave, type in /pp. When a dialog box pops up, type "-12". mIRC will read the second line of your Part.txt, because you typed in "2" above. You can choose what line number you want mIRC to read. If you don't type in anything, mIRC will randomly read a line and send it.



Go ahead and download this custom MP3 player for mIRC

### Run A Fileserver

With mIRC, you can have your own file server—people can access a pre-defined directory, and download whatever they want.

The first thing to do is make a new directory. The user will be limited to accessing only files and directories within this directory.

Put whatever you want in this directory—pictures, wave sounds, text, programs, etc. If you are using mIRC 5.1 or over, here's how to set up mIRC's file server:

Click the DCC options button, and then click the Fserve tab.

'Max. Fileservers' specifies how many users can be served simultaneously.

'Max. DCC gets per user' limits the number of simultaneous DCC Gets a user can request.

'Root directory' specifies the root directory that a user will see when they first enter a file server initiated via the DCC server. The user will be able to access all files and directories within this root directory.

'Welcome text file' specifies the text that will be sent to a user when they connect to your file server.

'Display file server warning' is to be warned that someone is doing an Fserve from your server.

Note that a user must type "/DCC fserve IP"—where "IP" is your IP address—to start an Fserve. To find your IP, you can type in "/dns nick", where "nick" is your nickname.

This method can be used even if you or your friend are not on IRC, as long as you are connected to the Internet, and know your IP address.

### An MP3 Plugin For mIRC

Here's an MP3 add-on for mIRC. There is a scrolling title bar, and a volume adjust tab. The playlist allows the user to queue songs. Download it from [www.mircscripts.org/download.php?id=2438&type=2](http://www.mircscripts.org/download.php?id=2438&type=2)

### Listen To Somebody Leaving

You can play a sound when someone leaves. Save your desired sound as "quit.wav". Put it in your sounds directory. Go to Tools > Remotes. In the dialog box menu bar, click on 'Listen'. If there isn't a tickmark next to Events, click on it. Add this code to the dialog box: ON \*:QUIT:/splay quit.wav ☑



IBM, HP-Compaq, Toshiba, or...  
Who will top the Laptop rankings?



Find out India's top tech products of 2004 across  
28 categories in the Digit December issue

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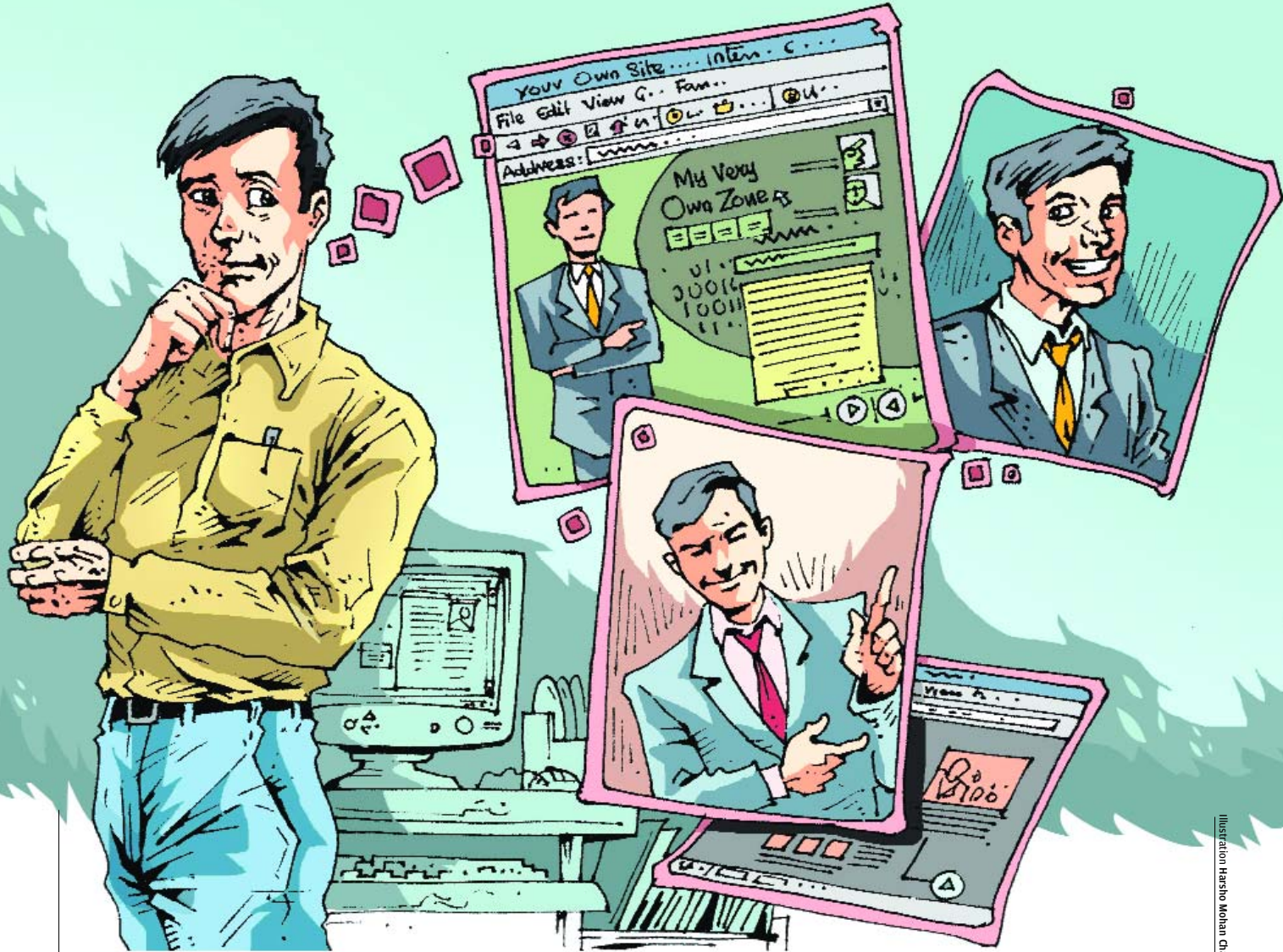


Illustration: Harsho Mohan Chatterji

# www.mybusiness.com

**Set up a professional looking Web site for a little over Rs 400 a Year**

**Robert Sovereign-Smith**

**O**ne thousand crores, or one lakh; 15,000 employees, or 15; global or limited to one city—no matter what your business turnover, employee strength or area coverage is, you need a Web site.

Yes, there are still those running family businesses who will claim that it's the personal touch that matters; but if you're here, reading this article, you know the advantages the WWW has to offer.

It's a simple matter of information, and if you don't have a Web site for your business yet, it's time you host one. Today, when we hear a company name, we immediately attempt to visit its Web site to find out more about it. If we don't have its Web

address, we immediately get on to Google and search for the company name.

If we don't find it within the first five minutes, we give up and decide that if Google, the *baap* of all search engines, can't find it, it isn't worth our time anyway. This is sad, and a perception that may be totally wrong in your opinion, but it is the cold harsh truth of today.

You might have thought of setting up your own little Web site. Perhaps, you do own a free Web site, which is too bland to draw attention to, leave alone publicise it.

The thought that stopped you in your tracks was, "A Web site will cost thousands a month on server maintenance and site development."

Well, you are wrong! You can set one up for just Rs 400 a year!

## The Dot-Com Domain

The first thing you need is a domain name. This is your own little postbox on the Web. You will obviously buy a domain that has your business' name in it, and set your eyes on buying a .com—unless you run a non-profit organization (.org), or are interested in setting up a .info, .biz, or a .name Web site. Let's stick with .com domains in this article, mainly because a majority of the online world associates Web sites with a .com.

Let's say you want to purchase **TheSiteYouWantToBuy.com**. You need to log onto a registrar's site and check for its availability. If you have a credit card, we suggest **www.godaddy.com**—they are reliable and have really low rates. The entire list of ICANN (Internet Corporation for Assigned Names and Numbers) accredited regis-

region-specific search engines.  
We submit to more than 200 Search Engines and Directories  
NEW! Traffic Blazer Deluxe includes EmailCounts™ to quickly & easily create HOT emails, announcements and newsletters. Package includes service to send 5,000 emails!

<b>Traffic Blazer</b> Just \$29.95 \$19.95/yr with your order! Save \$10.00! ADD TO CART No, thanks	<b>Traffic Blazer Deluxe</b> Just \$59.95 \$39.95/yr with your order! Save \$20.00! (Includes EmailCounts™) ADD TO CART No, thanks
--	--

While buying a domain, click on the 'No thanks' links to avoid needless hassles

trars is available at <http://www.icann.org/registrars/accredited-list.html>. You can find Indian registrars in the ICANN authorised lists, but they're a little more expensive.

Once you find your domain name, buy it using your credit card. Follow the standard procedure of shopping online, and remember not to choose any hosting options—a simple tip here is to steer clear of anything with a '\$' sign next to it, and look for the 'No Thanks' or 'Not at this time' links while buying your domain.

For hosting options, choose the one that lets you use a parked page or masked forwarding for free. Proceed to the 'checkout' and buy your domain. You will have to register with GoDaddy.com and create an account to manage your domain. Once you buy the domain, login and check the 'My Account' section at GoDaddy.com. You will see your domain there—congratulations, you are now a proud domain owner!

## DNS Dilemmas

Now that you have bought your domain, you need a proper DNS management service. GoDaddy.com provides basic DNS management, but it is nowhere near adequate. What you need to do is register for free DNS management services

Expires On	Status
10/18/2005	Active - Public
<a href="#">Renew Now</a>	<a href="#">Add Privacy</a>
4/10/2005	Active - Public
<a href="#">Renew Now</a>	<a href="#">Add Privacy</a>
Expires On	Status

Name Servers control how a domain name is resolved. If you are hosting with GoDaddy.com, just select Default Hosting Name Servers and we will fill in the values for you. Or, if you would like to use one of our Parked Pages until you build a site of your own, click Default Parked Name Servers.

If you will be using other Name Servers, please select Custom Name Servers and enter them in the spaces provided.

Changes to Name Servers may take up to 48 hours to take effect.

☐ Default Hosting Name Servers  
☐ Default Parked Name Servers  
☒ Custom Name Servers

Name Server 1:  \*  
 Name Server 2:  \*  
 Name Server 3:  \*

\*Required field

After you set up your ZoneEdit account, forward your domain to the name servers that ZoneEdit allotted you

such as those by ZoneEdit.com.

ZoneEdit.com offers free DNS services for up to five domains per user account. It's very noticeable that they offer better services for free, whereas some registrars charge for the same services. The Web site has no advertisements. All ZoneEdit does is forward DNS hits. Thus, your privacy is not at risk. All this is for free.

Once you register at ZoneEdit and login to your account, you can add your domain (called a 'zone' on ZoneEdit.com). The moment you add this new zone, ZoneEdit gives you two name servers, such as ns14.zoneedit.com and ns15.zoneedit.com. You need to go

Choose zone

View "thesiteyouwanttobuy.com"

IP Address:	Domain Name	IP Address
ns14.zoneedit.com	ns14.zoneedit.com	66.116.71.41
ns15.zoneedit.com	ns15.zoneedit.com	66.116.71.41

Mail Forwarding

Domain	Server	Rank
thesiteyouwanttobuy.com	Mail Forward (Not List)	0

Web Forwarding

New Domain	Destination
thesiteyouwanttobuy.com	<a href="http://www.geocities.com/thesiteyouwanttobuy/index.html">http://www.geocities.com/thesiteyouwanttobuy/index.html</a>
www.thesiteyouwanttobuy.com	<a href="http://www.geocities.com/thesiteyouwanttobuy/index.html">http://www.geocities.com/thesiteyouwanttobuy/index.html</a>

Mail Forwarding

New Address	Destination
*@thesiteyouwanttobuy.com	ns14.zoneedit.com
ns14@thesiteyouwanttobuy.com	ns15.zoneedit.com

Web Park

One View for all your forwarding in ZoneEdit

back to your registrar's site and get them to forward your domain to these name servers. Typically, this takes two days to update in the Internet's TLD (Top Level Domain) registry, till then you can start setting up your Web site.

Now, get cracking right away at ZoneEdit, if you already have a Web site hosted for free on, say, Yahoo!'s [www.geocities.com](http://www.geocities.com). If you don't then set up your Web site and come back to this part of the article after you are done.

Assuming you have a free hosted Web site (at [www.geocities.com](http://www.geocities.com), in this example) proceed to forward your domain using ZoneEdit's trademark WebForward method. Here, you can forward [www.thesiteyouwanttobuy.com](http://www.thesiteyouwanttobuy.com) to, say, [www.geocities.com/thesiteyouwanttobuy/index.html](http://www.geocities.com/thesiteyouwanttobuy/index.html), and choose the 'Cloaked' option to hide the fact that a visitor is being forwarded. All that visitors to your site will ever see in the address bar is [www.thesiteyouwanttobuy.com](http://www.thesiteyouwanttobuy.com) (See box 'Cloaking Charades: Make Your Web Site Look Professional').

You can also create e-mail aliases, and forward them to existing e-mail addresses. Hence,

1/4th Pg Ad



## Cloaking Charades: Make Your Web site Look Professional

In order to keep up the 'Professional' look of your Web site, you need to ensure that there is no trace of the 'free' hosts' domain. For example, let's say you host a free site at Geocities.com, and you WebForward your site from ZoneEdit to [www.geocities.com/thesiteyouwanttobuy/index.html](http://www.geocities.com/thesiteyouwanttobuy/index.html) using the cloaked option. As visitors type thesiteyouwanttobuy.com in their browser, they are taken to [www.geocities.com/thesiteyouwanttobuy/index.html](http://www.geocities.com/thesiteyouwanttobuy/index.html), but the browser still shows thesiteyouwanttobuy.com. Unfortunately, you may have created a second page—a 'Products' page for example—called products.html, which is linked to from your site. The minute a visitor clicks on this link, he or she will be taken to [www.geocities.com/thesiteyouwanttobuy/products.html](http://www.geocities.com/thesiteyouwanttobuy/products.html). If the visitor looks up at his address bar, he will immediately know that this site is hosted for free at Geocities.com, thus spoiling the professional appeal you hoped for.

There is a simple way to counter this: edit or create your free Web site with a ZoneEdit window open. Whenever you want to link a page to another—say from index.html to products.html—just go to ZoneEdit and create a new WebForward for the sub-domain products (products.thesiteyouwanttobuy.com) and forward it with cloaking to [www.geocities.com/thesiteyouwanttobuy/products.html](http://www.geocities.com/thesiteyouwanttobuy/products.html). Now, in your index.html page, set the link as products.thesiteyouwanttobuy.com, and do not forget to upload the products.html page to Geocities.com.

If you do this for all the links to other pages in your Web site, you can pull off a pretty decent job of masquerading as a professionally hosted Web site.

For Tips on how to design a professional looking Web site, go through the tutorial from ImageOnline on the November 2004 Digit DVD and CD.

you can just click on ZoneEdit's trademark MailForward service and add, say, sales@thesiteyouwanttobuy.com, and forward it to something@vsnl.net for example.

Now, all e-mails sent to the domain's 'sales' e-mail alias will be forwarded to your VSNL account. You can do this for each employee and each service.

You can add as many e-mail aliases as you like, and even make your company seem a lot bigger than it is by adding aliases for 'customersupport', 'sales', 'production', 'dispatch', etc, all forwarding to a different or the same address.

You can even reply from these addresses if you have access to an SMTP server from your ISP. For details see the article

titled 'A Mailman for Your Business' (September 2004 Digit, page 102).

### Free Web Sites

The easiest way to develop a professionally savvy Web site for your company is to use templates from Macromedia Dreamweaver or Microsoft Frontpage. You can also use your free host's quick site creation tool, such as Yahoo!'s PageBuilder.

We recommend using Dreamweaver and one of its templates. Remember to keep it simple with minimum graphics so that it loads quickly; this also helps you maintain a low bandwidth usage for your Web site—very important if your free host imposes per-day or per-hour bandwidth restrictions, the way Geocities.com does. The smaller

the size of each page, the faster it loads and the less bandwidth it uses up per visitor.

Remember to read through the box 'Cloaking Charades' when setting up internal page links in your Web site.

Now that you have set up your Web site, and have cloaked it to give it that professional look, do not forget to read up on search engine optimisation tips for your Web site. Nothing can get you more online business than being on one of the first three pages of a Google search for the product or service that you offer. Submit your site to Google by visiting <http://www.google.com/addurl.html>.

You can choose to use other services, however, try and get the best deal possible, and ensure that your domain is registered in your name—at times when you apply for a cheap hosting package, the registrar or hosting provider registers the domain in their name, thus forcing you to stick with them. Hence, do remember to read the fine print, both online and offline.

Our solution, use GoDaddy.com to register, ZoneEdit.com to manage DNS and Geocities.com to host for free, will cost you exactly \$8.95 (Rs 410) per year—just the cost of the domain name. All you need is a credit card, some free time and a little patience, and you can give your outfit a much needed edge.

Note that this solution cannot be compared to dedicated hosting and professional Web site development, but is merely a starting point for the millions of small Indian businesses or freelancing professionals, who can use all the help they can get. Happy Cloaking! ☒

[robert\\_smith@thinkdigit.com](mailto:robert_smith@thinkdigit.com)

# Strip Ad

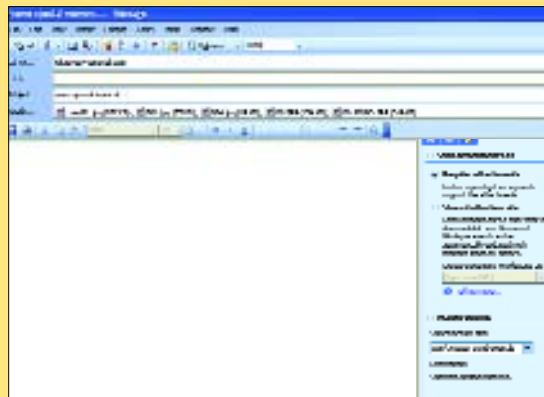
# Taking pictures—from clicking to sharing

With both a film-based and a digital camera in possession, I decided to find out which was better when it came to clicking and sharing photos. The old way entailed prints and post offices; the tech way promised a digitised solution through-and-through.

**Aliasgar Pardawala** ([aliasgar\\_pardawala@jasubhai.com](mailto:aliasgar_pardawala@jasubhai.com))



**Mailing the pictures, the old way...**



**...e-mail beats snail mail any day**

**1**

I picked up my old Kodak KZ25. It was out of film and I had to walk down to my nearest photo studio to buy a roll. Since the batteries had enough juice to last that one roll, I decided not to invest in a new set of alkaline batteries.

Time taken **15 minutes**

At 5 megapixels with 10X optical zoom, my Kodak DX6490 is a beauty. I ascertained that the batteries were usable. Preliminary check done, I headed to the menu to set the basic parameters to suit an indoor environment. I took a few sample snaps to double-check the results of the tweaking, and got ready for final shoot.

Time taken **30 minutes**

**2**

After clicking about 20 frames, I handed in the roll for development. Of course, I had to wait until the next evening to get the prints—a wait of 24 hours. The guy did offer express delivery, but that would have entailed additional cost. Cost for 20 copies, each of them 5 x 7 inches, around Rs 120.

Time taken **24 hours**

Using the onboard LCD, I was clicking and reviewing images with ease. I would click, decide whether or not to keep the picture, and click some more.

Time taken **20 minutes**

**3**

I chose five prints I wanted to share with my relatives by snail-mailing them. I put them all in an envelope, wrote out the address (which did not involve an '@' sign!) and sealed it. A drive to the local post office took around 15 minutes in Mumbai traffic. Five minutes in a queue for my turn. Stamps: Rs 8. Sticking them on and dropping the envelope into a postbox took another 5 minutes. Phew!

Time taken **25 minutes**

I plugged the camera to my PC and transferred my pictures to my hard drive. Then, I launched photo-editing software to do some post-processing and image scaling, to get them to a size suitable for e-mail.

Time taken **15 minutes**

**4**

It took four days for the prints to reach my relatives in Rajasthan! God bless the postal service.

Time taken **4 days**

After the images were trimmed to size, I started up my favourite e-mail client and attached them. An e-mail id later, the mail was off to my relatives.

Total Time Spent: **Five days, 40 minutes**  
Total cost: **Rs 230**



Total Time Spent: **65 minutes**  
Total cost: **Rs 0**



**AND  
THE  
WINNER  
IS...**

**M**y relatives received the images taken with the digital camera within a few minutes. What's more, I got a reply e-mail just as quick—all this was done in under an hour and a half. On the other

hand, the Old Way was much too time consuming and tedious. It's high time everyone who loves to share their favourite moments upgrade to a digital camera.

# Q&A

Your Questions, Our Answers

## I Can't Send My Mail

**Q** I read about YahooPOPs! in the Digit September 2004 issue. I have downloaded and installed it but it doesn't seem to be working. YahooPOPs! downloads messages from the Yahoo! server, but doesn't send mail. How do I send mail using this program?

Ramji

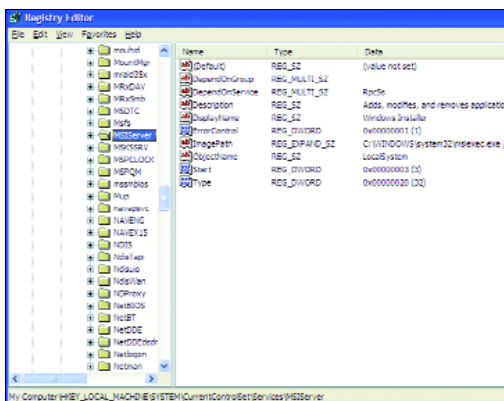
**A** By default, the software is not set to send mail. To enable sending of mail, you need to enable SMTP, which you will find within Advanced Preferences > Network.

## Cannot Install Anti-Virus Software

**Q** When I try to install Norton AntiVirus Corporate Edition on a Windows 2000 PC, I get the following error message: "Windows Installer cannot be accessed." Is it a virus that is preventing the installation? What should I do?

Praveen

**A** The problem is not due to a virus, but due to some version issues between version 1.1 and version 2.0 of the Windows Installer. To resolve the issue, you first need to locate the path of the msixec.exe file. Typically, this should be c:\winnt\system32\msixec.exe. Once you have found the path, run regedit and navigate to HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSIServer. Here, verify if the "ImagePath"



Select the source from where you want to import your photos

value is the proper path, the one you found. If it is not, correct it and close regedit. Now, restart the machine in safe mode and execute the command "msiexec /regserver" at the command prompt, or under Run.

## ISA-to-PCI adaptor?

**Q** I bought a 4.7 GB SCSI HDD with a SCSI controller card. The problem is, the SCSI card is an ISA card, and my machine does not have an ISA slot. Is there a converter for ISA to PCI? Or, is there any other way out?

Manish Mishra

**A** There is no adaptor available for this purpose. You can buy a PCI SCSI controller card and connect the HDD to your computer. Alternatively, you can buy an external SCSI drive casing and connect the drive to the PC. However, this solution will only help if the SCSI drive is an additional drive.

## Free Space Reduces All By Itself

**Q** I have a Compaq Intel Celeron 900 MHz with 128 MB of RAM, and I am running Windows XP Professional. I have noticed that the amount of free disk space keeps on decreasing, even if I don't install any new software. Many a time, I try to recover disk space using the Windows disk clean-up utility, but it does not work. Sometimes there is some gain in disk space, but as I continue to work, the free space keeps on decreasing. Even after removing a program, say 50 MB large, the equivalent amount of disk space gain is not obtained. Why is this?

Another problem is with PHP installation. I want to install and configure PHP with the php-5.0.1-installer for Windows. At one point of the installation, I am asked to configure IIS automatically. If I select this option, will I be able to run ASP programs as well? Currently, I am able to run ASP pages. Similarly, if I uninstall PHP, will my IIS settings be disturbed, making it impossible to run ASP programs?

Partha Paul

**A** To answer your first problem: Windows uses hard disk space for a variety of purposes such as swap, log files, etc. As you work with Windows, you will observe that free space is reducing—this is perfectly normal behaviour. It would be abnormal only if it were reducing at a drastic pace. You should observe the disk space at the start and at the end of your Windows sessions. You should find that the space at the start of a session is more than at the end of the previous session.

As far as deleting files is concerned, whenever you delete files they go to the Recycle Bin, so you would not observe a change in free disk space. You will only find an increase in disk space when the Recycle Bin is emptied, or if files are permanently deleted.

## Getting Slow, Slow, Slower

**Q** I have a Wipro Super Genius 10845GL-m with a P4 1.7 GHz processor, 128 MB of RAM, a 40 GB HDD and an LG CD writer. I run Windows XP Home Edition with Service Pack 2. My problem is, the computer has recently gotten too slow. It takes ages to start applications. It takes almost five minutes to start applications such as Norton AntiVirus, Microsoft Outlook, Outlook Express, etc. I want a solution to this, and also want to learn how to re-install Windows.

Malay Kurwa

**A** To resolve the issue you will need to check a few important things. First, you need to open up the cabinet and check if dust is covering the parts. If it is, clean them with a dry cloth. Second, verify that the CPU fan is working properly. There should be no sudden increase or decrease in rotation speed. Clean the dust from the power supply and check the power supply fan movement as well. Finally, check if your machine is getting too hot when you use it for around 3 to 4 hours.



If it is, you need to improve the air flow and cooling. Depending upon your cabinet, try to add a system fan. Or else, keep the cabinet open when you plan to work for long.

On the software front, run **msconfig** and remove any unnecessary services that start up with Windows each time. Next, use **scandisk** to find and eliminate any errors. Also defragment your drive.

Installing Windows is a breeze. Just make a backup of all the important files on your C drive on any other partition. Also copy your Outlook or Outlook Express mail folders. If you want to format the C drive, you can do so during the install. Formatting is always recommended as it will erase all unnecessary files residing on the C drive—but do not

forget to take a backup of all your important files. Re-installing Windows will not affect any partition other than the one you do the installation on.

It could be due to a virus as well. Make sure you have anti-virus software that is up-to-date with the current virus definitions.

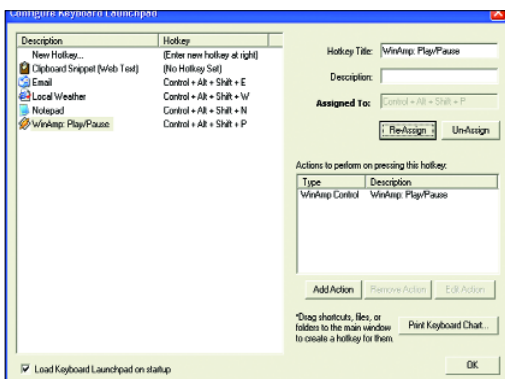
The PHP installer will add settings needed for PHP to work properly with IIS. It does not erase the settings ASP needs. Your ASP pages will work.

## Assigning Hotkeys

**Q** I run Windows 98 on my computer, along with programs such as MS Office, PageMaker, etc. I want to use a tool called dictionary.exe along with these programs, and I want to assign a keyboard key to work as a hotkey for launching the application. How do I do it?

Nilesh Waghulde

**A** For assigning hotkeys, you can find free tools such as Keyboard Launchpad 1.0



Select the source from where you want to import your photos

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(<http://www.softpedia.com/public/cat/13/11/13-11-44.shtml>) on the Net.

## Sound Card Works With Win XP But Not With Win 98

**Q** I have a PC with an Intel Celeron 2 GHz processor with a D-Link motherboard, an Intel 845GV graphics controller, onboard Soundmax Digital Audio, a Motorola modem, and other stuff. The quality of the onboard sound is not as good as that from the PCI CMedia sound card, so I disabled onboard sound and installed the CMedia sound card. The problem is, it does not get detected in Windows 98 although it works perfectly with XP. Furthermore, it works fine at my friends place with Windows 98. What's up?

Sanju

**A** The problem would be due to a resource conflict with some other device on the system. To get around this problem, you should first check the BIOS settings, and disable all unused devices. Also verify that IR settings are set to Auto. If the problem persists, try installing the card in a different PCI slot. If you still have the problem, try removing other PCI cards, such as the modem, one by one, and see if the sound card gets detected. If it does not get detected even after removing all the other PCI cards, you will need to bring in an engineer.

## Unable To Defrag

**Q** I have an HCL Infinity Pro with a 40 GB disk, divided into two 20 GB partitions. The problem is, in NTFS, Defragmenter does not work.

## How to...

# Install Applications On Your Handheld

Deepak Dhingra

Owning a handheld is one of the best indications that you have arrived in the digital world. A PDA helps you organise your life and makes you more efficient. Though most of the default applications installed on a handheld are quite useful, you would definitely need to install some more applications and games to get the best out of one.

Here we illustrate how to install applications on your Pocket PC handheld.

**STEP 1** The first step is to connect your PDA to your PC. Install Microsoft ActiveSync on the PC first, and connect your PDA to the PC. The PC will recognise the new device and ask you what

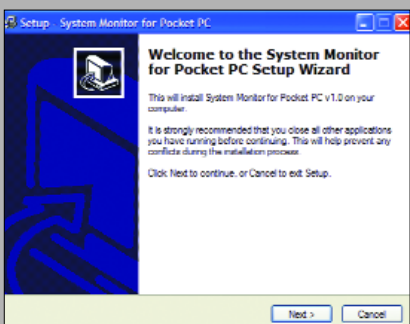


Establishing a 'partnership' on a Pocket PC

type of partnership is required. Select **Guest Partnership** and click **Next**.

The ActiveSync Window will pop up and show you the "connected" status on the PC, and a confirmation message will be displayed on the handheld as well.

**STEP 2** Using your PC, download the handheld application you wish to install. Extract the setup files if the file you downloaded is a Zip archive. Run the setup executable. The program will ask to confirm whether you want to

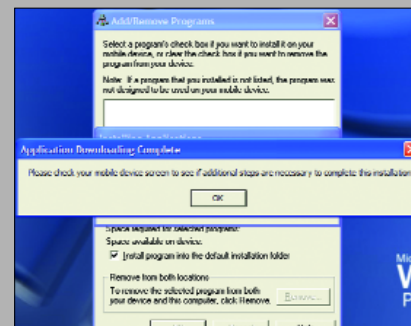


Run the setup utility of the application you wish to install to your Pocket PC

continue with the installation. Click **Yes** and follow the installation wizard.

**STEP 3** The setup will retrieve the application data from the device and confirm whether you wish to install the application into the default install directory. Click **Yes** to continue, or **No** to select a different directory.

