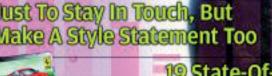
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October 2005

YOUR TECHNOLOGY NAVIGATOR

4000 The Latest MP3 Players Under Scrutiny Make This A Concert Not To Be Missed

11 Hottest Cell Phones Not Just To Stay In Touch, But Make A Style Statement Too



19 State-Of-The-Art Lifestyle Laptops—These Are Serious Objects Of Desire

Space Age Technologies That Also Improve Life



# **Editorial**

# The Software Dilemma



E SHOULD EXPECT that PC penetration in India should accelerate exponentially now that the Rs 10,000 barrier has been breached. However, there remains a very important hurdle before this happens. Software.

Why do all multinational software companies in India charge extortionate prices? Especially when the duty on software products is zero per cent? Think about it. You can now purchase a new PC at just Rs 10,000, but if you were to add the OS and the office software, you'd end up paying more for the software than for the PC. This discrepancy is inexplicable.

Every company seriously interested in growing their market and genuinely interested in the development of their products and services adapts to local conditions. Case in point is the Rs 20 McAloo Tikki burger or the Rs 1,200 Levi's jeans, which sell in the US for \$1.99 and \$45 respectively in their home market—the USA.

There are many more examples of companies that are selling products at prices that make sense in India; thereby they are expanding their market. Then why is it that we pay exactly the same OR HIGHER than in the US for our software? The price of anything sold globally should reflect the cost of doing business in that country. Do US companies pay their people in India at US levels? Do their offices and infrastructure cost as much? Then why should their software cost as much or more? What is the variable cost of selling their products in India?

While OEM bundling does have the tendency to reduce the price point significantly, it is still nowhere near what you would call affordable, especially considering the fact that hardware prices seem to be heading southward with a lot more determination than the prices of OS and office productivity software. That is probably the one single reason why PC penetration is still not at levels where it becomes an engine for national productivity. And that is a tragedy.

Sure there is a choice. Microsoft often states that consumers have a choice: you may purchase MS software or you may opt for freeware (Star Office) and an open source OS (Linux).

These freeware and open source OS are free to consumers. After all, a company in a free market economy must have the freedom to price their products as they deem appropriate, especially when they have invested significant resources in developing these products.

The pertinent question then for most of us is: why have freeware and open source operating systems not found mass acceptance? Is it an issue of support? Is it that commercial prices assume a certain level of service that is not predicated with freeware?

This question we will deal with in the next issue.

You pay more for the OS and office software than for the PC itself. This discrepancy is inexplicable



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# Software On DVD/CD

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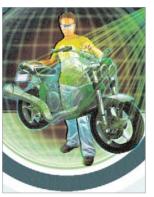
Apple's new iPod offering is the iPod Nano. Is it hotter than the iPod Mini?

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Cutting edge space technologies needn't just help us travel beyond our planet. Here's how they add an extra zing to a common man's life on Earth too



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A terabyte hard disk for your PC is not too far off—you could own one as early as next year. Here's a look at what's going on in the labs to make this possible

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These babies would look pretty on any lap, but the question is, can you afford them? A shootout that presents the best lifestyle laptops money can buy  $\blacksquare$ 



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Mobile phones may be ubiquitous today, but there are still ones that cost a fortune. One look at these high-end mobile phones and you'll be hooked

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There's much, much more to Google than Search. We tell how to get that extra out of the Big G and enhance your work—just by clicking 'more' ▼



# 91 Old Way Tech Way

What would you prefer—the good old transistor radio or Internet radio? Here's our take

# **97** Agent **001**

Troubleshoot and explore with Agent 001 as he tells you all about DVD-Writers and what to be wary of when buying one



# 99 Net Gain

Here's a Web site that tells you what you can do so your money works for you

# 100 New & Notable

Among this month's New & Notable devices are a sleek 17-inch monitor, an entry level phone, and a device that works as a digital camera, digital video camera, Web cam, MP3 player and voice recorder (!)

# **106** Tech Nightmares

This month, we address some issues that often surface—and frustrate—during the Windows installation process

# **Digital Business**

# **109** Adding Words To Your Businesses

Targeted Advertising is the new industry buzzword. We talked to a couple of Internet companies who have incorporated this into their prevalent startegies and gained from it





# 112 Work With Me, Here!

How do you work best when your colleagues or team members aren't in the same office complex or continent? Collaborative working software is the way to go

# 117 Chart A Career In IT

IT careers are up for grabs. Our guest writer, Jayanti Ghose, a career counsellor, tells you how you can get those plum jobs

# October 2005

# **Digital Leisure**

# **119** Striking The Right Key

We take a look at a different type of keyboards, which help those suffering from cerebral palsy, operate a computer and communicate more easily **▼** 



# 122 The Concert's ▶ Begun

40 personal music players dissected, examined and rated, all for you. This definitive portable music player comparison and test tells you what to buy and what to bin



# **137** Globetrotting Online

Plan an entire holiday, book your travel tickets and make arrangements for your stay without moving away from your computer. We tell you how the Internet can help you plan a perfect vacation



# **Escape**

151 Robert Dennard, the man hailed as the father of DRAM



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## **DIGITAL PASSION**



# Vietcong 2

Here's the latest FPS multi-player demo, set in and around the ancient city of Hue during the Vietnam War

# FlightGear 0.9.8

An open source multi-platform flightsimulator



# **HL2 High-Res Character Skin**

Make the characters in Half-Life 2 look a lot more detailed



# **DEVELOPER TOOLS**

- n Evolution Personal Edition 2.5.1.441
- n Gecko.NET GIS Control and Library 1.02
- n MailEnable Standard 1.9
- n NetBeans IDE 4.1
- n Tersus Visual Programming Platform 0.7.9
- n XMLAcl 2.0
- n Absolute Database 4.9
- n AllWebMenus Pro 4.1 build 622
- n Help & Manual 3.60
- n IntelliJ Idea 5.0
- n LEIF 2.5
- n Navicat 2005 (MySQL GUI) 7.0.8
- n OraMuLas9i+ 5.1
- $_{\rm n}$  Tersus Visual Programming Platform 0.7.9

# GAMES

- n Anime Bowling Babes 1.0
- n FlightGear India Pack
- n Half-Life Natural Selection Mod V3.0 Final
- n TORCS 1.2



## DIGITAL TOOLS



# neoDVD 7

A complete DVD authoring application that takes video direct from a VHS deck, camcorder or file and burns it to +RW/-RW/-RAM recorders

# AutoPatcher XP

The August 2005 version of AutoPatcher, which fixes all security flaws in vour Windows XP



# Google Talk beta 1.0.0.64

Call or send instant messages to your friends for free-anytime, anywhere in the world



#### MILITIMEDIA

- n Acid XPress 5.0
- n AV Music Morpher Gold Basic 2.0.102
- n AVdrum 0.21
- n DivX Play Bundle with DivX Player 6.0
- n Winamn 5.094
- Ashampop Movie Shrink & Burn 2 2.11
- n iTunes for Windows 5.0

# INTERNET

- n Ares P2P 2.06
- $_{\rm n}$  Avant Browser 10.1 build 23  $_{\rm n}$  Browster 1.0.68
- n iMesh 5.2
- n Limewire Basic 4.9.28
- n Peer2Mail 1.6 build 3
- n PhaseOut 5.4.3
- <sub>n</sub> Download Accelerator Plus 7.5
- n Opera 8.02
- n Flash Favorite 1.4.8
- n Internet Download Manager 4.06

- n AutoPatcher XP August 2005
- n File Backup Watcher 2.7.2R1
- n PreView 1.10.11
- n Resync 1.7.16
- n SmartFTP 1.5.990.4 n MindSoft Utilities XP 8.2
- n Prevx 1
- n iPod Updater 2005-06-26

By popular demand, archives of the past 12 months are back!



## DIGITAL BUSINESS

# JiWire SpotLock 1.6.103

JiWire SpotLock provides powerful yet inexpensive Wi-Fi security, keeping your



SpotLock Secure Wi-Fi Made Easy

information safe from hackers, phishing attacks, and Evil Twin hotspots-without any configuration whatsoever.

# AvailSuite 1.8.2062

AvailSuite is a Service Business Management Software, designed to effectively manage all aspects of a Service company.



# **Legal Office 2005**

Legal Office gives you the highest level of case management in an all-in-one

egal Office 2005.

easy to use application. Combined with real-time collaboration and client sharing, built in e-mail client.

# PRODUCTIVITY TOOLS

- n Student Resume Writer Personal Edition 4.5
- Visual ProBooks Lite 2005
- n Absence Management System 5.0.0.5
- n Articulate Quizmaker 2.0
- n ContactGenie Importer 1.3.11
- n Daycare Management Professional 3.0
- n Instant Leave, Time and Attendance 2.0.0.1
- n Internet Cafe For Windows 2005
- n Material Declaration Wizard 3.6.3
- n My Cafe Cup Platinum 2.12 build 2129
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- n Personal Document Organizer 3.4.992
- n Personal Stock Monitor Gold 5.5 build
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- n Wondershare PPT2DVD 2.5.5.13
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- n Arvale II: Ocean of Time 1.0
- n iPromote 0.1
- KeySuite 3.4.1
- n MobTime Cell Phone Manager 5.3.1 MP3 To Ringtone 1.22
- n MPE Money 1.1 n MPE Time Management 1.2 n Laplink PDASync 3.2



# DIGITAL LEISURE

# **Harry Potter and the Goblet** of Fire

A trailer of the latest in the Harry Potter series



## **NASA World** Wind 1.3.1.1

World Wind lets you zoom from satellite altitude into any place on Earth.



Leveraging Landsat satellite imagery and Shuttle Radar Topography Mission data

# The Lord of The War

Watch Nicolas Cage and Ethan Hawk in the upcoming action packed Hollywood Blockbuster.



# VIDEOS

- n SBrokeback Mountain
- n Good Night, And Good Luck
- n The Myth
- n Transporter 2



# 99 WALLPAPERS





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

# **Contents Interactive**

## DIGITAL PASSION



# Jcreator Pro 3.50.013

JCreator is a powerful IDE for Java. JCreator provides the user with a wide range of functionality such as: Project management, project templates, codecompletion, debugger interface

# Agua Data Studio 4.5.2

Aqua Data Studio is a database query tool and administration tool that allows developers to easily create, edit, and



execute SQL scripts, as well as browse and visually modify database structures

# **Java Print Dialog** Framework 1.2

The JPDF provides a comprehensive printing capability, including sophisticated Page Setup, Print Preview, and Print dialogs

# DEVELOPER TOOLS

- n akIDE 0.297
- n ColorMania 2.3
- n Visual Web Developer 2005 Express Edition Beta 2
- n Xerver Free Web Server 4.17
- n 3D Button Visual Editor 4.2



- n Advanced Color Tool 1.3
- n Clipstream Video 2.5
- n Iron Speed Designer 3.0
- n JDebugTool 3.9
- n MP3 Encoder/Decoder Controls 1.4

- n BUM Boot-Up Manager 1.3.3
- n Console Password Manager 0.17 beta
- n DE DVD Authoring Wizard 0.95 n FreeGuide TV Guide 0.10 pre2
- n Goom 2k4 RC2
- n libgnome 2.12.0
- n PHP Project 1.05
- n PvWireless 2.0
- n StepTalk 0.10.0
- n ZSNES 1.42



## DIGITAL TOOLS

# **Ulead DVD Workshop 2.0**

Ulead DVD Workshop 2 is professional, design-centric DVD authoring software, making it one of the fastest, most productive DVD authoring tool on the market

# **ProShow Gold 2.5**

Use ProShow Gold to easily create stunning slide shows for friends, family, business, or just for fun! Just select your photos and drop them in the



# **TORRENT SEACHER SA 1.0**

Connect to four separate P2P networks, all from one single program



## MULTIMEDIA

- n Click 'N Burn CD & DVD 2.57
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- n Mobile 3GP converter 1.0.0
- n OuickAudio 1.0
- "StarPort 2 3 0 1
- n VideoMage Producer 0.9
- n DVD Region+CSS Free 5.58
- » ePodcast Creator
- n Flash Video Studio 1.0
- n Power MP3 Cutter Joiner 1.00
- n ProShow Gold 2.5
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# INTERNET

- n Download Accelerator Manager Free Edition 2.0
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# Realtek Semiconductor Corp.

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- n AutoHotkey 1.0.37.04
- n Fresh III 7.41
- n Google Desktop Search 2.0
- n Simple File Shredder 2.6
- n Video Card Stability Test 1.0.0.1
- n Complete Registry Cleaner 3.0 n PC Power Optimizer Lite 1.00
- n RamCleaner 4.0

## **DIGITAL BUSINESS**

# EasyMoney 1.30

EasyMoney is a very easy-to-use all-inone personal finance manager





# CaptureCAM-S 2.0.0.15

CaptureCam-s is a screen recording and delivery tool used to create full motion video and sound recordings of your desktop activity



# **Response Mailer - Email Auto** Responder 3.0.7

Response Mailer is an automated system that instantly e-mails information to your customers and prospects



# PRODUCTIVITY TOOLS

- n 101 Clips 5.2 n Auto Mailer 2.0
- <sub>n</sub> CantureCΔM-S
- 2.0.0.15
- n StaffCop 1.9.4 n Response Mailer
- Fmail Auto Responder 3.0.7
- n Serpol Cafecontrol 3.0
- n Handy Address Book 2.0
- n Emailing automation 2.0.2
- n ConvertMe 1.1



# WHITEPAPERS



- n The eXtreme Model for Success
- What If Applications Could Be Managed like Data?
- n How IT Works: Spyware



# **DIGITAL LEISURE**



# FIFA 2006 Demo

The latest version of one of the most popular soccer games around!

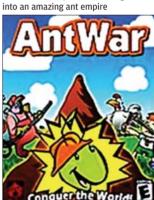
# Scooter War3z Demo

Scooter War3z delivers a surprising combination of high-speed racing, crash-'em-up action, and death-defying



# Ant War 1.0

Start with a simple anthill and grow



# 50 WALLPAPERS



n Frankenstein



- n Grimm's Fairy Tales
- n Moby Dick
- n Robinson Crusoe
- n Three Ghost Stories
- n Twilight: In the Spaces Between

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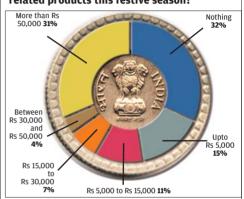
# This Month's Question

# Which free browser will you use for the next 6 months?

- ☐ Internet Explorer 6
- $\square$  Internet Explorer 7 Beta
- ☐ FireFox ☐ Opera
- □ Others

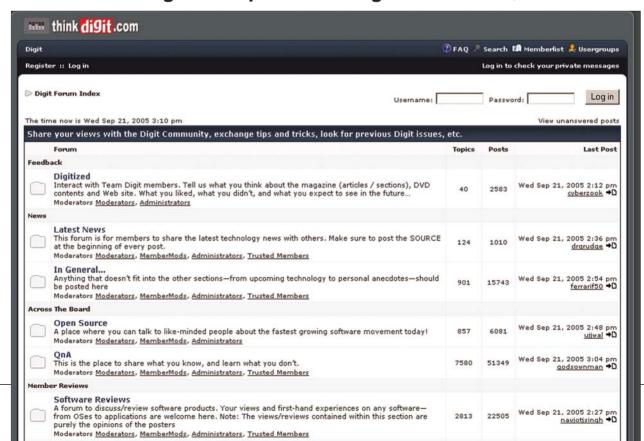
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# How much will you spend on technologyrelated products this festive season?



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# There's something for everyone on the Digit Forum www.thinkdigit.com/forum



# Vertu's Back!

Luxury product makers Vertu have launched a couple of variants for its 'Ascent' range of cell phones. The Vertu Ascent Motorsport will be available in October while the new Ascent White Special edition will be revealed soon. Expect to pay through your nose for it, since only 997 units will be sold.



# Future of IE 7

It doesn't look like there would be anything new about IE 7 till later this year. But there would be a refresh of the "standalone" Internet Explorer 7 Beta 1. The build will be released before Beta 2 of IE 7 is shipped. Here's what we think: December for Beta 2 for both Windows Vista and Internet Explorer 7.



# **Enter**

# Alisha Chinai

Singer

lisha Chinai is India's first Apop diva. Here, the glamorous 'Made In India' star speaks on gadgets, gizmos and tech in general.

# What does technology mean to you?

For me, technology means progress, innovation and new ideas. However, I am still conservative when it comes to using gadgets.

How do vou use technology in your daily life?

I answer e-mails on a daily basis. I find tools such as SMSes very impersonal. I invariably avoid text messaging if I can call. Anyway, overdependence on anything is not normal; and technology is no exception.

# What gadgets do you own?

I have a no-frills mobile phone which I use to primarily make or receive calls. I have a computer at my office. I do own the normal consumer electronics including a DVD player, TV set and a music player. Of the new gizmos available, I would like to own an iPod which I think is quite cool.

# Has technology helped you professionally?

Technology has given us various tools that help voice artists. At the same time, it also makes mediocre voices sound exceptional, which I consider to be a flipside. Tools such as pitch correctors have given music an extremely synthesised feel today. Although it hasn't influenced my career in any direct manner, technology has definitely made a lot of processes in my work easier.

**REALITY BITES** 

# **Blogs, Online Communities Rush To Help**

n the last 20 years or so, the US has been associated with many catastrophes. Some caused by them, some unto them. The latest is hurricane Katrina, which has left the city of New Orleans almost unrecognisable. But this time, there is a difference in the way Americans (and the world) knew of the details and how they responded to the tragedy.

Blogs have once again come to the fore in times of need. After last year's tsunami, when multiple blogs helped network the world and bring in aid, this is the second instance of blogging coming to the forefront and aiming to help out people.

All across the Web, blogs and Web sites have assisted with the relief and aid mobilisation. Right from the blog by Michael Barnett (The Interdictor) and his LiveJournal to the Times-Picayune Breaking News Blog, Web surfers around the world have access to unfiltered information coming out of New Orleans. Web sites such as the Katrina Information Map and even television stations are using Google Earth to provide status updates of specific locations affected by the hurricane and its aftermath.

An interesting development has been the acceptance of 'tech-in-kind' donations by the Red Cross. Technology companies hurried to do their bit to enable better communications between

public safety officials and



rescue workers, but Netizens the world over are eager to offer assistance as well. With the volume of information about and for Katrina victims increasing on the Web, a call has already gone out for ways to manage the information

Leading the way in this has been Microsoft with its .NET framework. It developed a system to help locate people displaced or missing since the hurricane through KatrinaSafe (www.katrinasafe.com).

Indian bloggers were not

left behind. A Katrina Help Wiki that was set up soon after the disaster struck was helped further with Skype entering the picture. In conjunction with Skype, SkypeJournal and Khaos Labs, they set up a messaging centre using

Skype and its API, reported Dina Mehta - who was at the forefront of this development on her blog.

But all was not rosy in terms of the relief efforts. PayPal had to block some relief funds raised by humour site Something Awful. The site had raised almost \$28,000 (Rs 12,60,000) in less than nine hours until PayPal froze

the funds. Why? Because PayPal's customer support was closed for the night. As a result, founder of the Something Awful site, Rich Kyanka, was unable to discover why \$27,695.41 in Red Cross relief funds was locked. PayPal's automated system explained that it had received more than one report of suspicious behaviour from his buyers.