Application installation on your Pocket PC is now complete. A final message asks



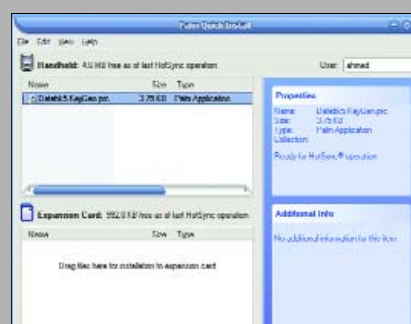
A confirmation dialog after a successful installation

you to check whether any additional steps are required on your handheld.

## PALM

Installing an application on the Palm is just the simple task of dragging the right files to the Quick Install utility. Applications for Palm come in two varieties—either as a PDB, a database file, or as a PRC, a resource file. The process remains the same. Just as ActiveSync is to the Pocket PC, HotSync is to a Palm handheld—it helps install and synchronise files between your computer and handheld.

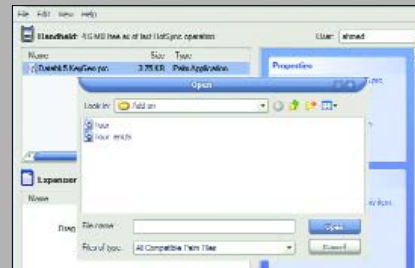
**STEP 1** The first thing to do is to install the Palm Desktop software on your computer. This will install the HotSync manager and the Quick Install utility. If this is your first time installing it, you will be asked for a username. Start



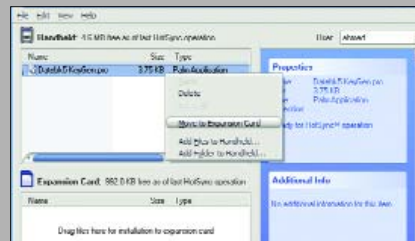
The upper window is for your Palm, while the lower belongs to the external card

Palm Desktop after the installation completes and look for the Quick Install icon on the left pane of the application. Click on it and head to the next step.

**STEP 2** Installation is a drag-and-drop process. Within Quick Install, the upper window represents your Palm's local memory while the lower window is for SD or MMC cards. As a rule of thumb, applications go in the



Drag-and-drop or use the 'Open' dialog



A file can be moved to a card or deleted

upper window, and multimedia files go in the lower window (assuming you have a card). Locate either the PRC or the PDB file you need to install, and drag it to either of the two windows.

**STEP 3** Now you need to HotSync the files. This need not be immediate. You can close Quick Install after Step 2 and come back later to do the HotSync. The application will be installed after the HotSync process is complete.

**Note:** Always remember to check how much available memory you have on the PDA. This is indicated by Quick Install.

**Bonus Note:** Although Palm's default OS requires that an application reside in its local memory and not on an external card, you can use a third-party tool to move applications to SD or MMC—this is very helpful if you are running low on local memory. Applications will take longer to start up from a card, but hey, it is a good bargain. zLauncher is one such application which we heartily recommend.

deepak\_dhingra@thinkdigit.com

Scandisk shows no bad sectors. I have checked for hardware failures, but all seems OK. I have four other similar PCs, and all have the same problem.

Himanshu

**A** To resolve the issue, use Notepad to open the scandisk.ini file within the Windows\Command folder. In this file, search for the [Environment] section. Within this section, modify the lines for ScanTimeOut and NumPasses as below:

```
ScanTimeOut=On
NumPasses=5
```

If the [Environment] section is missing, add the section at the bottom of the file as below:

```
[Environment]
ScanTimeOut=On
NumPasses=5
```

Save and close the file, then restart the computer in DOS mode. At the prompt, execute scandisk. Repair any errors. After scandisk is done, type in "exit" and hit [ENTER] to get back to Windows. Run Defragmenter again. If the error persists, run Defragmenter to only consolidate free space. After that, defragment files only, and then perform a full defrag (both files and free space).

In order to run Defragmenter to only consolidate free space, click **Advanced**, click **Consolidate Free Space Only**, and then click **OK**. When Defragmenter completes, do not quit: instead, click **Advanced**, click **Defragment Files Only** and then click **OK**. Once again, do not quit when Defragmenter completes—click **Advanced**, click "Full defragmentation (both files and free space)," and then click **OK**. This should solve your problem.

If it does not, contact the manufacturer of your computer or hard disk to enquire about additional workarounds that may correct the problem.

## Menu Names In Photoshop CS Show Up In A Foreign Language

**Q** I have installed Photoshop CS as well as ImageReady. The problem is that Photoshop does not show menu names in English, while ImageReady does. How do I solve the problem?

Cyril Barot

**A** You need to add or modify the following registry keys. Copy the following lines into Notepad and save the file with a .reg extension. Close the .reg file, then double click on it. This will add the lines to the registry. Photoshop should now be OK.

```
HKEY_CLASSES_ROOT\Interface\{9414F179-C905-11d1-92CC-00600808FC44} = IPhotoshopApplication
HKEY_CLASSES_ROOT\Interface\{9414F179-C905-11d1-92CC-00600808FC44}\TypeLib = {4B0AB3E1-80F1-11cf-86B4-444553540000}
HKEY_CLASSES_ROOT\Interface\{9414F179-C905-11d1-92CC-00600808FC44}\ProxyStubClsid32 = {00020424-0000-0000-C000-000000000046}
```

 [sos@jasubhai.com](mailto:sos@jasubhai.com)

E-mail us your computing problems, and we may answer them here! Since we get more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

## It's Just The Battery

**Q** My processor is a Pentium 4 2.4 GHz. When I turn on my computer, the first screen shows up the following error: "CMOS CHECKSUM ERROR-Defaults Loaded. Press F1 to Continue."

When I press F1, the system boots up and works properly, but the clock tells the wrong time. When I change the CMOS settings from the BIOS and restart the system after some time, it displays the same error message.

Is this a jumper setting problem? What can I do to make the error screen go away?

Sanjeev Nehra

**A** The CMOS checksum error flashes on the screen when the CMOS batteries drain out. Just replace the CMOS battery.

## RAM Stick Compatibility

**Q** I have a P4 1.7 GHz, 128 MB of PC133 SDRAM, and a GeForce 4 Mx-420 64 MB video card. I want to attach another 128 MB SDRAM stick of the same speed (PC133). But every time I put it in, no programs work properly, especially games. But when I use only the new stick, programs work fine.

Sandeep

**A** There is a compatibility problem between your older and recently purchased memory modules. The speed of the memory modules being the same does not necessarily mean they have identical characteristics at the chip level. For example, check the CAS latency of the two memory modules. We recommend that you replace your old memory module, and use a brand new set.

## Low 3DMark 2003 Score

**Q** I have a P4 2.8 GHz HT (LGA775 Socket), an original Intel 915GAV, a 512 MB Hynix DDR 400 MHz RAM stick (single channel), and an 80 GB Seagate Barracuda hard disk. The OS is Windows XP with SP2, and with all the latest patches and updates. I've updated Norton AntiVirus 2004 with Norton Internet Security. Despite having the latest hardware and software updates, my 3D Mark03 score is only 265.

Will upgrading to dual-channel memory be worth the money?

Sandip Padte

**A** A score of 265 in 3DMark 2003 is low. We think there may be a settings problem or a driver problem. Also, when you were benchmarking the system, what programs were running in the background? Norton AntiVirus and Internet Security should ideally not be running—they take up a lot of resources. Check the driver version of the onboard graphics adapter and see if Intel has released any new versions. If it has, download and install them. There is also the possibility that SP2 is responsible for the low 3DMark 2003 score. ☒



COMMUNICATION  
SPECIAL

# The Cell Phone Buyers' Guide

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# Let's Talk!

We scoured shops, visited company web sites, called up company helplines, spoke to readers, and even traced long-lost friends, to source information on the 100-plus cellular phone models officially available in India.

October 18, 2004 could have been just another day for Indians—hot, humid, and dehydrating. But, three events took place that day, and each had the potential to turn history around.

The rains at Chennai exposed the pathetic water draining systems at Indian stadia, and denied India a much-needed victory against Australia in the second Test of the Border-Gavaskar trophy. Later in the day, murderer, smuggler, kidnapper, and national nuisance Veerappan was shot dead in the Satyamangalam forests on the Karnataka-Tamil Nadu border.

But perhaps the most important news event of the day almost went unnoticed. For the first time in history, the number of mobile phones exceeded the number of landlines in the country. While cellular subscribers crossed the 44 million mark, fixed lines were at 43.82 million.

It is as much an evidence of India's fast growth to becoming a telecommunications giant, as much as the fact that the cellular phone growth has been led by a fundamental need of any growing economy—cheap, effective communication that is accessible to every person.

It is only natural, then, that Digit, India's most trusted source on personal technology, would publish the country's most exhaustive cellular phone buyers' guide for its readers.

Twenty-one pages of all the information you would ever want about buying cell phones in India.

When the Digit team started compiling information for the products available in the market, we thought it would be as easy as apple pie. It was not. Company web sites were woefully inadequate, sales representatives and

dealers were not forthcoming (or worse, ignorant), and there was no single source of information on even the number of phone models currently available in the market.

We scoured shops, visited company web sites, called up company helplines, spoke to readers, and even traced long-lost friends, to source information on the 100-plus cellular phone models officially available in India. The result is the 21 pages you would read now.

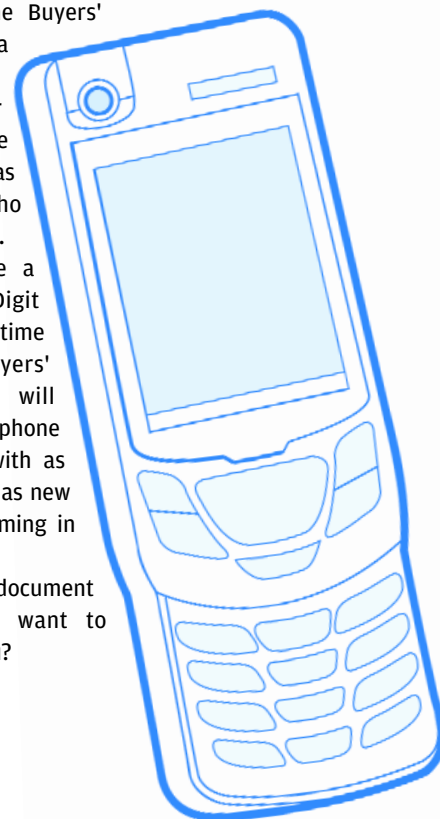
Navigating through the Buyers' Guide is child's play. Neatly headlined, and divided into various categories like basic, mid-end, high-end and PDA phones, the Guide is not just a listing of tabulated data. We have also included value-added features like tips and tricks, a primer on mobile etiquette, questions you simply must ask the dealer before you buy a phone, etc.

We hope the Buyers'

Guide would be a useful reference document for both first-time buyers, as well as for those who want to upgrade.

It would be a travesty if Digit publishes a one-time Cellphone Buyers' Guide. Digit will publish the Cellphone Buyers' Guide with as much regularity as new models keep coming in the market.

This is one document you just don't want to misplace, do you?



## BASIC PHONES



BRAND		Alcatel	Alcatel	Alcatel	Alcatel	Benq	Benq
Model		One Touch 320	One Touch 331	One Touch 332	One Touch 535	M100	S620i
Basics	Network	Dualband	Dualband	Dualband	Dualband	Triband	Dualband
	Dimensions (L x W x D) (mm)	106 x 45 x 20	98 x 42 x 20	98 x 42 x 21	106 x 47 x 20	102 x 44 x 18	84.9 x 46 x 19.2
	Weight (gm)	80	77	77	87	86	90
	Design	Bar	Bar	Bar	Bar	Bar	Clamshell
	Antenna	Internal	Internal	Internal	Internal	Internal	External
	Screen Colours	Mono	Mono	4,096	4,096	65,536	Mono
	Screen Resolution	112 x 64	96 x 65	96 x 65	128 x 128	128 x 128	98 x 64
	Navigation	2-Way	3-Way	3-Way	5-way joystick	5-Way	2-way
	Phonebook Capacity	100	250	NA	800	500	100
	Messaging (SMS, MMS, EMS)	SMS	SMS, EMS	SMS, EMS	SMS, MMS, EMS	SMS	SMS
	Memory	NA	NA	NA	NA	NA	NA
	Ring Tones	Polyphonic	Polyphonic	Polyphonic	NA	Polyphonic	NA
	Battery Type	Li-Ion (700 mAh)	Li-Ion (600 mAh)	Li-Ion (600 mAh)	Li-Ion (800 mAh)	Li-Ion (760mAh)	Li-Ion (659 mAh)
	Talk Time (Hrs)	7	6	6	7	3	5
	Standby Time (Hrs)	120	280	230	300	120	210
Features	Camera	✗	✗	✗	✗	✗	✗
	Video Capture	✗	✗	✗	✗	✗	✗
	Flash (Y/N)	✗	✗	✗	✗	✗	✗
	FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗
	Loudspeaker	✓	✓	✓	✗	✗	✗
	MP3 Player	✗	✗	✗	✗	✗	✗
	Push-To-Talk Radio	✗	✗	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓	✓	NA
	Calendar	✓	✗	✗	✓	✓	✓
	Email	✗	✗	✗	✗	✗	✗
	Mobile Chat	✗	✗	✗	✗	✗	✓
	Predictive Text	✓	✓	✓	✓	iTap	T9
	To-Do List	✗	✗	✗	✓	NA	✓
Applications	Ringtone Composer	✗	✓	✓	✓	NA	✓
	Voice Recorder	✗	✗	✗	✓	✗	✓
	Voice Commands	✗	✗	✗	✓	✗	✓
	WAP	✗	✓	✓	✓	✗	✓
	Java Support	✗	✗	✗	✗	✗	✗
	Bluetooth	✗	✗	✗	✗	✗	✗
	Data Cable	✗	✗	✗	✓	✗	✗
	GPRS	✗	✗	✗	✓	✗	✗
	HSCSD	✗	✗	✗	✗	✗	✗
	Infrared Port	✗	✗	✗	✓	✗	✗
	PC Sync	✗	✗	✗	✓	✗	✗
	Price (in Rs)	2,800	3,100	4,599	6,250	5,990	4,990
	Web Site	www.my-onetouch.com					

**1G (First Generation Wireless)** First generation of wireless technology (analog cell phones). The systems were designed only to carry voice technology.

**2G (also known as PCS—Personal Communications Services)** Second generation of wireless technology (digital cell phones). 2G converts

voice to digital data for transmission over the air and then back to voice.

**3G (Third Generation Wireless)** Next generation of wireless technology which provides high speed data transmissions (up to 2Mbps) and the ability to roam globally.



Benq	Benq	Benq	Bird	Bird	Bird
5630i	M560G	M820C	S288	S1160	S1190
Dualband	Dualband	Dualband	Dualband	Dualband	Dualband
84.9 x 46 x 19.2	106 x 45 x 20	87 x 45 x 19	103 x 44 x 12	85 x 44 x 19.6	85.3 x 44.2 x 20.8
NA	80	98.5	65	83	78
Clamshell	Bar	Clamshell	Bar	Clamshell	Clamshell
External	Internal	External	Internal	External	External
Mono	Mono	4,096	Mono	Mono	4,096
98 x 64	NA	128 x 160	112 x 80	112 x 64	102 x 80
NA	NA	NA	NA	NA	NA
100	500	500	300	NA	200
SMS, EMS, NMS	NA	SMS, EMS, MMS	SMS	SMS	SMS
NA	NA	NA	NA	NA	NA
NA	Polyphonic	Polyphonic	Polyphonic	NA	Polyphonic
Li-Ion	Li-Ion	Li-ion (580 mAh)	Li-Ion (550 mAh)	Li-Ion (550 mAh)	Li-Ion (800 mAh)
5	3	NA	2.5	2	5
210	210	NA	220	100	150
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✓	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
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✓	✗	✗	✗	✗	✗
✓	✗	✓	✗	✗	✗
✓	✗	✗	✗	✗	✗
✓	✓	✓	✗	✗	✗
✗	✗	✓	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✓	✓	✗	✗	✓
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✓
4,990	4,200	NA	3,999	3,400	4,500
www.benq.com			www.chinabird.com		

## 5 Questions you must ask your dealer before buying a cell phone

- ❑ What is the guarantee/warranty period and type?
- ❑ Where is the nearest service center?
- ❑ Is the hands-free set, really free with this phone?
- ❑ Does the phone have any reception issues?
- ❑ Is this model still in production by the company?

### A Word Of Caution!

- ❑ Remember to always back up your SIM card or CDMA phone's data. If either of these are damaged, and have to give it in to a service centre for days, you will be lost without all your contact information.
- ❑ When travelling, if you know that you will be away from a power socket for a long time, switch off the phone's vibrator as it uses a lot more power than the ringer.

### Did You Know?

- ❑ When you are roaming, your battery is used more, because when ever you are out of range, your phone continuously searches for a signal.
- ❑ Each phone has a specific point that should not be covered, because beneath this point lies its inbuilt antenna. You may also face reception problems if you place your hand over this point while on a call.

**4G** (Fourth Generation Wireless) Communications systems that offer data rates at 20+ Mbps, suitable for high-resolution movies and television. Initial deployment is anticipated in 2006-2010.

**Air Interface** A wireless network's operating system, enabling communication between a cellular phone and its carrier.

**Automatic Answer** Allows users to answer incoming calls without pressing any keys.

**Backlit Illumination** Illuminates a wireless device's display and keypad for better low light viewing.

**Bluetooth** A wireless Personal Area Network (PAN) specification that

## BASIC PHONES



	BRAND	Kejian	LG	LG	Motorola	Nokia	Nokia
	Model	K288	G1500	G3100	C350E	3315	2100
Basics	Network	Dualband	Dualband	Dualband	Dualband	Dualband	Dualband
	Dimensions (L x W x D) (mm)	107.5 x 46.5 x 20	107 x 43 x 22	107 x 43 x 22	NA	113 x 48 x 16	105 x 44 x 20
	Weight (gms)	76	85	85	85	114	85
	Design	Bar	Bar	Bar	Bar	Bar	Bar
	Antenna	Internal	Internal	Internal	Internal	Internal	Internal
	Screen Colours	4,096	Mono	4,096	4,096	Mono	Mono
	Screen Resolution	102 x 80	128 x 64	NA	96 x 65	NA	96 x 65
	Navigation	4-Way	2-way	3-way	NA	NA	2-way
	Phonebook Capacity	200	200	150	100	NA	100
	Messaging (SMS, MMS, EMS)	SMS, EMS, MMS	SMS	SMS, EMS	SMS, EMS	SMS	SMS
	Memory	Normal	NA	NA	NA	NA	NA
	Ring Tones	40-chord	Standard	Standard	Polyphonic	Standard	NA
	Battery Type	Li-Ion	Li-Ion (850 mAh)	Li-Ion (760 mAh)	Li-Ion (600 mAh)	Li-Ion (825 mAh)	Li-Ion (720 mAh)
	Talk Time (Hrs)	3	4	2	4.8	3	3.2
	Standby Time (Hrs)	200	250	200	215	250	150
Features	Camera	✗	✗	✗	✗	✗	✗
	Video Capture	✗	✗	✗	✗	✗	✗
	Flash (Y/N)	✗	✗	✗	✗	✗	✗
	FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗
	Loudspeaker	✗	✓	✗	✗	✗	✗
	MP3 Player	✗	✗	✗	✗	✗	✗
	Push-To-Talk Radio	✗	✗	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓	✓	✓
	Calendar	✓	✓	✓	NA	✗	NA
	Email	✗	✗	✗	✗	✗	✗
	Mobile Chat	✗	✗	✗	NA	✓	✓
	Predictive Text	✓	T9	✓	iTap	NA	T9
	To-Do List	✓	✗	✓	NA	NA	✗
	Ringtone Composer	✗	✗	✗	✗	NA	✓
Applications	Voice Recorder	✗	✗	✗	✗	✗	✗
	Voice Commands	✗	✗	✗	✗	✗	✗
	WAP	✓	✓	✓	✓	✗	✗
	Java Support	✗	✗	✗	✗	✗	✗
	Bluetooth	✗	✗	✗	✗	✗	✗
	Data Cable	✓	✗	✗	Na	✗	✗
	GPRS	✓	✓	✓	✓	✗	✗
	HSCSD	NA	✗	✗	✗	✗	✗
	Infrared Port	✗	✗	✗	✗	✗	✗
	PC Sync	✓	✗	✗	✓	✗	✗
	Price	5,580	3,250	4,800	4700	3,399	4,449
	Web Site	<a href="http://www.kejian.com.cn">www.kejian.com.cn</a>	<a href="http://www.lgezbuy.com">www.lgezbuy.com</a>		<a href="http://www.motozone.yahoo.co.in">www.motozone.yahoo.co.in</a>		
Connectivity							
More							

connects phones, computers, appliances, etc, over short distances without wires by using low power radio frequencies.

**CDMA (Code Division Multiple Access)** A type of digital wireless technology that allows large amounts of voice and data to be transmitted on the same frequency.

**Cellular Service** A wireless telephone service that provides two-way voice and data communications through handheld, portable, and car-mounted phones via geographic areas called cells.

**CLI (Calling Line Identification)** A feature that shows you the number and sometimes the name of an incoming caller.



Nokia	Nokia	Nokia	Nokia	Panasonic	Philips	Philips	Sagem
1100	2300	3120	3100	G51	330	630	MyC-1
Dualband	Dualband	Triband	Triband	Triband	Dualband	Dualband	Dualband
106 x 46 x 20	107 x 46 x 20	102 x 43 x 15	102 x 43 x 15	80 x 43 x 18	79 x 43 x 18.5	83 x 43 x 22	99 x 45 x 21
86	92	99	85	74	82	78	89
Bar	Bar	Bar	Bar	Bar	Clamshell	Clamshell	Bar
Internal	Internal	Internal	Internal	External	External	External	Internal
Mono	Mono	4,096	4,096	4,096	Mono	4,096	256
96 x 65	97 x 65	129 x 128	128 x 128	128 x 96	101 x 80	128 x 128	101 x 80
2-way	4-way	4-Way Keypad	4-way	NA	5-way	4-way	4-way
50	NA	NA	300	255	NA	300	250
SMS	SMS	SMS, MMS	SMS, EMS, MMS	SMS, EMS	SMS, EMS, MMS	SMS, EMS	SMS, EMS
NA	NA	NA	450 KB	NA	4 MB	NA	NA
Polyphonic	Polyphonic	Polyphonic	16-chord	40-chord	32-chord	32-chord	Polyphonic
Li-Ion (850 mAh)	Li-Ion	Li-Ion (850 mAh)	Li-Ion (850 mAh)	Li-Ion (780 mAh)	Li-Ion (600 mAh)	Li-Ion (560 mAh)	Li-Ion
4.3	4.3	4	6	2.5	2.3	2.5	5
400	400	288	410	200	400	200	340
✗	✗	✗	NA	✗	✗	✗	✗
✗	✗	✗	NA	✗	✗	✗	✗
✓	✗	✗	NA	✗	✗	✗	✗
✗	✓	✗	NA	✗	✗	✗	✗
✗	✓	✓	✓	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	NA
✗	✗	✓	NA	NA	✓	✓	NA
✗	✗	NA	✓	NA	✗	✗	✗
✓	✓	✓	✓	NA	✗	NA	NA
T9	T9	T9	T9	T9	T9	T9	T9
✗	✗	NA	✓	✗	✓	✓	NA
✓	✗	✓	✓	NA	✗	✗	NA
✗	✗	✗	✗	✗	✓	✗	✗
✗	✗	✗	✗	✗	✓	✗	✗
✗	✗	✓	✓	✓	✓	✓	✓
✗	✗	✓	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✓	✓	✓	✗	✓	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
NA	✗	✗	✓	✗	✗	✓	✗
3,499	5,289	6,799	6,499	6,990	4,400	8,395	NA
www.nokia.co.in				www.panasonic.com	www.philips.com		

## GLOSSARY

**Cloning** A crime whereby criminals capture identity codes from analog phones and create "clone" IDs allowing them to charge calls to your cell phone account. Digital phones cannot be cloned in this way and are also less vulnerable to eavesdropping than analog phones.

**Dual-Band** A wireless device that operates on both 800 MHz and 1900

MHz digital networks to send and receive calls; basically, the phone operates in either digital cellular or PCS frequencies.

**GPRS (General Packet Radio Service)** A technology standard for high-speed data transmission over GSM networks. GPRS sends data over packets rather than via circuit switch connections on cellular networks

## BASIC PHONES



BRAND		Sagem	Sagem	Samsung	Samsung	Sony Ericsson	Sony Ericsson	Siemens
Model		MyX-2	MyX3-2a	SGH-C100	SGH-X100	T105	T230	A60
Basics	Network	Dualband	Dualband	Dualband	Dualband	Dualband	Dualband	Triband
	Dimensions (L x W x D) (mm)	99 x 45 x 21	100 x 45 x 21	111 x 45 x 17	110 x 45 x 19.9	99 x 44 x 18	101 x 43.9 x 19	110 x 47 x 23
	Weight (gms)	89	89	76	85	75	79.2	85
	Design	Bar	Bar	Bar	Bar	Bar	Bar	Block
	Antenna	Internal	Internal	Internal	Internal	Internal	Internal	Internal
	Screen Colours	256	4,096	65,536	65,536	Mono	4,096	4,096
	Screen Resolution	101 x 80	101 x 80	128 x 128	128 x 128	101 x 67	101 x 80	101 x 80
	Navigation	4-way	4-way	4-way	4-way	2-way	5-way joystick	4-way
	Phonebook Capacity	250	500	500	1000	100	NA	100
	Messaging (SMS, MMS, EMS)	SMS, EMS	SMS, EMS, MMS	SMS, EMS	SMS, EMS, MMS	SMS, EMS	SMS, EMS, MMS	SMS, EMS
Features	Memory	NA	NA	300 KB	9 MB	NA	NA	550 KB
	Ring Tones	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Standard	Polyphonic	Polyphonic
	Battery Type	Li-Ion	Li-Ion	Li-Ion (780 mAh)	Li-Ion (900 mAh)	Li-Ion (700 mAh)	Li-Ion (670 mAh)	Li-Ion (700 mAh)
	Talk Time (Hrs)	5	5	2.5	5	4	12	5
	Standby Time (Hrs)	340	340	90	360	200	300	250
	Camera	✗	✗	✗	✗	✗	✗	✗
	Video Capture	✗	✗	✗	✗	✗	✗	✗
	Flash (Y/N)	✗	✗	✗	✗	✗	✗	✗
	FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗	✗
	Loudspeaker	✗	✗	✗	✗	✗	✗	✗
Applications	MP3 Player	✗	✗	✗	✗	✗	✗	✗
	Push-To-Talk Radio	✗	✗	✗	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓	✓
	Calculator	NA	✓	✓	✓	✓	✓	✓
	Calendar	NA	NA	✓	✓	✓	✓	✗
	Email	✗	NA	NA	NA	✓	✓	✗
	Mobile Chat	NA	NA	NA	NA	✓	✗	✗
	Predictive Text	T9	T9	T9	T9	T9	T9	T9
	To-Do List	NA	NA	✓	✓	✗	✓	✗
	Ringtone Composer	NA	NA	NA	NA	✓	✓	✗
Connectivity	Voice Recorder	✗	✗	NA	✓	✗	✓	✗
	Voice Commands	✗	✗	NA	NA	✗	✗	✗
	WAP	✓	✓	✓	✓	✓	✓	✓
	Java Support	✗	✗	✓	✓	✗	✗	✗
	Bluetooth	✗	✗	✓	NA	✗	✗	✗
	Data Cable	✗	✗	NA	NA	✗	✓	✓
	GPRS	✗	✓	✓	NA	✗	✓	✓
	HSCSD	✗	✗	NA	NA	NA	NA	✗
	Infrared Port	✗	✗	✓	✗	✗	✗	✗
	PC Sync	✗	✗	NA	NA	✗	NA	✓
More	Price	5,199	6,199	5,800	6,769	3,495	4,990	5,390
	Web Site	www.sagem.com		www.samsung.com/in		www.sonyericsson.com		www.siemens.com

which allows for “always on” wireless data connections and speeds up to 115Kbps.

**GPS (Global Positioning System)** A system of 24 satellites, computers, and receivers that is able to determine the latitude and longitude of a receiver on Earth. By triangulation of signals from three of the satel-

lites, a receiving unit can pinpoint its current location anywhere on earth to within a few meters.

**GSM (Global System for Mobile Communications)** A type of digital wireless network which has been widely deployed throughout the world. GSM currently operates using three frequencies: 900MHz,

## MID-RANGE PHONES



	Alcatel	Benq	Benq	Benq	Benq	Geo	Geo
Model	One Touch 735	M300	S670C	S660C	S830C	GC688	GV500
Network	Dualband	Triband	Triband	Triband	Dualband	Quadband	Dualband
Dimensions (L x W x D) (mm)	106 x 47 x 19.5	102 x 44 x 18	80.5 x 44 x 22	80.5 x 44 x 22	87.5 x 44.9 x 20.7	85 x 44 x 23.5	98.5 x 47 x 19
Weight (gms)	89	85	80	75	98	80	87
Design	Bar	Bar	Clamshell	Clamshell	Clamshell	Slider	Bar
Antenna	Internal	Internal	External	External	External	Internal	Internal
Screen Colours	4,096	65,536	65,536	65,536	4,096	262,000	65,536
Screen Resolution	128 x 128	NA	128 x 128	128 x 128	128 x 160	36 x 28.5	30 x 40
Navigation	5-way Joystick	5-way Joystick	5-way Joystick	5-way Joystick	5-way Joystick	5-way	Joystick
Phonebook Capacity	800	NA	500	500	400	NA	NA
Messaging (SMS, MMS, EMS)	SMS, EMS, MMS	SMS, EMS, MMS	SMS, MMS, EMS	SMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS
Memory	NA	NA	300 KB	500KB	NA	NA	NA
Ring Tones	Polyphonic	Polyphonic	Polyphonic	Polyphonic	10-Tones	64-chord	Polyphonic
Battery Type	Li-Ion (800 mAh)	Li-Ion	NA	Li-Ion	Li-Ion (700mAh)	Li-Ion (550 mAh)	Li-Ion
Talk Time (Hrs)	7	5	3	2	3	NA	Na
Standby Time (Hrs)	300	150	120	100	150	NA	Na
Camera	✗	✓	NA	✗	✗	✓	✓
Video Capture	✗	NA	✗	✗	✗	NA	✓
Flash (Y/N)	✗	✗	✗	✗	✗	✗	NA
FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗	NA
Loudspeaker	✗	✗	✗	✗	✗	✗	NA
MP3 Player	✗	✗	✗	✗	✗	✗	NA
Push-To-Talk Radio	✗	✗	✗	✗	✗	✗	NA
Alarm Clock	✓	✓	✓	✓	✓	✓	NA
Calculator	✓	✓	✓	✓	✓	✓	NA
Calendar	✓	✗	✓	✓	✓	✓	NA
Email	✓	✓	NA	✗	✗	✗	NA
Mobile Chat	NA	NA	NA	✗	✗	✗	NA
Predictive Text	✓	NA	NA	✓	✗	✗	NA
To-Do List	✓	NA	NA	✗	✓	NA	NA
Ringtone Composer	✓	NA	✗	✗	✗	✗	NA
Voice Recorder	✓	✗	✗	✗	✓	✗	NA
Voice Commands	✓	✗	✗	✓	✓	✗	NA
WAP	✓	✓	✓	✓	✓	✓	✓
Java Support	✗	✗	✓	✓	✓	✗	NA
Bluetooth	✗	✗	✗	✗	✗	✗	✗
Data Cable	✗	✗	✓	✓	✓	✓	NA
GPRS	✓	✓	✓	✓	✓	✓	✓
HSCSD	✗	✗	✗	✗	✗	✗	NA
Infrared Port	✓	✗	✗	✗	✓	✗	✗
PC Sync	✓	✗	✓	✓	✓	✓	✓
Price	8,990	8,900	12,500	6,750	NA	13,200	9,900
Web Site	www.my-onetouch.com	www.benq.com				NA	

1800MHz and 1900MHz.

**HSCSD (High Speed Circuit Switched Data System)** Enables data transmission over current GSM networks at speeds of up to 43.2 kbps. HSCSD does this by using multiple channels.

**iDEN (Integrated Digital Enhanced Network)** A wireless technology by

Motorola that combines two-way radio, telephone, text messaging and data.

**IrDA (Infrared)** Allows cell phones, PDAs, and other devices to connect to each other for various purposes. IrDA requires line-of-sight transmission like a TV remote control.



Kejian	LG	LG	LG	LG	Motorola	Motorola	Nokia
K698	G5300	G5400	G5600	G7100	C650	E365	6100
Dualband	Dualband	Dualband	Dualband	Dualband	Triband	Dualband	Triband
84 x 44 x 21	106 x 44 x 22	86 x 46 x 22	105 x 43 x 19	89 x 46 x 24	103 x 44 x 20	107 x 45 x 20	102 x 44 x 13
91	85	85	90	99	92	93	76
Clamshell	Bar	Clamshell	Bar	Clamshell	Bar	Bar	Bar
externa	Internal	External	Internal	External	Internal	Internal	Internal
260 KB	65,536	65,536	65,536	65,536	65,536	65,536	4,096
128 x 160	128 x 128	128 x 160	128 x 160	128 x 160	128 x 128	128 x 160	128 x 128
4-Way	2-way	NA	NA	4-Way	2-way	5-way	4-way
500	NA	200	500	200	1000	300	300
SMS, EMS, MMS	SMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, MMS, EMS	SMS, EMS, MMS
32 MB	NA	1.3 MB	NA	1.3 MB	1.8 MB	2 MB	669 KB
Polyphonic	Polyphonic	NA	Polyphonic	32-Tones	Polyphonic	Polyphonic	Polyphonic
Li-Ion	Li-Ion	Li-Ion (760 mAh)	Li-Ion (760 mAh)	Li-Pol (780 mAh)	Li-Ion (800 mAh)	Li-Ion (700 mAh)	Li-Ion (720 mAh)
2	3	3	NA	2	6	3	4
120	200	230	NA	200	215	150	235
✓	✗	✗	✓	✓	✓	✓	✗
✓	✗	✗	NA	NA	NA	NA	✗
✓	✗	✗	NA	✗	✗	✗	✗
✗	✗	✗	NA	✗	✗	✗	✗
✗	✗	✗	NA	✗	✓	✗	✓
✗	✗	✗	NA	✗	✗	✗	✗
✗	✗	✗	NA	✗	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	NA	✓	✓	✓	✓
✓	✗	✓	NA	✓	✓	✓	✓
✗	✗	✗	NA	✓	✓	✗	✓
✗	✗	✗	NA	✓	✓	NA	✓
✓	✓	✓	NA	✓	iTAP	✓	T9
✓	✗	✓	NA	✓	✓	NA	✓
✗	✗	✓	NA	✓	✓	✗	✗
✓	✗	✓	✓	✓	✓	✓	✗
✓	✗	✗	NA	✗	✓	✗	✓
✓	✓	✓	✓	✓	✓	✓	✓
✗	✗	✓	✓	✓	✓	✓	✓
✗	✗	✗	NA	✗	✗	✗	✗
✓	✗	✗	✓	✗	✓	✗	✗
✓	✓	✓	NA	✓	✓	✓	✓
NA	✗	✗	NA	✗	✗	✗	✓
✗	✓	✓	✓	✓	✗	✗	✓
✓	✗	✗	✓	✗	✓	✗	✓
16,650	7,900	8,800	10,550	14,000	9,500	10,500	10,589
NA	www.lgezbuy.com				www.lgezbuy.com		

**J2ME (Java 2 Micro Edition)** A technology that allows programmers to use the Java and related tools to develop programs for wireless and mobile devices such as cellular phones and personal digital assistants (PDAs).

**Lithium Ion (Li-Ion)** A type of rechargeable battery for cell phones

generally lighter weight than earlier battery types, has a relatively longer cycle life, and generally does not suffer from “memory” effect. **Memory Effect** A battery problem caused by repeated charging before a battery is fully drained. This results in deterioration and prevents batteries from accepting a full charge. It occurs most often in NiCd

## MID-RANGE PHONES



BRAND		Nokia	Nokia	Nokia	Nokia	Nokia	Nokia
Model		6220	6610	6610i	6800	7250i	N-Gage QD Game Deck
Basics	Network	Triband	Triband	Triband	Dualband	Triband	Dualband
	Dimensions (L x W x D) (mm)	107 x 45 x 19	106 x 45 x 18	106 x 44 x 19	119 x 55 x 23	105 x 44 x 19	118 x 68 x 22
	Weight (gms)	92	84	87	122	92	143
	Design	Bar	Bar	Bar	Clamshell	Bar	Sideways
	Antenna	Internal	Internal	Internal	Internal	Internal	Internal
	Screen Colours	4,096	4,096	4,096	4,096	4,096	4,096
	Screen Resolution	128 x 128	128 x 128	129 x 128	128 x 128	128 x 128	176 x 208
	Navigation	4-Way	4-Way	4-Way	4-Way/QWERTY	NA	4-Way/8-Way
	Phonebook Capacity	300	300	500	500	500	NA
	Messaging (SMS, MMS, EMS)	SMS, MMS	SMS, EMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS
Features	Memory	NA	625 KB	NA	5 MB	4 MB	3.4 MB
	Ring Tones	16-chord	4-chord	Polyphonic	4-chord	Polyphonic	MIDI/WAV
	Battery Type	Li-Ion (721 mAh)	Li-Ion (720 mAh)	Li-Ion (780 mAh)	Li-Ion (1000 mAh)	Li-Ion (720 mAh)	Li-Ion (1070 mAh)
	Talk Time (Hrs)	3	5	3	4.5	5	3.5
	Standby Time (Hrs)	192	300	300	240	240	240
	Camera	✓	✗	✓	✗	✓	✗
	Video Capture	✗	✗	✗	✗	✗	✗
	Flash (Y/N)	✗	✗	✗	✗	✗	✗
	FM Radio: (Mono or Stereo)	✓	✓	✓	✓	✓	✓
	Loudspeaker	✓	✓	✓	✓	✓	✓
Applications	MP3 Player	✗	✗	✗	✗	✗	✓
	Push-To-Talk Radio	✗	✗	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓	✓	✓
	Calendar	✓	✓	✓	✓	✓	✓
	Email	IMAP and POP	✓	NA	✓	NA	✓
	Mobile Chat	✓	✓	✓	✓	✓	✓
	Predictive Text	T9	T9	T9	T9	T9	T9
	To-Do List	NA	✓	✓	✓	✓	✓
	Ringtone Composer	✓	✗	✓	✗	✓	✗
Connectivity	Voice Recorder	NA	✗	NA	✓	✗	✗
	Voice Commands	✓	✗	✓	✓	✗	✓
	WAP	✓	✓	✓	1.2.1	✓	✓
	Java Support	✓	✓	✓	✓	✓	✓
	Bluetooth	✗	✗	✗	✗	✗	✓
	Data Cable	✓	✗	✗	✗	✓	✗
	GPRS	✓	✓	✓	✓	✓	✓
	HSCSD	✓	✓	✓	✓	✓	✓
	Infrared Port	✓	✓	✓	✓	✓	✗
	PC Sync	✓	✗	✓	✓	✓	✓
More	Price	12,149	9,959	10,799	12,999	11,439	9,999
Web Site		www.nokia.co.in					

batteries, is less of a problem with Nickel Hydride batteries and even less with Lithium Ion batteries.

**MMS (Multimedia Messaging Service)** a further extension of SMS and EMS. MMS is designed to make use of newer and quicker mobile transmission methods such as GPRS, HSCSD, EDGE and UMTS, involving the

attachment of multimedia extensions to messages, such as video and sound.

**Multiple NAM** Allows a wireless phone to operate on multiple phone numbers and establish accounts with service providers in more than one service area.



Panasonic	Panasonic	Phillips	Phillips	Samsung	Samsung	Samsung	Sony Ericsson
X70	X66	535	755	SGH-S500	SGH-X600	SGH-X430	K500i
Triband	Dualband	NA	NA	Dualband	Dualband	Dualband	Triband
87 x 47 x 23.9	75.5 x 44.5 x 27	101 x 44 x 19	106 x 46 x 18	83 x 43 x 22	102 x 42.5 x 20	80 x 42 x 20	102 x 46 x 14
92	82	95	89	80	80	73	80
Clamshell	Clamshell	Bar	Bar	Clamshell	Bar	Clamshell	Bar
External	External	Internal	Internal	External	External	External	Internal
65,536	65,536	65,536	65,536	65,536	65,536	65,536	65,536
132 x 176	128 x 128	128 x 128	128 x 160	128 x 160	128 x 128	129 x 128	128 x 160
5-way	5-way	5-way	NA	4-way	4-way	4-way	5-way joystick
500	300	NA	NA	500	NA	500	NA
SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS	SMS, EMS, MMS	SMS, EMS, MMS	MMS, SMS
4 MB	NA	8 MB	16 MB	NA	NA	NA	NA
16-chord	16-chord	32-chord	32-chord	Polyphonic	Polyphonic	Polyphonic	Polyphonic
Li-Ion (680 mAh)	Li-Ion (680 mAh)	Li-Ion (720 mAh)	Li-Ion (720 mAh)	Li-Ion (800 mAh)	Li-Ion (900 mAh)	Li-Ion (720mAh)	Li-Ion (670 mAh)
5	5	6	5	2.5	4	2.5-3.5	7
250	230	300	250	160	300	150-260	300
✓	✓	✓	✓	✗	✓	NA	NA
NA	NA	✗	✗	✗	NA	NA	NA
✓	✗	✗	✗	✗	✓	NA	NA
✗	✗	✗	NA	✗	✗	NA	NA
✗	✗	✗	✗	✗	✗	NA	NA
✗	Na	✗	✗	✗	✗	NA	✓
✗	✗	✗	✗	✗	✗	NA	NA
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	NA	NA	✓	✓
✗	✗	✓	✓	NA	NA	NA	NA
NA	NA	✗	✗	NA	NA	NA	NA
T9	T9	T9	T9	T9	NA	NA	NA
✓	NA	✓	✓	✓	✓	NA	✓
✓	✗	✗	✗	NA	NA	NA	NA
✓	✗	✓	✓	NA	NA	NA	NA
✗	✗	✓	✓	NA	NA	NA	NA
✓	✓	✓	✓	✓	NA	✓	✓
✗	NA	✗	✓	✓	✓	✓	✓
✓	NA	✗	NA	NA	NA	NA	NA
✗	✗	✗	✗	NA	NA	NA	NA
✓	✓	✓	✓	✓	NA	✓	✓
✗	✗	✗	✗	NA	NA	NA	NA
✓	✓	✓	✗	✓	NA	NA	✓
✗	✗	✓	✓	✓	✓	NA	✓
13,500	9,700	11,995	10,500	10199	10,999	8,769	13,995
www.panasonic.com		www.panasonic.com		www.samsung.com/in			www.sonyericsson.com

**NAM (Number Assignment Module)** A circuit chip located inside a phone which stores your telephone number, lock code, timer reset code, network information and other operational data. The NAM is programmed by the service provider when a device is activated. Today's phones have EPROM type NAM and are keypad programmable.

**OTA (Over The Air)** The downloading of ring tones, picture messages, and other content to your mobile phone wirelessly.

**PDA (Personal Digital Assistant)** A portable, handheld computing device typically used for managing addresses, appointments, to-do lists and notes, but some newer models support wireless Internet

## MID-RANGE PHONES



BRAND		Sony Ericsson	Sony Ericsson	Siemens	Siemens
		T610	Z200	CF62	C65
Basics	Network	Triband	Triband	Triband	Triband
	Dimensions (L x W x D) (mm)	102 x 44 x 19	96.4 x 52 x 25.4	82 x 45 x 22	105 x 45 x 16
	Weight (gms)	95	98.3	85	86
	Design	Bar	Clamshell	Clamshell	Bar
	Antenna	Internal	External	External	Internal
	Screen Colours	65,536	4,096	65,536	65,536
	Screen Resolution	128 x 160	128 x 128	130 x 130	130 x 130
	Navigation	4-way Joystick	4-way	Key	Key
	Phonebook Capacity	512	300	500	NA
	Messaging (SMS, MMS, EMS)	SMS, EMS, MMS	EMS, SMS	SMS, EMS, MMS	MMS, EMS, SMS
Features	Memory	2 MB	NA	550 KB	3 MB
	Ring Tones	Polyphonic	Polyphonic	Polyphonic	Polyphonic
	Battery Type	Li-Ion (770 mAh)	Li-Ion (700 mAh)	Li-Ion (600 mAh)	NA
	Talk Time (Hrs)	11	4	5	5
	Standby Time (Hrs)	315	200	220	410
	Camera	✓	✗	✗	✓
	Video Capture	✗	✗	✗	✓
	Flash (Y/N)	✗	✗	✗	NA
	FM Radio: (Mono or Stereo)	✗	✗	✗	NA
	Loudspeaker	✗	✗	✓	✗
Applications	MP3 Player	✗	✗	✗	✗
	Push-To-Talk Radio	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓
	Calendar	✓	✓	✓	✓
	Email	✓	✗	✗	✗
	Mobile Chat	✓	✓	✗	NA
	Predictive Text	T9	T9	T9	T9
	To-Do List	✓	✗	T	✓
	Ringtone Composer	✓	✓	NA	NA
Connectivity	Voice Recorder	✓	✗	NA	✓
	Voice Commands	✓	✗	✓	NA
	WAP	✓	✓	✓	✓
	Java Support	✓	✗	✓	✓
	Bluetooth	✓	✗	✗	NA
	Data Cable	✓	✗	✓	NA
	GPRS	✓	✓	✓	✓
	HSCSD	NA	✗	✗	NA
	Infrared Port	✓	✓	✗	✓
	PC Sync	✓	✗	✗	✓
More	Price	9,995	8,495	8,990	9,000
	Web Site	www.sonyericsson.com		www.siemens.com	

## Mobile Etiquette

- ☑ **Keep Quiet:** Put your phone on Silent mode when in a meeting.
- ☑ **Whisper:** There's no need to shout into your phone when in public places, the other person will hear you fine if you use your normal voice. If not, cup your hand over the microphone, but never scream into your phone. It's rude!
- ☑ **Xcuse me pleeeaze:** When with others, always excuse yourself before answering your cell phone, and keep the conversations short.
- ☑ **Escape:** If you must take an important call when in a theatre, library, or place of worship, answer your phone quietly, ask the calling party to hold, and exit silently. Wait till you are outside before continuing the conversation.
- ☑ **Are you listening to me?:** When the reception is poor, no amount of shouting will help. In fact, words may sound more garbled to the caller due to your screaming.
- ☑ **Don't disturb:** Ignore incoming calls when in business meetings with clients or customers
- ☑ **Shhh...!:** Switch off your mobile when you enter a hospital.
- ☑ **No noise:** Mute or switch off your mobile phone when you are offering condolences at a funeral
- ☑ **Danger... Ahead:** Do not talk on your cell phone when driving. Even using a hands free headset is distracting, and could put you and the vehicles passengers at risk. It is also illegal in most Indian cities.
- ☑ **BRB:** If you are on a call when in a queue of any sort, ask the caller to hold or cut the call when your turn comes.

access, e-mail, and other interactive applications.  
**PIN (Personal Identification Number)** A numeric code or password that may be required by a service provider in order to make outgoing calls or obtain access to certain applications and data. This code is always associated to a SIM card, not a phone and is designed to help

guard against cellular fraud.  
**Predictive Text Input** Software built into some cell phones and mobile devices that make typing words on a keypad easier. Instead of pressing each key one, two or three times, just to press it once and a built-in vocabulary will attempt to guess the word that you are spelling.

## HIGH-END PHONES



BRAND		Alcatel	Geo	Geo	Geo	Motorola	Motorola
Model		One Touch 835	G1	GC800	GV880	E398	V303
Basics	Network	Dualband	Dualband	Dualband	Dualband	Triband	Triband
	Dimensions (L x W x D) (mm)	87.7 x 45.9 x 20	88 x 46 x 23.2	84 x 43.6 x 22	52.3 x 57 x 22.5	108 x 46 x 21	89 x 49 x 25.3
	Weight (gms)	88	90	87	75	108	123
	Design	Clamshell	Clamshell	Clamshell	Clamshell	Bar	Clamshell
	Antenna	External	External	External	External	Internal	External
	Screen Colours	2,62,000	2,62,000	2,60,000	65,536	65,536	65,536
	Screen Resolution	128 x 160	128 x 160	176 x 220	128 x 160	176 x 220	176 x 220
	Navigation	5-way joystick	5-way	NA	5-way	4-way	4-way
	Phonebook Capacity	NA	300	NA	NA	1000	1000
	Messaging (SMS, MMS, EMS)	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS
Features	Memory	3 MB	4.5 MB	NA	4.5 MB	5 MB	5 MB
	Ring Tones	Polyphonic	64-chord	40-chord	40-chord	Polyphonic	Polyphonic
	Battery Type	Li-Ion (785 mAh)	Li-Ion	Li-Ion (920 mAh)	Li-Ion (620 mAh)	Li-Ion (700 mAh)	Li-Ion (700 mAh)
	Talk Time (Hrs)	7	2	2	1.5	7	6.5
	Standby Time (Hrs)	160	180	300	110	210	200
	Camera	✓	✓	✓	✓	✓	✓
	Video Capture	✓	✓	✓	✓	✗	✗
	Flash (Y/N)	✗	✓	✗	✗	✓	✗
	FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗
	Loudspeaker	✗	✗	✗	NA	✓	✗
Applications	MP3 Player	✗	✗	✗	✗	✓	NA
	Push-To-Talk Radio	✗	✗	✗	✗	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓	✓	✓
	Calendar	✓	NA	NA	NA	✓	NA
	Email	✓	✗	NA	✗	✓	✓
	Mobile Chat	✗	✗	✗	NA	NA	✓
	Predictive Text	✓	T9	T9	T9	iTAP	iTAP
	To-Do List	✓	NA	✓	✓	✓	✓
	Ringtone Composer	NA	NA	✗	NA	✓	✓
Connectivity	Voice Recorder	✓	✓	✗	✓	✓	✓
	Voice Commands	✓	✗	✗	✗	✓	✓
	WAP	✓	✓	✓	✓	✓	✓
	Java Support	✗	NA	✗	✗	✓	✓
	Bluetooth	✗	✗	✗	✗	✓	NA
	Data Cable	✓	✓	✓	✓	✓	✓
	GPRS	✓	✓	✓	✓	✓	✓
	HSCSD	✗	✗	✗	✗	NA	✗
	Infrared Port	✗	✗	✗	✗	✗	✗
	PC Sync	✓	✓	✓	✓	✓	NA
More	Price	NA	18,000	16,150	16,500	15,995	14,995
	Web Site	www.my-onetouch.com		NA		www.motozone.yahoo.co.in	

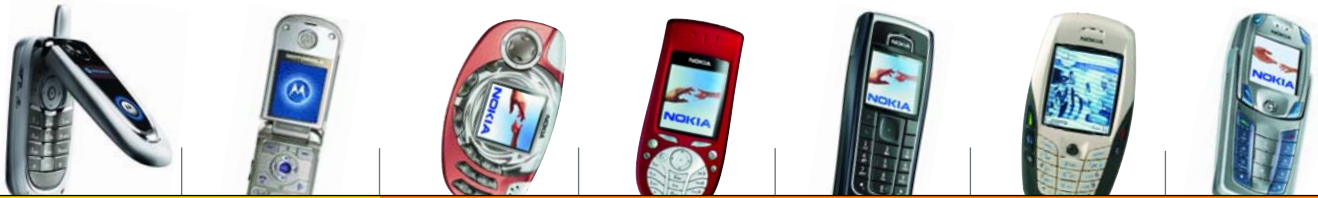
Using this system, SMS messages and sometimes e-mails are quicker and easier to write. Often referred to as T9, the most popular type of predictive text entry. The competitor to T9 is iTAP by Motorola.

**PTT (Push-To-Talk)** A two-way communication service that works like a "walkie talkie". This feature allows communication in only

direction at a time unlike a cell phone that allows for simultaneous conversations.

**PUK (Personal Unblocking Key)** used to unblock a blocked SIM card; this code is given during the subscription of a phone.

**R-UIM (Removable User Identity Module)** Introduced by the CDMA



Motorola	Motorola	Nokia	Nokia	Nokia	Nokia	Nokia
V600	V878	3300	3660	6230	6600	6820
Triband	Triband	Dualband	Triband	Triband	Triband	Triband
87.5 x 47 x 22.5	82 x 42 x 21.5	114 x 63 x 20	130 x 57 x 25	103 x 44 x 20	109 x 58 x 24	107 x 47 x 20
95	85	125	130	97	122	100
Clamshell	Clamshell	Bar	Bar	Bar	Bar / Symbian OS 7.0	Bar
External	External	Internal	Internal	Internal	Internal	Internal
65,536	65,536	4,096	65,536	65,536	65,536	4,096
176 x 220	128 x 160	128 x 128	176 x 208	128 x 128	176 x 208	128 x 128
4-way	4-way	NA	5-way	4-way	5-way Joystick	QWERTY
1000	NA	500	NA	1000	NA	NA
SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, MMS, EMS	SMS, EMS, MMS
5 MB	2 MB	4.5 MB	3.4 MB	9.5 MB	6 MB	3.5 MB
Polyphonic	40-chord	24-chord	24-chord	24-chord	NA	16-chord
Li-Ion (700 mAh)	Li-Ion (600 mAh)	Li-Ion (780 mAh)	Li-Ion (850 mAh)	Li-Ion (850 mAh)	Li-Ion (850 mAh)	Li-Ion (850 mAh)
7.5	3	2.5	3	5	4	7
230	130	228	220	300	240	240
✓	✓	NA	✓	✓	✓	✓
✓	✓	NA	✓	✓	✓	✓
✗	✓	NA	✗	✗	✗	✗
✗	✗	✓	✗	✓	✗	✗
✓	✗	✓	✓	✓	✓	✓
✗	✗	✓	✗	✓	✓	✗
✗	✗	✗	✗	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	NA	✓	✓	✓	✓	✓
✓	✗	✓	✓	✓	✓	✓
✓	NA	✓	NA	✓	✓	✗
iTAP	iTAP	T9	T9	T9	T9	T9
✓	NA	✓	✓	✓	✓	✓
✓	✓	NA	✓	✓	✓	✓
✓	✓	NA	NA	✓	✓	✓
✓	✗	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	NA	✓
✓	✓	NA	✓	NA	✓	✓
✓	✗	✗	✓	✓	✓	✓
✓	✓	✓	✗	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓
✗	✗	✓	✓	✓	✓	✓
✗	✗	✗	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
20,495	19,000	9,249	15,399	17,349	19,309	14,899
www.motozone.yahoo.co.in		www.nokia.co.in				

Development Group, the R-UII is similar to a SIM card but designed for use with CDMA based mobile phones.

**Roaming** A service offered by most cellular service providers that allows subscribers to use cellular service while traveling outside their home service area. Roaming requires an agreement between opera-

tors of technologically compatible systems in individual markets to permit customers of either operator to access the other's systems.

**Satellite Phone** A phone that connect callers via satellite. Satellite phones give users a worldwide alternative to sometimes unreliable digital or analog connections.

## HIGH-END PHONES



BRAND		Nokia	Nokia	Nokia	Nokia	Sony Ericsson	Sony Ericsson
Model		7200	7600 GSM/WCDMA	7610	9210i Communicator	K700i	T630
Basics	Network	Dualband	Dualband	Triband	Dualband	Triband	Triband
	Dimensions (L x W x D) (mm)	86 x 50 x 26	87 x 78 x 19	109 x 53 x 19	158 x 56 x 27	99 x 47 x 20	102 x 43 x 17
	Weight (gms)	115	123	118	244	93	92.5
	Design	Clamshell	Bar	Bar/Symbian 7.0s	Bar	Bar	Bar
	Antenna	Internal	Internal	Internal	External	Internal	Internal
	Screen Colours	65,536	65,536	65,536	4,096	16-bit colour	65,536
	Screen Resolution	128 x 128	128 x 160	176 x 208	640 x 200	176 x 220	128 x 160
	Navigation	4-way	5-way	5-way	NA	NA	4-way
	Phonebook Capacity	500	NA	500	NA	510	500
	Messaging (SMS, MMS, EMS)	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, EMS, MMS	SMS, MMS	SMS, EMS, MMS
Features	Memory	4 MB	29 MB	8 MB	40 MB	32 MB	2 MB
	Ring Tones	16-chord	Polyphonic	48-chord	RNG, WAV, AU, WVE	Polyphonic	Polyphonic
	Battery Type	Li-Ion (760 mAh)	Li-Ion (850 mAh)	Li-Ion (900 mAh)	Li-Ion (1300 mAh)	Li-Ion (670 mAh)	Li-Polymer (750mAh)
	Talk Time (Hrs)	5	4	3	6	7	9
	Standby Time (Hrs)	300	170	250	230	360	300
	Camera	✓	✓	✓	✗	✓	✓
	Video Capture	✓	✓	✓	✗	✓	✗
	Flash (Y/N)	✗	✗	✗	✗	✓	✗
	FM Radio: (Mono or Stereo)	✓	✗	✗	✗	✓	✗
	Loudspeaker	✓	✓	✓	✗	✓	✗
Applications	MP3 Player	✗	✓	✓	✗	✓	✗
	Push-To-Talk Radio	✗	✗	✗	✗	✓	✗
	Alarm Clock	✓	NA	✓	✓	✓	✓
	Calculator	✓	NA	✓	✓	✓	✓
	Calendar	✓	✓	✓	✓	✓	✓
	Email	✓	✓	✓	✓	✓	✓
	Mobile Chat	✓	NA	✓	✓	✓	✗
	Predictive Text	T9	NA	T9	NA	✓	T9
	To-Do List	✓	✓	✓	NA	✓	✓
	Ringtone Composer	✗	✓	✓	NA	NA	✓
Connectivity	Voice Recorder	✓	✗	NA	NA	✓	✓
	Voice Commands	✓	✗	✓	NA	✓	✓
	WAP	✓	NA	✓	NA	✓	✓
	Java Support	✓	✓	✓	✓	✓	✓
	Bluetooth	✗	✓	✓	✗	✓	✓
	Data Cable	✗	NA	✗	✓	NA	✓
	GPRS	✓ (EDGE)	NA	✓	NA	✓	✓
	HSCSD	✓	NA	✗	✓	NA	NA
	Infrared Port	✓	✓	✗	✓	✓	✓
	PC Sync	✓	NA	✓	✓	✓	✓
More	Price	20,209	26,939	26,299	31,499	20,995	14,995
Web Site		www.nokia.co.in				www.sonyericsson.com	

**Screensaver** A picture or animation which appears on a cell phone's display when it is idle.

**SDMA (Space Division Multiple Access)** A variation of TDMA and CDMA that potentially will be used in high-bandwidth, third-generation wireless products.

**SIM (Subscriber Identification Module)** A removable plastic card found in GSM phones that stores pertinent information about a phone such as your phone number, account information, phone book, PIM data, etc. The card can be plugged into any GSM compatible phone and the phone is instantly personalised to the user.



Sony Ericsson	Siemens	Siemens
Z600	S65	M65
Triband	Triband	Triband
90 x 48 x 27	109 x 48 x 18	109 x 49 x 19
110	98	89
Clamshell	Bar	Bar
Internal	Internal	Internal
65,536	65,536	65,536
128 x 160	132 x 176	132 x 176
4-way	Joystick	4-way
500	1000	NA
SMS, EMS, MMS	SMS, EMS, MMS	MMS, EMS, SMS
2 MB	11 MB	NA
Polyphonic	Polyphonic	40-chord
Li-Ion (780 mAh)	Li-Ion (750 mAh)	Li-Ion (750 mAh)
9	5	5.5
300	250	300
✓	✓	✓
✗	✓	✓
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✗	✗	✗
✓	✓	✓
✓	✓	✓
✓	NA	NA
✓	✓	✓
✓	NA	NA
T9	T9	T9
✓	✓	✓
✗	NA	✗
✓	✓	✓
✓	✓	✗
✓	✓	✓
✓	✓	✓
✓	✓	✗
✓	✓	✗
✓	✓	✓
✗	NA	✗
✓	✓	✓
✓	✓	✓
15,995	21,000	18,000
www.sonyericsson.com	www.siemens.com	

## Tips and Tricks Handling And Caring For Your Cell Phone

### Wet 'n' Wild? Not Quite!

Keep your phone away from moisture at all costs. All the components of a cell phone are corrodible and non-repairable. During the rainy season, when humidity is high, it's better to keep your cell phone in a moisture proof phone cover. When travelling in hilly areas, where you find fog and clouds, keep your phone off, or use a phone cover to protect it from moisture. And remember, using a cell phone with wet hands is a big no-no!