A furious Kyanka was then asked by a PayPal service executive to fax in a driver's license, bank records, credit card records, and a written request to

# 8

# **Security Watch**

# Firefox IDN URL Domain Name Buffer Overflow

# **The Problem**

On September 9, a vulnerability was discovered in Firefox, which could be exploited by malicious individuals to cause a DoS (Denial of Service) attack or to compromise a user's system. The vulnerability has been confirmed in the Firefox version 1.0.6, and is reported to affect versions prior to 1.0.6 as well as version 1.5 Beta 1.

The vulnerability is caused due to an error in the handling of IDN URLs containing the OxAD character in the domain name. This can be exploited to cause a buffer overflow.

Security firm Secunia rates the vulnerability as "highly critical." (IDN stands for Internationalised Domain Name. IDN URLs can use more characters in domains names, besides letters and numbers, and specifically, characters in other (non-English) alphabets.)

# **Damages**

Successful exploitation crashes Firefox, and may allow code execution on the user's computer. This, however, requires that the user is tricked into visiting a malicious Web site or opening a specially-crafted HTML file.

# **Precautions**

Set the preference called 'network.enableIDN' to 'false'. This can be done in the 'prefs.js' file, or by typing "about:config" in the Firefox address bar and then editing the file that shows up.

unlock the account. He was also told that it generally took three to five business days to process the documents. But due to PayPal's previous arrangements with another NGO, the money could not be donated to Red Cross and eventually, all of it had to be refunded.

It's really sad when the facilitating medium itself acts up and proves to be the villain. Part of the 'ease of Web use' fame, PayPal perhaps chose the worst possible time to play truant. On the whole, though, the online community, especially bloggers, can pat themselves on the back, and perhaps this is one of the more reliable mediums we could turn to in the future.

# **FLICK OFF!**

# Flickr Users Don't Want Y! Accounts

Flickr, the photo-sharing portal, has had great success since its launch—and not without reason.

But the recent takeover of the portal by Yahoo! has irked a large number of members who have a rather subtle message for the Internet giant: Flick Off!

In response, a portion of the tight-knit photo community is protesting the forced move by threatening to abandon their accounts a day before the imposed deadline in 2006. Under the group name 'Flick off,' more than 640 members are bemoaning the change and are discussing a migration of their own.

A faction of Flickr community is threatening a symbolic 'mass suicide' to protest closer integration with the Web site's new owner, Yahoo!.

What is being largely cited as pushy is that Yahoo! has asked all existing members to migrate their Flickr accounts and use only a Yahoo! login to sign-in.

In a clause in Flickr's FAQ, Yahoo! said it would migrate all independent account holders to its own network, requiring them to create a Yahoo! ID.

But it's not just the compulsory migration that has irked users. There are also doubts as to whether Yahoo! would start collecting user data.

"About the only worry I have that I have not yet seen an answer for is that I won't be able to remain logged in into Flickr without making it possible for Yahoo! to watch me use all their other services," posted a user in the Flick Off forum

on the site.
In its notice,
Yahoo! did not
disclose the exact
date when it will
transition Flickr
members to the
Yahoo! network.

iPod Nano Apple's lates

Apple's latest offering is as thin as a pencil they say. With two variants—a 2 GB and 4 GB one, this flash memory based player is all set to capture the MP3 market with an affordable starting price of \$199 (approx RS 8800).

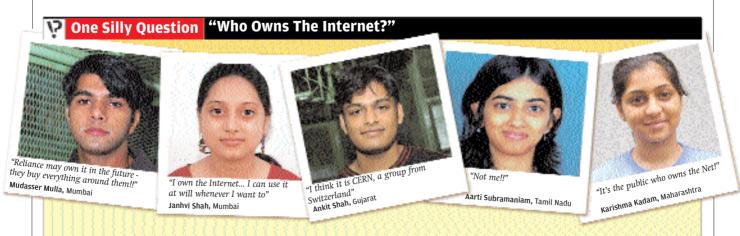
iPod Mini
We all loved it and thought it was the coolest thing around when it was released. This was until the birth of the Nano. All our illusions disappeared and Apple decided that the Mini wasn't

(Yahoo! bought Flickr shortly after it launched Yahoo! 360, a social network that combines a blogging tool, instant messaging, photo storage and sharing, and also Internet radio).

hot anymore. In the gadget

world, smaller is hotter.







Stewart Butterfield, who co-founded Flickr with wife Caterina Fake, though, has moved to soothe fears.

He said users and the new owners were all on the same side, and that the team just could have done a much better job in communicating what all this meant.

Yeah, right! First they sell out and then ask everyone to be calm. It's an age-old problem.

It's the community that made the site—and yet, neither the creators nor the buyers thought it necessary to include the community in this process.

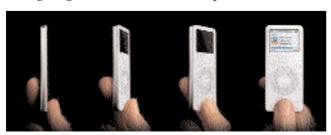
Of course, Yahoo! 360 is not yet as popular, and this could perhaps change that.

Or maybe it could just all go wrong for Yahoo!. Only time will tell. As for the community, they are still fighting.

## **PODMANIA**

# Apple Roks Again!

Putting an end to months (maybe years) of speculation, Apple finally unveiled their new range of products including a new iPod - the Nano - and the muchawaited iTunes phone, the Motorola ROKR. At an event in late September in San Francisco, Apple CEO Steve Jobs surprised attendees by introducing a completely new addition to the iPod line that will replace the iPod mini. The wafer-thin iPod Nano sports a colour screen and can hold a thousand songs in a form factor slimmer than a pencil.



# **\**

# Three Incredibly Useful Sites

# **News And Views**

# www.worldnews.com



# **WorldNews**

This is essentially a search engine for news sites. Sites listed range from Kashmir News to London Globe. In the middle of the page are the day's headlines and breaking news. You can search the WorldNews network as well. The site may seem a little disorganised, but that's just because of the sheer amount of content!

# www.slate.com



# Slate

Slate has a lot on its plate! There's something for everyone-news, politics, arts, lifestyle, business, tech, health, science-and much more. The great thing about Slate is that there are so many well-written articles in every category. It's definitely a must-visit every week, if not every day.

# www.oneworld.net

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# OneWorld.net

For the sheer breadth of global news, Oneworld.net can't be beat. There's indepth coverage of major news stories as well as news that doesn't make it to the TV or elsewhere. Oneworld.net sports a clean design and intuitive interface which offers more than enough information to satisfy the most demanding news junkie. There are topic guides, country guides and lots more.



Every month, Digit will carry a caption for a photo. Come up with something funnier, and beat the Digit team at their own game! Entries accepted by the 15<sup>th</sup> of this month.

Speaking at the launch, Jobs said the Nano was an entirely new ground-up design. He went on to add that the iPod Nano is the biggest revolution since the original iPod.

Photograph Jiten Gandh

Not changing the basics of the iPod that made it a runaway success and a benchmark for MP3 players, the Nano includes a click wheel for navigating songs and uses a standard 30-pin dock connector for compatibility with existing iPod accessories. Songs can be transferred from iTunes using USB 2.0. However, one of the major changes is the use of Flash memory like in the Shuffle - which gives the Nano a battery life of 14 hours.

The iPod Nano was launched in two sizes—4 GB and 2 GB - and two colours, black and white. The 4 GB variant is priced at \$249 (approx Rs 12,000) while the 2 GB model will cost \$199 (about Rs 9,000).

Along with the player, Apple also launched accessories including a Rs 1,300 dock, a Rs 1,800 lanyard with inbuilt headphones, and armbands that cost about Rs 1,300 each. The Nano also has a protective rubber case ('tubes' as Apple calls them), which will be sold in boxes of five colours for Rs 1,300.

The second part of this special event saw Apple, Motorola and Cingular Wireless launch Motorola ROKR, the world's first mobile phone with iTunes, which could hold up to a hundred songs from the iTunes jukebox. The iTunes software on the ROKR features easy to use menus, simple navigation and playback, and the ability to simply switch from phone to music and back again with the push of a dedicated music key. The ROKR has a colour display for viewing album art and features built-in dual-stereo speakers, as well as stereo headphones that also serve as a mobile headset with microphone.

As of right now, the ROKR is available only in the US, but will be available across the world in phases by the end of this year.

Announcing the promotional plans for the

ROKR, Motorola announced it had recruited ten music industry stars for a television ad. In fact, the filming of the ad had already been completed in London. The ad features pop stars from every relevant generation and genre including veterans Madonna, Little Richard, and Bootsy Collins, as well as pop punk rockers Sum 41, R&B diva Mya, king of crunk Lil' Jon, pop sensation The Pussycat Dolls, The White Stripes duo, and Billie Joe from Green Day. Through impersonators, the ad also features the likenesses of Beethoven and the late Jimi Hendrix and Biggie Smalls.

Now, we have had a chance to track the response to both products, and while the Nano is being hailed as the best thing since sliced bread (it's actually thinner!) and the ROKR is generating enough interest to suggest good sales, the inclusion of stars as old (and strange) as the list above suggests could affect sales adversely. But hey, what do we know?

# Beat! That!

Digit Caption "Computing, Unplugged!"

# **Last Month's Winner!**

Anubhaw Shrivastav, S.B.I, D.B, Saraiya, Muzaffarpur, Bihar-843126 "Where's the Recycle-bin in this Network Neighbourhood?"



E-mail your caption with the subject "Beat That", and your postal address, to beatthat@thinkdigit.com and win C& Data Structures by P.S. Deshpande & O.G. Kakde Published by Dreamtech, New Delhi

# **CHINESE CHECKERS**

# Google Losing Ground In China?

Recent reports on the Net suggest Google may be losing ground in China to its competitor there, Baidu.com. The article that appeared on Yahoo! cites a recent study released by a Chinese Internet research group.

According to the article, the survey, conducted by Beijing-based China Internet Network Information Center, reported that Baidu.com Inc. boosted its marketshare in Beijing by 10.8 percentage points to 52 per cent. Google's share was at 33 per cent—the search giant kept its customer base steady as the overall market grew.

There are also noises being made that cite this more as a personal interest indulgence by Yahoo! rather than anything based on hard facts. The wars just get murkier.

**GENDER** 



**BENDERS** 

Rahul Rao vs Priya Phansekar

# Find the number of hard drives





A confident Rahul approached the machine with caution. Quickly, he accessed the 'My Computer' folder and pat came his reply: "There are five hard drives on this PC." Sorry, dude, wrong answer. Thrown off balance, Rahul dabbled a bit more with items in the folder. Next, he entered "dxdiag" in the 'Run' dialog box, but the DirectX Diagnostic Tool box that opened did not help. Eventually, realisation dawned and he figured there's only one HDD, but it was all too late.





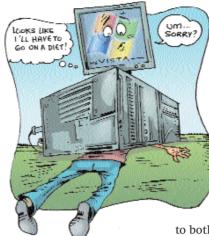
A computer engineering student, Priya seemed eager to begin. She too clicked open 'My Computer' and saw: Local Disk (C:), Work (E:), Applications (F:), Dump-1 (G:) and Dump-2 (H:). Fact is, of all the drives listed, the only hard drive was (C:) while the others were its partitions. An unsure Priya retracted her first answer of "one hard drive" and said there were five. Finally, she set off right: 'My Computer' > 'Manage' and then to Storage > Disk Management. And it showed (C:) as the sole HDD and indicated the rest were partitions. The Winner!

**VISTA JINXED?** 

# Hefty Hardware For Vista?

Microsoft's much-talkedabout OS, Vista, seems to be in the midst of another brewing controversy. This time it's about the hefty hardware requirements it may command.

Just weeks after releasing Windows Vista Beta 1, Microsoft has shifted the paradigms again, unveiling a preview of Beta 2 at the TechEd 2005 developer conference. Based on this version, users have ample reason to believe that the community to



benefit the most from this OS would be the hardware vendors.

Nigel Page, a strategist with Microsoft Australia, said Vista would work best on a video card with more than 256 MB of RAM, 2 GB of DDR3 memory and a SATA 2 hard drive. He said, There's a completely new driver model in Vista called the Longhorn Display Driver Model—LDDM.

There has been an explosion in the capabilities of graphics chips - they're almost universally 3D vector graphics now—and the driver model today we have is bitmap. Taking a cue from this, more information was sought and this revealed that only the beefiest of hardware would allow users to get the most from Vista.

Watch this space for more details.

Microsoft is also not committing to applying guidelines it helped develop for trusted computing to Vista, according to noted crypto guru Bruce Schneier.

The Trusted Computing Group (TCG), which includes Microsoft, Sony, AMD, Intel, IBM. Sun and HP. has developed a set of guidelines (Design, Implementation, and Usage Principles for Trusted Platform Module-Based Platforms), which Schneier argues are equally applicable

to both hardware and software platforms.

But Microsoft is resisting the application of these ideas to Vista, argues Schneier.

Meanwhile, there have also been rumours about the release date, which is now being pegged as December 7, 2006. This rumour is claimed to be based on very recent internal Microsoft documentation.

It also said the first release candidate of the operating system, RC0, will appear on 19 April, 2006, with the second release candidate due on 28 June, 2006.

**BID TO TALK!** 

# eBay Buys Out Skype

Online auction site eBay agreed to acquire Internet telephony company Skype Technologies for \$2.6 billion (Rs 90 billion), the companies announced in late September. The deal will help eBay move into new business areas while

# **Beta**



**D**ack in December 2004, Robert Scoble of Microsoft basked on his blog, "Does 'Beta' mean anything anymore?" Well, does it? We all know what 'Beta' is supposed to mean-it's the final testing stage of a product before the official version is rolled out. So why does Google call everything 'Beta'? Google News is still Beta, though we've been using it for quite a while now. Google Catalogs is Beta. Google Groups is Beta. And the

epidemic seems to be spreading. Flickr is still Beta and we've been using it for at least 8-10 months already? Look around you and you'll see a lot of Betas.

We could go on and on. Google's latest offering, which has caused a buzz like all things Google do, is Google Talk. Of course, it's Beta. And we're willing to bet it will be for a long, long time. For that purpose, let's just also say this little snippet is not yet over. It's kinda Beta!



# Yonah

# What is Yonah?

Yonah is the next processor in the Pentium M Series of processors. It is a dual-core CPU unit manufactured using the industry's latest 65 nano meter silicone chip manufacturing process.

# Who is making it?

Well, Intel Inc., only the largest chip manufacturer in the world! However, what's significant here is that Yonah is the first dual-core chip Intel has designed from scratch.

# Where will it be used?

Yonah will be targeted at laptops, and is the latest platform for the Pentium M and Celeron M series of processors.

When will it be released? Yonah-based mobile devices are expected to start shipping from early 2006. So expect to see dual-core computing on a laptop as early as mid-2006.

Why is Yonah only 32-bit?

Mooly Eden, Vice President and General Manager Mobile Platforms, Intel, said that though the technology to create 64-bit cores exists, Yonah will still be a 32-bit core because the 64-bit market is yet to mature. So should we start by telling Microsoft to halt production of their Windows XP 64-bit operating system? We think not!

# How will Yonah change things for you?

Yonah will bring raw processing power to mobile devices, and due to its Vanderpool Virtualization feature, which allows it to turn off one of the cores when not required, will still save on battery life. Expect to see clock speeds of around 2.2 GHz and bus speeds of 667 MHz. A single-core version will also be manufactured, along with a lower-end version for the Celeron M series.

allowing Skype to expand the customer base for its Voice over Internet Protocol (VoIP) services.

But what in the world could eBay want Skype for? Or is it just a buyout because everyone else seems to be doing it? Not quite. There does seem to be some method to the madness.

For instance, in addition to its current transaction-based fees, eBay could allow charge for



deals through a pay-per-call basis using Skype. And, for its part, Skype could make it much easier for customers to pay for its feebased services through PayPal, the online payment service owned by eBay. Skype currently has 54 million members in 225 countries and territories, and is adding 150,000 new users each day.

By acquiring Skype, eBay hopes to improve communications between buyers and sellers by allowing them to speak with each other, according to a statement.

Buyers will gain an easy and quick way to talk to sellers and receive the information they need to buy items. Sellers, too, will benefit by being able to build relationships with customers and closing deals, the company said.

The founders of Skype, Niklas Zennstrom and Janus Friis, will both assume positions within eBay's executive team, said eBay President and CEO Meg Whitman. **RED LIGHT FOR .XXX?** 

# ICANN Dillydallies Implementat ion

CANN, the overseers of the Internet, have apparently delayed the plan to set up a .xxx domain for

pornographic sites. Ever since they announced their intentions to do this, there has been stiff resistance from politicos and citizens alike in the US. More the politicians, actually!

One of the major reasons being cited is that this would create a virtual red-light district on the Web. Certain

conservative groups have been pushing for the plan to be dropped because they fear it will lead to more porn (!) on the Web. Last month, the US government stepped in to hint strongly that it



didn't like the idea either. Big Brother has spoken!

On the whole, this plan has its positives, as we've spoken about earlier in this space. It would force the \$12 billion online porn industry to clean up its act. Those using the domain would have to abide by rules to stop spamming and malicious scripts, and the

whole lot could be blocked from kids by parents using parental control software. At least, that was the plan. Now, though, no one seems to know the fate of this 'domain'.

# THE 'BEST' JUST GOT BETTER

# Opera Goes Free

September 20, Opera Software removed the ad banner and licensing fee for good from its awardwinning browser. The adfree, full-featured Opera is now available for download completely free of charge at www.opera.com

According a press release from Oslo, Norway, CEO of Opera Software Jon S von Tetzchner said, "Today we invite the entire Internet community to use Opera and experience Web browsing as it should be.

"Removing the ad banner and licensing fee will encourage many new users to discover the speed, security and unmatched usability of the Opera browser."

Von Tetzchner added,

"Opera fans around the globe made this day possible.

"As we grow our userbase, our mission and our promise remain steadfast: we will always offer the best Internet experience to our users—on any device."

Opera is one of the most popular Web

browsers, and many consider it to be *the* best browser out there.

While the jury is still out on that one (some believe Firefox is better), the user base will sure rise now that the browser's adfree to boot!

Compiled by Aditya Kuber, Mithun Kidambi, Ram Mohan Rao and Renuka Rane



32The Third Dimension



44 The Ace Spy Guy



52 Portables With Panache

# Passion

Fuelling the pursuit of technology knowledge

**Lead Feature** 

# The Final Frontier

Billions of dollars spent on space research might not have taken us any further than our own Moon. But all that's about to change... Let's take a look at how research in this field not only helps us travel to distant planets, but also improves things right here on Earth

# **Robert Sovereign-Smith**

umans are, by nature, inquisitive. We want to learn, we want to invent, and most of all, we want to explore all possibilities. It's this very quality of homo sapiens that has made us evolve from little tribes living on the banks of rivers—wielding sticks, worshipping fire and battling the elements—to a six billion-strong society with the monstrous concrete jungles we call home, and the ability to fly off this planet! But why should we ever leave Earth?

# **Problems**

We have explored the majority of our planet, and exploited it in every way. What happens when we run out? Of fuel to burn, or real estate to live in? We can't manufacture oil; we haven't found a replacement for it; we can't, or won't, even build cities underground, or underwater. We can't halt the population explosion either. If only there were another Earth!