### Thanda-Thanda Cool-Cool

Keeping cool is good for your cell phone! Very long calls may cause your cell phone to overheat, resulting in a permanently damaged battery. Avoid making or receiving calls while charging your phone. Don't stick it in the refrigerator, however, because extremely low temperatures will cause temporary loss of display.

### To Be Hanged Until...

No key seems to respond; you don't get any signal; the screen is stuck like a Windows 95 PC; it's been calling for hours but refuses to connect or disconnect; what's wrong with your phone? Yes, even cell phones can hang. Don't worry, just remove the battery for about five seconds and then reattach it. In most cases, it just boots up normally again, but sometimes you may need to remove the SIM card for a few seconds as well. It should work fine after that.

### Khuljaa SIM SIM!

When handling the SIM card, remember that you shouldn't bend it, scratch it, boil it, freeze it, or allow it to get close to any magnetic fields. A SIM, like any other electronic component, is fragile. Treat it well. If you have activated your handset security feature, you will be asked for your PIN (Personal Identity Number) when you insert your SIM card. Enter this four digit code carefully. You may be asked for your PIN whenever you start your handset, change the SIM, or even before making a call (PIN2)-depending on the security settings you chose. The security feature of the SIM causes it to lock up after someone successively enters the wrong PIN three times. Now you will be asked to enter the PUK (Personal Unblocking Key), which only your service provider knows. The same applies to the PIN2, and if you lock your PIN2, you will be asked for a PUK2 code. Though most service providers will help you unlock your phone, it's not worth the hassle of being disconnected from the world. The moral of the story? Be careful when entering your PIN codes.

You also need to remember that entering the wrong PUK or PUK2 codes 10 times, will cause your SIM to be permanently damaged. This security feature makes the SIM unusable to prying eyes, and will need you to get your SIM replaced by your service provider. Depending on your provider, you may be charged for a new SIM, so be even more careful when entering PUK or PUK2 codes.

### Battery Life

Lithium-Ion batteries are getting better day by day, but are still far from perfect. Remember that partial-discharging of the battery followed by charging is better than fully discharging these batteries. It's fine to do this once in a while, but frequent complete discharges will reduce your battery's life. You also don't need to switch off a Lithium-Ion battery-based phone when charging.

You also need to remember that a fully charged battery should be kept in a cool place, and most definitely not on the car dashboard in the day.

**Speakerphone** Enables conversation to take place hands-free. Enhances safety and convenience and can be used to conduct conference calls. There are two distinct types of two-way speaker-phone functionality: Half-Duplex and Full-Duplex.

**Standby Time** The amount of time a battery lasts when a wireless

device is turned on but is not in use. When the phone is switched on and waiting for a call it is on 'standby'. A cell phone will consume battery power when on standby, but far less than when talking on the phone.

**Symbian** A venture formed by Nokia, Ericsson, Motorola, and Psion to

## PDA PHONES



	BRAND	Anextek	iMate	Motorola	Motorola	O2	Palm	Sony Ericsson
	Model	SP230	Pocket PC	A760	MPx200	Xda II	Tungsten W	P910
Basics	Network	Triband	Triband	Dualband	Triband	Triband	Triband	Triband
	Dimensions (L x W x D) (mm)	109 x 68.5 x 21.6	130 x 70 x 19	100 x 53 x 21	89 x 48 x 27	130 x 70 x 19	122 x 79 x 18	115 x 57 x 24
	Weight (gms)	158	190	120	118	190	181	150
	CPU Speed (MHz)	400 MHz	400 MHz	206MHz	130 MHz	400 MHz	33 MHz	NA
	CPU Type	Intel® PXA255	Intel® PXA263	NA	TI ARM OMAP710	Intel® PXA263	Dragonball VZ	NA
	Antenna	External	Internal	NA	Internal	Internal	External	Internal
	Screen Colours	65,536	65,536	Mono	65,536	65,536	16-Bit	65,536
	Screen Resolution	240 x 320	240 x 320	NA	176 x 220	240 x 320	320 x 320	208 x 320
	Navigation	NA	5-way	2-way	Key	5-way	5-way	Touchscreen
	OS	Pocket PC 2003	Pocket PC 2003	Linux	Windows Mobile	Pocket PC 2003	Palm OS 4.11	Symbian OS 7.0
	Memory	64 MB	128 MB	32MB	32 MB	128 MB	16 MB	48 MB
	Memory Expansion Support	SD/MMC	SD/MMC	NA	SD/MMC	SD/MMC	SD/MMC	MemoryStick Duo
	Battery Type	Li-Ion (1480 mAh)	Li-Ion (1200 mAh)	Li-Ion	Li-Ion (850 mAh)	Li-Ion (1200 mAh)	Li-Poly (1500 mAh)	Li-Poly (1260 mAh)
	Talk Time (Hrs)	5	3.5	NA	4.25	NA	NA	16
	Standby Time (Hrs)	150	160	NA	104	NA	NA	480
Features	Camera	✗	✓	✓	✗	✓	✗	✓
	Video Capture	✗	✓	✓	✗	✓	✗	✓
	Flash (Y/N)	✗	✗	✗	✗	✗	✗	NA
	FM Radio: (Mono or Stereo)	✗	✗	✗	✗	✗	✗	NA
	Loudspeaker	✓	✓	NA	✓	✓	✗	✓
	MP3 Player	✓	✓	✓	✓	✓	✗	✓
	Push-To-Talk Radio	NA	✓	NA	NA	✓	✗	✗
	Alarm Clock	✓	✓	✓	✓	✓	✓	✓
	Calculator	✓	✓	✓	✓	✓	✓	✓
	Calendar	✓	✓	✓	✓	✓	✓	✓
	Email	✓	✓	✓	✓	✓	✓	✓
	Mobile Chat	NA	NA	NA	✓	NA	NA	✓
	Predictive Text	NA	✓	NA	✓	✓	NA	NA
	To-Do List	✓	✓	✓	✓	✓	✓	✓
	Ringtone Composer	✓	✗	✗	✓	✗	✗	NA
Applications	Voice Recorder	NA	✓	NA	✓	✓	✓	NA
	Voice Commands	NA	NA	NA	✓	NA	✗	✓
	WAP	NA	✓	✓	✓	✓	✗	✓
	Java Support	NA	✓	✓	✓	✓	✗	✓
	Bluetooth	✗	✓	✓	✓	✓	✗	✓
	Data Cable	✓	✓	✓	✓	✓	✓	✓
	GPRS	✓	✓	✓	✓	✓	✓	✓
	HSCSD	✗	NA	✗	✗	NA	NA	✓
	Infrared Port	✓	✓	✓	✓	✓	✓	✓
	PC Sync	✓	✓	✓	✓	✓	✓	✓
	Price	29,500	39,000	20,495	25,295	35,999	21,999	30,995
	Web Site	<a href="http://www.anextek.com">www.anextek.com</a>	<a href="http://www.carrierdevices.com">www.carrierdevices.com</a>	<a href="http://www.motozone.yahoo.co.in">www.motozone.yahoo.co.in</a>		<a href="http://www.myxda.com">www.myxda.com</a>	<a href="http://www.palmone.com">www.palmone.com</a>	<a href="http://www.sonyericsson.com">www.sonyericsson.com</a>
More								

create easy to use operating systems for wireless devices and personal digital assistants (PDAs). The first operating system is called EPOC. **SyncML** An open data synchronisation protocol enabling data synchronization between mobile devices and networked services. SyncML is a transport, data type, and platform independent technology based

on Extensible Markup Language (XML).

**T9** Software inbuilt in wireless phones and PDAs that makes typing words on a keypad easier. The competitor to T9 is iTAP.

**TDMA (Time Division Multiple Access)** A family of second-generation digital wireless technologies (GSM, TDMA, iDEN, PDC and PHS) that

# CDMA

## AT A GLANCE



BRAND	Kyocera	Kyocera	Kyocera	Kyocera	Kyocera	Kyocera	Nokia
Model	KX440	Blade KE424C	Rave KE434C	Phantom KE414C	7135	KWC 2235 CDMA	2280
Network	Dualmode	Trimode	Trimode	Trimode	Trimode	Trimode	NA
Dimensions (L x W x D) (mm)	114 x 49 x 28	113 x 48 x 23	113 x 48 x 23	113 x 48 x 23	101 x 62 x 30	120 x 48 x 24	108 x 50 x 21.5
Weight (gms)	122.2	100	100	100	187	123	99
Design	Bar	Bar	Bar	Bar	Clamshell	Bar	Bar
Antenna	External	External	External	External	External	External	Internal
Screen Colours	4,096	4,096	NA	4,096	65,536	Mono	Mono
Screen Resolution	104 x 80	104 x 80	NA	104 x 80	160 x 160	NA	NA
Navigation	NA	NA	NA	NA	NA	NA	NA
Phonebook Capacity	NA	200	NA	NA	NA	200	250
Messaging (SMS, MMS, EMS)	SMS, EMS	SMS, EMS	SMS, EMS	SMS, EMS	SMS, EMS	SMS, EMS	SMS, EMS, MMS
Memory	NA	NA	NA	NA	16 MB	NA	NA
Ring Tones	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Standard
Battery Type	NA	NA	NA	NA	NA	NA	BL-5C (850 mAh)
Talk Time (Hrs)	3.3	3.5	3.5	3.5	3.5	NA	3.3
Standby Time (Hrs)	96	180	180	180	160	NA	192
Camera	NA	NA	NA	NA	NA	NA	✗
Video Capture	NA	NA	NA	NA	NA	NA	✗
Flash (Y/N)	NA	✓	✓	NA	NA	NA	✗
FM Radio: (Mono or Stereo)	NA	NA	NA	NA	NA	NA	✗
Loudspeaker	✓	NA	NA	NA	✓	NA	✗
MP3 Player	NA	NA	NA	NA	✓	NA	✗
Push-To-Talk Radio	NA	NA	NA	NA	NA	NA	✗
Alarm Clock	✓	✓	✓	✓	✓	✓	✓
Calculator	✓	✓	✓	✓	✓	✓	✓
Calendar	NA	NA	NA	NA	NA	NA	✓
Email	✓	✓	✓	✓	✓	✓	✓
Mobile Chat	✓	✓	✓	✓	✓	✓	NA
Predictive Text	eZi	eZi	eZi	eZi	eZi	eZi/T9	T9
To-Do List	✓	✓	✓	✓	✓	✓	✗
Ringtone Composer	✓	✓	✓	✓	✓	✓	✗
Voice Recorder	DIALING	DIALING	DIALING	DIALING	✓	✓	✓
Voice Commands	✓	✓	✓	✓	✓	✓	✓
Java Support	NA	NA	NA	NA	✓	NA	✓
Bluetooth	NA	NA	NA	NA	NA	NA	✗
Data Cable	✓	✓	✓	✓	✓	✓	✗
Infrared Port	NA	NA	NA	NA	✓	NA	✗
PC Sync	NA	NA	NA	NA	✓	✓	PC Suite
Price	NA*	NA*	NA*	NA*	NA*	NA*	2,999
Web Site	www.kyocera.com						www.nokia.co.in

\*Available with Tata Indicom

## GLOSSARY

divides conversations into packets of data according to time. This allows large amounts of voice and data to be transmitted on the same frequency.

**Tri-Band** A phone capable of operating on three different digital frequencies—900MHz, 1800MHz and 1900MHz.

**Voice Activated Dialing** A feature that allows a user to dial a phone number by spoken commands instead of punching numbers in physically. The feature contributes to convenience as well as safe driving.

**VoIP (Voice over Internet Protocol)** A technology for transmitting voice, such as ordinary telephone calls, over the Internet using packet-switched networks. Also called IP telephony.

**W3C (World Wide Web Consortium)** An international industry consortium founded in 1994 to develop common standards for the World Wide Web.

**W-CDMA (Wideband Code Division Multiple Access)** A third-generation (3G) wireless technology that supports high-speed data transmis-



Nokia	LG	LG	LG	LG	LG	Motorola	Samsung
3105	RD2030	RD2130	RD2230	RD5130	RD7230	C131	SCH-N356
NA	800MHz 800 AMPS	NA	800 MHz	NA	NA	CDMA 1x 800 MHz	800 MHz
102 x 43 x 22	109 x 44 x 20	103 x 43 x 19	108 x 43 x 20	106x44x20	87x43x23	112 x 46 x 21.5	104 x 42 x 13
86	81	80	85	99	NA	90	80
Bar	Bar	Bar	Bar	NA	Clamshell	Bar	Bar
Internal	External	Internal	External	NA	External	Internal	Internal
4,096	Mono	Mono	Mono	65,536	262,000	Mono	Mono
NA	120 x 80	120x80	NA	128 x 128	128 x 160	96 x 64	128 x 64
4-way	Key	NA	Key	NA	NA	Key	Key
500	299	250	299	300	NA	100	2000
SMS, EMS, MMS	NA	NA	NA	NA	NA	SMS	SMS
NA	32 MB Flash	32 MB Flash	Na	64 MB	256 MB	NA	NA
Polyphonic	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Polyphonic	Standard	Polyphonic
BL-5C	Li-Ion (850 mAh)	Li-Ion (850 mAh)	NA	Li-Ion (950 mAh)	Li-Ion (950 mAh)	NA	Li-Ion (800 mAh)
4	3	NA	NA	2.5	NA	3	2.5
330	160	NA	NA	140	NA	200	160
✓	✗	✗	✗	✗	✓	✗	✗
✗	✗	✗	✗	✗	✓	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✓	✗	✗	✗	NA	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
NA	✓	✓	✓	✓	✓	NA	✓
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	✗	NA
NA	✓	✓	✓	✓	✓	✓	✓
NA	✓	✓	✓	✓	✓	✓	✓
NA	NA	NA	NA	NA	NA	✗	NA
✓	NA	NA	NA	NA	NA	✗	NA
✓	NA	NA	NA	NA	NA	✗	NA
✓	NA	NA	✓	✓	✓	NA	NA
✗	NA	✓	NA	NA	NA	NA	NA
✗	NA	NA	NA	NA	NA	NA	NA
✗	NA	NA	NA	NA	NA	NA	NA
NA	✓	✓	✓	✓	✓	NA	NA
NA*	NA*	3,499	2,499	4,999	9,999	NA*	2,999
<a href="http://www.nokia.co.in">www.nokia.co.in</a>	<a href="http://www.lgezbuy.com">www.lgezbuy.com</a>					<a href="http://www.motozone.yahoo.co.in">www.motozone.yahoo.co.in</a>	<a href="http://www.samsung.co.in">www.samsung.co.in</a>

sion (144 Kbps to 2 Mbps), “always-on” data service, and improved network capacity (more people can use each tower at the same time) in GSM systems by using CDMA instead of TDMA.

**Wallet** A cell phone software application that enables users to make Internet-type payments via a WAP-browser, where card information is transferred from the customer to the Internet merchant.

**WAP (Wireless Application Protocol)** A set of standards that enables a wireless phone or other mobile device to browse Internet content

optimized for wireless phones.

**Wi-Fi (Wireless Fidelity)** The popular term for the 802.11b wireless Ethernet standard. It has been subsequently upgraded to the 802.11g standard.

**Wireless Internet** A technology that enables a wireless device to access specially formatted Internet content via wireless networks.

**Wireless Local Loop(WLL)** Wireless service systems that compete with or substitute for local wireline phone service.

# Ad

## 20 Questions to select the perfect phone for you

Your Specification	Go For...
<input type="checkbox"/> Size matters?	...Smallest phone
<input type="checkbox"/> Do you hate carrying a heavy cell phone in your pocket?	...Lightest phone
<input type="checkbox"/> Do you want a colour screen?	...Colour phone
<input type="checkbox"/> Do you yearn to play games, especially when travelling?	...Gaming phone
<input type="checkbox"/> Are you an amateur photographer?	...Camera phone
<input type="checkbox"/> Are you a music freak?	... Inbuilt FM or MP3 player
<input type="checkbox"/> Do you like to share your conversations with the family?	...Speaker phone
<input type="checkbox"/> Do you travel often to low network areas?	...Phone with a signal booster
<input type="checkbox"/> Are you in a cash crunch?	...Cheapest phone
<input type="checkbox"/> Do you want special services, and prefer a specific service provider?	...GSM/CDMA
<input type="checkbox"/> Are you buying a new phone only because your friend has got a better one?	...The phone that has better features
<input type="checkbox"/> Is your phone a fashion statement?	...Stylish phone
<input type="checkbox"/> Do you want a phone that will help you make some order out of the chaos that is your life?	...Smart Phone
<input type="checkbox"/> Do you need some simple computing capabilities on your phone?	...PDA phone
<input type="checkbox"/> Do you want a phone that will help you stay connected to the Internet when on the move?	...GPRS/WAP enabled phone
<input type="checkbox"/> Would you like to be able to transfer data between your phone and your PC?	...IR/Bluetooth enabled phone
<input type="checkbox"/> Do you want to record conversations with your sweetheart/boss/ client?	...Voice recorder
<input type="checkbox"/> Are you an SMS junkie?	...QWERTY type keypad phone
<input type="checkbox"/> Do you have hundreds of contacts?	...Large storage capacity
<input type="checkbox"/> Are you constantly on the move, and almost never near a power socket?	...Long lasting battery



**122** Laser printing Solutions



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**142** Blogging for Professionals

# Digital Business

How Technology Can Help Your Organisation

## Case Study

# IT Cuts Red Tape

**To many, e-governance and a paperless office are Utopian ideas. Not for the Tamil Nadu government's IT Department, which uses software to create a transparent transaction process**

**Meera Vankipuram**

**I**nformation Technology (IT) has today become an integral part of governance, especially in India. It is viewed as a tool that will help deliver services, both in the public and the private sector, to the common man.

E-governance, as a concept, is leveraging IT to streamline the administrative process—it involves computerisation of records, facilitating efficient transactions between various government departments, networking offices, and using Web sites and e-mail to bring administrators closer to people.

In the past decade, e-governance has emerged a popular buzzword among Indian politicians and bureaucrats alike. One quasi-Government organisation in Tamil Nadu, has decided to go the distance, by implementing e-governance at a micro-level—their office is now completely paperless and file-transfer takes place in an electronic format.

Using a tool titled “e-Administration”, Chennai-based Electronics Corporation of Tamil Nadu Ltd (ELCOT), with the help of an Information and Communication Technologies (ICT) organisation called Life-Line to Business (LL2B.com Pvt Ltd), has introduced a workflow and document-management process *sans* physical movement or use of paper.

ELCOT was designated by the Government of Tamil Nadu to promote IT industries statewide.

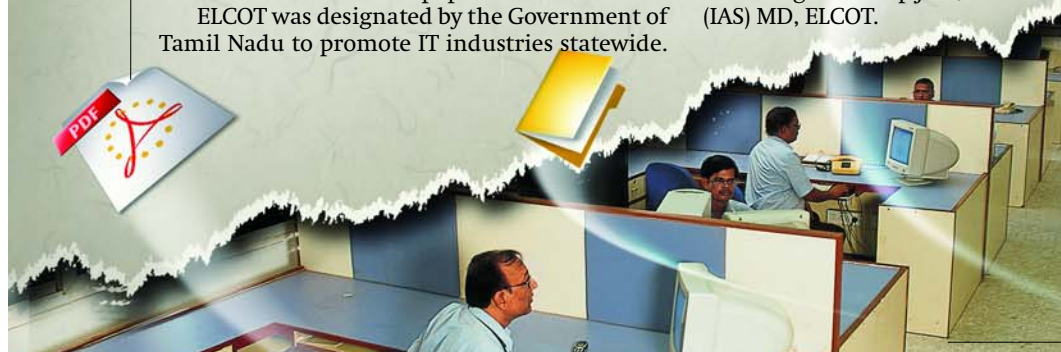
Apart from supporting IT entrepreneurs, it also promotes joint ventures in electronics, communication and IT. They also help develop infrastructure for the software industry by providing effective communication backbones and IT parks.

LL2B's “e-Administration” tool allows ELCOT officials to electronically sanction purchases, approve official activities and transfer files as well. All the files processed are made available on a central server, and the status of pending files can be obtained at any stage as well. Thus, the workflow is quite transparent. The only documents printed and filed are the final order copies.

## The Nuts And Bolts

As part of its e-governance initiative, the Government of Tamil Nadu embarked on a paperless office drive for introducing transparency and accountability in its internal and external transactions.

ELCOT decided to introduce “e-Administration”—a paperless file-management system, which ensures speedy disposal of files. The entire process—creation, movement, monitoring, and approval of files takes place electronically, resulting in better utilisation of manpower. “This helps avoiding delays, which leads to better governance,” according to Sudeep Jain, (IAS) MD, ELCOT.





The biggest advantage of 'e-Administration' is that it enables us to view, at any stage, the status of a pending file

**K Appuswamy**  
General Manager, e-Governance, Tamil Nadu

e-Administration is the brainchild of ICT specialist, VDG Krishnan, founder president, LL2B.com Pvt Ltd. He has 25 years of managerial experience and has worked in the Indian public sector as well as in a leading MNC based in the Americas. He intended to develop a simple yet effective solution, to enable governments, corporates, SMEs and NGOs implement e-governance, in developing countries such as India.

e-Administration is a Web-enabled, platform-independent, paperless solution developed on an Open Source platform, for paperless communication within and outside an organisation. It uses offerings such as J2EE, JBOSS and PGSQL.

The tool, according to Krishnan, has reduced the file approval cycle from an average of two to three weeks to one week. This has also resulted in considerable reduction of paper-usage within an organisation. (See the Digit DVD for a presentation on LL2B's e-administration tool)

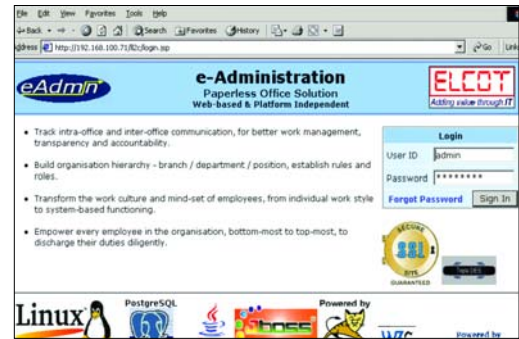
Krishnan says LL2B's tool empowers every employee in the organisation to discharge his or her duties efficiently. Dependencies on subordinates has also reduced and the organisation is now more system-oriented than people-centric. This is likely to result in increased productivity. Its Linux platform also makes it easy to add local language content.

Any organisation that deals with multiple agencies can use this tool for a simultaneous review-and-action process. e-Administration also aids knowledge management and integration in NGOs, self-assessment, decentralised field updating and centralised review and monitoring.

### The Process Involved

ELCOT conducted trials with products offered by three SMEs—for independent evaluation, with a view to adopt the best tool. The SMEs were asked to implement the necessary customisations, to suit the requirements of ELCOT.

Trials were conducted over three months, with equal opportunity given to all solutions. For the purpose of testing, each department had a system configured as the server and five



The e-Administration tool is accessed via a browser

nodes (on an average) connected to it as clients.

Says K Appuswamy, general manager (e-Governance), "Many organisations conducted trials but only LL2B's model worked successfully at ELCOT."

LL2B.com's product was one of the three LAN based solutions tried out—the front-end was based on Visual Basic while Microsoft Access running on a Microsoft Windows 2000 server was used as the back-end. This tool was initially installed in ELCOT's marketing department for about five officers. Seeing its efficiency, other officers and staff voluntarily came forward to use the tool. Once the number of users increased, the solution was upgraded to a browser-based Web version to eliminate the dependency that existed on client systems.

Currently, e-Administration connects about 150 users, in three different locations across 25 km, including ELCOT's corporate office at Nandanam, their communication division at Perungudy, and ELCOT Chairman Vivek Harinarain, who is also IT Secretary, Govt of Tamil Nadu, at the Secretariat, through a dedicated powerful four-way Xeon dual processor with RAID facility, running a versatile Oracle 9i database as backend, on a Linux-based advanced server, centrally located at the corporate office.

The tool simplified the process of generating files and enabled moving note sheets electronically: instead of physically carrying



### Why ELCOT took the plunge

- ▣ The number of major departments: 4
  - ▣ The average number of files generated per department per year: 150
  - ▣ The average number of note movements (cycles) per file: 20
  - ▣ The average time taken to generate a note and get approval - 4 to 6 days
  - ▣ The average number of physical movement for each cycle: 8
- The total number of manual entries / file movement from desk-to-desk per year:  $4 \times 150 \times 20 \times 8 = 96,000$  manual entries or file movements per year.

The workload is not evenly distributed as it depends on a hierarchy to grant sanction and/or approve files. The Managing Director (MD) typically has to view and approve approximately 200 files per week. That is an average of 40 files per working day! This is apart from the various meetings he has to attend. Files pile up when he is on tour

and he is forced to carry work home. Files are kept pending while the office is away. The officer may not even know that there are files pending, even if they are urgent. These problems cause inordinate delays in the workflow process. A tool such as e-Administration ensures prompt disposal of files and access to a central database, where the status of files can be monitored at every stage, thus ensuring efficiency and transparency.

Sudeep Jain, MD, ELCOT confirms that the implementation of the electronic system has brought down the average file approval cycle to five to seven days. Earlier on, the process took 15 to 21 days.

Source: 'E-ADMINISTRATION THE KEY FOR E-GOVERNANCE - INITIATIVES FOR CREATING A PAPERLESS OFFICE', by Sudeep Jain, IAS, Managing Director, ELCOT, Chennai-35, presented at the 7<sup>th</sup> National e-Gov Conference in Nov 2003, conducted by the Department of Administrative Reforms and Public Grievances, Ministry of Personnel, Public Grievances and Pension, Govt. of India.

note sheets for approval, from table to table, the employees used the tool. Pop-up alert messages acknowledged the receipt of the e-document.

All letters received from external agencies are now scanned and converted into electronic documents, which are then added to the repository on the LAN. This system enables a user to check the status of a file, at any stage. More importantly, delays are minimised as the files can be traced over the LAN—employees can now know which officer has kept the file pending.

“The biggest advantage of e-Administration is that it enables us to view, at any stage, the status of pending file. The details are available on a central server and can be accessed by anyone. This way, workflow is simplified,” says Appuswamy.

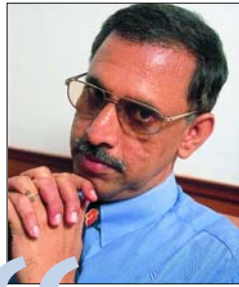
LL2B's e-Administration tool not only effects a dramatic reduction of stationery usage, and time taken to process documents, it also serves to introduce transparency in the working of any organisation.

ELCOT employees also took to the system rather well. Says Appuswamy, “Our employees became more and more comfortable with using the tool as the trials progressed. It's quite user-friendly and doesn't require a lot of technical expertise. I myself began using the system without any formal training, and have been using it successfully for eight months now.”

### The Accolades Have Been Coming

At the 7<sup>th</sup> National e-Gov conference held in Chennai in November 2003, ELCOT received a merit citation award from the Government of India, for implementation of e-Administration as a tool for e-Governance.

The Industrial Guidance Bureau of the Government of Pondicherry has implemented an integrated e-Platform, a quickly customised solution of 'e-Administration', to automate the activities of the Directorate of Industries and Commerce. Being attempted for the first time in India, 21 departments—including municipi-



**[The tool is] likely to save a lot of time, effort and cost to industrialists and citizens as well as officials of various Departments**

**VDG Krishnan**  
Life-Line to Business  
(LL2B.com) Pvt. Ltd

palities and panchayats are connected on a simple dial-up. The central repository server is located at the District Industries Centre, Pondicherry. All this forms a dedicated electronic network, that allows the Government to grant permission, for example to set up an industry; it can also help a manufacturing unit obtain a licence to commence production, among other things.

Says Krishnan, “This will save a lot of time, effort and cost to industrialists and citizens as well as officials of various departments. As opposed to submitting 10 copies of documents in the manual system, the electronic system, only needs one signed copy to be submitted, thereby helping save paper. It can help to fuel investment in the State and generate employment for local people.”

Various Central and State Government departments and undertakings including the Andhra Pradesh Technology Services, the Governments of West Bengal, Orissa, Manipur, Goa

**e-Administration can transparently prioritise a task**

etc. State Bank of India, the Canadian Consulate in Chennai, British Trade Office (Bangalore), Ministry of Industrial Development, Malaysia and the State of Sarawak, Malaysia have shown interest in implementing e-Administration.

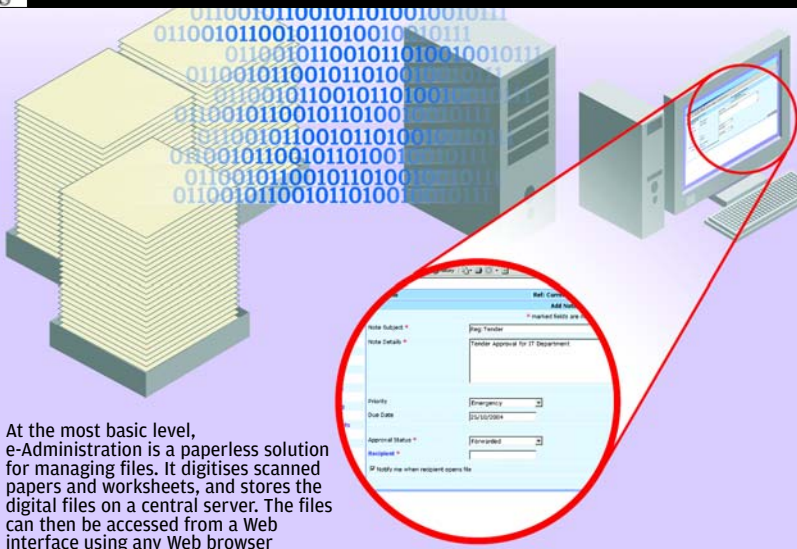
Far from resting on their laurels, LL2B plans to reach out to the various Government Departments as well as corporates, SMEs and NGOs by offering the basic solution for free and charging only for customisation, installation, training, annual maintenance and upgrade support, either directly or through ELCOT, with whom LL2B has a marketing tie-up. This is expected to benefit Governments in India and the developing world, by saving on e-Governance expenditure. “We are currently holding discussions with the Chennai Metropolitan Development Authority and The Tamil Nadu Dr. MGR Medical University, to implement 'e-Administration' in their offices or institutions across the city,” says Krishnan.

ELCOT has received the mandate from the Tamil Nadu Government, to implement LL2B's solution in as many offices as possible in the state, with a view to reduce as many bottlenecks as possible in the administrative machinery.