# **Solutions**

Yes, there are hundreds of thousands of suns, billions of planets, and a myriad of moons out there in space. There is life out there, and perhaps even intelligent life. We're fascinated by the idea of visiting other planets, and would love to meet an alien

being—of the *E.T.* type, not the *Independence Day* or *War Of The Worlds* type!

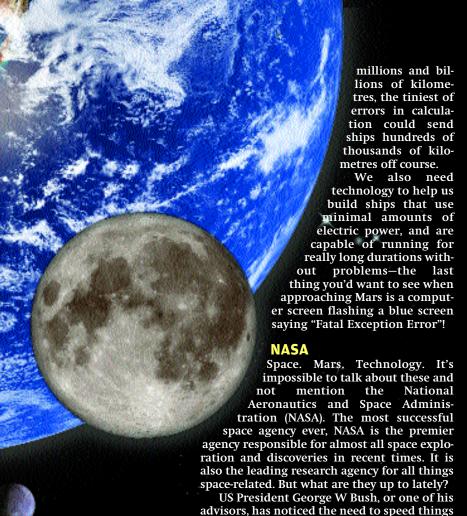
One popular science-fiction (sci-fi) solution for the fuel problem is to set up mining colonies on other planets, even on the uninhabitable ones, to bring back minerals and fuels to Earth. And we don't mean from galaxies far, far away. We are looking at our neighbour Mars. But we actually know nothing about it. Sure, NASA has sent probes and Mars Rovers over there, but even then, we're just guessing.

The only proper way to understand Mars is to go there ourselves, live there for a while, drill for minerals, explore... However, the first hurdle we hit when we think of space travel, or more appropriately space exploration, is, how do we get there? As with many things in life, we need technology to help us do this.

The human body is fragile, and needs some very basic conditions to be met in order to survive—whether in space or on Earth. It's as simple as providing air, food and water. But when it comes to space even this is difficult.

In order to be able to travel in space, we need a lot more than engines and huge space cruisers. We need to have a plentiful supply of water, food, and oxygen, and we need to find ways to have enough of it on board our space vessels, with the ability to replenish our supplies. But then again, sending huge loads of supplies into space require better and more efficient rocket propulsion systems... the problems are endless!

When it comes to the computing technology required to explore space, it's obvious that we need really good computing machines, capable of making gargantuan calculations and accounting for millions of variables with incredible precision. When we talk in terms of



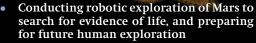
Bush outlined the goals that NASA, and the US, should meet. These include:
Implementing a sustained human and robotic space program to explore the solar system and beyond

up a bit. In a paper sent to NASA in early 2004,

 Returning to Moon by the year 2020, in preparation for human exploration of Mars and other destinations

 Completing the International Space Station, planned for the end of this decade

 Starting no later than 2008, initiating a series of robotic missions to the Moon to prepare for and support future human exploration activities



 Exploring asteroids, Jupiter's moons, and other bodies to search for evidence of life, and resources

It's patently visible that the US plans to spearhead the exploration of space, and has renewed its interest in doing so.

The interesting part of that paper was the emphasis on going back to the Moon!

# The Moon

The very first step into space, and the finishline of one of humanity's biggest races, it is widely acknowledged that the Moon holds the key to further space exploration.

Scientists have found traces of ice at the Moon's poles. These 'traces' could well supply water to many missions of the future, and so, it's obvious that it's NASA's first priority.

As mentioned in the US President's aims for space exploration, the words "Robotic Space Program" tell us that we will definitely use robots as the scouts, to precede humans in every exploration. NASA has great plans for robots—not just the Mars Rover-type bots that explore and send back data to us, but much more complex robots that can and will build habitats and basic infrastructure for when the humans come. Yes, we know, that sounds like a great beginning for a sci-fi paperback, but perhaps that's because we really are making sci-fi a reality!

The plans, quite simply, are to set up a base on the Moon, from where we will be able to launch many missions to Mars and beyond. NASA already talks about robotic missions to Jupiter's moons, and some of us might be lucky enough to witness such adventures in our lifetimes.

# What's New

But all this is theory, science fiction and supposition, and you'd be better off reading Issac Asimov or Arthur C Clarke than *Digit* for sci-fi. Though we'd love to know the answers to questions such as, "Will my great-grandchildren take vacations to the Moon?" or "Will I live to see a human set foot on Mars?", this article isn't about fantasy. It's about the research that NASA and its partners are doing. And this research is not just improving our chances of travelling further into space, but improving life right here on Earth. How? Let's find out.

# **Technologies**

NASA has always helped with, funded, and researched cutting-edge technologies. Though the media's focus has always been NASA's space exploration plans, a lot of the technologies that are developed and used by NASA are not used exclusively in space. Yes, you can actually see a lot of these technologies being used in everyday (OK, maybe not everyday!) products!

Space-suits are perhaps the best researched and tested items in an astronaut's armoury. Of course, as with everything else,

space-suits have many individual components that use cutting edge technology. For example, there's the problem of keeping an astronaut from freezing or frying when, say, on the Moon. Since temperatures can reach extremes of between 120 degrees to minus 150 degrees Celsius, they need all the protection they can get. Though we may think that the technology to keep the temperature inside the suit bearable is similar to that in a fireman's suit, nothing could be further from the truth.

# Cooling

Space suits used today have a special liquid cooling system, that maintain body temperatures by using a battery-operated pump to pass cold water through the tubes that line the suit fabric. This sys- Game Ready's cooling tem was devised by Bill Elkins, an ex- recover faster from NASA researcher at muscle injuries their Ames Research



system is helping atheltes

Center. He later founded Game Ready (www.gameready.com), a company that makes equipment to help professional athletes treat injuries.

Their Game Ready Accelerated Recovery System helps in the treatment of sprains, bruises and post-surgery recovery. It is a computer-controlled unit that controls the flow of cold water to the specially designed flexible fabric wrap. It uses the same technology that's used in space-suits to control temperatures. The system is medically effective because of its ability to provide constant cooling and controlled compression. Soft tissue injuries now heal up to twice as fast because of this technology, and it's surely a boon to most professional or semi-professional athletes across the globe.

# Filtration

Another very real problem when exploring space is the need for water. Since weight and volume have to be controlled on current spacecraft, storage of large amounts of water is impossible.

One method of conserving water is to make sure none is wasted. Distasteful as it sounds, the only way to conserve water in space is to

Argonide's filter system can remove bacteria and even poison from contaminated water.

recycle everything possible, including urine!

Now, normal water cleansing methods, as distilling, require large amounts of energy to boil the water, and this is again a big no-no on a space flight. Like water, energy needs to be conserved as well! The only remaining option is filtration, which uses little or no energy. However, developing a filter capable of purifying water takes some doing! Well, they did it!

Argonide (www.argonide.com), a company that researches advanced filtration, for use in space and back on Earth as well, developed nano-aluminium fibres that are only two nanometres thick. What's better, these fibres, trademarked as NanoCeram, displayed amazing bio-adhesive properties, which would help in removing bacteria and viruses. When woven into a filter, these fibres were electro-positively charged, thus making all electro-negative particles cling to the filterbacteria, viruses, dyes and other impurities.

If that's not enough, these fibres also displayed properties that can stimulate new bone growth. Tests showed that when a NanoCeram net was grafted into a shattered bone, it attracted and retained bone cells, and caused accelerated, flawless growth of new bones!

Currently, Argonide is developing personal filtration devices that you will be able to use when out camping, or for military personnel to protect against contaminated or poisoned water.

# Engines

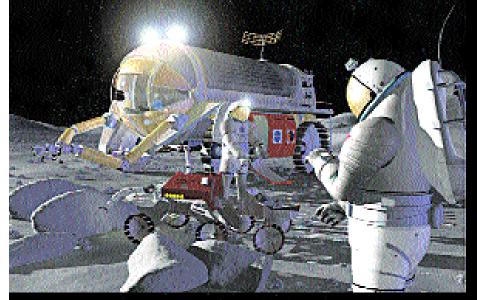
NASA has long been researching better materials for construction of vital elements such as those in engines, or other moving parts. 00 Several years ago, they planned to develop an aluminium alloy that had higher strength and resistance at high temperatures, such as those encountered in space. The project was conducted by Jonathan Lee, a structural engineer in the Materials, **Processes** and Manufacturing Department at the Marshall Space Flight Center, and PoShou Chen, a scientist from Morgan Research Corporation. When they succeeded, all the information was made public via the Internet, and public licensing made available.

This information intrigued the people at Bombadier Recreational Products Inc., a manufacturer of outboard motors, who promptly contacted NASA in April 2002. The result is their brand new outboard motor called Evinrude E-TEC (www.evinrude.com), which is marketed as "every boater's dream!"

Actually, the engine is remarkable: it doesn't require any oil changes, is not affected by extreme temperatures, and doesn't need tune-ups for at least three years of normal use. What's more, it's also "whisper quiet", so you won't scare away the fish as you approach!

All this is thanks to NASA's aluminium alloy, which is 2.5 times stronger than regular cast aluminium. However, what's absolutely incredible is that this special alloy is produced at a material cost of less than Rs 90 per kilo!

Evinrude's Engine runs very silently and requires no maintenance for atleast 3 years



# **Liquid Metal?**

NASA, the California Institute of Technology and the US Government invented a metal that had the properties of plastic. This will be used to build various components of space shuttles. Not only was this new form of metal more elastic, it was also much stronger than the highest grade titanium alloys. This is how Liquidmetal Inc. (www.liquidmetal.com) was born.

Unlike normal metals, Liquidmetal doesn't have a crystalline atomic structure; instead it has an amorphous atomic structure similar to plastics. This gives it high strength, hardness, elasticity and corrosion resistance. In addition, Liquidmetal has an amazing strength-to-weight ratio, making it extremely light, yet stronger than titanium.

Apart from building better hulls or components, Liquidmetal has found its way into sports goods such as racquets (www.head.com), baseball bats (www.rawlings.com) and even a TAG Heuer (www.tagheuer.com) watch series! The watch casing is made of Liquidmetal and is scratchproof, dent-resistent and doesn't corrode, while the sports equipment offers enhanced power because of Liquidmetal's elasticity and strength advantage.

Another well-known manufacturer that was drawn to Liquidmetal was Vertu. Their latest Ascent phone collection has a Liquidmetal bezel and battery cover.

# **Imaging**

One important aspect of space exploration is imaging. Since we send robots and computer-driven ships to the farthest reaches of the solar system and beyond, which then transmit data (generally images and video) back to us, we have to make sure the imaging technology is top-notch.

Now, lenses and cameras have their own limitations and extracting still images from video always results in blurry images—since video uses frames to deliver smooth-looking movement, most video frames depict movement as blurs. But what if we could use software instead of hardware to calculate the movement and extract crystal-clear stills from video?

This not only applies to space then, and could also be used to extract great stills from your home videos. That's exactly what RedHawk Vision's Paparazzi software does!

The imaging algorithm that extracts still images from videos was developed by RedHawk (www.redhawkvision.com) and NASA's Marshall Space Flight Center. The algorithm was called the 'Real-Time Self-Contained Image-Motion Compensation for Spaceborne Imaging Instruments' algorithm—don't blame us, we didn't name it!

Basically, the algorithm calculates the movement in a scene, and repositions similar images to form a clear still picture of movement. At times it can create very psychedelic looking stills, as you can see in the examples provided. All you have to do is buy a Paparazzi Flash drive unit, connect it to a USB port, double-click the Paparazzi icon, and then play videos in Apple's QuickTime media player. Paparazzi automatically analyses the video and generates stills!

Using Paparazzi, you can now extract that favourite pose from a home video, and actually get decent enough quality to frame it and hang it on a wall! Meanwhile, NASA uses the technology to extract distortion-free images from its probes traveling through the galaxy-even extracting images from completely garbled video transmissions!





RedHawk Vision's Paparazzi software generates great stills from video

# The Moon Again

The abovementioned technologies, which NASA helped develop for use in space exploration, have already been put to practical use in products that we can go out and buy. We haven't even scratched the surface yet, and providing any sort of detailed analysis would fill 98,16,345 issues of Digit! However, let's take a look at NASA's plans for a return to the Moon.

An article titled "How We'll Get Back To The Moon" on NASA's site says:

"A heavy-lift rocket blasts off, carrying a lunar lander and a "departure stage" needed to leave Earth's orbit. The crew launches separately, then docks their capsule with the lander and departure stage and heads for the Moon. Three days later, the crew goes into lunar orbit. The four astronauts climb into the lander, leaving the capsule to wait for them in orbit. After landing and exploring the surface for seven days, the crew blasts off in a portion of the lander, docks with the capsule and travels back to Earth. After a de-orbit burn, the service module is jettisoned, exposing the heat shield for the first time in the mission. The parachutes deploy, the heat shield is dropped and the capsule sets down on dry land."

Those were the details of how the first mission to the Moon will be carried out. The article continues, and explains what will happen next:

"With a minimum of two lunar missions per year, momentum will build quickly toward a permanent outpost. Crews will stay longer and learn to exploit the Moon's resources, while landers make one way trips to deliver cargo. Eventually, the new system could rotate crews to and from a lunar outpost every six months. Planners are already looking at the lunar south pole as a candidate for an

outpost because of concentrations of hydrogen thought to be in the form of water, ice, and an abundance of sunlight to provide power.

"These plans give NASA a huge head start in getting to Mars. We will already have the heavy-lift system needed to get there, as well as a versatile crew capsule and propulsion systems that can make use of Martian resources. A lunar outpost just three days away from Earth will give us needed practice of "living off the land" away from our home planet, before making the longer trek to Mars."

Mars or not, we've already seen how NASA's research is improving the quality of life right here on Earth—and we're not complaining. You should pay www.nasa.gov a visit and take a look at the thousands of pictures, videos and articles on current research and their plans for conquering space.

# **Coming Down TO Earth**

A lot of what's been said here may seem very futuristic; to some, perhaps, it may border on fiction. However, scientists and explorers for generations have surprised us and made the cynics eat humble pie for lunch and dinner!

The facts are that research is a never-ending phenomenon at places like NASA, and the success of projects that may have seemed incredible just a decade ago are already being used in the products we mentioned!

When the space explorers talk, we better listen, because space agencies are sending out one clear signal: for the betterment of mankind, space exploration and research is truly The Final Frontier!

robert\_smith@thinkdigit.com Images courtesy NASA and Spinoff Magazine

# The Third DIMENSION

When was the last time you saw an innovation in the field of displays? It's the same, boring CRTs and LCDs. Right? Actually, researchers are working on technologies that will banish 2D from our lives forever!

**Ram Mohan Rao** 

he world is 3D. But everything that's a reproduction of it—newspapers, TVs, computer displays—we watch in 2D. It's surprising the way we've gotten used to viewing and working with all this 2D. Have you ever, while playing a video game, craned your neck to the left to try and see what was behind something on the screen? Did you feel foolish about it later?

Think about 3D TV for a while: your favourite TV serial recorded and broadcast in true 3D. Imagine your family sitting all around the TV box, instead of in front of it, or perhaps even walking round it to get different perspectives. Sounds far fetched? Science fiction, right? Well, not exactly!

Yes, there's still quite a while to go before we'll be able to buy something like that off the shelf. Some say it'll be as soon as the year 2020, 'the year of perfect vision', that we'll get true real-time 3D displays you can walk all around. Others aver it'll be at least a fifty years from now. The truth is, no one knows for sure!

Our aim here is to inform you of some pretty amazing prototypes out there—devices that are the state of the art in holographic and stereoscopic techniques. And all developed and showcased today—not 50 years hence!

# The Technologies

There are many 3D display technologies being worked upon. Three prominent categories are stereoscopic, holographic-in-air, and enclosed volumetric displays. Stereoscopic displays may require special glasses, IMAX-style, or may not, but they're basically just two different shots of a scene, each fed to one eye, to create the illusion of 3D.

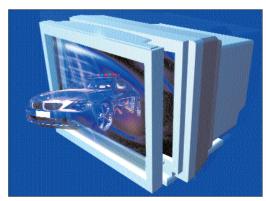
The term 'holography' means a lot of different things, but it's been popularised in movies such as Star Wars, with R2-D2 projecting the image of Princess Leia—so think about holography as 'the Star Wars' thing'!

Enclosed volumetric displays are probably the least known of the three—these are 3D renditions of scenes within a spinning volume. We take a look at examples of each of these.

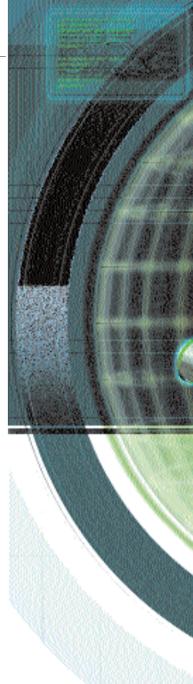
# **Stereoscopic Displays**

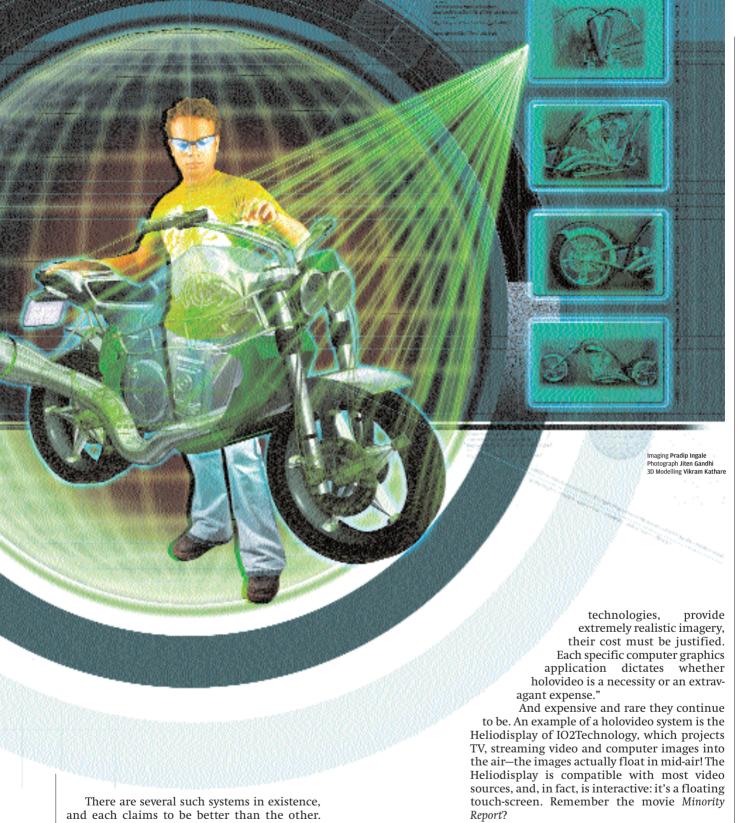
These are more advanced than you might imagine. Take a look at NuVision's Web site (www.nuvision3d.com): "Welcome. To the most advanced stereoscopic technology available. To absolute, true depth, flicker-free 3D realism. To a world as real as the one you live in. Welcome to the future."

One of their products—the SX line of display kits—uses a "high-speed liquid crystal modulator" that you use as an overlay for your existing monitor, in conjunction with special glasses, to give you 3D realism. Now if only this system were cheap enough for the majority to afford!



Monitor overlays, in conjunction with special glasses, can afford a degree of 3D realism



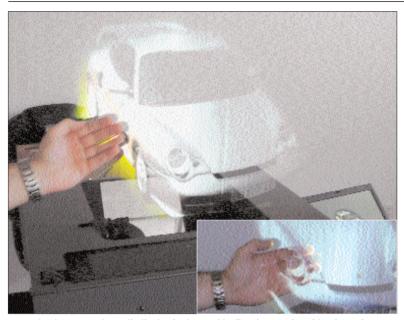


There are several such systems in existence, and each claims to be better than the other. We've all experienced such 3D in IMAX theatres; there's nothing new about such products. Personal 3D has, however, seen improved realism in the past decade. But who wants to wear comical-looking glasses?

# Holographic Displays: The Heliodisplay

Mark Lucente of IBM's Thomas J Watson Research Center wrote in 1997, "Real-time 3D holographic displays are expensive, new, and rare. Although they alone, among 3D display A post on a popular geeks' forum said, "News of a 3D display that projects an interactive image into thin air, the Heliodisplay, is not exactly fresh. What is new however, is that this once farfetched conceptual object is now real, working and being sold. The Heliodisplay projects into the air—without the need for a special screen—images fed to it from a variety of sources. In a way, it's a working version of R2D2's holographic projection system."

So how does it work? Well, the display is a box no bigger than your PC cabinet lying on its



IO2Technology says the Heliodisplay is the world's first interactive video-into-air display. At bottom right is a close-up of the observer's hand 'going into' the image

side. This box sucks in air, 'conditions' it, and then expels the air and uses lasers to project images on to this 'conditioned' air. Sounds vague? It is, and IO2 isn't going to give you any more details about the working of the system just yet. They do, however, inform you that the air is "safe" and say that even if you run the machine for a full day in a sealed room, the air would still be breathable!

Our best guess is that there's ionisation involved, but in the end, we're as clueless as the rest of the world! The fact is that here we have a truly holographic display that works!

So have we attained true 3D Nirvana then? Well, not quite! The problem with IO2's display is that it is still nothing but a computer display. Even with this display, craning your neck to see what's behind that box in a game will not help you see any better. Moving to the side will give you reduced visibility, just like with a computer monitor!

The great thing is that this is a step forward, and it's still a display technology that projects an "emulated 3D image" (as with the 3D in games) into thin air, and allows you to interact with it. You can actually 'touch' your Start button, and pass your hand through the scenery. It's also remarkable that you can connect almost anything with a video-out function to this device!

# The Illusion Of Holographic Displays

Laser Magic Productions says on their Web site, "There is no easy way of creating a walking, talking 'holographic projection' in the real world. Real laser-created holograms just don't work that way. There is no current technology to project a real life-sized, moving, talking hologram in a public place that permits a person to walk all the way around and view it from all sides.

The virtual 3D world where you can project anything you want into thin air like The HoloDeck of *Star Trek* fame is still a long way off.

Laser Magic Productions of Playa del Rey, California, has developed a family of 3D projection technologies that accomplish the illusion of Holographic 3D Projection."

"Illusion"? Yes, there are five technologies that Laser Magic Productions mentions, all of which produce the "illusion" of 3D projection. These include the HoloTank, a 3D volumetric display created by projecting scanned laser light or vector video graphics into a liquid medium resulting in 3D holographic-type projections. Moving laser or video images are projected into a liquid chamber (like an aquarium) in which proprietary microscopic particles are suspended. When vector graphics such as words, line art, cartoons and abstract geometric images are projected into the Tank, they are imaged in 3D, resulting in holograms within the Tank.

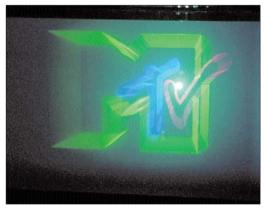
Another innovation by Laser Magic Productions is the LaserCube, a way of displaying laser imagery in 3D space *without* particulates in the air. Images projected into the LaserCube appear to float in space. To give you a flavour for the kind of technology that goes into laser imagery, a LaserCube consists of two elements: the Imaging Cube and the Projector. The Projector is what projects the images, and the images are formed within the Cube.

This Imaging Cube is made up of multiple parallel imaging screens created from a fibre-optic-like material. This material acts as the holographic medium—remember that for a hologram to be formed, a medium is always required!

Now, when laser light is projected into the Cube, the light forms an image on the first of the imaging screens, and then passes through to the next—and so on. The same image appears on each of several parallel planes, creating the holographic illusion of depth and perspective.

What about the Projector? That's where the images come from. How does it work? There are several modes of operation, and in one mode, three lasers are mounted within the Projector. These produce red, yellow and green laser beams. The three beams are directed through a scanning system that creates *abstract* laser images. These have an interesting property: they move and change in response to sound—be it music, voice or even ambient audio.

Now, one can play something so that it acts as the sound source, or, ambients sounds (if any)



The HoloTank can project video images into a liquid medium to produce 3D video images with real depth

# **Digital Passion I Tomorrow**

can be used as the audio source. The circuits in the Projector are thus able to translate this audio into laser images that are projected out of the Projector and into the Imaging Cube. Thus, by modulating audio instead of the laser light itself, one can control the image that is formed.

Because of the arrangement of the optical imaging material within the Cube, the projected laser images appear like dancing holograms. One can walk around and view the results from any angle.

A second method of displaying holograms entails using high-power lasers and a larger Imaging Cube suspended overhead. In this



Images projected into the LaserCube appear to float in space

arrangement, the Projector unit containing the lasers and control systems is remotely mounted, and projects from a distance into the Cube. projected images materialise with no apparent origin because laser beams are not visible in the air until they hit the Cube's imaging material. there's no way to tell where the images are coming from!

# An Example Application

There are several uses for holography besides just entertainment: advertising and medical applications are just two of them. But why is true 3D so difficult? The answer is basically the computational power required. As an example, Apple proudly mentions Voxel Inc.'s Digital Holography System (DHS), which uses Apple computers: "A patient with a brain tumour lies motionless on the operating table. The surgeon must effectively remove the tumour without damaging surrounding tissue. Previously, this was undertaken without the ability to capture in 3D the anatomical relationships within the patient's body. But now, Voxel's Mac-based DHS gives surgeons a life-size, 3D X-ray view of the patient.

"Ordinary X-rays only provide 2D representations, and technologies such as MRI and CT provide only 'slices', each representing a 2D picture of a single plane within the body—the surgeon and radiologist are left to imagine a meaningful whole. Surgeons have long needed a 3D X-ray view of the patient, giving them a clear picture, for example, of how deeply to cut to completely remove a tumour. By providing a life-size, transparent 'twin' of the patient, Voxel's technology does just that.

"If ever there was an application that requires extreme processing power, it's volume imaging," says Voxel founder and CIO Michael Dalton.

So how are 2D 'slices' turned into holograms? Surgical candidates first undergo a CT or MR scan, resulting in a series of 2D image cross-sections that are converted to DICOM (Digital Image Communications in Medicine) format. The DICOM images are transferred to a computer. A piece of software called the Voxpad



We think the two initial markets (for holo-TV) will be in medical visualisation and military applications"

Dr Harold "Skip" Garner, Jr Professor of Biochemistry and Internal Medicine, University of Texas Southwestern Medical Center at Dallas

then reconstructs the 2D slices into a 3D view of the anatomy, which simulates the corresponding 'Voxgram'.

In doing so, the computer must process from 20 to 120 megabytes of pixel data as many times per second as possible to achieve the real-time 3D manipulation required to approximate the Voxgram. "The raw processing power of this application really stresses computer systems," says Dalton.

Voxel's DHS uses 2D slices. That's the key here. It's no simple matter to display holographic objects in motion—to just use multiple cameras to record a scene, then play it back in 3D. But steps have been taken along that direction too.

# 2020: Holo-TV?

This year, as recently as June, the first 'true' 3D movies were created, by Dr Harold "Skip" Garner, professor of biochemistry and internal medicine at UT Southwestern, at the UT Southwestern Medical Center. It's been reported: "In a small research laboratory at UT Southwestern Medical Center, a grainy, red movie of circling fighter jets emerges from a table-top black box, while nearby, a video of a rotating human heart hangs suspended in a tank of gooey gel."

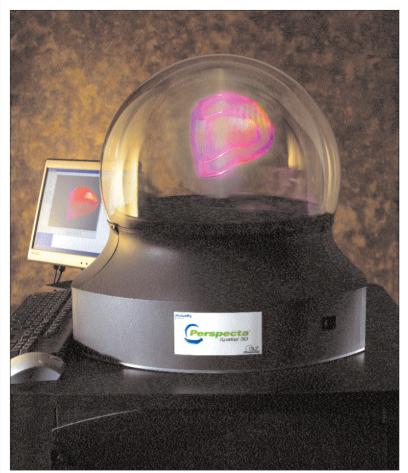
The report in *Science Daily* goes on to say that such movies will not be commercially viable for entertainment purposes anytime soon, but Dr Garner and his holo-TV have been featured in *Popular Science*'s June 2005 issue. The magazine put Dr Garner's achievement in a list of the top five "great ideas for the future."

"An important next step is to take our proof of principle technology that we have now, and move it into a commercial entity," said Dr Garner. "We think the two initial markets will be in medical visualisation and military applications, such as heads-up displays for helmets and military aircraft and coordinating battlefield information."

"I predict that by the year 2020, that being the year of 'perfect vision,' we will have holo-TV in our homes," said Dr. Michael Huebschman, a researcher in Dr Garner's lab and one of the developers of the technology.

Dr Garner's system is based on a small chip covered with about a million tiny mirrors. According to *Popular Science*, the basic principle is this: a digital micromirror device (DMD) is used, which is made up of nearly a million reflective panels. Each of these reflective panels can be angled by a computer several thousand times a second (!) to reflect or deflect beams of light, thus producing moving pictures. The DMD can be programmed to produce a desired image.

Dr Garner's key insight was that he could use laser light on the DMD instead of using a regular projection bulb. He programmed the DMD to reflect a sequence of 2D interference patterns—called interferograms—that alter the laser in such a way that it produces a 3D hologram. (The summation of two or more interacting electromagnetic waves—light, for example—is commonly known as interference between the waves). So what's happening here is basically a sequence of 2D interferograms becoming responsible for a 3D image.



The Perspecta Spatial 3D System's 20-inch dome, displaying a 3D image of a heart. It occupies a volume in space, giving users an all-encompassing view Image courtesy of Actuality Systems Inc., Bedfort, MA, USA © 2004 David Shoppen

This, however, was not Garner's biggest challenge: remember that for any 3D image to materialise, a volume that acts as a screen is required. That was the challenge—to find a suitable projection surface that has a volume.

A column of mist should be OK, because it has particulates on which light can be reflected. But mist diffuses the projected image. Garner is therefore working with a display composed of layers of micro-thin LCD panels, each of which can (when electrically charged) be made clear or opaque. The panels flash on and off in quick such quick succession while assemble the hologram that the speed convinces the eye it's seeing a solid object.

Other such displays exist today, but instead of using a series of 2D interferograms, they slice up a 3D image and send the 2D data sliver by sliver to the LCD screens. This method requires far greater processing power. Which is why Garner's approach is the most viable solution for 3D TV. "We're sending the 3D images as a 2D interferogram," Garner says, and this doesn't require any more bandwidth than today's TV signals—"so we can use the current broadcast infrastructure."

As for creating the holographic content, it would have to be recorded with a series of cameras shooting from different viewpoints.

Dr Garner and his research team—Dr Huebschman and programmer Bala Munjuluri—have published details of their system in several publications. For technical details and sample holographic movies, see <a href="http://innovation.swmed.edu/research/instrumentation/res\_inst\_dev3d.html">http://innovation.swmed.edu/research/instrumentation/res\_inst\_dev3d.html</a>. What we've provided here is a rough overview, and to understand the system in detail, a good knowledge of interferograms is essential.

Think of Garner's assembly as Dr Bell talking on his 'telephone' with his assistant Watson, compared with our casual usage of cell phones today. 2D interferograms bounced off the million mirrors of a DMD may well be the prototype that leads to 3D TV—who knows?

# **An Enclosed Volumetric Display**

Perspecta Spatial 3D (www.actuality-systems. com) urges, "End Flat-Screen Thinking."

Think of it as a plug-and-play crystal ball. The Perspecta Spatial 3D System includes a 20-inch dome displaying full-colour and motion images that occupy a volume in space, giving users a 360 degree all-encompassing view-and without the need for goggles.

Perspecta renders all movement from widely-used open-standard 3D applications. The resolution of the gizmo is a 100 million voxels! A voxel is a volumetric pixel.

The Web site proclaims, "Gone are the days when colleagues squeezed in behind your desk to view an HIV molecule or patient MRI. With Perspecta Spatial 3D, everyone sees everything all the time." The system exploits the fact that the brain can integrate a series of 2D cross-section images (the device spins at 730 rpm) into a volume-filling 3D image.

From a whitepaper on the site, we learnt that spatial 3D is different from flat-screen 3D projection or the use of stereoscopic goggles. Spatial 3D refers to 3D imagery that truly occupies a volume of space. The scientific term for a spatial display is a 'volumetric display'.

The Perspecta Spatial 3D System projects 3D imagery that seems to hover inside a transparent dome. "Spatial 3D gives you a unique perspective on information because you can walk around the imagery to inspect it from different angles." And the site emphasises that the 3D imagery is "truly three-dimensional; it isn't an illusion and doesn't require wearing any goggles."

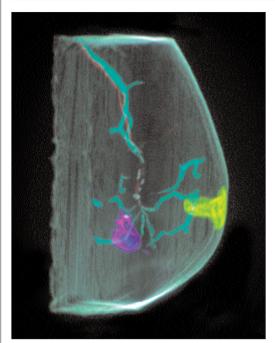
The Perspecta system is probably the closest we've gotten so far to the holy grail of true 3D projection. So what's missing? Not too much, except that the 'crystal ball' isn't too large, and that you can't interact with it in any way. And, of course, it's expensive—\$40,000 (more than Rs 17 lakh). But still, the system does blur the line between sci-fi and actuality—pun intended!

# The Way Ahead

The list of systems we've mentioned above is in no way exhaustive. There are virtually tons of different 3D visualisation systems you'll find if you Google the appropriate terms. We haven't bothered with mentioning more of them here because there are just too many!

One thing we can expect is for such systems to become more common. For example, in July

# Digital Passion | Tomorrow



The Perspecta Spatial 3D System displaying a breast tumour. Medical researchers and surgeons benefit tremendously from 3D views

Image courtesy of Actuality Systems Inc.,

Bedfort, MA, USA © 2004 David Shoppen

2002, electronics giant Sharp, together with Japanese telecoms operator NTT DoCoMo, launched a mobile phone with a tiny 3D LCD screen, and more than 2 million units have been sold. And in November of 2003, Sharp released a notebook computer with a 15-inch LCD screen that can switch between 2D and 3D viewing modes.

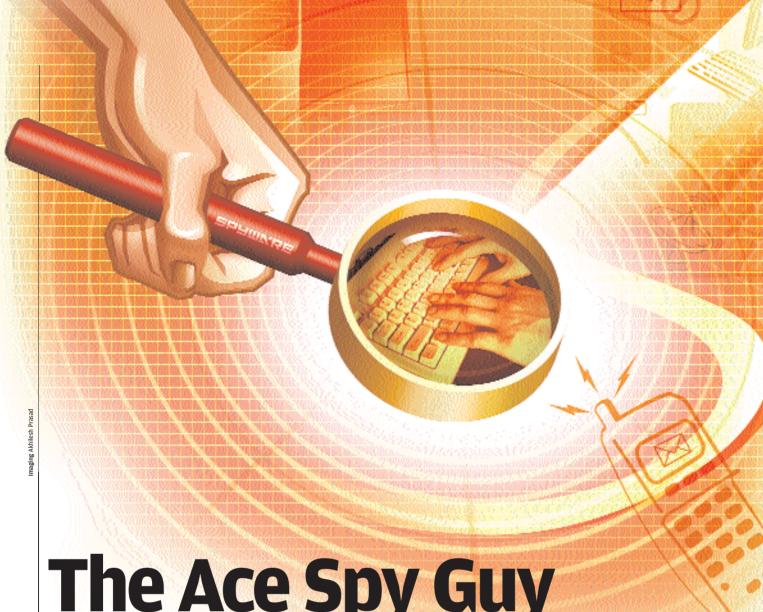
"All" we want right now is for such systems to be scalable in terms of size, and for them to become cheaper. For technological reasons, it will be several years before something like the Perspecta Spatial 3D System can be hooked up to a PlayStation or Xbox. Also, the display technology needs to improve—at present, full-resolution images are displayed in only eight colours, and brightness and contrast could be improved. And, of course, there's the issue of raw computational power—but of which, of course, we can be assured that we'll get up to speed in a few years.

With goggles and a degradation of overall experience, it may not be that far off: Actuality Systems says it might build lightweight versions of the 3D display that could be marketed to consumers for use with video game consoles. CTO Gregg Favalora says the company has plans to begin work on such a display. Favalora also says, "Component costs will decrease. There could be a desktop unit in the future."

And here's the interesting part for all you gamers reading this: Actuality Systems has produced an SDK for Perspecta that is an extension of Mesa—the open-source implementation of OpenGL—which could open up gaming possibilities. In which case, true-3D *DOOM* 3 could well be something you'll play in your lifetime!

ram\_mohan@thinkdigit.com

1/2 pg V Ad



# The Ace Spy Guy

A young collegian from Jaipur does **India** proud with his numerous spy software creations, the most popular being AceSpy

Renuka Rane

ow many 21-year-olds in India own a profit-making enterprise in the US? Meet Zeeshan Alam, a third-year student of computer engineering at the National Institute of Technology, Jaipur. Alam is the co-owner of Retina-X Studios (www.retinax.com), and his partner is US-based James Johns. Alam has independently created spy software-AceSpy.

# **Starting Out**

A lover of all things tech, Alam decided to take up computers full-time. In 2004, he completed the Microsoft Student Project Programme where he created a state employment portal. Alam also won several software designing awards.

The enterprising Alam says, "The idea of developing spy software occurred to me in mid-2002. It was a time when the issues of Internet romance, online chatting and pornography appeared regularly in newspapers. My dad too had a growing concern about me spending a lot of time online, and was worried if I was addicted to the above elements.

"It was then that I had an idea: what if I could record the goings-on on the desktop, like a movie, at regular intervals in stealth mode, where the software would not be visible in the Task Manager's Processes or Applications and would also not be detected by other users? All actions could be viewed later to reveal what other users do on your PC in your absence."

# A Few Hits At First

This thought took form and resulted in Alam's first spy software creation—Sys Detective+. In time, Alam added more features including key logging, Web capture, e-mail and SMS alerts, Web content blocking and others.

Once Alam realised he had the recipe for a successful software, he submitted Sys Detective+ to many shareware sites and also made a site exclusively for it using Regsoft, an ecommerce processing service, to take care of the transactions, if any. Alam even put a small classified ad in The Times of India.

All this took place around the end of 2002. Barring a few sales here and there, Alam did not, unfortunately, receive much of a response for Sys Detective+. But in March 2003, he came

# **Digital Passion | First Hand**

across the now defunct AmSpy Web site. He asked the US-based site owner James Johns to put up Sys Detective+ on the site.