While it's naïve to believe that paperless office solutions like LL2B's, may just be the panacea for our red-tape ridden bureaucracy, it certainly is a step in the right direction. ■

meera\_vankipuram@thinkdigit.com

### ? How e-Administration works



At the most basic level, e-Administration is a paperless solution for managing files. It digitises scanned papers and worksheets, and stores the digital files on a central server. The files can then be accessed from a Web interface using any Web browser

# Laser-Sharp

One of the most imperative choices you will make for your company is deciding its printing solution. We help you make an informed decision



Photograph: Mervyn Xavier

**Sanket Naik**

**P**rinting solutions offer too much of a good thing—with options galore, the trick lies in choosing the best one for your business. The entry of colour laser printers has further enriched choice. Is the marriage of colour with the speed of a laser solution a fruitful one? We try to find out. To make things even more interesting, we also test some inkjet printers meant for business use.

**The Printers**

Printing solutions have evolved a great deal from the dot-matrix technology of past. A dot-matrix is a low-cost, low-maintenance solution for sure, but due to noisy operation and sub-par print quality, it is rarely seen outside accounts departments.

Inkjets and lasers have moved on to become the preferred choice for almost all office departments. Inkjets offer superb colour resolution but do not print as sharp as a laser printer does—the output tends to bleed and smudge. Lasers, on the other hand, provide sharp printouts, but until not long ago, they simply lacked colour.

Companies therefore had inkjets for colour printing and lasers for black and white printing. There was one problem though—inkjets were proving to be a costly affair compared to laser printers. For perspective, consider that the accumulative cost incurred upon replacing the third successive ink cartridge surpasses the initial cost of the inkjet printer.

However, advertisers, design houses, and people in marketing departments had no option but to use inkjets for printing in colour.

Colour lasers were introduced a year ago in India, but they were simply too expensive as an option. As with many technologies, the price of lasers has come down to a level where they become a viable solution to small business

houses. Today, most colour lasers fall in the range of Rs 34,000 to Rs 50,000.

Further evolution has seen colour lasers shed their weight and lose their bulk in favour of a slimmer profile. The new breed of colour lasers can match mono lasers in speed, and are a little more expensive than their black and white counterparts. Older colour lasers took each document through four passes, one for each colour, which slowed them down. Now, a paper goes through just a single pass.

Though the new breed is classified as “laser” solutions, the underlying technology has changed, making them more compact and less expensive. Instead of a laser, these new printers have an array of LEDs that writes on the OPC—the organic photoconductive drum, the heart of a laser printer.

For this test we had colour lasers from the five top vendors: Canon, HP, Lexmark, Samsung and Wipro, with one model each. Xerox does have a model but we were not able to procure it on time for the test.

Along with these laser colour printers, we also tell you about some inkjet printers fresh out of the stables with unique features, strutting as business solutions. This mix of lasers and inkjets will give you a comprehensive look at available options for your business.



The Canon LBP-2410

**How We Tested**

**O**ur test-bed comprised an Intel Pentium 4 3.2 GHz processor plugged on to an Intel 875PBZ motherboard, with 512 MB of Corsair 400 MHz DDR SDRAM, an MSI Ti4800 display card and a 40 GB, 7,200 RPM, ATA IV Seagate Barracuda hard drive.

We used Microsoft Windows XP with SP1 as the operating system, with the latest chipset and graphics drivers. The USB patch for Windows XP was installed, too, and the devices were connected on the USB 2.0 port for optimum performance. We used 100 gsm (gsm is grams per square metre—this measures the paper thickness) paper for the tests, except for the drain test, where we used 75 gsm papers. For photograph printing, we used NovaJet's 130 gsm inkjet photo paper across all the printers, since they are widely available across the country.

All the printers were tested on the

same test suite, which comprised a text document, a combi-document, a continuous document and an image file. The test files were chosen to reproduce every possible printing scenario.

The combi-document has many sections, with text of varying point sizes, lines drawn in a circle, seven coloured bars of decreasing colour gradients, and a small picture at one corner. Each of these subsections tests the printer's ability to reproduce detail. The varying text point size tests a printer's ability to reproduce the smallest possible text—the spatial resolution of the printer. The circle of lines tests a printer's ability to reproduce lines without jarring at the edges. Similarly, the seven-colour bar tests the colour reproduction capabilities of the printer's cartridges.

The continuous document is a

small report with bar graphs, pie charts, line graphs, images and text, all spread over six pages. This reproduces real-world usage.

The image document is made up of several elements with varying contrast and brightness areas. This document tests a printer's colour reproduction capability on photo paper.

The text and the combi-document file were printed at Normal and Best quality settings, and the image file was printed at the Best setting.

Scores granted to Features, Build Quality, Performance and Price were given weightages. An overall score out of 100 was then calculated. The product that scored the highest was adjudged the winner of the Digit Best Buy Gold award for its category. The runner-up was awarded the Digit Best Buy Silver award.

## New Canon inkjets For Business Use

Canon recently introduced the Pixma range of printers, and we received two of them—the iP3000 and iP4000. They sport revolutionary design—they are appealing, compact and haven't compromised on performance or features.

The iP3000 has four separate ink tanks, whereas the iP4000 has five separate ink tanks. That's the basic difference, apart from the speed ratings.

Both these printers are PictBridge-compliant, so it is possible to print directly from a digital camera.

Duplex printing support is native on



The Canon Pixma iP3000

both printers, and is a boon in business environments—duplex printing saves on paper. It not only reduces costs, it also takes care of your responsibility towards the environment.

One feature that Canon has been pushing hard over the last two generations of

printers is CD-R printing support—it allows you to print a CD face directly on a CD. This feature is useful for people who market material via CD-Rs.

Both the iP3000 and the iP4000 have a dual paper feeding mechanism—one via a paper cassette, and the other via a



The Canon Pixma iP4000

top-loading sheet feeder.

During our tests, we did not come across any paper jams or multiple sheet pickups.

The Pixma iP4000 turned out to be the fastest inkjet we have seen thus far, while the iP3000 is marginally slower. In terms of quality, they live up to the expectations when it comes to

text as well as complex documents with charts and line graphs. Photo printing is deceptively good for these printers; however, for best results, you will need to use the recommended media. Sensibly priced at Rs 6,600 and Rs 7,000 respectively, the iP3000 and the iP4000 are good buys.

Canon sent us their Laser Shot LBP 2410, while HP turned up with the LaserJet 2550L. Both printers use the same internal technology, which has the colour toners mounted on a rotating carousel. Lexmark sent us their C510, Samsung sent in their Ace CLP 500, and Wipro turned up with the 4160 model.

### The Features

Printers are often defined by the resolution they support. The Canon, HP and Wipro are rated to provide 600 x 600 native resolutions. This is the native resolution, but you will often find the interpolated resolution mentioned at over 2,400 dpi. Samsung's CLP-500 is rated at 1,200 dpi, whereas Lexmark rates their C510 at 2,400 dpi; these are interpolated resolutions. These numbers are often misleading and should not be considered as yardsticks to support your buying decision—we recommend that you take test prints before a purchase.

The interface that connects a printer to a PC or network is of the utmost importance and should not be overlooked. Most laser printers now support the widely popular USB standard. A printer with an inbuilt Ethernet adapter is also a good thing.

Canon's LBP-2410 comes with just a USB 2.0 port and an optional network adapter that you can later upgrade to. HP's LaserJet 2550L and Lexmark's C510 provide a Parallel and a USB 2.0 port for PC connectivity; they, too, have the option of adding an Ethernet card later on. Wipro's 4160 colour laser printer was the only one with the slower USB 1.1 interface. It does provide a Parallel and an optional Ethernet adapter port for later upgradation.

The Samsung CLP-500 comes with the usual Parallel and USB 2.0 interface, and the Ethernet adapter is optional. However, Samsung has gone one step forward, and has provided optional capability for wireless 802.11b connectivity—a boon for laptop users.

Onboard memory is an important element to consider. To speed up the print process, more

memory always helps—it reduces hard disk access and spooling.

The Samsung CLP-500 and the HP LaserJet 2550L had 64 MB of onboard memory, which can be upgraded to 192 MB. The Lexmark C510, with 64 MB, offers additional room for up to 320 MB. Canon's LBP-2410 has 8 MB of onboard memory, but it uses Canon's proprietary technology—CAPT: Canon Advanced Printing Technology, which permits the printer to use system memory for spooling a print job. This, according to Canon, speeds up data processing, but only if your system has a faster CPU and a decent amount of RAM.

The most common problem with a shared resource, such as a printer is the inability to know how much stationery is available on the printer, before you fire a print request. You thus get irritating "Out of paper" lights blinking at you, instead of the expected printout. Hence, consider paper capacity when you buy a new printer, especially if you expect heavy demands to be placed on the device.

Lexmark's C510 and Samsung's CLP-500 have deep paper trays that can hold 250 paper sheets, followed by the Wipro, which can hold 200 sheets. The Canon and the HP hold 125 sheets each. For additional paper requirements, the Samsung provides an optional 500-sheet paper



The Wipro 4160



## A Look At Available A3 Printers

A3 printers have their own niche. They find customers in design houses, architecture firms, publishing firms, etc. Every printer vendor has at least one A3 model in their portfolio. We tested the latest from Canon—the i9550.

Canon's i9550 is a top-of-the-line A3 model. Being an A3, the printer takes up lots of desk space. Canon has fitted it with foldable paper feeders and output trays to decrease the footprint. Build quality is top-notch, and despite a heavy use of plastic, the printer shows no flimsiness in its design.

The key highlight of the i9550 is its eight-cartridge system. It is an optimised photo-printing device capable of 4800 x 2400 dpi. In our tests, it proved to be an excellent solution, reproducing finer details especially well—thin lines were drawn with a minimum of jaggedness, for example. Similarly, when it comes to colour reproduction, it is quite accurate, and the output is vibrant.

The i9550 also offers CD-R printing, for printing those promotional CD faces. It can be interfaced using USB 2.0 or the FireWire port and is PictBridge-compliant.

A3 printers can cost as little as Rs 20,000, but for the features and print quality of the i9550, you will have to pay Rs 34,500.

cassette, while the HP, Canon and Lexmark offer an optional 250-sheet cassette.

Duplex printing allows you to print on both sides of the page without having to manually turn the paper around. This feature can save a lot of paper, which is always a good thing. Samsung's CLP-500 was the only printer to offer duplex printing. Lexmark offers it as an optional unit, and we recommend buying one.

The drivers that came with the printers were thorough in their ability to set printer parameters and tweak options. The Wipro 4160 has some catching up to do when it comes to the driver interface.

Aesthetically, HP's LaserJet 2550L looks better than the rest. The Samsung CLP-500 sports a distinct design, while Canon and Lexmark have styled their printers in the classic manner—boxy! The Wipro 4610 is a design mystery—the front of the unit cannot be

differentiated from the back; the overall design leaves one frustrated.

To conclude, the Samsung CLP-500 provides more features than most in this league. It was closely followed by Lexmark's C510. The HP and Wipro are on par on the features front.

## The Performance

To evaluate the performance of these colourful beasts, we adhered to the same benchmarking procedure that we used to evaluate inkjets. Performance evaluation was done on two parameters, speed and quality.

## In Terms of Speed

Ideally, the time taken by each of these printers should not show much variation, but that was not the case. In the text printout test, at the normal setting, Samsung's CLP-500 finished in 13 seconds, while the Lexmark was hot on its heels at 14 seconds. Wipro, at 15 seconds, came in third. The Canon and HP were left behind at 18 and 28 seconds respectively.

The HP, Canon and Wipro have a different setup of colour toners as opposed to the Lexmark and Samsung, which could be a reason for the speed difference.



The HP LaserJet 2550



## Score Board



BRAND	Canon	HP	Lexmark	Samsung	Wipro
<b>Model</b>	<b>LBP 2410</b>	<b>Laserjet 2550</b>	<b>C510</b>	<b>CLP 500</b>	<b>4160</b>
<b>Features</b>	8.98	10.00	12.70	13.26	9.24
Resolution	600	600	2400	1200	600
Interface ( Parallel / USB / Ethernet )	No / 2.0 / Optional	Yes / 2.0 / Optional	Yes / 2.0 / Optional	Yes / 2.0 / Optional	Yes / 1.1 / Optional
Input buffer ( Installed / Expandable )	8 MB / CAPT	64 MB / 192 MB	64 MB / 320 MB	64 MB / 192 MB	32 MB / NA
Paper capacity (Pages)	125	125	250	250	200
Optional Tray support	250	250	250	500	NA
Dual-side printing support	No	No	Optional	Yes	Optional
<b>Performance</b>	36.78	33.21	39.02	38.01	36.90
<b>Speed</b>					
Text Document ( Seconds )	18	27	14	18	14
Combi-Document ( Seconds )	32	52	68	36	38
Continuous Document ( Seconds )	104	124	60	82	105
Photograph ( Seconds )	41	160	156	48	60
PPM ( Seconds )	13	12	24	15	13
<b>Quality</b>					
Text ( Scale of 5 )	3.5	3.5	3.5	3.5	3.5
Combi-Document ( Scale of 5 )	3.1	3.6	3.3	3.0	3.3
Photograph ( Scale of 5 )	2.9	3.0	2.9	2.9	3.0
<b>Price Index</b>	12.00	17.14	14.63	15.00	18.19
Price (Rupees)	49,995	34,999	41,000	39,990	32,990
<b>Overall Score (Out of 100)</b>	<b>57.76</b>	<b>60.36</b>	<b>66.35</b>	<b>66.27</b>	<b>64.33</b>



## The Business Behemoth

**A** look at HP's 2300 DTN ought to change your perception of a business printer. This giant means business and is designed to reflect that attitude—from its core components to its looks.

The 2300 DTN has separate ink tanks and replaceable print heads. The ink tanks by themselves are voluminous compared to those on other HP models, and models from other vendors.

Paper capacity is humongous, and apart from the inbuilt paper tray, HP provides an additional paper cassette. In total, 650 sheets can be fed into this giant at once. Duplex printing is a welcome



The HP 2300 DTN

feature. The 2300 DTN comes with 64 MB of onboard memory, upgradeable to 320 MB.

The 2300 DTN has both a Parallel and a USB 2.0 port. For hooking it up on your internal LAN, it has a JetDirect internal print

server, which is easy to install.

The printer is not the fastest. On an average, it takes four seconds more than the Canon Pixma iP4000, which is the fastest printer we tested this time. As for quality, the output is not very good; HP's DJ-5652 inkjet has far superior print quality and costs five times less.

The 2300 DTN will set you back by Rs 50,000. It is worth noting that the printer is a relatively old model. We would advise that you evaluate this printer more carefully, keeping in mind that the HP 2550L laser printer might make more purchase sense for your organisation.

In the Lexmark and Samsung, the toner cartridges are lined up vertically, over which the paper passes, whereas in the HP, Canon and Wipro, the toner cartridges are mounted on a rotating carousel, and move to apply the specified colour on the paper. This results in added time to complete the same task.

In the text printout, under Best mode, all the printers, except for the Samsung CLP-500, returned the same time. Samsung came out on tops here.

In printing the point-size document, the results remained the same; the Samsung CLP-500 came out tops, followed by the Lexmark C510. Wipro did well, keeping ahead of the HP and Canon printers.

The results of the combi-document test were interesting: the document is heavy in terms of colourful graphical elements, and hence taxes most printers to the max. It also does a fair job of emulating real-world printing scenarios. The Samsung was the fastest with 24 seconds—25 per cent faster than the runner-up, the Canon LBP-2410, which clocked 32 seconds. Canon's CAPT technology works in its favour here.

The Lexmark took the longest time, a result that was repeated in tests where we used large or complex documents. The reason is the slow spooling-time; once a document is spooled, the C510 from Lexmark is a firecracker. HP's LaserJet 2550L was marginally faster than the C510.

When we printed the combi-document in Best mode, the Samsung lost the top slot by a small margin to Canon's steady-performing LBP-2410. The other printers followed with similar times, to complete the job.

1/2 pg V AD



The Lexmark C510

To tax the printers further, we printed a report with graphs, photos and text. Lexmark's C510 took the top slot, and was followed by Samsung's CLP-500. Lexmark was 50 per cent faster than the slowest printer, the HP LaserJet 2550L, in this particular test.

Our final test was the high-resolution photograph printout; this test would clearly crown the colour-printing king. We used a 37 MB file—large enough to test a printer's onboard memory performance.

As expected, Canon's LBP-2410 came out tops, taking only 41 seconds. The reason for this is simple—the Canon uses CAPT, which does data processing using the PC. The better the PC, the faster the printouts. Samsung's CLP-500 should be lauded for its equally good speed, and as was the case earlier, the Lexmark lost out due to its high spooling time. The Wipro took 60 seconds and was third-best.

When it comes to pages printed per minute (called PPM), the Lexmark C510, at 24 PPM, was the fastest of them all, followed by the Samsung CLP-500 at 15 PPM.

To conclude, Samsung's CLP-500 finished most of the tests fastest. Lexmark's C510, on the other hand, is much faster for small loads, but as the file size increases, the spooling times goes through the roof and slows down overall printing speed. The Canon and Wipro tied for third place.

### The Printout Quality

While HP's LaserJet 2550L was never up there in terms of speed, it did produce some quality printouts to make up for lost ground.

In the combi-document, it reproduced the finer details perfectly, without distortion. Colour differentiation was perfect, and the range of seven colours in the combi-document was reproduced perfectly. Yellow text on a black

background tests the contrast level, and this was crystal clear. All this put the HP 2550L ahead of others in the quality comparison. Wipro's 4160 came in third, closely followed by the Lexmark C510.

The Samsung CLP-500, to some extent, sacrifices quality at the expense of speed. Graininess was visible where there was colour gradation, as with background colour. Colour shades were also lighter than normal. All this resulted in lower scores.

When we printed photographs, all the printers failed to match the results from an inkjet printer. The printed photographs completely lacked the vibrancy of colour. This is one area where inkjets score over colour laser printers. Amongst this bunch of lasers, HP produced the best photographs, but even these were not of acceptable quality.

Thus, although colour lasers have come of age, they fall behind when it comes to printing photographs. Your best bet for photographs



The Samsung CLP-500

would be photo-printers for professional requirements. However, most inkjets meant for desktop use, will do a good job at printing photographs for casual use.

### Putting It Together

To summarise, the Samsung CLP-500 wins on features, followed closely by Lexmark's C510. On the performance scale, Lexmark's C510 is a hairs-breadth away from Samsung's CLP-500. However, it should be noted that as far as quality goes, Lexmark's C510 is much better than Samsung's CLP-500. However, HP's LaserJet 2550L is undoubtedly the best when it comes to quality of printout. Wipro and Canon are pretty much on par, both in terms of speed and quality of output.

Insert price into the equation, and the Wipro 4160 is the cheapest colour laser. However, Lexmark's C510 and the Samsung fight it out for the crown. Considering the Lexmark's good speeds and marginally better output quality, we award it the Best Buy Gold award.

The Samsung CLP-500, with its future-proof feature set and decent performance, is a good buy, and wins our Best Buy Silver award.

HP and Canon have some catching up to do with the competition. ☑

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### Contact Sheet

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**Canon** Presents

# Digital Photoism

## Shoot And Print Like A Pro

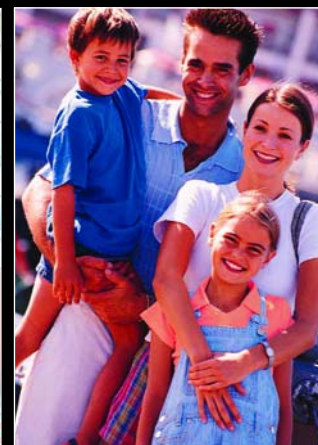
**T**he season of festivities is here. With Diwali, Id, Weddings, Christmas, New year forming the integral element of calendar for the forthcoming days, needless to say the celebrations will be galore!

It's a time to create memories and also time to preserve those precious memories. Thankfully, with the advent of digital cameras, you don't have to wait for a roll to finish or print all images. Save what you like and delete what you don't. Double up your digital camera with a worthy photoprinter- and you have your very **personal photolab**. So cut out the waiting time, cut out the inconven-

ience of going to some obscure lab to develop the photographs and share instant pictures with your loved ones. Get ready for the revolution in photo solutions- get ready for **DIGITAL PHOTOISM**.

At the forefront of this revolution is **Canon- the leading manufacturer of digital cameras and photo-printers** which offers complete digital photography solutions and hence is a force to reckon with in this arena. This concept of digital photoism can succinctly be explained in three simple steps of **SHOOT** the picture with a digital camera, **CONNECT** the digital camera to the photoprinter, fire the **PRINT** command and share the stunningly beautiful pictures with your loved ones instantly. So now you can print still images from your digital camera/camcorder, camera phones at the click of a button.

To share some industry statistics, the current year is the boom year for digital imaging and companies have been really focused on driving the outcome from this trend which will



be the emergence of a new culture - the **personal printing culture**. One out of every three people who own a PC will buy a printer. The PC market is approx 30 lacs and the market for inkjet printer in India is 8 lacs. The printer attachment ratio will increase with expanding digital camera opportunity and mobile camera phone booming market.

Talking about Canon, its impressive product lineup aims at encouraging the **"Print-it-yourself" culture**. In a photo workflow, the camera cost accounts for just 11%, film and printing take up the rest 89%. Canon's new digital cameras are powered by Canon's DiG!C image processor chip and equipped with its world-renowned lenses for the capturing of sharp and true-to-life images. These

**Canon**

# SHOOT.



print photos directly with Canon's PictBridge-enabled printers, multifunctional machines without PC, that produce stunning images that rival studio photos in sharpness, color and fade resistance (archival quality of 100 years when printed on Canon Photo Paper Pro and with BCI-6C ink cartridge).

To be at the helm of the **digital photoism** revolution, all you need is the right Digital camera and the right photo-printer but choosing the same could be a tedious task with plethora of options available. In our endeavour to give our readers information that they can use, here are some handy snippets:

### Choosing your right Camera

The most crucial aspect is understanding your level of usage. If you are a professional- look for the latest, feature equipped, heavy-duty SLR cameras with effective megapixel rating for high-precision, high-speed performance. But if you are a beginner or an occasional user, investing in high-end cameras might not be a very good idea. You would probably be better off choosing an entry-level fixed-lens camera.



A mid-range camera, on the other hand, could be a good buy for occasional photography like

travel and outdoor sports.

Choosing the right digital camera is really all about getting one that fits your lifestyle. It doesn't have to be equipped with the best features or has to be the coolest design. Rather, it should be one that fits your budget and feels right in your hands.

Broadly, there are three kinds of camera buyers and once you identify your type, everything else becomes relatively easy.

**Budget Buyer:** If you are buying a digital camera for the first time, have a limited budget, looking for a camera without a lot of fussy features and just want a unit for the occasional photo memento, then the minimum specifications you can look for:

Recommended resolution: 2 megapixels

Minimum Storage: 16MB

Extras: Video recording with audio

**Home shutterbug:** You might be looking for a digital camera that's stylish but won't break the bank or looking for one that can capture great pictures for family album or you need one camera with audio and video recording/playback to share with family and friends. So here's the specification you can opt for:

Recommended resolution: 2 megapixels

Minimum Storage: 32 MB

Extras: Direct connectivity to printers, 2x optical zoom

**Traveller:** Whether it's a three-day trek in Malaysia or a three-week tour of Europe, the camera you bring along should be compact enough to slip into your bag or backpack. Yet, it should be sufficiently rugged to withstand the bumps and knocks you are likely to encounter on the road. A vacation camera should be equipped with a good set of point-and-shoot features for those candid spur-of-the-moment shoots. Last but not the least, a good vacation camera is with great battery life and sufficient memory. The minimum specs:

Recommended resolution: 3 megapixels

### **Tips for Better Photography**

- Paint a mental image of the scene. This will help you decide what you should include in the frame while composing.
- Play with depth-of-field and aperture settings on the camera. This will add some zing to the picture. Since this is a digital camera, experimenting does not cost a thing!
- Colours should be bright and should depict contrasts.
- While shooting motion at night, say crackers during Diwali, ensure that the exposure is timed right. Again try a few settings before you get it right.
- Decide the width of picture you are going to click. Prepare a mental list of how many elements you want to capture in the picture.

Minimum Storage: 64 MB

Extras: Additional Battery and Memory Card, Pouch, Optical Zoom lens.

**Business User:** Do you wish to spend more money for an advanced camera? Is style less important than high-end features and resolution? Is superior battery life high on your wish list? If you find yourself asking these questions then here's the minimum specs you should take into consideration:

Recommended resolution: 4 megapixels

Minimum Storage: 64 MB

Extras: Built-in microphones and speakers, Camera Case, 3x optical zoom, hotshoe for flash unit.

### Printing your Photos

Photography isn't just about shooting nice portraits and beautiful sceneries. Many camera users agree that the most gratifying experience is printing their own pictures and those of loved ones. In fact, one of



## The Pixma Difference

While Canon has always been on the forefront of cutting-edge technologies, the PIXMA range of printers taps on Canon's 'Photo DNA' that comprises of three kinds of DNA. EOS Digital Camera DNA with 70 years of know-how in professional photo composition and capture, has been passed down, resulting in excellent photo printing quality. The Bubble Jet Printing DNA contributes to the engineering of PIXMA's exclusive FINE high performance print-head. Finally, imageRUNNER Copier DNA in efficient document handling has been incorporated into PIXMA providing great printing versatility.

This series has nine printers of different capabilities and strengths to satisfy you at any height of requirement. The Canon PIXMA iP5000 printer offers you 25/17 ppm (mono-

chrome/color) speed as well as 9600 dpi resolution. If you need more accurate colors than average offer of 5 Think Tanks, then PIXMA iP8500 offers you 8 individual Think Tanks to satisfy you at lowest running cost. If you wish to employ this technology at your work place but confused about connectivity then rest assured. Canon PIXMA iP4000R has an answer to this question also. It is Wi-Fi (802.11 g/b) enabled for high-speed wireless network. But photo-printing is not the only thing PIXMA printers excel in. You get equally good text prints as well, thanks to this fantastic photoprinter range from Canon.



the fun things about digital photography is printing photos. It's simple, convenient and you can do it right in the comfort of home or the office. Decisions like choosing the right printer to the right image format, can affect how the final print turns out.

### Choosing the right printer

When looking for a photo printer, your decision will most likely come down to buying a dye-sublimation printer (dot-free printing) or an inkjet printer. However there's a new contender: The Camera-Direct Photo-Printer.

With the 'PictBridge' open industry standard, the recent breed allows you to connect directly to a digital camera or read off a memory card thereby completely bypassing the need of a personal computer. The PictBridge technology enables the image from a PictBridge compliant Canon digital camera to be printed out directly by a PictBridge compliant Canon photo-printer. This technology is for those who are daunted by PCs, and for digital photographers who plan to print a lot of photos quickly and easily. All it takes is 3 easy steps for you to see your photo prints:

**1. Shoot:** Canon's digital cameras are not only incredibly stylish, but also smart and user friendly. On fully automatic mode, all you have to do is point, shoot and let your camera handle the rest. Pictures are stored in a memory card, and can be reused again and again, saving you the cost of buying film.

**2. Connect:** Simply connect your Canon digital camera to a Canon direct printer and select the image and size you want on the camera.

**3. Print:** Hit the 'Print' command and there you have it. Beautiful photo prints of professional quality right before your eyes.

### Relive every Memorable moment with Photo Printers

No matter what the occasion is, you will always have memories to cherish. And what better way to print your favorite shots than with Canon's latest range of printers called "PIXMA". These printers not only possess the most headturning looks, but also stunning features never before found in printers.

Now you can enjoy up to A4 size borderless photos for a fraction of the cost you would incur should you get

your prints developed in a professional lab, credit goes to the new Canon range of photo printers- PIXMA. These amazing printers come with 2 way paper feeding facility, auto duplex borderless photo printing and can print on CDs and DVDs as well. They have the ability to give high-resolution prints with Canon's FINE high-performance print-head, and are equipped with many features like Easy Photo Print that can enhance your print. With PIXMA range of photo printers you can brighten up the face of your kid in the photograph, make your wife's skin look flawless with blemish remover feature and so on.

### The Total Printing Solution - Digital Photoism

In a nutshell this is the complete digital solution from image capture to image output. You shoot your own photos, so why not print them yourself with Camera Direct? Its yet another way Canon is making your Digital life simpler. And given that Canon is an expert in both fields you can be sure that whatever Canon comes up with next, is sure to turn heads again.