# **Success At Last**

A Web and graphic designer based in Phoenix, Arizona, Johns (27) is the CEO of Retina-X Studios. Johns says, "Prior to RXS, I ran a Web site called Amspy.com, which offered various spy software. Alam e-mailed me asking to add his product, Sys Detective+, to the site."

"It was then that we decided to launch a joint venture and create our own line of products. I had no apprehensions about the fact that Alam was a young collegian in India. Programmers in India have a good reputation in the US for quality outsourcing.

"Coders attending college in India are learning the latest skills—something even the most seasoned programmer may not usually provide. Next, we chalked out different duties for ourselves. Alam was to handle programming while I took care of the Web and graphic designing," says Johns.

# A Profitable Alliance

Alam and James decided to divide the profits on an equal basis. Both play a key role in all management issues, project analysis, financial and marketing plans. It was thus that Retina-X Studios came into being, and was registered as a Limited Liability Company (LLC) in Nevada, USA, in September 2004.

By the time of his collaboration with Johns, Alam had upgraded his earlier creation of Sys Detective+, which Johns rechristened as 'AceSpy'.

AceSpy has sold over a thousand licenses so far. Other major software developed by Alam—all RXS products—include Net Spy Pro (a network spy software designed for network administrators), Key Spy Pro (which discreetly records all keystrokes), Screen-Spy (which, similar to a surveillance camera, records screen shots at intervals), and Eliminator-RX (an Internet cleaner software), among others.

# **AceSpy A Winner**

AceSpy is a PC program that runs silently in the background, recording all activities performed

# V

# **AceSpy vis-a-vis Other Spy Software**

**S** py software is often sold as a spouse or child monitor, a surveillance tool or simply as a tool to spy on users who gain unauthorised access. Spy ware covertly gathers user information and activity without the user's knowledge. Essentially, whatever one does on the spy's computer is completely viewable by the spy.

■ Popular spy software—apart from AceSpy—include 007 Spy Software, XPCSpy Pro, SpyBuddy, and Spector

- ☑ AceSpy happens to be the most feature-rich and affordable of them all
- ☐ The functions of most spy software include being in stealth mode, logging, filtering and blocking, and sending out alerts regarding PC activity
- Most of the above software don't log e-mail client activity, while AceSpy does
- Similarly, most of the above software don't log shell events
- AceSpy also features Webcam capture, makes a movie from the screenshots gathered, alerts via SMS, and delivers logged e-mails and chats instantly
- In terms of blocking features, AceSpy can block specific applications, and can perform a scheduled locking of the PC—which the competition cannot

# 1 Col AD

# **Digital Passion | First Hand**

by the user such as e-mails sent and received, chat conversations, Web sites visited, and every keystroke typed. Activity reports can be sent to the e-mail address of the person who installs the program. AceSpy includes smart filtering technology that allows one to block activities, such as visiting some Web sites and using certain programs on the basis of keywords.

Alam says, "Many similar products have mushroomed in the market. But we continue to add new features to AceSpy and thus give value for money to customers. Testimonials from grateful parents, employers and spouses make us feel that we have done our bit for the world."

AceSpy sends e-mails and SMS alerts when the monitored people do something you don't want them to. It can take regular snapshots using a Web cam, for surveillance. AceSpy allows the customer—say, a concerned parent—to actually block an activity as it occurs. The software has won more than 20 awards from download sites including Tucows, SofoTex, WebAttack and TopShareware.



AceSpy can record IM chats and block specified content

Alam and Johns keep themselves updated with the latest laws passed regarding to spy software. Alam says, "On October 6, 2004, the US House of Representatives passed a bill, known as the 'Spy Act'. This bill simply refers to the installation of advertising or data gathering spyware without the computer owners' assent. While it's legal to install any program onto your own computer, it has always been illegal to install key loggers, spy software onto a machine without the owners' consent."

AceSpy costs \$34.97 (Rs 1,500) per license, which monitors one computer. This includes 50 free SMS credits. RXS has sold AceSpy and its other spy software to customers in over 35 countries, with 80 per cent of sales in the US itself.

# **All Part Of The Game**

Alam, at present a hostelite, has to juggle college, study, work and play. He smiles, "I have a tight schedule. I attend college from 8 to 5 during the day, and at night—from 11 to 3—I work. As a result, I end up like Spiderman—perpetually late!"

Coding is Alam's Oxygen, as he puts it. "If I don't fire up the IDE (Integrated Development Environment) every day I feel as if some part of me is missing. I love to write programs, tackle a hidden bug, and design a fast algorithm. I'm



AceSpy followed the evolutionary model of the software development life cycle; it grew up with new functionalities over time"

**Zeeshan Alam** Co-owner Retina-X Studios, USA

lucky I've been able to turn my hobby into a successful profession. I love writing spy programs and will continue to do so."

"My interests involve the Windows API (Application Programming Interface), sub-classing, hooking, multithreading, Socket programming, GUIs (Graphical User Interfaces), SQL, ADO, ADO.NET, graphics and animation programming," he adds.

Alam has been coding in VB (Visual Basic) for nearly seven years now—it's his favourite language. He's also proficient in several other languages. He informs us, "AceSpy is coded entirely in Visual Studio 97, specifically Visual Basic 6.0. Technically, AceSpy followed the evolutionary model of the software development life cycle; it grew up with new functionalities over time. The AceSpy code uses the Windows 32 API extensively."

In his words, "I wear multiple hats like any entrepreneur, sometimes killing a naughty bug, discussing money with an affiliate to handling a prospective customer." Alam tests and updates the software and releases new versions when required. He is the sole developer of all the RXS products, co-ordinating and executing the programming and providing technical support.

# **Takers For RXS**

As Johns says, "What started as a part-time hobby has now become our livelihood. Our overall annual growth is roughly 300 per cent. It feels great to see our ideas come to life as winning products."

"Apart from the income from selling RXS products, we also get commission from selling other manufacturers' software (as at www.discount-spy-software.com). Our target customers include parents who want to protect their children from sexually explicit content, spouses who can find out if their partners are having cyber affairs, and employers who can prevent confidential information from leaking out," says Alam.

# **Keeping In Tune With The Times**

Alam attributes the present turnover of RXS to the huge free traffic generated at their Web sites, courtesy search engine placements for keywords such as 'spy software', 'child monitoring', 'spouse monitoring', and so on. The duo routinely advertises on various Web sites including Hosting Bills, GetResponse Bills, Shareware Submissions, Shareware Advertising, Google Adwords, Overture, and Yahoo! Directory Listing.

"Microsoft ended mainstream support for VB6 in March 2005, so I'll soon need to upgrade the source code of AceSpy to the .NET framework. In fact, I shouldn't say 'upgrade'—I should say 'rewrite' the code, but in our field, this is a part of life and is inevitable! Besides, the algorithm will remain the same. So, AceSpy 4.0 may be in .NET anytime now," says Alam.

 $renuka\_rane@think digit.com$ 



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

# Towards Terabytes

Physics challenges the future of the hard drive industry, but manufacturers have foreseen it all. Here's an in-depth look at the technologies that will let you own a terabyte hard disk for your PC as early as next year

**Ram Mohan Rao** 

Imagine a Boeing 747 flying at 600 mph four feet above the ground, trying to count blades of grass as it flies by. That's pretty much what your hard drive's head does—be it something as simple as opening a file in Notepad, or something as disk-intensive as file indexing! The blades of grass are, of course, magnetised areas on the disk platter. And these magnetised areas (bits) are being packed more closely together by disk manufacturers. That's why we keep seeing increased capacity hard disks.

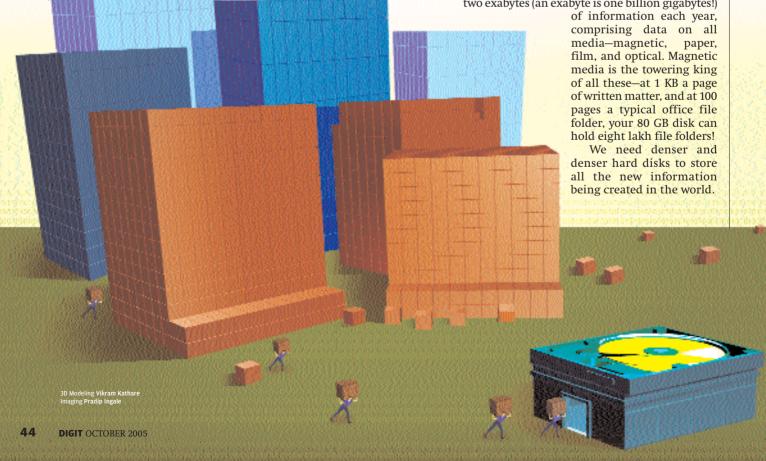
In 1973, IBM shipped the model 3340 Winchester sealed hard disk drive, the predeces-

sor of all current hard disk drives. The 3340 had two spindles, each with a capacity of 30 MB. The Winchester got its name because it was invented at IBM's Winchester, NY, laboratory. What we use today are basically Winchester disks.

The recording method that's used with hard disks today dates back to the Winchester and beyond, and is called longitudinal recording (LR). And, as it turns out, LR is running out of steam. There is a method, though-namely, using AFC (AntiFerromagnetically-coupled) media—which promises to extend its life a little, but beyond that, we're on to other methods.

# **Who Needs Higher Data Densities?**

The world does. A recent UC Berkeley study reports that the world produces between one and two exabytes (an exabyte is one billion gigabytes!)



But what about Flash memory and optical (holographic) storage and such? Will these not overtake hard drive storage at some point of time? At some point of time, yes, but not right now. Seagate claims that magnetic recording will remain the preferred form of mass storage. "With technologies (like holographic optical storage), what you've got is something that's much more expensive for the storage density you get," Seagate spokesperson John Paulsen said in 2002. "Magnetic technologies are mature, and they've been on a trajectory."

As for Flash memory, Jim Handy, director of non-volatile memory services at Semico Research writes, "Flash will be the leading choice in portable applications where a limited number of small files are used because it will offer the lowest overall system cost. Other limited-capacity applications will also gravitate towards Flash. In applications where file size or the total number of files to be stored is of more concern than total system cost, HDDs will prevail." There are further conclusions that Handy derives, but what we are to suppose is that there is still a long time before the hard disk goes the way of the floppy.

However, like we hinted at earlier, there will soon be a major shift in the way data is recorded on hard disk platters. Here, we'll be talking about AFC media, which could extend the life of LR a little while; perpendicular recording, or perpendicular magnetic recording (PMR); heat-assisted magnetic recording (HAMR, pronounced 'hammer'); and patterned media. But before all this, we need to talk a little about how a hard disk works.

# **Inside The Black Box**

Hard disks have hard platters that hold the magnetic medium, as opposed to the flexible plastic film found in floppies. That's why they're called 'hard' disks. Each hard disk may have one or several platters. A platter is typically made either of aluminium alloy or a mixture of glass and ceramic. Both sides of the platters are coated with a magnetic medium.

The head—similar in function to the head in a tape recorder or VCR—flies over the disk, a fraction of a millimetre above it. Overall, the disk is a sealed box with controller electronics attached to one side. The electronics control the read/write mechanism as well as the motor that spins the platters. The electronics also assemble the magnetic domains on the drive into bytes for reading, and turn bytes into magnetic domains for writing. These electronics are contained on a small board that can be detached from the rest of the drive.

There's an arm that holds the read/write heads. It can move the heads from the hub to the edge of the disk. The arm and its movement mechanism are extremely light, fast, and precise.

Now comes the interesting part: how are the bits stored on the magnetic medium? The magnetisation is done on clusters of magnetic grains. About a hundred grains form a cluster. In LR, the magnetisation happens in the plane of the platter. Think of the clusters as little bar



HAMR looks very promising to us. Our view is that heat-assisted technology will be needed sooner rather than later"

**Dr Mark Kryder**Director of Seagate
Research and CTO of
Seagate Technologies

magnets placed in the same plane as the platter.

According to Dr Mark Kryder, director of Seagate Research and CTO of Seagate Technologies, LR still has some time left before it is phased out altogether—it will take us beyond 100 gigabits psi. That's a very high areal density, but the world needs even higher densities. Areal density refers to how closely packed the magnetic clusters are. As areal densities increase, the superparamagnetic effect kicks in at some point.

# Superpara-Wha?

The superparamagnetic effect, like we said, kicks in when the clusters that hold the bits get too closely packed together. To increase density, apart from packing the clusters closer together, they have to be made smaller, too. This is what is happening now in the hard disk world: we're just two product generations away from reaching the limit that superparamagnetism imposes on areal densities. You're unlikely to see a 2,000 GB hard disk manufactured using LR. (AFC media, like we said, could delay the death of LR for a while.)

So what exactly is the superparamagnetic effect? Superparamagnetism occurs when the magnetic grains on the disk become so tiny that random thermal vibrations at *room temperature* cause them to lose their ability to hold their magnetic orientations. What results are 'flipped bits'—bits whose magnetic north and south poles spontaneously reverse. This, naturally, corrupts the data, rendering it and the storage device unreliable and ultimately unusable.

If the problem lies in the bits getting demagnetised, why not just use stronger magnetisation? It turns out that the fields that can be applied are limited by the magnetic materials from which the head is made, and these limits are being approached, too!

Superparamagnetism is forcing the industry to slow the historically rapid pace of growth in drive capacity-a pace that, at its peak over the past decade, doubled capacity every 12 months. The way around superparamagnetism—or rather, the way to forestall its effects—is to use AFC media and/or perpendicular recording, scientists believe. This could create opportunities for continued growth in areal densities at a rate of about 40 per cent each year.

The exact areal density at which the superparamagnetic effect occurs has been subject to a lot of debate. Scientists in the 1970s predicted that the limit would be reached when data densities reached 25 megabits per square inch (psi)! But through constant innovation, such limits have been pushed forward by orders of magnitude.

In our discussion of how the limitations imposed by the superparamagnetic effect are being tackled, first up is AFC media.

# **AFC Media**

AFC Media was designed to extend the life of LR. The idea is simple, but there are quite a few details under the hood. Regular media uses one layer of magnetic material; AFC media uses two layers, the top one thicker than the bottom one, with a three-atom-thick layer of ruthenium (a non-magnetic material) sandwiched in between. (IBM calls the ruthenium layer 'pixie dust'.) This

# Digital Passion I In Sight

The highest areal density with LR has crossed 100 gigabits psi. And researchers now believe that 120 gigabits psi will be 'too much', and that at that point, PMR will become dominant

arrangement allows for magnetic domains (or bits) to be more closely packed.

So how does it work? First off, recall that the superparamagnetic effect originates from the shrinking volume of the magnetic grains that compose the storage properties of the media. The magnetic grains represent the bits that are stored as alternating magnetic orientations. To increase densities while maintaining acceptable performance, designers have shrunk the media's grain diameters and decreased the thickness of the media. The smaller grain volume makes them increasingly susceptible to thermal fluctuations, which decreases the signal sensed by the drive's head. And if the signal reduction is great enough, data could be lost over time to the superparamagnetic effect.

Now, the precise thickness of the ruthenium in AFC media causes the magnetisation in each of the magnetic layers to be coupled in opposite, or anti-parallel, directions, which constitutes 'antiferromagnetic coupling'. ('Antiferromagnetically-coupled media' is AFC.) Refer to the diagram above.

Mrt (Top)
Mrt (Bottom)

Magnetic Transition

A Magnetic Head

CoPtCrB

Ruthenium Layer

The effective Mrt equals Mrt(Top) - Mrt(Bottom). The ruthenium layer is sandwiched between the two layers. 'CoPtCrB' is cobalt-platinum-chromium-boron. The point here is that the effective Mrt needs to be reduced if the bits are packed more closely together and if the magnetic transitions are still to be read accurately

When reading data as it flies over the rotating disk, the head senses the magnetic 'transitions' in the magnetic media. The strength of this signal is proportional to the media's 'magnetic thickness'—the product of the media's remnant magnetic moment density Mr (think of this as simply how strongly the media has been magnetised) and its physical thickness, t. As the data density increases, the magnetic thickness- $Mr \times t$ , or Mrt—must be decreased so that the closely-packed transitions will be sharp enough to be read clearly. This, in turn, is because the 'transitions' will not be recorded nearly as well if the signal amplitude is too high.

At this point it's better explained with equations. It should be obvious that if Mrt is to be reduced, you can either reduce Mr or you can reduce t. Reducing Mr is not an option because that means lower magnetisation, so t has to be

reduced. And when t (the thickness of the media) is reduced too much, as would be done traditionally, the superparamagnetic effect would come in. If it weren't for the ruthenium layer, that is.

With the ruthenium layer in place, it turns out that the effective Mrt, or Mrt(eff), is given by Mrt (eff) = Mrt (top) - Mrt (bottom). This is the killer equation: this property of AFC media permits the overall Mrt to be reduced, and its data density increased, independent of its overall physical thickness. Thus for a given areal density, the Mrt of the top magnetic layer of AFC media can be relatively large compared with single-layer media, permitting larger grain volumes—which, of course, are inherently more thermally stable.

Two additional advantages of AFC media are that it can be made using existing production equipment at little or no additional cost, and that its writing and read-back characteristics are similar to conventional longitudinal media.

Mass production of the first hard drives with AFC media began in May 2001 with Hitachi GST's 2.5-inch Travelstar 15GN and 30GN, which featured 15 GB per platter, and an areal density of 25.7 gigabits psi. And within three years, AFC media enabled the industry's first 400 GB 3.5-inch drive, the Deskstar 7K400.

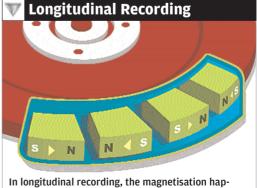
AFC media isn't the dominant way forward, however, and the immediate future lies in PMR.

# Perpendicular Magnetic Recording (PMR)

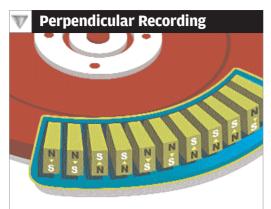
The highest areal density with LR has just recently crossed 100 gigabits psi. And researchers now believe that 120 gigabits psi will be 'too much', and that at that point, PMR will become dominant.

So what is PMR? Simple. The clusters that hold bits of data are not magnetised along the plane of the platter, but rather, 'vertically', that is, perpendicular to the plane of the platter. Think of it as high-rise buildings or skyscrapers in the place of sprawling condominiums. Or, looking at a platter held on the top of your palm, longitudinal recording creates horizontal bar magnets 'on' the platter; whereas PMR creates 'vertical' bar magnets.

Coercivity (the amount of magnetic field required to write data) is enhanced in PMR—meaning the data will be more stable against superparamagnetism. And the geometry lends



pens in the plane of the platter. Think of the bits of data as little bar magnets lying along the platter



In perpendicular recording, the magnetisation happens in the plane vertical to the platter. Think of the data bits as little bar magnets standing on end

itself to denser packing together of magnetic clusters. According to a 2005 Hitachi GST (Global Storage Technologies) report, "the geometry and coercivity advantages of PMR led scientists to believe in potential areal densities that are up to 10 times greater than the maximum possible with longitudinal recording. Given current estimates, that would suggest an areal density using perpendicular recording as great as one terabit psi—making possible, in two to three years, a 3.5-inch disk drive capable of storing a terabyte of data."

Of course, it's not all rosy, and challenges remain. As an indicator, the same Hitachi GST report goes on to say, "Even though PMR is technically akin to the current generation of longitudinal devices, a number of technical challenges remain. For example, engineers are engaged in research to invent new kinds of read/write heads; to experiment with new materials that have enhanced magnetic properties and improved surface finishes; to maintain signal-to-noise ratios as the magnetic bits and signals become smaller; and to detect and interpret the magnetic signals using ever more advanced algorithms."

IDC, a global provider of market intelligence for the IT and telecom industries, said in a recent (2005) report that PMR technology will be key to the hard drive industry, and that its adoption cannot be delayed. "The transition to PMR and to the new heads and media required for this technology will begin late in 2005 and will be broadly adopted in products by the end of 2007." IDC predicts that PMR will be ubiquitous in the 630 million hard drives that will be shipped in 2009.

And yes, it's not all in the future. As far back as November 2002, Seagate Technology announced that its scientists had broken new ground by demonstrating areal densities of over 100 gigabits psi using PMR. That's already a tenth of what is predicted as being possible. And in July 2005, Seagate announced that virtually all its hard disk production would use PMR by the end of next year. "Over the coming year, the vast majority of products shipping (from Seagate) will be using perpendicular technology," said Charles Pope, Seagate's Chief Financial Officer. This is notable because no other company has made

The transition to PMR and to the new heads and media required for this technology will begin late in 2005 and will be broadly adopted in products by the end of 2007

such bold claims about such a rapid transition of production to PMR.

Seagate's first hard disk to use platters with perpendicular recording capability will be the 2.5-inch Momentus 5400.3 with capacity of 160 GB, and will ship in the winter of 2005.

# Heat-Assisted Magnetic Recording (HAMR)

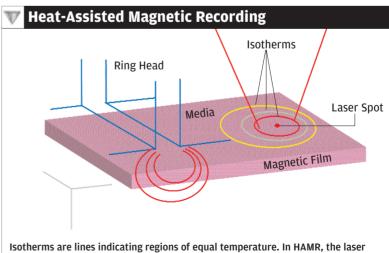
Another recording technology that has been proposed and demonstrated as a way out of the superparamagnetism problem is HAMR. HAMR promises densities of 50 terabits psi—huge compared to the 1 terabit psi that's promised by PMR! The basic idea is quite simple: use a laser to heat the spot at which the recording is to be done—the heating makes the medium easier to magnetise.

To elaborate a little, heat-assisted recording involves producing a hot spot (usually with a laser) on the media, while data is written magnetically at the same time. The net effect is that when the media is heated, the coercivity, or field, required to write on the media is reduced. This makes it possible to write on high-coercivity media, which have higher stability against superparamagnetism. This writing can be done despite the magnetic write heads having limited fields.

Explained in a different way, HAMR entails using films that hold very tightly onto the magnetic orientation of each memory cell—so tightly that a laser must heat up each cell to be able to write data. Because the materials hold magnetic charges so well, memory cells can be packed together far more tightly than with less robust, conventional materials.

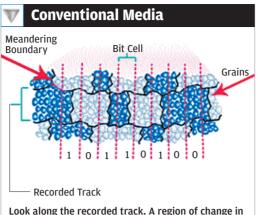
Seagate spokesperson John Paulsen said in 2002 that HAMR would be incorporated in products between 2007 and 2012. But guesses and predictions about this date vary, and it's not entirely clear when HAMR will be commercially mainstream.

Reality check: where does HAMR stand today? Seagate has already demonstrated the technology with prototype HAMR devices, but hasn't actually made a working, out-of-factory HAMR hard disk.

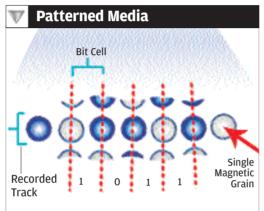


Isotherms are lines indicating regions of equal temperature. In HAMR, the laser heats up a spot on the medium, which is simultaneously magnetised by a ring head. The heating is required because higher-coercivity media is used

In patterned media, we need just about one grain-sized volume per bit. Density can therefore be increased by about two orders of magnitude



Look along the recorded track. A region of change in magnetisation of the grains indicates a 1, and a region of no change indicates a 0



Here, a single magnetic grain can hold a bit. Along the recorded track, a change in grain magnetisation means a 1, and no change means a 0

# **Patterned Media**

Patterned media is looking considerably into the future. However, we mention it because it is an important technology being looked into, and might well be the distant future of hard disks. Seagate's Mark Kryder believes PMR might take areal densities to as much as 1 terabit psi, but doesn't expect it to go any further than that. On the other hand, he points out that work is continuing on other technologies that can be ready when the industry needs them. HAMR and patterned media recording are the two most favoured alternatives.

John Best, CTO of Hitachi GST, has said that PMR "in its first two generations probably provides a fairly modest areal density increase, on the order of a factor of two or three." Bigger advances will come when PMR is linked to a new generation of so-called patterned media, Best said.

The idea of patterned media is this: like we said before, a few hundred magnetic grains are required to store a bit. Densities could increase drastically if we could find a way to store one bit per grain. This can happen only when the grains are ordered in a particular way—that's why it's called patterned media. Of course, this assumes that drive makers can find economical ways to read and write the patterns.

"I'm a bit of a patterned-media enthusiast myself, but I couldn't predict the time frame it might happen," Best said. "It might come before, after or at the same time as work in HAMR."

So here's how patterned media works: look at the figure alongside. A '0' is indicated when there is no transition in magnetisation, and a '1' is indicated when there is a transition. The boundaries between regions of opposite magnetisation must occur along the boundaries between the grains—this makes the boundaries meandering, approximating the ideal straight boundary. Remember that the straighter the boundary is, the easier it is to detect (read).

If the grains are small enough, the magnetic transitions are straight enough, so it's easy to detect which bit cells contain a boundary and which do not. However, if the density is increased (meaning the bit cells are shrunk) without shrinking the grains, the magnetic transitions become noisier, eventually preventing the head from accurately reading the data. To keep the noise associated with grain boundaries small enough for reliable data detection is why fifty to hundred grains are needed per bit cell.

Now, the solution to achieve higher densities is obvious: make smaller grains. As of now, however, grain sizes have gotten so small that further shrinkage would bring in the superparamagnetic effect. But with patterned media, each bit is stored in a single, deliberately-formed magnetic volume. This may be one grain or several coupled grains, rather than a collection of random decoupled grains. The magnetic transitions no longer meander between random grains, but form perfectly distinct boundaries between precisely located islands. This means that we need just about one grain-sized volume per bit. Density can therefore be increased by about two orders of magnitude.

# What To Look Out For

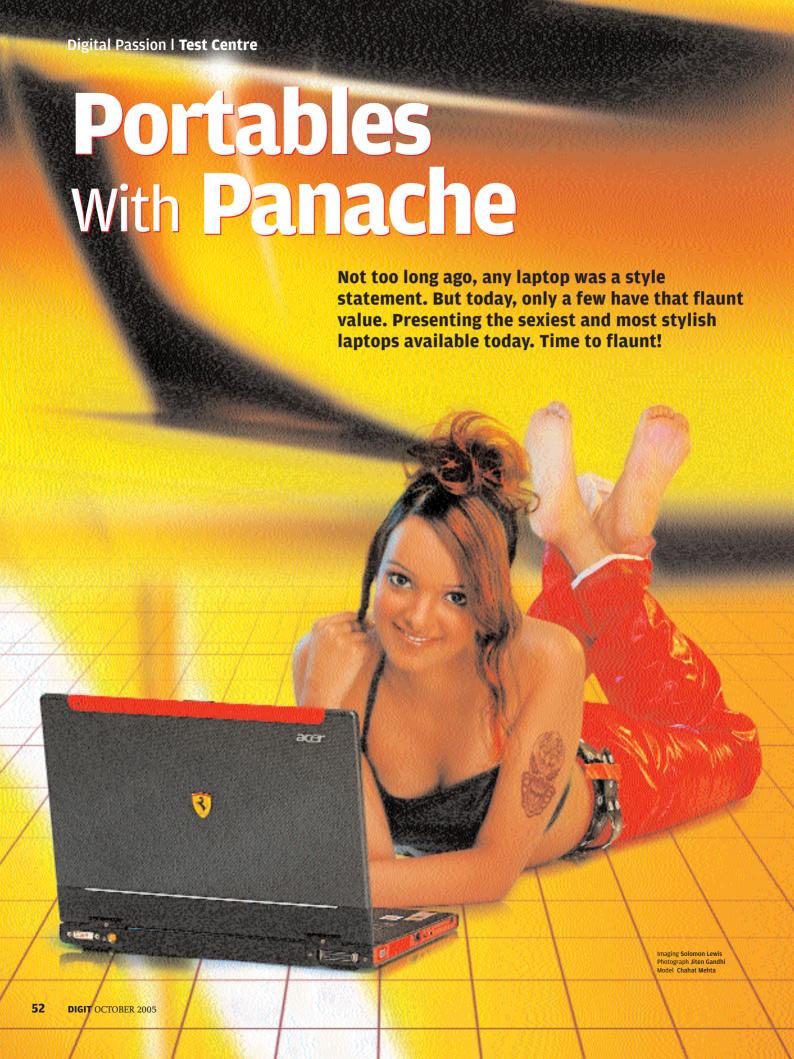
AFC media will be here for a while, and PMR will take off in a big way this year. On the whole, the picture looks perfect enough. This is one industry that has everything going for it. There's a fantastically huge market, which will only grow; so far, the roadblocks have been cleared, and research is already underway to clear the hurdles ahead. Prepare for 1,000 GB hard disk within 12 months from now—and prepare for a 2,000 GB hard disk in the year after that!

The only change that you will probably see is hard disks being used in more and more devices. Expect to see hard disks in places you haven't seen them before. Also, as hard disks become smaller and smaller and more affordable, they will come more directly in competition with the other storage media, such as Flash and MRAM.

Some aver that holographic storage is the future of storage-refer the March 2004 issue of *Digit*. It may be, but like we said earlier, practical, everyday holographic storage is still very much in the future, and the hard disk industry need not worry about it yet.

The immediate future, beginning this year, is PMR—just remember that you read about it here first! ■

ram\_mohan@thinkdigit.com



# Jayesh Limaye and Anup Nair

nly a few years ago, when laptops were a novelty, they were considered expensive toys. Anyone carrying a laptop was assumed to be either a rich geek or a corporate biggie flaunting his status or making a style statement.

Today, of course, the case is vastly different. And while laptops have become common, another genre has spawned: the lifestyle laptop. These combine top-of-the-line hardware with the most gorgeous-looking exteriors you could hope for. These are geared specially for those who enjoy showing off, like gamers and businessmen!

The deadly combination of looks and performance make these laptops objects of desire. They are something to be owned, and are not meant for those who just want a laptop for work.

Well, what constitutes a lifestyle laptop? This is hugely influenced by the brand of the laptop and also on its looks, design and build quality. And a designer name thrown in is the icing on the cake!

Nineteen laptops arrived for our comparison test. The Apple PowerBook G4 was one of them, but we didn't compare it head-on with the other laptops because the platform is different.

Fujitsu sent in four laptops, one of which was a tablet PC—which, again, had to be excluded from the comparison and reviewed separately. It would not have been fair to pit a tablet PC against regular laptops.

Samsung, too, sent in four laptops, of which one had a 17-inch monitor, which was way bigger than the rest, and so even its form factor was the largest. It, too, was reviewed separately.

The remaining sixteen laptops were divided into two categories based on form factor, and were unleashed against each other. It was a fight to the finish, with the best-looking and the most powerful facing off.

# LIFESTYLE ULTRA-PORTABLES

Ultra-portable laptops are designed to minimise size and weight, while at the same time trying to keep the features and computing power of their larger siblings. These laptops are easier to carry around and are largely aimed towards frequent travellers. It is these laptops that make a style statement.

We categorised the laptops as ultra-portables and workhorses based on their screen size and weight. The ultra-portable category comprised laptops that had a diagonal screen size below 14 inches and weighed less than two kg—in other words, small form factor laptops.

Of the 19 laptops we received, eight of them, from six manufacturers, made it to this category. These included the Acer TravelMate, Dell Latitude X1, Fujitsu LifeBook LBP7010 and LBS6240, MSI MegaBook S260 and S270, Samsung Note PC Q30, and the Sony VAIO VGN-S46GP/S.

# Features The Processor

Most laptops in this category were based on Intel Centrino technology, which means they sported The deadly combination of looks and performance make these laptops objects of desire. They are something to be owned, and are not meant for those who just want a laptop for work

Intel Pentium M processors, included Intel 855 boards, and had Intel 802.11b+g Wi-Fi, all of which are certified as low-energy consuming parts by Intel—hence the Centrino certification.

One exception was the MSI MegaBook S270, which had an AMD Sempron 3000+, and was based on the ATI Radeon Xpress 200P chipset.

# The RAM

While most of the laptops had 512 MB, the MSIs had just 256 MB. The Acer TravelMate, Dell Latitude X1, Fujitsu LBS6240 and the Sony VAIO all came equipped with DDR2 memory, while the rest came with DDR memory; this made a difference in the memory bandwidth benchmarks and in applications affected by RAM.

# The Display

Almost all these laptops featured a 12.1-inch display. The Sony VAIO and the Fujitsu LBS6240 each featured a 13.3-inch screen, and the Fujitsu LBP7010 featured the tiniest of displays at 10.6 inches. The widescreen aspect ratio was common, with the exception of Fujitsu LBS6240 whose display had a regular 4:3 aspect ratio.

In native display resolutions too, the LBS6240 lagged behind at  $1024 \times 768$ , where the others supported either  $1280 \times 768$  or  $1280 \times 800$ . It is worth noting that the Sony VAIO had the best display with very wide viewing angles.

# **Ports And Connectivity**

Four of the laptops here had three USB ports each, while the remaining four had two each. Every laptop had a FireWire port for high-speed video capture from supported devices. The serial and parallel ports are now obsolete. The Acer laptop and Fujitsu's LBS6240 had the port replicator option to add more ports.

Infrared connectivity was available only in two of the eight laptops—the Acer TravelMate 3002WTCi and Fujitsu LBS6240—whereas Bluetooth was available on the Acer TravelMate, Dell Latitude X1, MSI MegaBook S260 and S270 and the Sony VAIO.

All the laptops were WiFi-conformant with





Sony VAIO VGN-S46/GP

# **Digital Passion | Test Centre**

the b+g high-speed standard. As far as LAN is concerned, only the Acer, Dell and Fujitsu LBS6240 had Gigabit Ethernet, while the rest had the slower 10/100. A 56 Kbps modem was standard on all laptops. A PCMCIA Type II slot was available on all the machines except the Dell Latitude X1 and Samsung Q30 Plus.

# Multimedia

Needless to mention, a microphone-in and headphone-out were available on all the laptops. A D-Sub connector was also available on all except the Fujitsu LBS6240, probablydue to its larger 13.3-inch display which, along with that of the Sony VIAO, was the largest in this category. The Fujitsu LBP7010 was the only laptop with an S-Video Out and a TV-out.

Multimedia and memory card reading capability was available at least in some capacity on most of laptops.

The Dell supported only two formats: SD and CF. Acer supported SD, MS, MS Pro and MMC, whereas the Fujitsu LBP7010 supported the SD, MS, MS Pro and CF formats. Sony VAIO was the only laptop that supported the Memory Stick Duo standard.

# Other features

The Fujitsu laptops boasted the highest-capacity hard drives—80 GB. MSI's laptops had the lowest-capacity hard drives of 40 GB.

All laptops had 4200 rpm hard drives, except for the Sony VAIO, which had a faster, 5400 rpm, 60 GB hard drive.

Most of the laptops had integrated graphics solutions based on either the Intel Extreme Graphics 2 or the Intel GMA 900. Though these are OK for office work, they are just plain bad as far as even moderate gaming is concerned.

The MSI MegaBook S270 had ATi Xpress 200P integrated graphics but this was throttled down due to the lesser amount of RAM; it therefore did not do well in the gaming tests. The Sony VAIO shone here with the nVidia GeForce Go 6200 32MB PCI-Express graphics. It blazed ahead of the competition in the gaming tests.

An integrated optical drive, too, was featured in most of the laptops. The only laptops with an external drive were the Acer, Dell and Samsung's Note PC Q30 Plus.

Although the Fujitsu LBP7010 was the smallest laptop, the optical drive was integrated into the unit. While most came with a combo drive, the Samsung Q30 Plus had a DVD+RW drive, and

# **How We Tested**

Here's a description of the tests and benchmarks we used to compare the laptops.

# **Features**

Features such as the size of the LCD, the number of I/O ports, hard disk size, type of optical disk drive, etc. were noted and rated. Extra features, if present, were also noted. Weightages were assigned to the noted features according to their importance.

# **Usability**

The usability of a laptop is evaluated on the basis of how easy it is to handle in day-to-day life. Importance was given to weight and dimensions, as well as the ergonomics of the keyboard, touchpad, etc. We played music files to rate the speakers on a scale of five.

# **Package contents**

Did the vendor provide an operating system, recovery CD and driver CDs with the laptop? We also looked at the extra software provided, as well as bundled accessories—power adapter, carry case, etc.

# **Performance**

To gauge performance, we ran a battery of tests that evaluated each individual sub-system. We used all the following benchmarking suites:

**PCMark 2004 v1.30** is a system-wide benchmark that tests the complete system as well as individual components such as the processor, memory, hard drive and graphics subsystem. It returns an aggregated score as well as individual scores by running applications used in daily work such as file encryption applications, virus scanning applications and so on.

**SiSoft Sandra 2005 Professional SR2** is another system-wide benchmark suite. We used it to evaluate the performance of the CPU, memory and hard disk. The scores for the individual subsystems were noted.

**Ziff Davis Business Winstone 2004** tests the system by performing a scripted run of applications that are used on a daily basis, such as MS Word, PowerPoint, Excel, etc., as well as

applications such as Norton AntiVirus and WinZip. The overall system performance is evaluated, and a unified score is returned at the end of the run. The higher this score, the better is the system's performance.

Some of the other tests we did were:

**Video encoding:** A 100 MB VOB file was encoded using Dr. DivX 1.0.6 to convert it to AVI, and the encoding time was noted. **Gaming benchmarks:** We wanted to test both OpenGL as well as Direct3D graphics capabilities. *Call of Duty* tests the OpenGL subsystem. The game was run at 800 x 600 and at 1024 x 768, and the average fps was noted. *FarCry* was the new game we included. It is a highly scalable game and uses Direct3D API. The game was run at 640 x 480 and at 1024 x 768, and the average fps was noted. **LCD screen display tests:** DisplayMate Video Edition was used to gauge the sharpness and level shift of the LCD screens. We also used the LCD Pixel Persistence test from the PassMark Monitor Test suite; here, white moving blocks were observed for the tearing effect, and the screens rated accordingly.