# Canon

# PRINT.

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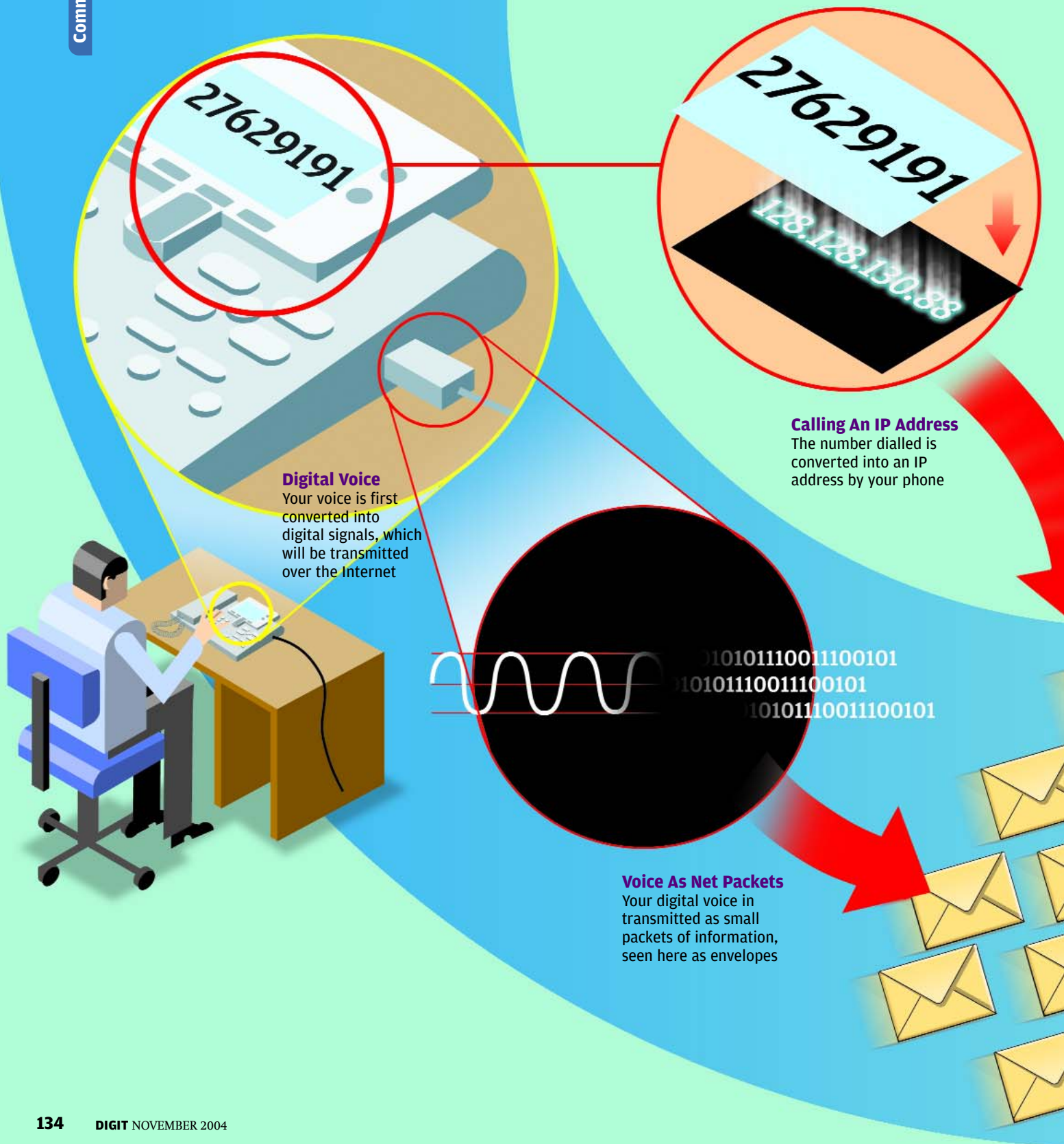
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An IP phone uses the Internet to transmit voice data between two persons. This is what happens behind the scenes

# How A VoIP



# Phone Works

## Mailing Your Voice

Each voice "envelope" contains your digital voice, with the IP address of the destination number on the outside

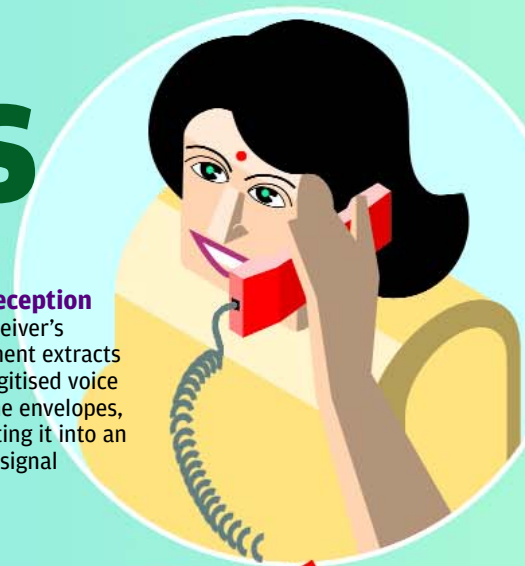


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## Call Reception

The receiver's instrument extracts your digitised voice from the envelopes, converting it into an analog signal



## Call Placed

Your voice envelopes traverse the Internet from router to router, finally reaching the destination IP



Text Ahmed Sheikh Infographic Solomon Lewis



Photo: Mery Xavier Imaging, Solomon Lewis, Atul Deshmukh

# Business on the Mobile

**Adjust your business needs to fit your communication plan? Or change your strategy altogether? What you may really need is corporate services from your cellular service provider**

**Suprotip Ghosh**

**E**ver wondered how a competitor can always come up with the most current quotes, the most competitive prices, and the show-clinching deals? Or say, how many times have you been caught in a quandary—asking clients to send over e-mail and asking them to call you? “Wished I could have cloned myself,” how many times have you had this maddening feeling? If it is difficult to actually locate where your business is going, it is time to reach out for a few different flavours of intra-office communication.

Mobile phones have been around for long. However, it has not been too long since the services offered were fine-tuned for the myriad business needs of a Small and Medium Enterprise Segment customer. Now with the war in the airwaves heating up, service providers high and low have woken up to the reality of marketplaces. The idea is to expand, and where else to look, other than the rapidly growing entrepreneurial segments. Especially if it builds revenue figures and brand-equity at the same time.

## Corporate Services That Work

Vikram Doshi, managing director, ATCO Technologies, Mumbai, puts things in perspective. In his opinion, a corporate mobile service is an indispensable tool for decision makers. Says he, “I am connected 24 hours. Right now, I cannot imagine existence without it.”

Most mobile service operators in India recognise the way Small and Medium Enterprises sector in India needs mobile services. Most of them therefore, have a similar way of approaching customers.

Tata Indicom, BPL-Mobile and AirTel, all say that they speak to the customers and try to identify the specific needs that the customer might have. Typically, there is an attempt to identify the usage pattern.

Consequently, a usage analysis is done, through a collaborative effort between the client and the Service Provider. Once that is done, the right communication plans are decided. Then, depending on marketing policies, pricing structure is determined. Naturally, there is a possibility to pick and choose between the various services on the shelf.

Hutchison Max Telecom representative Amrit

Deo, however, differs. He points out that if a full customisation is offered to the corporate or the SME customer, it has to be offered to each and every one of Orange's subscribers.

Instead, Orange offers certain bouquets of services, from which the discerning customer can choose. This makes things easier, though at the cost of complete customisability. That, however, doesn't affect the quality of service, assures Orange.

Customisation, however, is not the focus area for Reliance IndiaMobile. Instead, they focus on high-end data related services like the proprietary R-Connect Data Card and PDA-phone support. With their array of network and data services, says Sandeep M Sawant of Reliance Infocomm, they are looking at a scenario where they can provide the client with a one-stop solution for all their mobile telephony needs.

Customisation is always there, he adds, and it is in the hands of the customer.

### Many Flavours To Choose From

Across all mobile service providers in the market right now, there is a huge array of feature-rich choices for the corporate customer. Apart from standard Closed User Groups, service providers offer value added services, keeping in mind the needs of a wide range of businesses.

One of these is national and global roaming. In what Hutch calls its 'single most important service for businesspeople', it has roaming tie-ups with nearly 50 national and 300 international networks giving easy access to travelling customers.

The biggest USP of Airtel's Mobile Office service is that GPRS users can use this service,

**I am connected 24 hours, and at amazing speeds. Right now, I cannot imagine my existence without it**

**Vikram Doshi**  
Managing Director, ATCO Technologies

seamlessly, even while roaming in any of its 15 circles. With features such as GPRS while roaming, nationally and internationally, Airtel aims to provide subscribers with a Mobile Office while roaming in networks in USA, Canada, Hong Kong, Singapore and the Philippines.

Roaming has always been the forte for Reliance Infocomm. It provides its Mobile Office services, a part of its R-World bouquet, to roaming professionals across the country.

Tata Indicom too, provides roaming services to its mobile corporate customers.

If a client needs to make more National (STD) or International (ISD) calls, BPL Mobile helps the client migrate from a land-line based STD/ISD plan to a completely wireless package. A Fixed Cellular Terminal, or FCT, is a replacement for an ISD land-line, which is routed through the mobile network.

### Mobile Sales Force Automation

A further useful feature for the corporate customer is Mobile Sales Force Automation (MSFA). To put it simply, here the mobile service aims to replace the computer with the mobile as the front-end of the ERP database.

It is designed to provide mobile sales professionals access to continuous, timely information by providing wireless access to the backend ERP system. Sales people can stay updated with the latest quotes, prices and also keep real-time track of shipments and consignments, if their ERP database supports global positioning-based tracking. MSFA is offered currently in a SMS-based format, though it can work with GPRS-enabled phones.

Or take customised SIM applications—this feature allows pre-designated users mobile access to



## What The Cellular Service Providers Offer

### Hutch Services:

- ☐ sms@wrk: allows managers and their team members to feed and access information to and from a central server—the most popular user group for this application being sales teams
- ☐ Group messaging allows a team member to send a single SMS to the entire team in one go
- ☐ Stock quote alerts for specific stocks—delivered via SMS
- ☐ Internet access through Hutch GPRS for those who want to log onto the Web on the go. Their services are EDGE compatible by default. EDGE or Enhanced Data rates for GSM Evolution is essentially a technology in the backend of mobile GPRS services to assure faster access and connectivity.
- ☐ Customised SIM applications—that allow pre-designated users mobile access to specific enterprise applications and databases
- ☐ MS Outlook on Hutch—that allows checking of office mails through mobile phones, over SMS or GPRS

### Airtel Services

- ☐ Mobile Sales Force Automation solutions enable the company to provide timely and up-to-date information to its field force by providing wireless access to the already existing backend ERP system. The information could range from a potential lead to giving information about the availability of a particular spare part in the warehouse.
- ☐ The Airtel Corporate Directory service makes the entire list of company telephone numbers available to the employees via SMS. This list can be constantly updated from a central location. Hence there is no need for an employee to maintain and store all the relevant phone numbers on the mobile phone.
- ☐ Airtel provides simple-to-use and efficient tools for broadcasting information to customers and employees.
- ☐ General News and Business Alerts: Airtel customers can also subscribe for News and Business

News alerts to be delivered to their mobile phones via SMS.

### Reliance Services

- ☐ Single mobile device for mail and office directory access. No need for Laptop or PDA.
- ☐ Enhanced productivity—faster, anytime, anywhere information access even while roaming.
- ☐ Enhanced responsiveness—for internal communication as well as external communication
- ☐ Ability to synchronise your desktop mail with your mobile mail. User friendly interface—similar to Outlook Express
- ☐ No capital expenditure on special devices
- ☐ No capital expenditure for backend enabling of mail servers
- ☐ Connects to all types of mail servers including Notes, MS Exchange, POP3 / IMAP
- ☐ Total privacy—no replication of mails at Reliance's end
- ☐ Security—supports end-to-end 128-bit encryption and SSL

**R**agnarok Online (RO) is a massively multiplayer online game (MMORPG) where thousands of players can live and adventure in real time over the Internet. RO India joins 10 other countries in running a local version of Ragnarok Online to suit its local trends, culture, and of course, its own players. This is the first online video game that will unite players from all over India. All you need is a PC, the game CD, and an Internet connection.

How you play (or live) the game is up to you. You can choose any role you like—swordsman, archer, thief, acolyte or merchant. Play cooperatively or competitively. Join a clan or guild to complete quests and defeat boss monsters. Raise your own pet monsters. Create and name your own items and weapons. Collect treasures in order to complete quests or sell them in the marketplace for profit. You can become



# LET'S ROK!

Join the Community  
of RAGNAROK Online

who you want to be.

The world is 'persistent' which means it is always there, so you can play the game at your own pace. Each time you enter, your gaming experience will be different simply because of the new people that you interact with, new secrets you discover and new tips and items you will get only by interacting with other players across the country

## The Objective

What's the point? Well, "Why are we here?" "What's the meaning of life?" In the end, it's your choice. Will you be a ruthless thief? A heroic swordsman? A crafty merchant? Will you be the guild master who leads your clan to glory? Will you live a solitary life by the creek raising pet monsters? Or will you simply pass the day talking to passersby, making new friends and bragging about your newly found treasure?

Play  
co-operatively  
or competitively.  
Join a clan or  
guild to  
complete quests  
and defeat boss  
monsters

## How Do I Do These Things?

Everyone starts as a lowly novice player with a low level, no skills, and well, no job. But as you progress in the game, by defeating monsters, joining forces with other players who can help you with better weapons or items, you will reach a level high enough (level 10) where you can choose your job class. You must pass certain tests to earn your job class. Your

level and job class will determine the special skills you have, the items you can possess and the power you will wield in the game. Good luck and we hope to see you online.

## Getting Started

Visit [www.level-up-games-co.in](http://www.level-up-games-co.in) to register, ask for a FREE game CD, install and click on Ragnarok icon on your desktop and login. Alternatively, look for the nearest café (using the Web site's café locator) to start playing the game.

**LEVEL UP!**

**50 GUILDS**

**300 MAPS**

**4000 PLAYERS** and counting

CARVE OUT A PLACE FOR YOURSELF

GRAVITY

**INDIA**

**RAGNAROK**

ONLINE RPG

[www.level-up-games.co.in](http://www.level-up-games.co.in)



# "Ragnarok Riot"

## India's first Online Tournament

**R**agnarok Riot is an all-India, Player Vs Player tournament. The battleground is the nearest internet enabled PC. Take your team into tactical combat against other Ragnarok fanatics across the country. The challenge has been made. Create your character, develop your skills and build your team. There's more at stake than just pride and prominence; there's Rs.1,00,000 in prizes for the top teams.

Ragnarok Online is India's first MMORPG, where thousands of players can play together, in real time over Internet. A game that appeals to most gamers (and people who never played PC games seriously before). The game allows you to choose your profession as a swordsman, Mage, Archer, Thief, Acolyte or Merchant and explore over 300 maps and dungeons. The key to successful adventuring lies in creating a diverse and well coordinated team of players.

To get in to the game all you need to do is visit [www.level-up-games.co.in](http://www.level-up-games.co.in) and register. Ask for a FREE CD, install, click on Ragnarok icon on your desktop and login. Alternatively look for the nearest café (using the website's Café locator) to start playing the game.

### Who can participate?

In order to qualify for the tournament, the team must comprise of a minimum of 9 and a maximum of 12 players (9 active players, 3 reserves). Each

The "Riot" will continue from December 21st 2004 to February 5th 2005, and has a Rs. 1 Lakh Cash prize for the Top Teams

individual player must reach a minimum job level of 30 in India Ragnarok Online as on December 1 2th 2004.

All job characters are welcome but a team must have at least 4 active players with first job class characters (swordsman, Mage, Archer, Thief, Acolyte or Merchant). Visit the website for more information.

### The Riot starts Dec 21, 2004

The Ragnarok Riot will continue until Feb 5, 2005. Sign up now and build your team as registration closes Dec 12, 2004.



STOP PAYING FOR GAMES  
START **PLAYING FOR CASH**

[www.level-up-games.co.in](http://www.level-up-games.co.in)



LEVEL UP

GRAVITY

Adventorial



**In the SME segment, 'cost-effective' is the keyword... The technology is there, and it is possible to give them the service**

**Kunal Ramteke**  
Marketing Controller,  
BPL Mobile

specific enterprise applications and databases. This means customised content pertinent to the client's operations or services can be displayed as menu items or otherwise as SIM items.

The Corporate Directory Service, provided across the board by all operators, provides access to the organisation's Telephone Book and group messaging facility to mobile executives.

This lets executives view other intra-office users in real-time, based on name, group, location (city) or organisation hierarchy, and send SMSes or e-mails to all or selected users. This means that the time delay for locating and communicating within an organisation is significantly reduced.

### **Not Just The Routine**

All this leaves a client with an embarrassment of choices. Other than a clutch of standardised services, each service provider has its own unique selling point for various services. Reliance, for instance, provides solutions for large and medium corporate entities with services such as Wireless Vehicle Tracking Systems and Wireless Lottery Terminals, which use its optical fibre backbone. Orange provides Outlook on GPRS-enabled mobiles and PDAs, as does AirTel.

Options such as closed user group SMS and information services come in different flavours from different service providers. They can be moulded to the needs of every individual business.

### **Speciality Communication**

"I need to download presentations and Excel files from my server at office. All I need to do is connect through my PDA phone—I do not need a laptop,"

says Doshi. "It has a huge effect on productivity—it dramatically cuts down on response time."

"SMEs look at how devices can increase productivity. It is a slightly more demanding segment than the full-fledged corporate segment. Here, 'cost-effective' is the keyword. However, services depend on the demand. The technology is there, and it is possible to give them the service," says Kunal Ramteke, marketing controller, BPL Mobile.

All service providers agree that the focus of the user segment is value for money and productivity enhancement. As far as revenue is concerned, the corporate segment is important on a different plane—brand equity.

Harit Nagpal, chief marketing officer, Hutch, says, "Wireless corporate solutions is one such category of services that would be particularly helpful to boost the productivity of corporate executives by providing them access to information while on the move, any time of the day. Wireless corporate solutions are extremely relevant for this segment of mobile users, and thus form an important part of our service portfolio."

### **Towards A Perfectly Oiled Machine**

Technology is an enabler, and to be perfect, it needs to be invisible. Corporate mobile services, fit this bill perfectly—they work discreetly in the background; they ensure that no one is ever left alone, out there, in the dark. Whether it is data, feedback, or plain keeping in touch, these invisible tendrils keep a business perpetually on-line, literally, while filling in the blank spaces of the corporate jigsaw. ■

*suprotip\_ghosh@thinkdigit.com*

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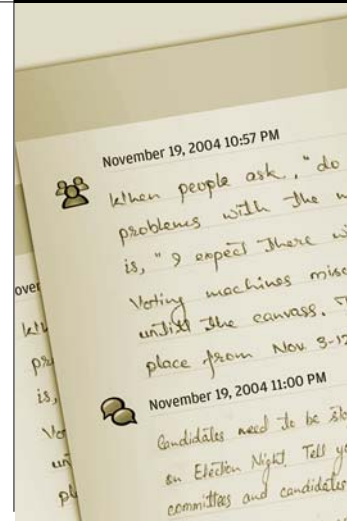


**Madhu Menon**  
Head Chef  
Shioh Far-Eastern Cuisine,  
Bangalore

Having been an Internet professional before I made a career switch, I did plan on a chef blog as part of the Shioh Web site, right from the design stages of my restaurant. From what I have seen, I am the only restaurant chef in this country to post a blog. Celebrities such as Sanjeev Kapoor and Tarla Dalal do have their own Web sites, but these require paid membership. In contrast, my blog is up there for free.

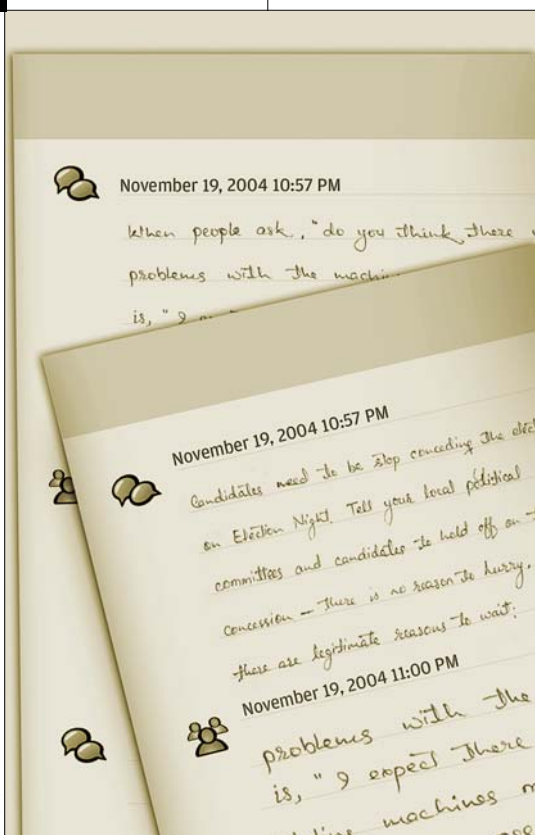
Professionally, it gives me credibility as a chef, especially since Shioh is a chef-driven restaurant. It's refreshing to get unfiltered, useful information from a company's managing director directly. It lowers my cost of retaining customers and helps brand recall. By giving them something to come back to, Shioh's brand stays fresh in their minds and helps repeat business.

One of our main challenges is to educate the customer enough to start appreciating new flavours and foods. This can only happen when you are in touch with them regularly.



# EXCHANGE

FROM making random viewpoints public to posting reviews about serious business projects and industry events, Web Logs (blogs, for short) have come a long way. A dynamic tool that fosters quick analysis and inputs from clients and customers alike, they are an innovative way of accelerating business. We spoke to five professionals who use their blogs for just that

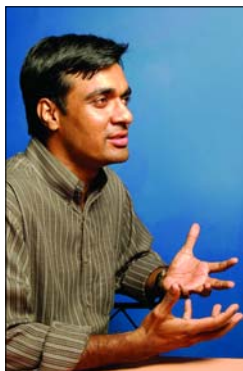


**Mohit Maheshwari**  
Web Strategist  
Ishir Infotech

I have been reading blogs by Rajesh Jain and other such eminent Indian and foreign IT personalities for two years. Also, James Rick Stinson, a client of my company and a blogger himself, encouraged me to start my own blog. So I began blogging in June 2004. I am a great fan of photoblogging and Moblogging (mobile blogging).

I use my blog as a medium to express my opinion on new events, happenings, etc, in the Internet industry. The Indian Online Advertising Conclave 2004 saw me fly down from Delhi to Mumbai so I could cover it on my blog. Among the people impressed by my coverage was Ajit Balakrishnan, CEO of Rediff.com, who commended my job via e-mail.

While talking business, Dave Vallauri, Chief Executive Officer, LodgingInteractive.com, another client, said that he has developed a much better perspective about India after reading my blog. A passion for IT saw me leave my chartered accountancy studies halfway through to pursue a career in this industry. Blogging is now helping me keep this passion alive and thriving.



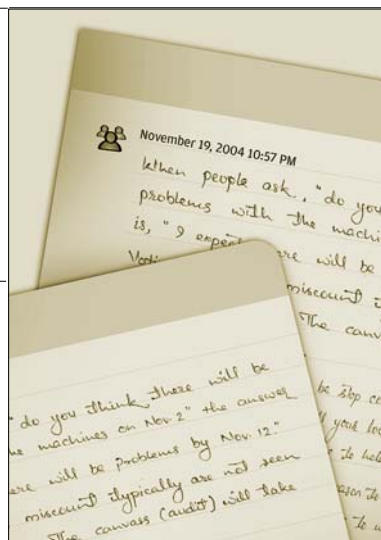
**Kriba Shanker**  
Documentation Engineer  
Brooks Automation

Back in 1988, I had my own Web site, way before the blogging concept caught fire. I updated my pages manually and FTPed them to the server. Needless to say, this was a painful process. And so it was like manna from heaven when I stumbled upon Blogger.com in 2001.

Being a technology columnist, I know the hassle of getting an article published—the synopsis, the approval, the editing and the god-knows-when-it-will-be-published quandary. Now, I can publish my writings anytime. Also, the fact that I constantly feed in information is reason enough for visitors to come back for more.

The number of contacts I have been able to make via blogging is amazing. I have attended almost all the bloggers' meets and met interesting personalities. It's amazing to see the number of job offers that I get from visitors. It also helps me earn extra money: ever since I included Google's AdSense, my blog has earned me more than what I had spent on the domain name and server space.

# POSTS



**Kaushal Karkhanis**  
Senior Visualiser  
Hungama.com

The first posts on my blog were in July 2003. Although much of my blog is personal in nature, I figured it would make more sense talking about professional life and my learnings (like designing tips, etc), because it would have value for my readers—especially the “community.”

Sure, it has helped me network with peers. A lot of people liked the postings—especially the tips—and I have made several business, professional and personal friends via blogging. It's like a personal sphere with a professional core to it. Personal homepages minus the garb, but added value to the reader.

As for how the idea (to blog) materialised, well, it just happened. When you share a passion with peers who are always in touch with you, and everyone knows what each one's been up to, it's really an upbeat environment. And enthusiasm is always contagious, blogs or not. So when people visit my blog and discuss my posts, my thoughts, it's a very one-on-one interactive process of “mindsharing.”



**Vikas Kamat**  
Independent Technology  
Consultant

I began blogging in July 2001. The idea of incremental building of thoughts attracted me to it, and so did the fact that it removed editorial barriers. I have made a great number of (social) friends via my blog AnthoBLOg (<http://www.kamat.com/vikas/blog.htm>). I read a couple of blogs, and feel I know the bloggers very well, even though I have never communicated with them. Thus, I have built a “silent networking relationship” with them.

My blog is a kind of personal incubator of projects. At the time I started to blog, I had the attention of loyal readers (of [www.kamat.com](http://www.kamat.com))—many of whom liked the idea. I use my blog as a “draft” of my ideas and projects. My readers quickly point out mistakes or mis-steps.

While I do not use my blog for professional development, the software I developed to write my blog (called *SimplyBlog*) is being used by many companies in India and across the world for professional growth and idea percolation.

*As told to Garfield D'Souza*

# Restrict Web Access at Work?

Should your staff surf the Web with abandon or should you restrict access to certain sites?

**“Any sort of ban... acts as a hindrance”**

**Sidharth Swarup**  
CEO, OctaWeb

OctaWebOnline is in the business of focused solutions for the International Casino Industry. It is important for us to allow our team to have access to any and all resources to access relevant information and communicate appropriately to all concerned. Also, we have other businesses which are into mundane Web Development—where too, we have seen that any sort of ban on Web sites acts as a hindrance to productivity. If someone has to waste time or indulge in passing out time, he will do it either ways—through a smoke or a walk in the corridor or office chit-chat. So, why single out Web sites? Just because you have a bad driver doesn't mean that we ban cars on the road!

Yes, it was a move to maintain employee morale as well. Our staff does appreciate the trust relationship they share with the company management and the organisation itself.

We have a high-end radio frequency installed for bandwidth, and as such, we haven't experienced a dramatic downfall in its availability.

I believe banning Web sites is just a means for idle managers to give themselves some task to manage. Banning of content or any service is never an answer to a problem. The perfect or near perfect solution is always simpler. Create harmony in the office environment, recruit mature individuals in your organisation and give them all the freedom in the world: it's that simple. They soar and the organisation soars with them—hand in hand. Thus you create a win-win situation for all involved!

**“[ban has] increased productivity”**

**Prabhakar Sarwade**  
Corporate Head—Technical Infrastructure Management,  
Mahindra British Telecom

Mahindra British Telecom (MBT) as a company is very sensitive towards its customers' need for security and privacy and keeps in mind its employees' interests as well.

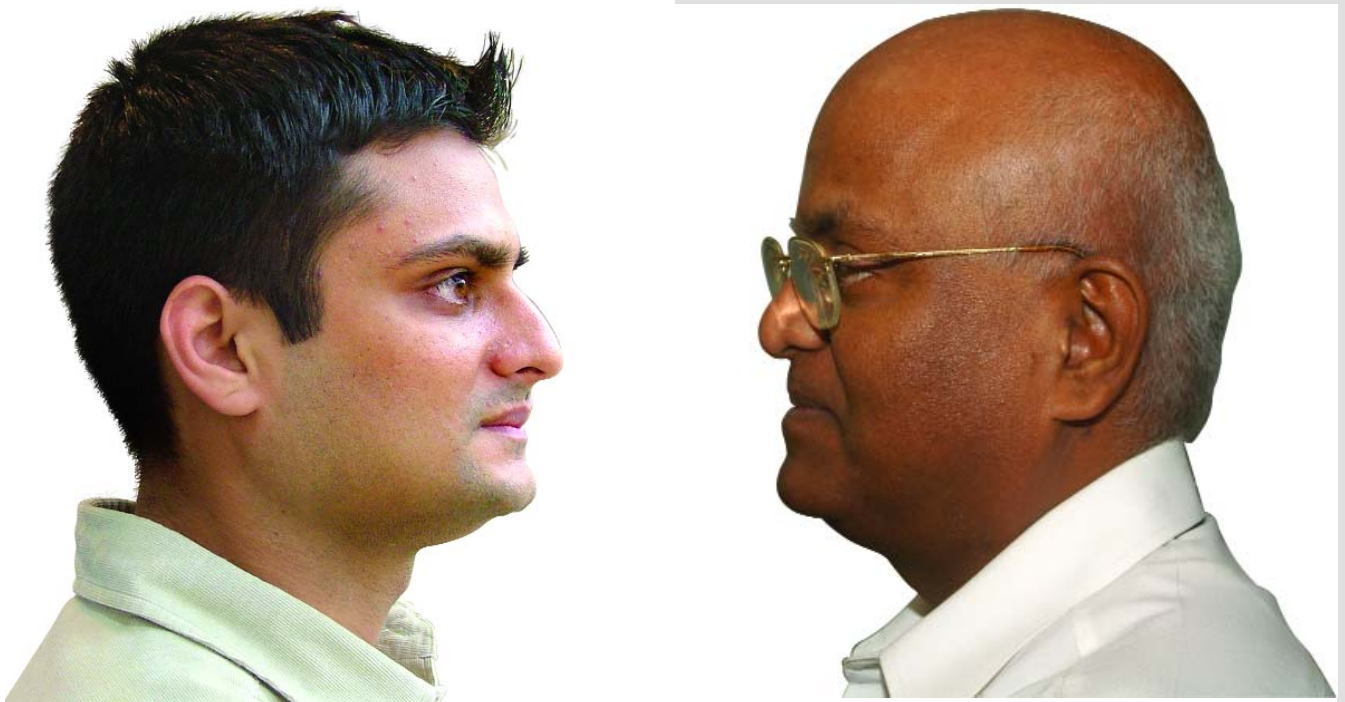
Hence, while we ensure that the working environment is better protected and productive, we also take steps to see that the workplace is one that employees would love to work in.

That said, we decided to deploy Surf Control to effectively control Web surfing. Our staff co-operated at each and every stage of its implementation; they were very professional in their response. This deployment had become necessary as part of the security deployment. Moreover, restricted access was also necessitated by the fact that our project delivery team, which used VPN for access to their projects, was complaining of slow response time.

Post-deployment, there is a remarkable reduction in Internet bandwidth utilisation. Surf Control blocked out Web sites that pertained to glamour, dating, gaming, gambling, etc. Web-based e-mail and chat sites (including MSN messenger) were also in the list of blocked Web access. This has helped MBT in securing the organisation apart from bringing about the much needed increase in productivity.

We have an internal messenger system for employees to connect and interact. We do allow our employees to access Web sites that talk about technology, news, etc., which in effect, does not curb their right to know and be up-to-date.

— As told to Garfield D'Souza



Photograph: Mary Xavier



**174** Tech quotient check



**178** Flirt up your life



**180** Towards bigger assets

# Digital Leisure

Technology Beyond Work

Touched by Tech

## Dial-a-Hospital

Telemedicine can connect doctor to patient across continents in realtime. Here's how the Apollo Telemedicine Network Foundation implements its vision

Ram Mohan Rao

**W**e travelled frequently to Hyderabad to consult Dr R G about a kidney problem that my father suffers from. We no longer need to. Thanks to telemedicine, we were able to get him to examine my father, and prescribe medication, in Eluru itself. This facility saves money and time. I am grateful to Apollo." That letter, dated August 5, 2004, was from a certain P J in Eluru, Andhra Pradesh. For this patient, as well as for thousands of others—including a 32-year-old Pakistani woman diagnosed as suffering from a brain tumour—Apollo Hospital's telemedicine links are a godsend.

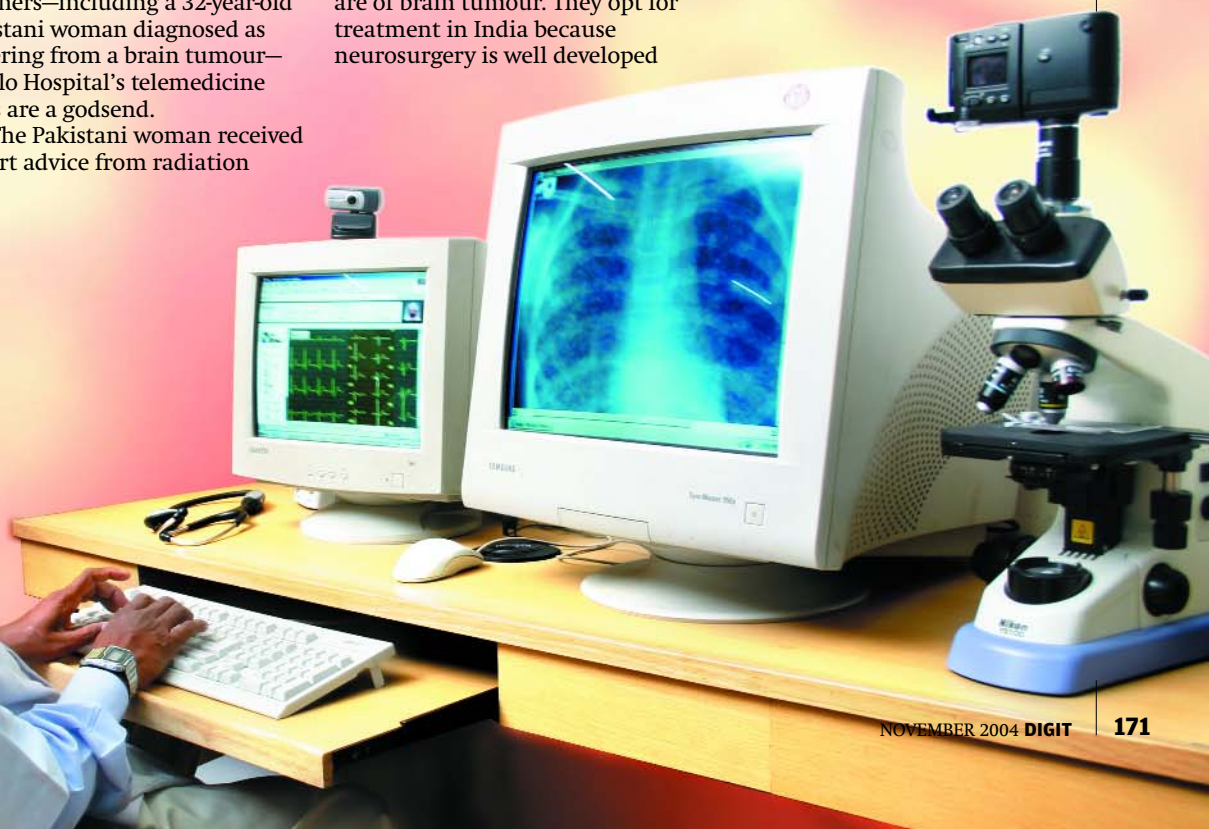
The Pakistani woman received expert advice from radiation

oncologists through the link. Dr S Hukku, senior radiation oncologist at Apollo Hospital, saved her the trouble of travelling to Delhi by dispensing advice on the line of treatment to the Apollo telemedicine centre in Lahore. This centre utilises Internet connectivity of 128-256 KBps to access Medintegra Web, a telemedicine software, and full-screen videoconferencing as well. Dr Hukku later told the *Tribune News Service* that Apollo had been treating cancer patients from Bangladesh, Pakistan, Sri Lanka and West Asia. "Most of the cases are of brain tumour. They opt for treatment in India because neurosurgery is well developed

here," he said. Dr Hukku said that if the patient from Pakistan had to come to Apollo, instead of being treated via telemedicine, she would have to pay anything between Rs 1 to 1.5 lakh for surgery.

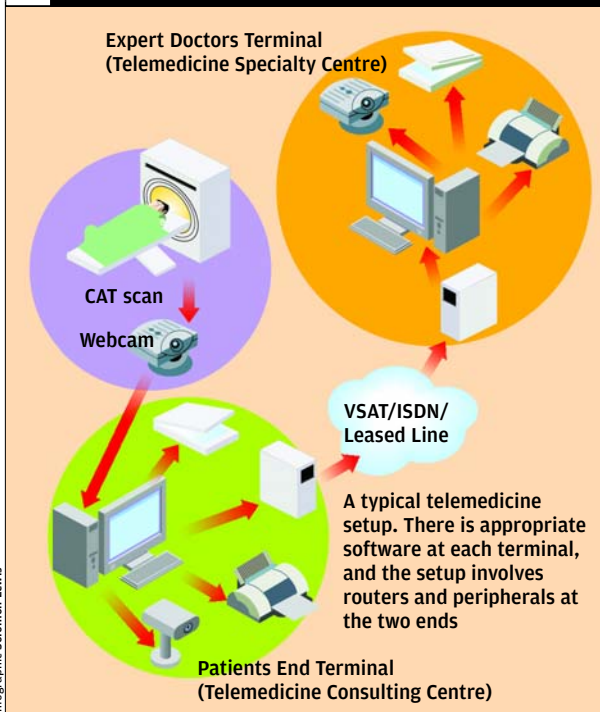
Dr Puneet Gupta, another cancer specialist at Indraprastha Apollo Hospital, told the *Tribune News Service* that the telemedicine link between Delhi and Lahore would "change the standard of cancer care in (Pakistan)."

Apollo has 62 telemedicine centres in India and has telemed-



## Telemedicine How The Setup Works

Infographic: Solomon Lewis



icine links with Colombo and Dhaka. The hospital plans to introduce telemedicine links with Nepal, Kazakhstan and Bhutan.

The letters pour in: one from Aragonda, a remote village in Andhra Pradesh, reads: "My daughter F B, three and a half years old, was operated for a hole in her heart at Chennai. We used to travel to Chennai every six months for checkups. Now, through telemedicine, we can consult the same doctor, from Aragonda, instead of going all the way to Chennai."

Telemedicine does away with distance barriers when it comes to healthcare. It saves time and money for those who are lucky enough to be able to use it. So what exactly is telemedicine, and what does it involve?

### The What And The How

Essentially, telemedicine involves sharing and exchanging of patient related data and medical opinions between a medical specialist and a doctor in a remote location through telecommunication networks. Telemedicine thus overcomes geographical barriers, can make for quality and effective healthcare, and is eminently cost-effective.

Apart from the basic idea—that telemedicine is used to reach out to patients who do not have proper

healthcare facilities—what are the applications? There are several, as Dr D Lavanian, Business Manager—Telemedicine, Apollo Telemedicine Networking Foundation, Apollo Hospitals Group, tells us:

- ▣ Relief efforts during natural calamities
- ▣ Continuing medical education through videoconferencing
- ▣ Providing training to prevent/respond to typical disease patterns in remote areas
- ▣ Adding to healthcare knowledge bases: telemedicine can be a communication tool to aid in the understanding of the nature of ailments
- ▣ In case of emergencies, a general practitioner can perform surgery with tele-monitored specialist assistance
- ▣ In second opinions, where the diagnosis can be confirmed and treatment planned

### Objectives And Offerings

Apollo aims at nothing less than reaching the masses in India where healthcare is not available, under the belief that every citizen is entitled to advanced and quality medical care. They aim to set up a referral system as well. General practitioners (GPs) are targeted under their program: Apollo hopes to develop and demonstrate telemedicine for use by GPs. And, Apollo strives to evaluate the impact of telemedicine in terms of economy and user satisfaction.

Apollo's offerings include consulting for telemedicine projects; telemedicine software; IT hardware; medical hardware;

hardware and software for security; communication links; and operational management and remote support.

### The Aragonda Project

Situated a little distance from Tirupati in Andhra Pradesh, Aragonda and six neighbouring villages were part of a pilot project by Apollo. The area is agricultural, and consists of a 7,000 people in a 1,500 families. Aragonda had very few facilities with only six general practitioners, and one poly-health clinic—30 kilometres away. Apollo set up a 50-bed hospital with state-of-the-art telemedicine infrastructure in January of 2000. ISRO provided the VSAT equipment and free connectivity. This was India's first rural telemedicine centre, and has helped significantly in improving the health status of the population. It is a self-sustaining model, with each family paying a rupee a day—which covers medical treatment up to Rs 20,000.

### An Example Treatment

At the GB Pant Hospital in Port Blair lay an unconscious patient. Admitted following a head injury, the nature of the wound was uncertain. Photographs of the pupil of the patient were taken. These were sent to Prof K Ganapathy, Senior Consultant Neurosurgeon at Madras, along with the CT scans. The scans showed primary injury to the brain, but it turned out that the patient did not require surgery. The local doctor treated him with the assistance of a teleconsultant. The patient was discharged in just 10 days.

### Telemedicine works

The bottomline is, is telemedicine effective? Is it worth the investment? Can it actually save lives? The statistics speak for themselves: from January 2000 to June 2002, out of 3,986 consultations in all Apollo's telemedicine centres, 3,395 of them—or 85 per cent—were successfully treated at the telemedicine centres. Only 15 per cent had to be referred to specialty centres.

All it takes for telemedicine to become big is some bandwidth, some collaboration, and a vision like Apollo's. ☑

ram\_mohan@thinkdigit.com

A live telemedicine consultation between Aragonda and Hyderabad



# Mad Scientists, The War On Spam, And More

**1** Which world-renowned innovator is being honoured at The Economist's Third Annual Innovations Awards, 2004, held in San Francisco? This innovator authored a revolution while he was a student at the University of Helsinki.

a. Alan Cox  
b. Linus Torvalds  
c. Richard Stallman  
d. Wichert Akkerman



**2** Name the mysterious new chip designed by engineers from IBM, Sony and Toshiba, pitched as a "supercomputer on a chip". It will find a place in Sony's PlayStation 3.

a. Cell  
b. Power5  
c. Alpha  
d. Crusoe

**3** Which electronics giant, to compete with Apple, has announced plans to add native MP3 support to its music players?

a. Microsoft  
b. Sony  
c. Virgin  
d. Yahoo!

**4** Which biggie is believed to be poaching developers from companies such as Sun and Microsoft in an effort to develop a

browser to contend with IE?

a. Google  
b. Amazon  
c. eBay  
d. Yahoo!

**5** Which popular American ISP has decided to dump Microsoft's anti-spam tool, Sender ID, in favour of an open-source alternative?

a. EarthLink  
b. MSN  
c. AOL  
d. Compuserve

**6** Set in NYC in 1939, this film tells the story of giant flying robots, and a reporter who teams up with a pilot to thwart the plans of a mad scientist bent on destroying the world. Which film?

a. Resident Evil: Apocalypse  
b. Cellular  
c. Eternal Sunshine of the Spotless Mind  
d. Sky Captain and the World of Tomorrow

**7** Xerox PARC is currently developing a flexible fabric-like material that can display digital text. What is this product better known as?

a. OLED  
b. Plastic view  
c. Electronic paper  
d. ElectroCon

**8** Name India's exclusive satellite for educational services, that was launched recently from Sriharikota.

a. EDUSAT  
b. INSAT-2E  
c. IRS-1D  
d. Kalpana 1

**9** Name this unlikely entrant into the Open Source arena, which recently released the source code for FlexWiki—software for creating Wikis.

a. IBM  
b. Intel  
c. Sun  
d. Microsoft



**10** German security company Securepoint has recently hired teenager Sven Jaschan, self-confessed creator of two destructive worms. Sven has been offered work as a trainee software developer working on security products, such as firewalls, despite an impending jail stint for creating one of the most destructive computer viruses to date. Name these worms.

a. NetSky, Sasser  
b. Sasser, Melissa  
c. Melissa, "I Love You"  
d. Slammer, NetSky

Got an interesting question? Send it in with the answer to [editor@thinkdigit.com](mailto:editor@thinkdigit.com)

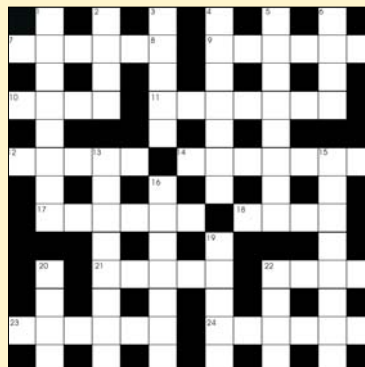
## Crossword

### Across

7. 'M' in CAM scatters the mod (6)
9. Visual handle in chat forum is an incarnation of a deity (6)
10. Earning before interest, and taxes (abbr) (4)
11. Questions and ----- (7)
12. An array in data processing upsets bleat (5)
14. Union territory 'A' in region code 'AN' in India (7)
17. Unit of temperature, ----- Fahrenheit (6)
18. Carrier Sense Multiple Access (abbr) (4)
21. Symbolized 'T' wrongs slate (5)
22. The four standard inks for printing (abbr) (4)
23. High tech boss or leader? (6)
24. Unit of absolute temperature invented by British physicist (6)

### Down

1. Input device (8)
2. ---- in the arm for screen capture (4)
3. Concepts rearranges aides (5)
4. This company's logo is an ellipsis that mimics a planetary orbit (7)
5. Routers for entrances (8)
6. Short for upper case letters (4)
13. ----- International Swiss public digital company (8)
15. Opposite of synthesis (8)
16. A lasting connection between a user and a peer (7)
19. Modify programs illegally destroying shack (5)
20. Basic input/output system



(abbr) (4)  
22. Computer Animation Movie Language (abbr) (4)

Compiled by Nitaa Jaggi

Send in your answers to the quiz to [TQ@thinkdigit.com](mailto:TQ@thinkdigit.com).

If you get all 10 answers right, you win a Canon PIXMA iP4000 printer!



**L**-I-N-D-O-W-S, the seven, Large letters that once topped Lindows' San Diego campus, are currently up for sale on eBay—for \$641. This Linux start-up was recently sued by Microsoft for using a name that the latter believes infringes on the Windows trademark. The company has now been rechristened Linspire.

Did you know?

Wired, October 2004

## Presenting The Digital Photo Future

WITH MILLIONS OF pictures being shot everyday by lakhs of people worldwide, thanks to the flexibility provided by digital cameras, where would these digital memories be stored? Enter digital photo archiving. In this excerpt from Wired magazine, writer David Weinberger of Wired demystifies the future for us.

A digital camera is an enticement to take more snaps than you can keep track of. You don't even need to carry a camera; you can squeeze off a stream of shots with your cell phone and send them to your inbox. With the price of digital storage plummeting even as our time seems to become ever more valuable, it's cheaper to store the lot of them than to weed out the clunkers.

But having thousands of photos on a hard disk or DVD-ROM is the equivalent of throwing Bettmann's images (a photo archiving company that stores millions of photographs) into the air and letting them flutter to the ground. Our only hope is that the army of engineers laboring in labs around the world can come up with a better way.

The situation at the Bettmann Archive may be discouraging, but Corbis, a stock photo house that happens to be Bettmann's corporate owner, is groping toward a solution. For one thing, the 3.2 million images stored in Corbis' Seattle headquarters have been digitized. For another, they're being annotated with keywords that make it possible for customers to log on to the company's Web site, sift through more than 62 terabytes of photo data, and pinpoint images that meet their needs.

Inside the company's airy office, media cataloger Nick Fraser sits in front of two screens. On the right is a photo of a strawberry, perfectly lit and very red. On the left is an in-house software app that lets him browse through a list of keywords. Fraser's job is to tag images with appropriate terms so that when customers search using a keyword, they find photos that match. Fraser's palette offers 60,000 choices, arranged in a hierarchy; the top level is the "Top of the World." Under the category unaccountably called "Anatomy," he clicks on "Fruit." He adds "Red," and the photo is tagged.

A photo of a businessman sitting in a small chair facing two other chairs of increasing size is harder to tag. It is vague and evocative. Deciding what words to use means figuring out what the photo might mean to others: Decisionmaking? Disappointment? Downsizing? There is no right answer. "You just have to look at it long enough to see what the metaphor is," Fraser says.

In computer parlance, these tags are metadata - information about information. But metadata as it relates to imagery is a slippery thing, and tagging is a craft, not a science.

To read the complete article, visit [www.snipurl.com/photofuture](http://www.snipurl.com/photofuture)



Wired, October 2004

## The World of Halo 2

DAVID KUSHNER OF Wired magazine walks us through the offices of Bungie Studios, the company behind Halo 2, the world's most anticipated game.

"Behold!" proclaims Pete Parsons, manager - Bungie Studios, as he steps into the game company's most exclusive room. "We call this the LRS."

The living room simulator is where Bungie's developers are beta-testing the year's most anticipated videogame, Halo 2.

The original Halo, a first-person shooter released for the Xbox in 2001, dazzled the gaming world with its cinematic sweep. Taking a page from the movies, it featured car chase scenes, stunning locations, and smart sci-fi suspense. It sold more than 4 million copies, making it the biggest Xbox blockbuster yet.

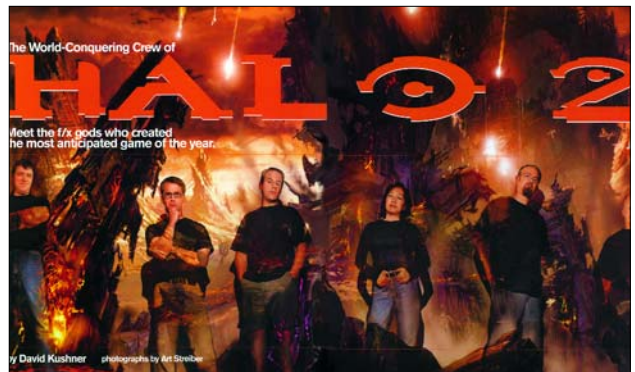
Halo 2 brought down the house in May at E3, the videogame industry's mammoth trade show. It garnered the most award nominations and won Best Console Game, Best Action Game, and Best Online Multiplayer Game - and that was just for the demo.

Now, with only a few weeks of production time left before Halo 2's November 9 release, the LRS looks more like an abused frat lounge than the incubator for a multimillion-dollar game.

When Bungie designers began working on Halo 2 in 2001, they quickly realized that making a new game for an old console (the Xbox turns three this year) requires that you tap human power rather than the latest videocard or motherboard. So they took the moviemaking idea behind Halo one step further and staffed their development team like a full-blown Hollywood production. An architect designed the sets. A thespian wrote the script. A composer penned the score.

**The result:** a meticulously engineered, gorgeously textured, and explosively fun game that feels like your own damn action flick. In fact, at some movie theaters this summer, the Halo 2 teaser drew wild applause. Here's a look at some of the creatives who toiled behind the scenes.

"This is bullshit!" barks Joe Staten, Cinematics Director, as he twitches in his chair. He isn't complaining about a bug in the code, he's reciting one of the 17,000 lines of dialog he wrote for Halo 2. (The script is 10 times longer than the first



game's.) This particular outburst comes when a player's rocket launcher gets stolen by another player, who swaps it for a far wimpier weapon - a stunt you couldn't pull off in the original game.

Want to read the entire feature? Visit [www.snipurl.com/halo2team](http://www.snipurl.com/halo2team)

The New York Times, October 14, 2004

## What Women Want?

WOMEN AS GAME developers? For many, this would sound as weird as male nannies. But male nannies exist, and so do women game developers. Still don't believe us? Here's what Katie Hafner of The New York Times has to report on the women behind some of the world's most popular games.



Denise Fulton spent much of her childhood playing computer games. At 8, while growing up in Ohio, she was already playing Zork, Adventure and other text-based games. And the fascination continued into her adult years.

So it is not surprising that today Ms. Fulton, 34, is an executive producer at Ion Storm, a video game company in Austin, Tex., where she is overseeing the next installment in the popular Deus Ex series.

The surprising part is how rare Ms. Fulton is. Behind the computer screen, as in front of it, video games are a man's world.

Informal estimates put the percentage of women in the industry at around 10 percent, and even then, most tend to be in jobs in customer service, marketing and quality assurance. Relatively few women work as game designers and producers, and even fewer are programmers.

"It's not so much that women look at the industry and discard the idea," said Sheri Graner Ray, a senior game designer at Sony Online Entertainment. "It's that the game industry just never even comes up on their radar."

The reason has to do with a truism about the computer game industry. Those who work in the industry tend to enter their jobs as avid gamers. And playing video games, especially those loaded with graphic violence, has been a male pursuit. According to the NPD Group, a market research firm based in New York, some 81 percent of video-game players are male.

"It's a chicken-or-egg thing," said Ms. Fulton, who sees a lot of résumés in her job, almost all from men. "If more women were playing games, they might get interested in games as a medium and might choose to pursue that as a career. But it's still stigmatized as a boy thing."

Now, though, manufacturers are starting to think about making games that are more appealing to women, like the Sims, a role-playing game that is viewed as one of the most popular games among women.

"Do women not play games because the games that are out there are designed for men, or is it just that women really don't like computer games?" said Elizabeth Sweedyk, an assistant professor of computer science at Harvey Mudd College in Claremont, Calif. "My guess is they don't like the games that are out there."

Manufacturers understand there is a huge untapped portion of the market. "They've realized they have to appeal to women," said David Riley, senior manager at NPD. And as more games are marketed to, and played by, girls and women, more women eventually may end up choosing a career in the industry.

Until then, though, people like Ms. Fulton, and like Nicky Robinson, a programmer, will be the exceptions.

To read the entire story, please visit, [www.snipurl.com/gamewomen](http://www.snipurl.com/gamewomen)

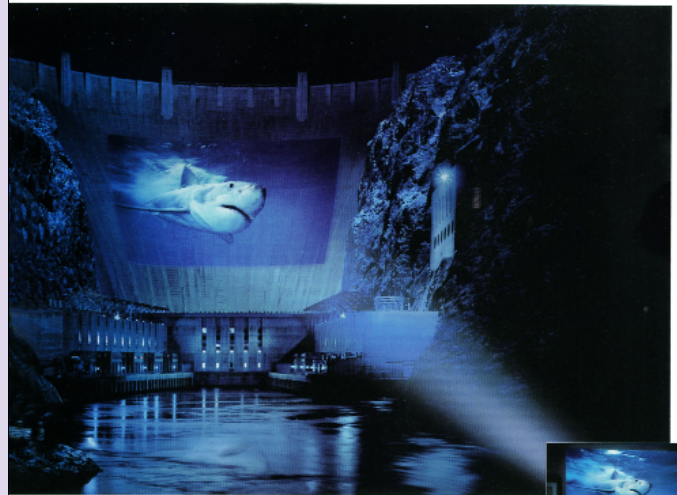


### ■ The Disappearing Act...

is what the guys at Apple have successfully brought about. The iMac amalgamates the display and the processing unit into one body. The slim 'model' here in the ad does make quite an impression!

EPSON

Feel free to try this at home.



The New Epson Home Projector. Larger-than-life entertainment for your living room wall.

This is huge. Because now, any evening can be transformed into a night of mind-blowing entertainment. The Epson projector turns your living room into your own private theater for movies, TV shows, sporting events and even video games. Here's why. Projects images to fit any wall • Crystal-clear image quality optimized for video • Easily connects to your DVD, VCR, cable box, gaming system, camcorder or PC • 16:9 wide-screen format • EDTV ready • Compact and portable. 800-GO-EPSON • [epson.com/home theater](http://epson.com/home theater)



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### ■ Sharp Attack

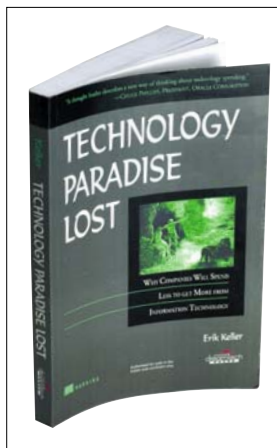
The message hits home loud and clear— that the Epson projector just has a one-point mission—mind-blowing entertainment that's crystal clear in this ad's depiction.

## IT Will Not Fuel The Future

*Technology Paradise Lost* is hell-bent on proving that the computer industry has sputtered somewhere down the 1990s and is in no mood to regain its power. Eminent IT consultant and speaker Erik Keller cites several examples and offers hard facts to back his claim. And he does it well. Keller has done his homework—he was a technical journalist for 10 years and worked for research company Gartner as a technology analyst.

Keller reasons that it all had to do with irrational spending on software, and other such factors. Companies realised that they had better pull up their socks and ask for reasons for spending on IT.

The pace does slacken in between all the business and figures that Keller doles out. However, it does pick up as he takes you through conversations in boardroom meetings and luncheons that vividly portray how IT spending charted its course in American IT corporations.



Keller takes the example of companies such as Merrill Lynch which did cut IT spending and gained competitively. And he positions offshoring as one of the key factors that have fuelled the cut. He says that with its cheap-labour-more-skill tag, offshoring is here to stay.

Keller does not write off IT completely. His viewpoint is that it will remain the focus of competitiveness as companies spend less to get more out of IT. He doles out survival tips for companies that are downsizing IT departments and implementing cheap IT solutions.

*Technology Paradise Lost* is worth a read. Read it to know where and how

companies stumble and how they can avoid stumbling blocks as they chart their IT expenditure.

Garfield D'Souza

**Technology Paradise Lost**  
Publisher **Dreamtech Press**  
Author **Erik Keller**  
Web Site [www.wapitilc.com](http://www.wapitilc.com)  
Price **Rs 399**

Books

## Spiderman 2

Activision's Spiderman 2 starts with a cut-scene—a direct lift from the movie. Then, no drama, no tension, nothing! Training levels are a piece of cake. You control Spidey with the standard mouse-keyboard combination. As for the controls, you can shoot webs, swing from poles, punch, zip around, entangle enemies in your web, and snatch their guns. Basically, the left-mouse button does it all.

There's not much you can do as far as combat goes. If you get bored, jump and kick, and then get back to punching. Variety-wise, Spidey can shoot webs to pull guns away from enemies, who don't even know what they are supposed to do.

All baddies can be taken care of by clicking the mouse button at warp speed.

The graphics are just about acceptable; not so with the sound. With



no freedom to speak of, inane gameplay, a pathetic control system, flawed combat and dull voice acting, this game deserves to be buried real deep in the earth.

Courtesy SKOAR!

**Spiderman 2**  
Publisher **Activision**  
Developer **The Fizz Factor**  
Web site [www.activision.com/microsite/spider-man](http://www.activision.com/microsite/spider-man)  
System requirements **600 MHz CPU, 128 MB RAM, DirectX 9.0b compliant 32 MB video card, 827 MB free space**  
Price **Rs 1,299**

GAMES

## Flirt Up Your Life!

*FUYL* is definitely for those above 18. It features frontal nudity and some "nasty" scenes as well. The simple "Point 'n Click" interface has a 360-degree camera. Your only objective is to get your character to do the nasty.

*FUYL* relies on the intricacies of human relationships. Normal Mode places you in an apartment, and you start life with a small amount of money. Earning more money is as easy as [Ctrl] + [P]. Start-From-Scratch gives you an empty flat to insert walls into and add furniture too. You unlock the Villa Mode as you finish the Story Mode, to build your own mansion. Once



you've "scored," the game gets repetitive—you just gotta flirt-eat-earn-flirt-sleep.

The graphic effects are sharp, with perfect character animation. Sound effects are realistic—the groans and grunts of copulation have been carefully recorded.

The game excels from the graphics and sound points of view. However, it loses its replayability due to its monotony. Sex and good special effects alone do not a good game make.

Richard Roy

**Singles: Flirt Up Your Life!**

Publisher **Eidos** Developer **Rotobee**  
Web site [www.singles-the-game.com](http://www.singles-the-game.com)  
Price **\$ 29.99 (Rs 1,370)**

# Game Review: The World Of Ragnarok Online

Based upon an eponymous Korean comic, Ragnarok Online (RO) is set in the mythical Viking kingdom of Rune-Midgard, where a long-kept peace between the gods, humans, and demons has been broken for reasons best known to themselves. The lands are now in turmoil, and the people are crying out for help. This is where you come in. Starting off as just another babe-in-the-woods, your aim is to rise among the ranks, growing in power until you're feared by your opponents and respected by allies. From this point on, you can begin taking an active part in the politics of the land, forging alliances and bringing your clan to a position of power.

The game allows you to choose your profession as a Swordsman, Mage, Archer, Thief, Merchant or Acolyte. Each character class has its innate strengths and weaknesses, so choose one that befits your playing style.

Irrespective of your choice however, you would do well to remember that you won't get too far into the game unless you team up with other players, preferably from other classes. The key to successful adventuring lies in creating a diverse and well co-ordinated team of players.

Key to the Ragnarok experience is the people you'll encounter in the game - people like yourself, looking for some adventure and a whole lot of fun. The strength of any MMOG (Massively Multiplayer Online Game) is the sense of community you get

while interacting with other players. After teaming up with a few other characters, you'll be able to take on very tough monsters without any hesitation. And the level-ups - well, they'll just keep on coming.

The game is a first-generation MMOG released nearly five years ago, and it has seen phenomenal success in all the countries it's been released in so far. Its mass appeal and usage is thanks to its low system requirements, with only a 400 MHz CPU required for playing the game. Despite its age, the

special effects used for spells manage to be spectacular. Rest assured, Ragnarok will use your PC to the fullest extent while displaying graphics you wouldn't have thought possible from an RPG such as this.

Unlike a shooting or racing game where you can just pick up the controls and play, Ragnarok requires you to learn a bit about the game first. However, if

you give it a little time, you'll find a great game that doesn't take itself too seriously. A huge user base of nearly 12 million across South-East Asia is testament to the popularity of the game. In fact, in a rather bizarre development some time back, the Thai government had laid a curfew on the number of hours Ragnarok's servers were allowed to run. This game will appeal to most gamers (and even people who've never played PC games seriously before). The word that really summarizes Ragnarok Online, at least in my opinion, would have to be addictive.



**Adventuring is hard work. Time for a small rest and catching up on some gossip**



**Help is easily available - both from the in-game Kafa Staff and other players**



**Hunting monsters is much more fun when you do it with friends**

## U2 Album To Appear On iPods

In a precedent of sorts, Irish rock band U2, were slated to announce in the last week of October a deal to sell custom iPods. iPods sold beginning the week of November 23 would have the band's upcoming album "How to Dismantle an Atomic Bomb" preloaded.



## Fuel Cells For Laptops

NEC showed off, late October, a prototype laptop powered by its own fuel cell unit. It's a very long way from commercialisation, even though last year, NEC had scheduled a machine capable of 40 hours' continuous operation to appear by the end of 2005.