**Digit Battery Meter:** In order to stress the battery to the utmost, we ran a VOB file-a DVD rip-after recharging the battery to capacity until the battery ran out. The battery time reveals whether the notebook will last a full movie-pretty real world. During this test, the screensaver as well as the power management features were disabled. Also, the volume level was maximised, the brightness was left at half, and the Wi-Fi was turned off. Wi-Fi Test: To evaluate the data throughput over Wi-Fi, we used NetCPS—a utility that pumps data to check the TCP/IP connection and returns a score that reflects the throughput. We also copied 100 MB of assorted data and noted the time taken for the transfer. **Flaunt Value:** Since this was a comparison test of 'lifestyle' laptops, we decided to include a new parameter—'Flaunt Value'. Since this is a completely subjective rating, we decided that a plebiscite was in order. We asked each voter to rate the laptops on a scale of 10 for design and looks, form factor, build quality, features and specs, package contents and brand value. An average of the ratings for each parameter was calculated and the average of all parameters for a particular laptop was recorded as its Flaunt Value.

the Sony VAIO even provided a dual-layer DVD-Writer.

Some laptops like the Fujitsu even featured fingerprint recognition. An external button to turn Wi-Fi off and on was also available in many of the laptops.

#### **Usability**

The Acer TravelMate 3002WTCi, Dell Latitude X1, Fujitsu LifeBook LBP7010 and Samsung Note PC Q30 Plus sported the sleekest form factors. The Fujitsu LBP7010 is still the winner in this aspect due to the fact that it has an integrated optical drive where the others have external drives.

The Dell Latitude and the Samsung Q30 Plus weighed the lowest at 1.14 kg each without the external drive. But when the carry weight was noted, the Fujitsu LBP7010 again weighed the lowest at 1.85 kg.

#### **Ergonomics**

The 'accessibility of ports' rating for all the laptops was almost the same because all the vendors have taken care to place the ports in an uncluttered manner.

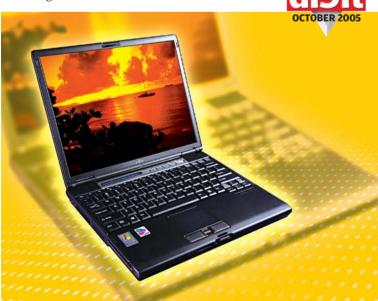
In the keyboard feel and touchpad sensitivity ratings, both Fujitsu laptops along with the Sony VAIO surged ahead of the rest, but the others were not far behind either. In overall ergonomics, the bigger laptops—namely the Fujitsu LBS6240 and the Sony VAIO—scored the highest. The smaller laptops could not score high because of the crammed keyboard and touchpad.

In the speaker quality test, too, the Fujitsu LBS6240 and Sony VAIO scored quite high.

#### **Package Contents**

Windows XP Professional SP2 came preinstalled on all the laptops except the MSI S270, which had Windows XP Home Edition with SP2. Similarly, a driver and recovery CD or DVD of some sort accompanied each laptop.

The Fujitsu laptops came with Norman Virus Control CDs, while the Sony VAIO, Acer and Samsung came with Norton AntiVirus 2005.



Acer-Travelmate 3002WTC



Fujitsu Lifebook LBS6240

DVD players such as PowerDVD and WinDVD came with almost all laptops, while Sony, MSI and Fujitsu gave additional multimedia software like PowerProducer and Adobe Premiere.

The Fujitsu and the MSI were the only laptops that came with a carry case. A couple of other accessories, such as a screen wiping cloth, were provided by Fujitsu.

The Acer, Dell and Samsung laptops also came with an extra battery pack.

#### Performance ZD-Bench Business Winstone 2004

In the ZD-Bench Business Winstone 2004 test, the Sony VAIO topped the charts with a score of 20.5, which is a healthy score for any laptop.

Close behind was the Fujitsu LBS6240 with 19.1 and the Acer TravelMate with 19. The MSI MegaBook S260 scored the lowest at 13.3.

In the video encoding test too, the scores were not too different. Sony VAIO logged the lowest time of 183 seconds, followed by Acer at 184 seconds. The Samsung Q30 Plus was last, taking a whopping 454 seconds to encode our video!

#### SiSoft Sandra 2005

In the SiSoft Sandra 2005 CPU and memory benchmarks, once again, Sony VAIO and Acer were neck-and-neck, while the MSI S270 scored the lowest.

In the filesystem benchmark, Dell's Latitude and Samsung's Q30 Plus scored the lowest. The other laptops were all on par with each other.

#### Game test

In the game test, as was expected, the Sony VAIO, with the PCI-Express GeForce 6200 Go, rocketed ahead. In *Call of Duty* at 1024 x 768, the VAIO scored 101.7 fps, where none of the other laptops could breach the 30 fps limit.

Similarly, in FarCry, the VAIO scored 57.15 fps at 1024 x 768, while the others could not even score 15 fps!





<b>Scoreboard</b>		Lifestyle Ultra-Po	rtable Laptops	
BRAND	ACER	Dell	Fujitsu	Fujitsu
Model	TravelMate 3002WTCi	Latitude X1	Lifebook LBP7010	Lifebook LBS6240
Features	24.64	17.92	21.88	23.17
Processor	Intel Pentium M 1733 MHz	Intel Pentium M 1100 MHz	Intel Pentium M 1200 MHz	Intel Pentium M 1600 MHz
Memory (Amount MB/Type/Speed MHz)	512/DDR2/533	512/DDR2/100	512/DDR/333	512/DDR2/533
Screen Size/Type (Inches)	12.1/Wide	12.1/Wide	10.6/Wide	13.3/Normal
Native Screen Resolution	1280 x 800	1280 x 768	1280 x 768	1024 x 768
USB/Parallel/FireWire	3/0/1	2/0/1	2/0/1	3/0/1
PCMCIA (Type I, II)	1/11	0	1/11	1/11
IrDA/Bluetooth/Wi-Fi/LAN	4/4/b+g/Gigabit	6/4/b+g/Gigabit	6/6/b+g/10/100	4/6/b+g/Gigabit
S-video Out/Monitor D-Sub	6/4	6/4	4/4	6/6
Types Of Cards That Can Be Read	SD/MS/MS Pro/MMC	SD, CF	SD, MS, MS Pro, CF	SD, MS, MS Pro
Hard Disk (Capacity GB/Speed RPM)	60/4200	60/4200	80/4200	80/4200
Graphics Card (Type/Memory MB)	Intel Extreme Graphics 2/128	Intel GMA 900/128	Intel Extreme Graphics 2/64	Intel GMA 900/128
Optical Drive ( Type/Swappable)	Combo/USB 2.0	Combo/USB 2.0	Combo/Removable	Combo/Removable
Miscellaneous Features	Port Replicator	None	Fingerprint Sensor, Wi-Fi	Wi-Fi On/Off Button, Fingerprint
	1 of t Replicator		On/Off Button	Recognition, Port Replicator
Usability	4.88	5.10	4.96	5.49
Dimensions (L x B x H) (cm)	30 x 23 x 2.5	28.5 x 20 x 2.5	19.5 x 25.7 x 3.5	29.5 x 23.8 x 3.2
Laptop Weight/Carry Weight (kgs)		1.14/1.9	1.5/1.85	
Accessibility Of Ports (SO5)	1.4/2.3 3.5	3.5	3.5	1.65/2.05 3.5
Mouse/Touchpad Sensitivity (SO5)		3.25	3.25	
Keyboard Touch And Feel (SO5)	3.25	3.25	3.23	3.5
•	3.25			3.75
Overall Ergonomics (SO5)	2.75	3.5	2.5	4
Inbuilt Speaker Quality Test (SO5)	3.25	2.5	3	3.25
Package Contents	1.88	2.53	4.29	4.44
Operating System	Windows XP Pro SP2	Windows XP Pro SP2	Windows XP Pro SP2	Windows XP Pro SP2
CD-Burning Software	NTI CDMaker	RecordNow	Record Now	RecordNow
Driver/Recovery CDs	4/4	4/4	4/4	4/4
AntiVirus	Norton AntiVirus 2005	None	Norman Virus Control	Norman Virus Control
Bundled Software	None	PowerDVD	PowerDVD, PowerProducer	PowerDVD, PowerProducer
Carry Case/Screen Wiping Cloth	6/6	6/6	4/4	4/4
Miscellaneous Accessories	Extra Battery Pack, FireWire Cable		Telephone cable	Port Replicator, Phone Cable
Performance	18.15	14.47	15.73	17.47
Overall System Benchmark				
ZD-Bench Business Winstone 2004	19	13.4	16.5	19.1
Video Encoding Test VOB To DivX (secs)	184	287	267	225
SiSoft Sandra 2005				
CPU Dhrystone/Whetstone	7412/2335	4693/1470	5144/1670	6832/2164
Multimedia - CPU Integer/FPU SSE	16494/18169	10442/11505	11426/12611	14870/16769
Memory Bandwidth ALU-RAM/FPU-RAM	2994/2993	2128/2131	2138/2134	2921/2938
Drive Index (MB/sec)	24	19	25	24
Sequential/Random Read (MB/sec)	27/20	21/16	28/21	27/20
Sequential/Random Write (MB/sec)	27/21	19/15	27/17	27/21
Average Access Time (ms)	12	14	12	12
Game Tests				
Call Of Duty 800 x 600/1024 x 768 (fps)	30 1/10 5	31.9/26	25.2/18.5	35.2/24.3
FarCry 640 x 480/1024 x 768 (fps)	15.2/9.89	10.69/9.28	13.35/9.39	14.67/12.15
PCMark 2004 (Build 1.3.0)	3090	2039	2157	2862
DisplayMate Average Score (SO5)	3.00	3.63	2.75	3.50
Viewing Angle - Text/Movie (Degrees)		155/145	160/140	
Image Persistance (SO5)	155/140			165/145
	2.5	3.25	2 225	1.5
Pattory Life (Minutes)	202	117 48/2.03		163
Battery Life (Minutes)		48/7113	57/1.94	48/2.1
Wireless Data Copy (secs)/Netcps Index			( 00	
Wireless Data Copy (secs)/Netcps Index Flaunt Value (out of 10)	6.53	6.89	6.89	7.14
Wireless Data Copy (secs)/Netcps Index Flaunt Value (out of 10) Price Index	6.53 4.42	6.89 4.23	3.42	7.14 3.01
Wireless Data Copy (secs)/Netcps Index Flaunt Value (out of 10)	6.53	6.89		7.14











Life Style Ultra Portable Laptop							
MSI	MSI	Samsung	Sony				
Megabook S260	MegaBook S270	Note PC Q30 Plus	VAIO VGN-S46GP/S				
21.11	22.23	16.56	23.49				
Intel Pentium M 1600 MHz	Mobile AMD Sempron 3000+	Intel Pentium M 1200 MHz	Intel Pentium M 1733 MHz				
256/DDR/333	256/DDR/200	512/DDR/333	512/DDR2/400				
12.1/Wide	12.1/Wide		13.3/Wide				
		12.1/Wide	1280 x 800				
1280 x 800	1280 x 800	1280 x 768					
3/0/1	3/0/1	2/0/1	2/0/1				
I/II	1/11	0	1/11				
6/4/b+g/10/100	6/4/b+g/10/100	6/6/b+g/10/100	6/4/b+g/10/100				
<mark>6/4</mark>	6/4	6/4	6/4				
SD, MMC, MS	SD/MMC/MS	MS, MS Pro, SD, CF	MS Standard, Duo, Pro				
40/4200	40/4200	60/4200	60/5400				
Intel GMA 900/32	ATi Radeon XPRESS 200M/64	Intel GMA 900/128	Nvidia GeForce Go 6200 PCIe/32				
Combo/Fixed	Combo/Fixed	DVD+RW/FireWire	DVD+R DL/Fixed				
	Wi-Fi On/Off button		Wi-Fi On/Off Button				
None	WI-FI OII/OII BULLOII	None	WI-FI OII/OII BULLOII				
4.93	4.64	4.62	5.30				
30.5 x 22.5 x 3	30.5x22.5x3	28.7 x 19.8 x 2.2	31 x 23 x 3				
1.8/2.2	1.9/2.45	1.14/1.9	1.94/2.44				
3.25	3.5	2.5	3.5				
3.5	3	3	3.5				
3	3	3	3.75				
3.25	3.25	3	4				
			3.25				
3	2.5	2.5	2.94				
3.09	1.95	2.84					
Windows XP Pro SP2	Windows XP Home SP2	Windows XP Pro SP2	Windows XP Pro SP2				
Power2Go	Power2Go	Nero	Click to DVD				
4/4	4/4	4	4/4				
None	None	Norton AntiVirus 2005	Norton AntiVirus 2005 with NIS 2005				
PowerDVD, PowerProducer	PowerDVD, PowerProducer	PowerDVD, EasyBox, NetworkManager	Adobe Premiere, WinDVD				
4/6	4/6	6/6	6/6				
None	None	Extra Battery	None				
15.98	14.02	12.48	22.51				
15.76	14.02	12.40					
13.3	14.7	14.3	20.5				
207	301	454	183				
6856/2226	3371/1243	4939/1665	7403/2403				
15256/16801	7565/8148	11422/12596	16481/18154				
2208/2212	2163/2030	2151/2152	2829/2830				
25	24	17	29				
			33/25				
27/21	27/20	19/15					
28/21	27/20	18/15	32/24				
12	12	14	10				
34.5/28	18.1/14.9	29/23	145.7/101.7				
12.17/10.1	18.74/13.53	10.53/8.43	81.23/57.15				
2809	2035	1404	3188				
			3.75				
3.38	3.25	2.00	165/160				
155/125	160/140	160/135					
3.25	3.5	2	2.5				
101	75	115	122				
51/1.89	49/2.16	44.5/2.13	54/1.92				
6.42	6.19	6.33	7.95				
5.70	8.00	3.16	3.76				
66,000	47,000	1,19,000	99,990				
57.21	57.03	45.99	65.95				









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#### PCMark 04

In the PCMark 04 test, too, the Sony VAIO and Acer TravelMate scored 3,188 and 3,090 respectively, and stayed way ahead of the others.

#### **DisplayMate**

DisplayMate tests the quality of the LCD display. After all the testing, we concluded that the Sony VAIO had a very good display. Not only did it pass the DisplayMate Test in style, the viewing angle was wide as well: movies were viewable even at 160 degrees without discolouration.

#### **Battery Life**

The Fujitsu LBP7010 had a battery life of three hours and 45 minutes—more than enough for any movie out there. The Acer TravelMate clocked three hours and 22 minutes. The MSI Megabook S270 came in last, with the battery lasting just an hour and 15 minutes!

#### Wi-Fi Test

The NetCPS score of the MSI S270 was the highest at 2.16, while the Fujitsu LBS6240 scored 2.1 to come in second. The MSI Megabook S260 was the last in this test with a score of 1.89. To copy the 100 MB of assorted files over a wireless network, Samsung's Q30 Plus took 44.5 seconds, which was the fastest. The Sony VAIO was the slowest, taking 54 seconds to copy the files.

#### **Flaunt Value**

'Flaunt value' is a parameter we included in the laptop comparison test this time, because the laptops we included are specifically meant for the lifestyle segment of the market.

The Sony VAIO was in a class of its own in this segment, be it for the excellent design and looks or the form factor or the great specs. It was the only laptop to feature the powerful nVidia GeForce 6200 card, which helped it ace the gaming tests with the others miles behind.

It also had the best and the largest LCD display in this segment. And unlike most laptops, it's comfortable to use for extended periods of time. But the real surprise was some of the peripherals. There was a dual-layer DVD burner incorporated into a unit as small as this! With its superior design, looks, built quality, features and specifications as well as brand value, the Sony VAIO scored the highest flaunt value rating of 7.95.

Close behind was the Fujitsu LBS6240, with a rating of 7.14. Good looks and solid build quality contributed towards the rating. Moreover, it was the most complete package, and included such features as fingerprint recognition.

The fingerprint sensor can be programmed as a scroll button for vertical scrolling using the provided software. Ergonomically, too, this laptop was good.

The fact that it also featured a 13.3-inch LCD display which, along with that of the Sony VAIO, was the largest in this category, helped it no end!

The Fujitsu LBP7010 sported the smallest form factor and also some nifty features. With features like fingerprint recognition and an integrated optical drive, coupled with its build quality and design, this was one excellent laptop.

To top it all, it had an 80 GB hard drive. The LBP7010 also featured an SD, MS, MS Pro and CF card reader, which even its larger sibling did not. The Fujitsu brand also helped when it came to the flaunt value of this laptop.

We gave the Dell Latitude X1 the same flaunt value rating as the Fujitsu LBP7010. The X1 had better build quality and seemed more rugged. It came with an extra battery pack as well.

#### Conclusion

The Fujitsu laptops were the most expensive of the lot. The LBP7010 costs Rs 1,10,000 whereas the LBS6240 costs Rs 1,25,000. The Acer costs Rs 84,999, has better features, and performs better

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#### **Fujitsu LifeBook LBT4010**

The Fujitsu LifeBook LBT4010 was not included alongside the other laptops in the main comparison test because it is not just a standard laptop: it's much more. It's a convertible notebook that transforms into a tablet PC when you rotate its swivel-hinged 12.1-inch LCD display.

It is Intel Centrino Mobile certified, and sports an Intel Pentium M 1600 MHz processor with 512 MB of DDR RAM running at 333 MHz. There's a 60 GB hard drive and a combo drive.

The WiFi is based on high-speed 802.11 b+g. There's Gigabit LAN, a 56 Kbps modem, Bluetooth and infrared. However, there are only two USB ports. Still, there's a port replicator bundled, should you feel the need for more ports. There is a FireWire IEEE 1394 port to capture high bandwidth video from sources supporting this interface, such as DVCams. Memory cards such as SD, MS

and MS Pro are also supported.

In the tests we performed, the LBT4010 scored a healthy 20.1 in the

**ZD-Bench Business** Winstone 2004 test. In the battery test, it played the movie for a good 185 minutes, which is good enough for almost any movie. Couple this with the D-Sub connector to connect a largescreen monitor, and you have here a good movie machine - though a TV-out would have been better.

The LBT4010 sports Dolby
Digital Virtual 5.1-channel stereo
speakers, which produce pseudo-surround
sound with stereo speakers.

Ergonomically, the laptop is above average, which means the keyboard and the touchpad can be used for long periods.

The LBT4010, like its predecessors, is elegantly designed, with a rich black finish. The contoured design makes it easy to hold. At 1.95 kg, this sleek gadget - which comes with a leather carry case - is light.

With an integrated optical drive, this laptop/tablet PC provides the comfort and ease of carrying of an ultra-portable with all the features of a workhorse laptop. Windows XP Tablet Edition bundled. And as with all tablet

comes bundled. And as with all tablet PCs, a light pen is also bundled. Driver CDs, recovery CDs and other OEM software are bundled as well.

The Fujitsu LifeBook LBT4010 is priced at Rs 1,30,000 - just right!

than the Fujitsu LBS6240, whereas the latter scored higher in usability, package contents and flaunt value. It was a close call, and the margin was too slim to declare either of these a winner. A tie was called for, and the *Digit* 'Best Buy Silver' was awarded jointly to the Acer TravelMate 3002WTCi and the Fujitsu Lifebook LBS6240.

The Sony VAIO VGN-S46GP/S costs Rs 99,990, which is moderate for a lifestyle laptop with the kind of features it includes. It scored well in almost every segment, and even has the highest flaunt value rating. It wins the *Digit* 'Best Buy Gold' by a big margin.