# Escape

RING TONE THERAPY

## Listen Your Way To Bigger Breasts

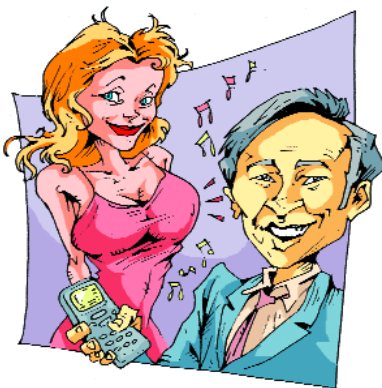
Japanese daily *Shukan Gendai* reports that well-known counsellor Hideto Tomabechi has developed a ring tone that promises to increase women's breast sizes. The best part is that he doesn't seem to be bluffing! "I listened to the tune for a week expecting all the time that I was being duped," said Chieri Nakayama, a 19-year-old pin-up model speaking to *Shukan Gendai*. "But, incredibly, my 87-centimetre bust grew to 89 centimetres! It was awesome!"

We don't know if Nakayama's experience is awesome or psychological, but women in Japan are lapping up the tune. It attracted a fabulous 10,000 downloads the first week it was made available.

Tomabechi first made headlines a decade ago

when he cured brainwashed members of the AUM Shinrikyo doomsday cult.

Tomabechi already has plans for ring tones aimed at improving memory, increasing attractiveness to



the opposite sex, making hair sprout and quitting cigarettes. He told *Shukan Gendai* about his breast-enhancing ring tone, "Most would think it's a lie, but the techniques involved in

the process have been known for some time and are the result of research I carried out in the '80s and '90s. I use sounds that make the brain and body move unconsciously. It's a technique involving subliminal effects. I suppose you could call it a kind of positive brainwashing."

That may not sound very convincing, but the statistics are: the ring tone has been doing very well on the charts. The final word probably comes from a spokesman for Mediaseek, which offers Tomabechi's tune online: "We've even received an e-mail from a user who said she listened to the tune every night before going to sleep and it made her (breasts) bigger."

Looks like Tomabechi is well on his way to millionairehood.

**UNUSABLE!**



## indianwebsites.com

Too many links on this site are irrelevant, or are broken. Just do a search on "hotel." Looks cool at this point—you're presented with lots of sites. Now try clicking on the first "site"—"The Emerald Apartments Hotel." What you get is a blank page. Try the next one—"Pride Hotel." You're confronted with links to sauna kits, odour control, wire partitions, and the like. OK, hit the back button and head to the "Taj Mahal Hotel." Page not found this time. And on and on—the next click brings up ads for a real estate company. Rather unusable, this one!

Win!

## My Desktop

Think you have the most beautiful, most innovative desktop around? Send it to [mydesktop@thinkdigit.com](mailto:mydesktop@thinkdigit.com), and Digit shall publish the most eye-catching of them every month.



The winning entry will win a KUSBDT/128FE USB stick worth Rs 1,300. This month's winner is **Sohil M Abdul**.

Sponsored by



**FEELING BLUE:** We don't know what is going on here, but it sure looks pretty! Hooray for transparencies!  
Sent by **Sohil M Abdul**

## OBSCENITY WATCH

## No Camera Phones In Saudi

Saudi Arabia has banned the use of cell phones with inbuilt cameras, blaming them for "spreading obscenity." Camera phones have prompted concerns about various things: privacy in places where people undress, theft of reading material at bookstores and newsstands, and of course, corporate espionage. They

## DigiPick of the month

### WIN!

A book by Michael Urban & Brian Tiemann on FreeBSD, just by sharing an amusing picture with a tech angle to it.

Send your picture to [digipick@thinkdigit.com](mailto:digipick@thinkdigit.com). A prize-winning picture will be published each month.



### SAMS Teach Yourself FreeBSD in 24 Hours

By Michael Urban &  
Brian Tiemann

Published by Pearson  
Education

This month's  
winner is Binny  
Manikoth from  
Kerala

## A Day In The Life Of An Apple



## People Who Changed Computing

### Sir Tim Berners-Lee

Sir Tim Berners-Lee  
invented the World Wide  
Web. Period. Most  
inventions are the result of



have, as a result, been banned by gyms, retailers and other companies in several countries.

The concern over their use goes even further in conservative Muslim societies, where religious authorities complain that cameras in phones are misused for such things as photographing women without their knowledge—young men in malls in the UAE have been warned by police about just this.

And in Egypt, a women-only beach on the northern coast bans cameras—and all cell phones are checked to make sure they don't have cameras. But so far, only Saudi Arabia has taken the seemingly drastic step of totally banning camera phones, and declaring them religiously forbidden.

The ban notwithstanding, the phones are still available in the country—they are smuggled in from neighbouring countries such as Bahrain and the UAE.

Sheik Abdul Aziz bin

Abdullah Al al-Sheik, Saudi Arabia's highest religious authority, announced the religious edict on September 28 in remarks to *al-Madina* daily. The devices, he said, were "spreading obscenity in Muslim society."

"All citizens should renounce this (the use of cell phones with cameras) ... for it can harm everybody without discrimination." Violators "should be strictly confronted and punished."



### THE ET CONNECTION

## Banned From The Net

Here's the latest on the extraterrestrial front: Reinhard Mueller, 61, an Edmonton, Canada, resident, claims he is linked to extraterrestrials. He is working to bring Earth under the United Federation of Planets, but his work has been interrupted by an order

from a Canadian judge that bans him from using the Internet.

The ban is part of his bail agreement: Mr Mueller has been charged with hate crimes. Canadian cyber-police found his site, which prosecutors claim promotes hatred against Jews. The police asked the self-proclaimed prophet a few questions about his views, and took away his hard disk as well. They say that a few writings they found were possibly illegal. Mueller denies the charges.

Mr Mueller goes by several names, including "Reni Sentana-Ries", "Grand World Councillor", "Lion of Judah", and "Guardian of the Arab Prophetess Uthrania Seila".

The Grand World Councillor's objection to his ban from using the Internet is that Net access is "a right of all citizens of earth," and that he needs it to research his defence.

According to court documents, the Lion of Judah will claim, in his defence, that there was no problem with his site until he demanded the removal of the monetary system, and insisted that people—human beings, that is—

teamwork; the WWW is the brainchild of just one person. In 1980, Berners-Lee was looking for a way to organise his notes. *Time Magazine* reports that he "devised a piece of software that could... keep track of all the random associations one comes across..."

One "hypertext" document would be sufficient to access all the documents on his computer: but what about the material on someone else's computer? He thought up a way to link others' material to his document; and he eventually thought up a way of linking documents everywhere, over the Internet. Berners-Lee then designed HTML; then URLs; then HTTP; and then the WWW's first browser. The WWW brought order to the Internet.

Sir Tim always took the academic, non-profit route. Some say if there were a category for the work Sir Tim did, he would have won a Nobel. He laments the way the Web has turned out, though—"It's not supposed to be a glorified television channel," he once said. "I thought the Web would be a tool for understanding each other."

# Bluff

YOUR WAY THROUGH

## Talking Elite

Elite, or "I337," is the language of hackers, crackers, and those who think they are hackers and crackers. It's rarely spoken out loud, and we suggest you leave it that way—speaking I337 has become so common that it's considered "I4m3r."

Generally, while I337-ing, you can safely substitute 'ck' or 'cks' with an 'X' (h4x0r, r0x0r, etc.). Any 'F' sound becomes 'Ph', like pl-I34r (Fear). Use a 0 (zero) for 'o', a '7' or '+' for 'T', '4' for 'A', '3' for 'E', '8' for 'B', '5' for 'S', 1 for an exclamation, etc.

For practical examples, ph34r +his:

### I4m3r / L4|\\|3R (Lamer):

Generally an insult.

**Usage:** "OMG1 you're such a I4m3r, go away before I h4x0r you."

**d00d (Dude):** Anyone or anything remotely human, whether male or female.

**Usage:** "d00d, remember that d00d we met the other day? The friend of the d00d with the yellow car! d00d, that d00d is such a I4m3r1"

### H4x0r / |-|4><0r (Haxor):

Meaning "Hacker."

**Usage:** "That d00d says he h4x0r3d the FBI, either he's I337 or really I4m31"

### r0x0r / r0><0r (roxor):

Meaning "Rocks"

**Usage:** "That new Linkin' Park song r0x0r51"

### n00b (Noob / Newbie):

Another insult

**Usage:** "lol n00b1111"

### w007 / w00t / \\|/00+

**(Woot!):** An exclamation of joy, like "Whoo Hoo!", or "Yay!", but cooler!

**Usage:** "w00t1 My AMD Athlon 64 FX just arrived; eat your hearts out I4m3r51"

### Ph47 / pl-|4+ (phat):

This means you are cool and "with it".  
**Usage:** "d00d, thatz some serious programming skillz you got. Very ph47 d00d1"

YoU MaY aLsO tRy TyPiNg  
LiKe ThiS, UsiNg aLErNaTe CaPs,  
EsPeCiAlLy FoR yOuR  
nIcKnAmEs!

# Duniya Mutthi Mein?

When Digit decided to create a special issue on communication for November, we were a bit undecided on the cover. We certainly can't have a mobile phone on the cover, can we? It just too inanimate.

Before we went into metaphysical manifestations of communication, and what it means to mankind, we hit upon a brainwave.

About 10 km from the Digit office lies a 140-acre complex that goes by the name of Dhirubhai Ambani Knowledge City. The man in charge here is Mukesh Ambani—Founder, Chairman, and Managing Director of Reliance Infocomm, a company that has emerged as India's largest communications company, just 18 months after it was launched.

To put Ambani on the cover, therefore, was a no-brainer. He has the stature, he has the vision, and he is

technology savvy enough to make India a world communications superpower. The big question? Who will bell the cat? As it happens on all such occasions, this fell upon Sachin Kalbag, our Executive Editor.

Last year, when Sachin was working in *Mid Day*, he casually called up the then finance minister Jaswant Singh on a

number he got from a government Web site. Mr Singh himself picked up the phone! No such luck with

Mr Ambani; contacting him was tougher than climbing Mt Everest—he is almost always out of the office, out of town, or out of the country!

However, Sachin persevered. Hundreds of calls later, two days before deadline, success! The result of the blood, sweat, a few tears and not to mention big phone bills (OK, OK, just painful dialling and typing fingers!), is this month's cover, and the Lead Feature in Digital Passion.

## DIGIT DIARY

comply with the universal order of stellar economics. What a shame that he will have to submit to an earthly court...

widespread deployment in public buildings in the UK and elsewhere.

The author of the report, Neil Selwyn, says that just

over the world are similar to those in the UK—which is quite likely—we will just have to accept that the Internet has not done more

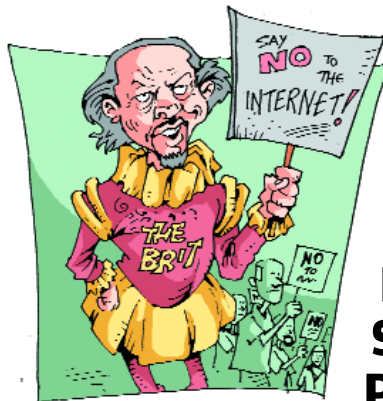
for us, in terms of learning and self-advancement, than the printed word has. And with people reading less than ever before, there is cause for global worry.

## PEOPLE DUMB DESPITE NET

## Surfers Go Online Just For Kicks

Here's something we knew all along: that despite the current extent of Internet penetration, despite broadband and everything that comes with it, most people do not use the Net for self-improvement and expansion—they prefer to use it for such things as "casual surfing related to hobbies and music."

This was the conclusion reached by a recent Cardiff University study, which polled 1,001 people across the UK. It shows that the concept of "lifelong learning" online doesn't exist in most peoples' heads. The number of UK adults participating in ongoing education has not increased much since the Net came by. Less than half of UK adults make use of the WWW despite its



eight per cent of the UK population does not have Internet access, and yet, surprisingly, 48 per cent had not used it during the last year. He gives an example representative of this sad finding: one man had "only used the Internet to book his holidays twice a year and that was done on his behalf by a computer-literate friend."

Selwyn concludes his report with this: "It's good to make access to the Internet as wide as possible, so that no one is left behind, but we have to accept that not everyone needs it in their lives." If Internet usage patterns all

## RENT-AN-IPOD

## Hotels Serve Up Portable Devices

Here's something Steve Jobs would love to listen to: the latest trend in hotels is making iPods available for guests. One among these is Las Ventanas al Paraíso in Los Cabos, Mexico, which lets guests chill out on the poolside with their own iPods. The devices are served full of over a 1,000 songs, ranging from Latin jazz and classic rock to hip-hop. Reports have not indicated whether one can add to the preset list.

# whatweretheythinking.com



You are nearing 30; you refuse to admit you are balding; your skills and qualifications include Martial arts, breakdancing, chess, channel surfing, people skills and a Bachelor of Fine Arts from the College of Design, Los Angeles; you want to write scripts for Hollywood blockbuster flicks, but directors and producers just don't understand your need to eat!

"So that's the way it's going to be? Alright, if you can't join 'em, kill 'em! By the powers of Shaolin, I will avenge my dishonour!" You can actually *hire your very own personal Ninja assassin* at Ninja4Hire.com! Cool service, huh?

You throw down your Ninja ball-that-causes-much-smoke thingy, and disappear from public life—for a few days. You binge on certain banned substances, damage your brain, are forced into re-hab, and decide to reform yourself.

The plan takes shape gradually in your head, while you wait for the hallucinogens to wear off. You buy a domain, you boast about your achievements and talent, but the cincher is the fact that you are a Ninja—fast, silent, unseen; you can be in and out of a building before someone says "Ah So!"; you can fly, break boards with your bare hands, and have watched *Crouching Tiger, Hidden Dragon* 6,872,345 times!

You offer to exact vengeance on behalf of those who are too chicken to do so themselves. You wait for the calls to come, for the hits on your Web site to soar, and your Inbox to fill up with death requests! Four years later, and you're still waiting.

Other hotels have also jumped on the iPod-serving bandwagon—Le Meridien



Cyberport in Hong Kong and the One & Only Ocean Club in the Bahamas.

## INTERNET SUICIDE PACT

# Seven Kill Themselves Over The Internet

According to a Reuters report, seven Japanese people are believed to have killed

themselves following an Internet suicide pact. The four men and three women were found in a car near Tokyo. They sealed the windows from the inside, and lit charcoal burners—then succumbed to carbon monoxide poisoning, which is the end-result of burning charcoal.

There are many Web sites that cater to Japan's chronically depressed. Services range from bringing together those wishing to die, to recommending the best locations to do it.

Police say that one of the seven sent an e-mail on October 11 to a friend declaring his intention to kill himself. A police spokesman said that they believed that the seven people "got acquainted through the Internet." Japanese Authorities report that since police became aware of Internet suicide pacts in early 2003, 34 people had died. It is a trend they would certainly want to stop. ☐

## Blog WATCH

Here's taking a look at a few riveting posts from the world of blogs. This month, a serious look at the benign (?) lump on Dubya's back—in great detail; why an American was arrested in Belarus; a novel idea that seems obvious once you think of it—Bayesian spell-checkers; and Jonathan Schwartz' defence of Sun in re OpenOffice.org.

Jonathan Schwartz  
<http://snipurl.com/9x3v>

### Jonathan Schwartz defends Sun on OpenOffice.org

Here's some legal stuff. Dave Rosenberg posts on a ZDNet blog—<http://snipurl.com/9x3u>—"In what seems to be one of the more bizarre and confusing aspects of the unholy alliance between Sun and Microsoft, Sun's recent 10k filing includes previously unseen legalese from the settlement agreement." OpenOffice.org is important for Linux distros, and Sun seems to be abandoning it.

Sun's new position seems to create "the sort of legal uncertainty that could dampen corporate enthusiasm for one of desktop Linux' most promising open source projects as well as any Linux distros that are bundled with it." Read: Red Hat. And Rosenberg wonders what Jonathan Schwartz, Executive Vice-President of Software at Sun, has to say about this.

Schwartz' response is at the URL mentioned above. He implores, "Please do not listen to the bizarre numbskull anti-Sun conspiracy theorists."

David Weinberger  
<http://snipurl.com/9x3w>

### Bayesian Spell-checkers?

Now here's a bright idea. One of those "Why didn't we think of it before" ones. Weinberger talks about how we could have Bayesian spell-checkers, which would work just like Bayesian spam filters do. If it hasn't struck you yet: the word "cheat" is more likely to be corrected to "cheats" if used near the word "game," but if it's near the word "heart," say, it's more likely to be "chest."

Boing Boing  
<http://snipurl.com/9x3y>

### Arrested for providing VoIP!

Boing Boing has things ranging from news about a free tooth flosser to headlines like "What's happened to George W Bush's brain after 10 years?" One post we're looking at right now is about American citizen Ilya Maffei, who started a VoIP service in Belarus. He was arrested for "damage to the country's communication providers." Read about this at the URL mentioned above. There's lots of cool stuff on Boing Boing - for example, check out Mark Frauenfelder's links at <http://snipurl.com/9x40>, and John Battelle's beta "Thoughts on the intersection of search, media, technology, and more," at <http://snipurl.com/9x41>.

Anonymous  
[www.IsBushWired.com](http://www.IsBushWired.com)

### Is Bush Wired? Is he prompted through an earpiece?

That's the headline on this cool blog, entirely devoted to finding out what the squarish lump on Dubya's back—seen during his first presidential debate on September 30—is. We don't know how long interest in this blog will last, though, but right now there's a lot of people gravitating to IsBushWired.com. Is Bush really wired, the blog asks. Posts discuss the entire range of theories. Generally, the site is of the opinion that Bush is indeed wired all the time. Head to IsBushWired for views by Secret Service Agents, prominent newspapers, technical experts, and so on, all on the same subject.

## From The Digit Forum

Subject **How English is a Language for Nuts**

**saROMan**

**Resident Techie**

Location: b4 my PIII

English is the most widely used language in the history of our planet. But let's face it—English is a crazy language. There is no egg in an eggplant nor ham in a hamburger; neither apple nor pine in a pineapple. Sweetmeats are candies while sweetbreads, which aren't sweet, are meat.

You have to marvel at the unique lunacy of a language in which your house can burn up as it burns down, and in which you fill in a form by filling it out.

English was invented by people, not computers, and it reflects the creativity of the human race (which, of course, isn't a race at all). That is why, when the stars are out, they are visible, but when the lights are out, they are invisible. And why, when I wind up my watch, I start it, but when I wind up this essay, I end it.

\*\*\*\*\*

**Kl@w-24**

**Digitized!**

Location: HTTP:404 Not Found!

Goto : source

[Ctrl+A]

[Ctrl+C]

Goto : forum

[Ctrl+V]

Source=?

\*\*\*\*\*

**diabOlic666**

**In-House Geek**

\*yawns\*

Don't have time to read whole post. Whatever is written, we still gotta communicate in English

\*\*\*\*\*

**klinux**

**Resident Techie**

In a couple of years, the number of people speaking Indian English, with all Indianised accent, which has mostly come down to neutral, would outgrow the number of English speakers like the Americans, Brits and Aussies.

Hinglish / Tamlish would be dominant in just a few years. There was a joke where we had outsourced our call centres and had Americans helping solve our probs over the phone. They would have all Indian names, and classes on how to talk Hinglish.

For the Tamil guys: think abt American call centre agents having alias names like Kandaswamy, Munniamma, etc. and having to learn Tamil slang. That would be fun.

## For Better Or For Worse

I have been reading your magazine for close to 18 months now. I have always been impressed by the quality of your magazine—the text and CD content, and the constant innovation, which is what it takes to be the king of the hill.

*Digit* has always been loyal to its subscribers—the December '03 bonus issue with *Ice Age*, the June '04 issue with the freeware and PDF CDs, and then the free DVD, and the revised content and layout of the magazine from August.

The places you have improved are many. The magazine content is much better. The articles have greater relevance for us lesser geeks. Many of the technologies have reviewed are more relevant to home users or small businessmen and SoHo users, rather than the lengthy articles on gadgets and technologies that would take a long time to make an impact in the Indian market.



The clear demarcation of the articles under 'Digital Passion', 'Digital Tools', 'Digital Business', etc. is very useful. New columns such as '30 days with...', 'Old Way Tech Way', are quite innovative and fun to read.

And obviously, the DVD is a big boost because you can give us more software, games, whitepapers...

The Digit Patron Programme is an excellent step in cementing our relationship. It's a win-win situation. The quality of response by the *Digit* staff has always been amazing and should continue to be so.

And now for the downside. I really

think that your product reviews are steadily becoming worse. Not only are they not as detailed as before, the replacing of the 'Best Value' and 'Best Performance' awards with 'Best Buy' does not help the reader.

Even though you have employed better colours and fonts, the new layout of the magazine is definitely much more cluttered.

I hope *Digit* continues to innovate, and at the same time, learn from feedback to forever retain their place as India's best tech magazine. Best of luck, *Digit*.

**R Harshavardhan,**

Hyderabad

## When My Landline Is Listed, Why Not My Mobile?

With reference to Sachin Kalbag's editorial in the October issue ('I Got Your Mobile Number'), I would like to say this: Think of landlines. Do all the numbers find mention in the directory? Furthermore, how regularly is the directory published?

The companies supposed to operate at the cutting edge of communications technology do not have a system to ascertain outstandings! They are adept at sending you your bills, but cannot use couriers to deliver your directory. Perhaps the bottom-heavy 'nigams' find this a way of saving on stationery and printing!

Why do the mobiles not make a beginning by making numbers available on their Web sites? The argument that not all users are net-savvy does not hold water. Surely the mobile user is more savvy than the plain landliner!

Mobile spam is nothing new. Advertisers can send spam to numbers in a simple, unitary progression starting with, say, 00001, prefixing the service provider's code for the town, which is a constant anyway. It is the option of being able to mask the sender's ID that needs to be prohibited.

When the US can do it with their "do not call" registry, why can't we?

All said and done, a mobile is only a telephone without wires. So where is the hassle? India needs sensible laws, smart and unfettered law enforcement, a sensitive judiciary and most of all, national pride in being law-abiding citizens.

**Ram G Prasad,**

Chennai



## Write To The Editor

E-mail [editor@thinkdigit.com](mailto:editor@thinkdigit.com)

Snail Mail The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul, Navi Mumbai 400 706.

Digit will publish the best letters on these pages. Letters may be edited for clarity.

For subscription queries, call the Help Desk at 022-27629191/9200 Fax 022-27629224, or send an e-mail to [help@jasubhai.com](mailto:help@jasubhai.com)

# Inbox

## Room For Improvement

I am a regular reader of *Digit*, and I am delighted with your new way of presentation. I would like to thank your crew members for making *Digit* the #1 magazine.

I guess you may even be called the No 1 magazine across all segments, but only the fact politics in India takes precedence over technology prevents one from doing so.

Having said that I shall be obliged if you could make further improvements to *Digit*. My list of improvements:

- ☐ Include 10 pages for game reviews, reviewing 10 games that have been released or are yet to be released
- ☐ Decrease the length and width of the magazine, so it will be easier to hold
- ☐ Give us, along with the DVD, the two best full-version games, one of 1.4 GB and the other of 700 MB
- ☐ Include recent developments, and interview IT companies' representatives to explore their vision
- ☐ Continue with the MoserBaer CDs to ensure durability
- ☐ Do not hike the price, please

**Bobin M Koshy,**  
On e-mail

## Poster Boy

I like the new stuff you keep doing all the time. However, there are certain things that can involve reader participation. I would like you people to include wallpapers, themes, skins, as you used to earlier. I think if you could give out a couple of posters each month, more people would be part of the *Digit* family. Include posters of games, celebrities, cars, bikes.

**Siby Mathew,**  
On e-mail

## Two Thumbs Down To Digit

I stopped buying *Digit* a long time ago. However, I fell for your DVD offer with the September issue. Great DVD content, I must say. But whatever happened to your magazine and CD design? They are pathetic, to say the least. I remember *Digit* advertising for prospective employees with a slogan "where very good is not good enough" or something like that. So if the excellent employees of *Digit* manage to come up with a magazine of this quality, I guess excellent is really "not

good enough." To all the excellent employees of *Digit* then, here's a big thumbs down for the crappy magazine you have come up with.

**Srijan,**  
Nepal

## Gimme Two CDs!

All the way from the old-look *Digit* to the revolutionary new *Digit*, you guys have given us so much. It's just amazing. By the way, where have your Annual Web Awards disappeared?

Also, I know that after some time there will only be DVDs in place of CDs, but let that happen after DVD players become common enough. I renewed my subscription this June and was dead sure of two CDs of great infotainment for the next 12 issues, but I am very disappointed to see that I am getting only one CD. Please think about it. But I guess, we will have to move with the times, just as magazines moved from floppy disks to CDs six years ago.

As for gaming, why there is nothing about *Max Payne 2—The Fall of Max Payne*? Please include some tips and tricks on it.

**Nitin Agarwal,**  
On e-mail

## Cluttered Reviews

I love your magazine. I am amazed that I wait for the next issue of the *Digit* each month. Though not a subscriber, I never fail to buy it. The new revolution in the magazine design is superb, but it would be more convenient if the reviews are of individual type as in the past. It would help buyers decide fast. The current reviews seem to be cluttered, and individual product details are given less importance. Here's hoping you would take up the issue.

**R X Marshall,**  
Tuticorin



## Goof-ups

In the October 2004 issue, the *Net Gain* article was on page 54, not on page 52 as mentioned. Also, *Tips & Tricks* was on page 55, and not on page 54 as mentioned. We apologise for the error.

**Pointed out by Chaitanya**

Notice any goof-ups?  
Write to [goof@jasubhai.com](mailto:goof@jasubhai.com)

## The Journey Is The Reward

I have been following with interest the many changes brought about in *Digit*, as also the reactions to them published in these pages. I want to talk about the magazine, however, from a non-techie perspective.

I am a chartered accountant, and to me, PCs were nothing but glorified typewriters, since I used them for nothing apart from Microsoft Word, and at times, Excel.

It was in July 2001 that I was introduced to *Digit* by my father. I had missed the anniversary issue in June 2001, and it would be my eternal regret. In fact, I missed the next anniversary issue too. All this motivated me to turn subscriber. I used to install the entire CD, read the mag from cover to cover, cut out relevant articles and put the CDs in a holder... I used to apply every Tip & Trick, and became a 30-Minute expert many times over.

My learning has reached amazing levels and the kinds of tweaks I do or suggest to my friends shock them to such an extent that they look at me as though I were somewhere between a geek and a hacker.

Among the other changes is that *Digit* has had four editors since then, and has lost, I think, four wonderful people. For some strange reason, I miss them all even though I didn't know any of them. With each change, new people with new ideas and concepts have come. Some I like and some I don't. I like the contents of the CDs (DVDs now), but I don't like the over-emphasis on games.

What I would like to see more is... an issue dedicated to building Web sites or creating Web pages. The software that can be used; who allows hosting of Web pages for free and for a charge; how to use and upload the pages in public communities, how to make small Java applets; the Tips and Tricks section, you know, the works. Or an issue related to MS Office applications—especially advanced functions in Excel.

On the whole, though, it's been an affair that has changed me inside out, and the journey has been my reward.

**Basant Venugopal,**  
On e-mail



# Tabloid TECH

People And Events That Grabbed Headlines—For Better Or For Worse

## Now Here's Serious Tech Support

Head to docs.info.apple.com. That's, of course, the place for documents containing information on Apple computers. Including the iMac G5. If you look closely, this page comes under the "Support" tab. At this point, make the URL <http://docs.info.apple.com/article.html?artnum=86816>. And hey, what have we here? A tech support document on how to transport your Apple iMac G5. Sound too simple? Wait till you read what's on the page:

"Don't know how to pick up and carry your iMac G5? It's easy. Before moving your computer, make sure all cables and cords are disconnected.

"Pick up the iMac G5 by grasping both sides of the computer. Carry it to wherever you wish."

We are not kidding! This really is from a tech support document. Where's the link? Hold this magazine still in your hands, then move your eyes a little to the top. Look at what's there, and read it. Simple, huh?

And we thought Apple users were supposed to be sexier and more tech-savvy than the rest of us. Until this bit of tech help came along...

## Was That Lump Benign?

It was all about a mysterious bulge—a boxy kind of lump—under Bush's suit jacket during the first Presidential debate in October. Still photos of the debate show up the bulge, between the President's shoulder blades. The election may be over, but speculation was rife that Bush was wired; that he got cues from, say, national security adviser Condoleezza Rice, through a wireless device attached to his back. In other words, the President was being prompted during the debate. "The Mystery of the Bulge in the Jacket" was the headline of the item in *The New York Times*.

Assuming Bush was wired,

what was the device? Some say it was an audio transceiver. On October 13, salon.com quoted technical expert Alex Darbut: "There's no question about it. It's a pretty obvious one—larger than most because it probably has descrambling capability." For more, head to [www.IsBushWired.com](http://www.IsBushWired.com).

All we have to say about this is, if it's legal, Bush should do it. He needs it! And



Bush at the debate, with that boxy lump on his back

Apple's portable music players was "stolen."

Ballmer firmly believes that the majority of music stored by customers on iPod and iPod Mini devices is illegally copied. "The most common format of music on an iPod is 'stolen'," he said. "Most people still steal music." The war is on.



## One Wedding And An Auction

What's the best way to avoid attending a wedding—especially that of your ex-girlfriend's? Sell the invitation on eBay, of course. That's exactly what a UK man did recently. His ad read: "...She's a dog. No really.



Invitations to a "dog's" wedding

I haven't seen them since I told her she's a dog... They've stupidly invited me to their wedding, but I don't want to go."

The bidding reached a fabulous \$18,200 before frivolous bets were cancelled. But after three revisions to the posting, the man cancelled the item, and here's the happy ending it finally got to:

"I still love the old dog, despite what she did to me. ... I'm going to pull the auction... see whether she'll... marry me instead..."

## The Beckham Code

David Beckham has joined the ranks of Britney Spears, Anna Kournikova and others, in an odd sort of way. There's a Trojan-horse kind of virus out there that comes wrapped in an e-mail that promises pictures of Beckham. Not of him scoring a goal, though. The pictures the e-mail claims to lead to are those of him "caught by photographers with his pants down...photographed with a Spanish (prostitute) in a rather compromising position."

### 3-Easy-Steps to Freebies!

- 1 Log on to [www.thinkdigit.com/digitpatron](http://www.thinkdigit.com/digitpatron) to register.
- 2 Enter this 16-digit code and score points (you will find your code at this place every issue)
- 3 Your points get added every month and can be redeemed for exciting gifts!