#### LIFESTYLE WORKHORSES

'Workhorse' laptops are designed to be desktop replacements, so weight and size generally aren't considered that important. But we were comparing lifestyle laptops here—the ones we tested even in this category certainly did not resemble briefcases! They were also rich on features and looks, but, of course, were a little less portable than those in the previous category. These laptops are the kind that corporate bigwigs such as CEOs, chairmen, and so on would use, and these will, generally speaking, adorn the living rooms of the rich and famous.

As we said earlier, the laptops were categorised as ultra-portables and workhorses based on screen size and weight. The workhorse category comprised laptops that had a diagonal screen size of more than 14 inches and weighed over two kg, and which therefore had a larger form factor.

Eight laptops from six brands emerged in this category. These included the Acer Ferrari 4002, the Fujitsu LifeBook LBN3510, the IBM ThinkPad T43, the MSI MegaBooks M520 and M630, and the Samsung R50 and X20.

#### **Features**

#### **The Processor**

Most of the laptops here were based on Intel processors and motherboards, with the exception of the Acer Ferrari 4002, which featured the AMD Turion 64 ML-30 processor—and the MSI MegaBook M630, which had an AMD Sempron 2800+. The MSI Megabook M520 had a Pentium M 1600 MHz processor. The rest featured Intel Pentium M 1733 MHz processors.

#### The RAM

The MSI Megabook M630 and the IBM T43 had 256 MB, and the rest were equipped with 512 MB of memory. The Fujitsu LBN3510, IBM T43, LG LW60 Express and both the Samsung laptops had DDR2 memory. The rest featured DDR memory.

#### The Display

Five of the eight laptops featured a 15.4-inch display. The MSI MegaBook M520 and the Samsung X20 each featured a 15-inch display. The IBM T43 featured the smallest of the displays at 14.1-inches.

The IBM T43, the MSI MegaBook M520 and the Samsung X20 featured an LCD display with a normal aspect ratio and a native screen resolution of  $1024 \times 768$ , whereas the other laptops featured

wide screens and a native resolution of 1280 x 800. Like the Sony VAIO in the previous category, the Fujitsu LBN3510 had the best display in this category, with very large viewing angles.

#### **Ports And Connectivity**

Four of the laptops had four USB ports each. The IBM T43 had only two. All the laptops had a FireWire port for high-speed video capture from supported hardware. Though serial ports were not available on any of these laptops, a parallel port was provided in the IBM T43 and the LG LW60. Only the Acer Ferrari, IBM T43 and LG LW60 had infrared. The Acer Ferrari, IBM T43 and S270 and the Samsung laptops had Bluetooth.

All the laptops were Wi-Fi conformant with the b+g high-speed standard, except for the MSI Megabook M630 and the Acer Ferrari 4002, which had the slower WiFi 802.11g. The Acer, IBM and Samsung X20 had Gigabit Ethernet, whereas the rest had 10/100. All the laptops had 56 Kbps modems.



Acer Ferrari 4002

**BEST BUY** 

#### Multimedia

Every laptop had a microphone-in and headphone-out. D-Sub and S-Video out was also featured on all the laptops. The Samsung laptops, the Fujitsu LBN3510 and the MSI Megabook M520 even had a standalone DVD/Audio CD player—you can activate the player before you boot into the OS!

Multimedia and memory card reading capability was featured on all the laptops except for the IBM T43 and the MSI Megabook M630. The Samsung R50 and the Acer Ferrari supported most types of memory cards—SD, MMC, MS, MS Pro and XD.

#### Other features

The Fujitsu LBN3510 came with the highest capacity hard drive—100 GB—followed by the Acer Ferrari with an 80 GB. The IBM and the MSI Megabook M630 only had 40 GB hard disks.

The MSI, LG and Fujitsu had slower 4200 rpm hard drives, while the rest were at 5400 rpm.

#### **Digital Passion | Test Centre**

The Acer Ferrari had the best graphics solution in the form of a PCI-Express ATi Radeon X700. The Samsung X20 had an ATi Mobility Radeon X600, which was the second-best solution. The above two led the pack in the gaming benchmark scores. The other laptops had graphics solutions such as the ATi X300 and Intel integrated graphics.

The Acer Ferrari came with a slot-loading multi-format DVD burner. The Fujitsu and the LG, too, had multi-format DVD-Writers. The MSI laptops were equipped with DVD-RW drives. The IBM and Samsung laptops came with only combo drives. The Acer Ferrari had a port replicator, which can be used to add ports. It also had a DVI connector to connect an external digital display such as an LCD.

The IBM had a night lamp feature, which illuminates the keyboard so you can work at night with the lights off! Scroll scope on the touchpad was another noteworthy feature found on a few of the laptops—the LG, MSI and Samsung.

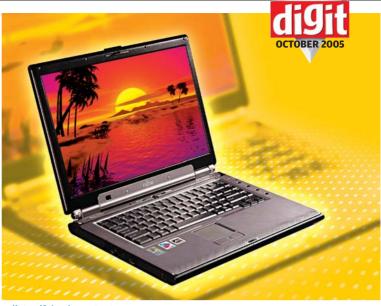
#### **Usability**

The IBM T43 had the smallest form factor, which was expected since it was the laptop with the smallest LCD.

But the Samsung X20 weighed less at 3 kg despite having a larger form factor. The Fujitsu LBN3510 was the heaviest at 3.85 kg.

#### **Ergonomics**

The Acer Ferrari scored the highest in terms of accessibility of ports, followed closely by the IBM: their ports were nicely spread around the periphery and were easily accessible. In the keyboard feel and touchpad sensitivity ratings, none could match the IBM T43, which goes to prove that the reputation IBM has for its excellent keyboards and touchpad is justified.



Fujistu Lifebook LBN3510

The Acer Ferrari could only come a close second. Ergonomically too, the IBM was a real pleasure to work with. The Acer and Fujitsu tied for second place in the ergonomics department.

The speakers on the Acer Ferrari and the Fujitsu LBN3510 were the best. Samsung's X20 sounded OK and got the next-best rating.

#### **Package contents**

The Fujitsu LBN3510, LG LW60 Express and MSI Megabook M630 came with Windows XP Home Edition SP2 preinstalled, whereas the rest came with Windows XP Professional SP2 preinstalled. A driver and recovery CD or DVD of some sort accompanied each laptop.

All the laptops came with some sort of CD-

#### $\mathbb{V}$

#### Samsung Note PC M40 Plus

The Samsung Note PC M40 Plus was the only laptop we received this time round that had a large 17-inch 16:10 wide-screen LCD display that supported a resolution of 1440 x 900.

This Intel Centrino Mobile technology-based laptop has an 1800 MHz Intel Pentium M processor with 512 MB of DDR RAM at 333 MHz. It has an 80 GB 5400 rpm hard drive. There's a DVD multi-format drive that can read and write all DVD formats.

including DVD-RAM.

The M40 Plus has three USB ports, a FireWire port and a slot for a PCMCIA II card. Memory card support is limited to Memory Stick. 10/100 LAN as well as a 56 Kbps modem are featured. Sadly, this laptop lacks both infrared and Bluetooth.

The ATi Mobility Radeon
9700 with 64 MB of
VRAM provides a
decent gaming
experience. In the game
tests at 1024 x 768, the laptop
logged 82.2 and 47.24 in <Call of
Duty> and <FarCry> respectively.
The speakers are decent as laptop speakers

go. There is a D-Sub connector as well as S-Video out - just in case you feel the urge to go beyond 17-inch.

In the Business Winstone 2004 benchmark, the M40 Plus scored 19.3, which means it'll run Office applications well. PowerPoint presentations will run fast, and so will MS Access. The PCMark 04 score of 3504 can also be termed above average.

Build quality is just about average, but the silveraluminium look brings out the lifestyle value of this laptop. And despite the large display and form factor, the M40 Plus is surprisingly lightweight at 2.99 kg.

Ergonomically, the laptop is comfortable to work with, though the touchpad and keyboard are not the best of the lot. It aced the DisplayMate test, which returns the overall quality of the display.

Samsung has provided an innovative, large four-way button that is used in conjunction with the keys for hotkey access. This feature is fun to work with.

The M40 Plus comes with Windows XP Professional SP2 pre-installed. The other bundled software are PowerDVD, Nero and Ulead.

Rs 1,29,990 is a bit high for the M40 Plus considering the lack of several features which, we think, could have easily been accommodated.

Writing software, except for the LG LW60. The Fujitsu came with Norman Virus Control CD, whereas the others came with Norton Antivirus 2005, except for the MSI laptops—which came with no AntiVirus software at all. DVD players such as PowerDVD and WinDVD came with almost every laptop, while some such as the MSI laptops even had a bundled game DVD.

The Acer, Fujitsu and MSI were the only ones that came with a leather carry case. A screen wiping cloth was provided with the Acer and Fujitsu.

A Bluetooth mouse was bundled with the Acer Ferrari. A remote was bundled with the Fujitsu and MSI Megabook M630 for standalone DVD/Audio CD functionality.

#### **Performance**

#### **ZD-Bench Business Winstone 2004**

The Acer Ferrari stood first in ZD-Bench Business Winstone 2004, with a score of 21.5. The Fujitsu LBN3210 and the Samsung X20 were close behind with 20.9 and 20.2 respectively. The lowest score was 14.2, by the MSI Megabook M630, possibly due to its (weaker) Sempron processor. This laptop was the slowest in the video encoding test as well, where it took 214 seconds to encode the video. There was a tie for first place in the video encoding test, with the Fujitsu, LG and both Samsung notebooks completing the encoding task in 186 seconds.

#### SiSoft Sandra 2005

In the SiSoft Sandra 2005 CPU benchmarks, the IBM T43 scored the highest. The Fujitsu, LG and the Samsung laptops scored more or less the same. In the memory benchmarks, the Samsung R50 scored the highest, while the MSI Megabook M630 scored the lowest, possibly due to its lower amount of (slower) memory. None came even close to the file system benchmark scores of the IBM T43, which scored a drive index of 33 MB/s. The Acer Ferrari scored the next best drive index of 30 MB/s.

#### **Game Test**

In the game test, as was expected, the Acer Ferrari with the PCI-Express ATi Radeon X700 zoomed past the others, scoring 154 fps in *Call of Duty* and 84.88 in *FarCry*. The Samsung R50 with the PCI-Express ATi X300 and the Samsung X20 with the ATi Radeon 9600 also scored well in the gaming tests. The MSI Megabook M630, with the SiS 330 Mirage graphics chip, failed the *Call of Duty* test because it couldn't meet the minimum hardware requirements of the game.

#### PCMark 04

The Samsung X20 scored 3,551 PCMarks which was the highest, followed by 3,524 by the Fujitsu LBN3510. For an unknown reason, the LG LW60 kept crashing in PCMark 04. We even reinstalled the OS to see if this could be gotten around, but PCMark still crashed.

#### DisplayMate

There was no clear winner in the DisplayMate test. But in the viewing angle test, the Fujitsu was the clear winner: the text viewing angle was 170 degrees, and the movie viewing angle 160 degrees.

#### **Battery life**

The Samsung R50's battery lasted the longest—179 minutes. Not far behind were the Acer Ferrari and the LG LW60 Express, with battery lives of 175 minutes each. The MSI Megabook M630 couldn't go beyond 122 minutes.

#### Wi-Fi test

With a NetCPS score of 2.12, the Fujitsu LBN3510 was the highest scorer in this test. The Acer Ferrari, with 802.11g, scored just 1.26 and was justifiably placed last. In the file copying test, the MSI M630 which featured 802.11g was the slowest, taking 123 seconds to copy our data. The Samsung R50, LG LW60 and the MSI M520 took 45 seconds and stood first.

#### Flaunt value

The Acer Ferrari stood apart from the rest of the laptops. It was different in many ways—all the necessary features were there, such as Bluetooth and infrared, and it could read every type of memory card. Its ATi X700 PCI-Express card put it ahead in the gaming tests. It has a unique, rich chequered design, and the Ferrari logo on the outside as well as on the





Scoreboard	<b>*</b>	Lifestyle Workhorse	Laptops	
BRAND	Acer	Fujitsu	IBM	LG
Model	Ferrari 4002	Lifebook LBN3510	ThinkPad T43	LW60 Express
Features	28.58	26.01	23.63	27.09
Processor	AMD Turion 64 ML-30	Intel Pentium M 1733 MHz	Intel Pentium M 1733 MHz	Intel Pentium M 1733 MHz
Memory (Amount MB/Type/Speed MHz)	512/DDR/333	512/DDR2/400	256/DDR2/533	512/DDR2/533
Screen Size/Type (Inches)	15.4/Wide	15.4/Wide	14.1/Normal	15.4/Wide
Native Screen Resolution	1280 x 800	1280 x 800	1024 x 768	1280 x 800
USB/Parallel/FireWire	4/0/1	4/0/1	2/1/0	4/1/1
PCMCIA (Type I, II)	1/11	1/11	1/11	1/11
IrDA/Bluetooth/WiFi/LAN	4/4/g/Gigabit	6/6/b+g/10/100	4/4/b+g/Gigabit	4/N/B+G/10/100
S-video out/Monitor D-Sub	4/4	4/4	4/4	4/4
Types Of Cards That Can Be Read	SD, MMC, MS, MS Pro, XD	MS, MS Pro, SD	None	SD/MMC/MS/MS Pro
Hard Disk (Capacity GB/Speed rpm)	80/5400	100/4200	40/5400	60/4200
Graphics Card (Type/Memory MB)	PCIe ATi Radeon X700/128	PCIe Radeon X300/64 MB	Intel Express Graphics 2/128	Intel GMA 900/128
Optical Drive (Type/Swappable)	DVD-RAM/Fixed	DVD-RAM/Fixed	Combo/Swappable	DVD-RAM/FixedN
Miscellaneous Features	Port Replicator, DVI Connector	Wi-Fi On/Off Button, Volume Control,		DVD And Music CD player, Scroll
Miscerialicous i catal es	For t Replicator, DVI Connector	Standalone DVD/Audio CD player	Recognition, Dual-pointer Option	Scope Touchpad, Numeric Keypad
Usability	6.15	5.51	5.95	<b>5.59</b>
Dimensions (L x B x H) (cm)	35.7 x 26.4 x 3.8	35.7 x 26.7 x 4.1	32 x 26.5 x 3	35.5 x 26 x 3.5
Laptop Weight/Carry Weight (kgs)	2.9/3.4	3.4/3.85	2.8/3.3	2.6/3.05
Accessibility Of Ports (SO5)	-	3	3.5	•
Mouse Touchpad Sensitivity (SO5)	3.75	3.5	4	3.5
Keyboard Touch And Feel (SO5)	3.75	3.25	4	3.5
•	4		4	3.25
Overall Ergonomics (SO5) Inbuilt Speaker Quality (SO5)	3.75	<b>3.75 4.25</b>	3.25	3.25
	4.25			3.25
Package Contents	3.96	4.21	1.80	2.73
Operating System	Windows XP Pro SP2	Windows XP Home SP2	Windows XP Pro SP2	Windows XP Home SP2
CD-Burning Software	NTI CD/DVD Maker	Record Now	IBM RecordNow, DLA	Nero
Driver/Recovery CDs	4/4	4/4	4/4	4/4
AntiVirus	Norton AntiVirus 2005	Norman Virus Control	Norton AntiVirus 2005	Norton AntiVirus 2005
Bundled Software	PowerDVD, NTI BackNOW!	PowerDVD, Power Producer	IBM Access	PowerDVD
Carry Case/Screen Wiping Cloth	4/4	4/4	6/6	6/6
Miscellaneous Accessories	Bluetooth Wireless Optical Mouse		None	None
Performance	21.89	23.40	19.16	14.90
Overall System benchmark				
ZD-Bench Business Winstone 2004	21.5	20.9	15.1	18.9
Video Encoding Test VOB To DivX (secs)	199	186	188	186
SiSoft Sandra 2005				
CPU Dhrystone/Whetstone	6753/2524	7401/2403	7421/2320	7406/2333
Multimedia - CPU Integer/FPU SSE	15172/16408	16478/18150	16520/18197	16478/18154
Memory Bandwidth ALU-RAM/FPU-RAM	2160/2163	2823/2828	2839/2838	2942/2948
Drive Index (MB/sec)	30	26	33	23
Sequential/Random Read (MB/sec)	33/25	30/22	37/26	26/20
Sequential/Random Write (MB/sec)	32/24	28/17	37/25	26/20
Average Access Time (ms)	9	11	11	12
Game Tests				
Call of Duty 800 x 600/1024 x 768 (fps)	176.6/154	129.3/95.8	36.6/27.9	47.8/38.5
FarCry 640 x 480/1024 x 768 (fps)	85.29/84.88	100.29/60.12	14.18/11.46	16.64/14.85
PCMark 2004 (Build 1.3.0)	3156	3524	3041	Failed
DisplayMate Average Score (SO5)	3.50	3.63	3.50	3.38
Viewing Angle - Text/Movie (Degrees)	170/150	170/160	160/140	160/140
Image Persistance (SO5)	2.5	3.25	3	3
Battery Life (minutes)	175	161	162	175
Wireless Data Copy (secs)/Netcps Index		47/2.12	46/2.06	45/2.02
Flaunt Value (out of 10)	8.19	6.89	7.61	5.89
Price Index	3.51	3.05	3.33	2.70
Price (Rs)	99,999	1,15,000	1,05,560	1,30,000
Total Score (out of 100)	72.29	69.07	61.48	58.91
	16,67			50.71









		Lifestyle Workhors	e Laptops	
	MSI	MSI	Samsung	Samsung
	Megabook M520	Megabook M630	Note PC R50	Note PC X20 Ext
	21.70	22.19	25.36	24.47
	Intel Pentium M 1600 MHz	AMD Mobile Sempron 2800+	Intel Pentium M 1733 MHz	Intel Pentium M 1733 MHz
		•		512/DDR2/533
	512/DDR/333	256/DDR/333	512/DDR2/533	•
		15.4/Wide	15.4/Wide	15/Normal
	1024 x 768	1280 x 800	1280 x 800	1024 x 768
	3/0/1	4/0/0	4/0/1	3/0/1
l	I/II	1/11	1/11	1/11
(	6/6/b+g/10/100	6/6/g/10/100	6/4/b+g/10/100	6/4/b+g/Gigabit
4	4/4	4/4	4/4	4/4
ı	MS, SD, MMC	6	SD/MMC/MS/MS Pro/XD	SD/MMC/MS/MS Pro
(	60/4200	40/4200	60/5400	60/5400
I	Intel GMA 900/128	SiS 330 Mirage/32	PCIe ATi Radeon X300/128	ATi Mobility Radeon X600/64
	DVD-RW/Fixed	DVD-RW/Fixed	Combo/Fixed	Combo/Fixed
	Touchpad With Scroll Scope		Touchpad With Scroll Scope, Standalone	Standalone DVD/Audio CD player
	Table to the secope	•	DVD/Audio CD Player	,
ı	5.39	5.39	5.21	5.44
	33.5 x 27.5 x 3.5	35.5 x 25.5 x 3.5	35.5 x 26.5 x 4	33 x 27.5 x 3.5
				2.4/3
	2.8/3.35	2.6/3.1	2.9/3.5	3.25
	3.5	3.25	3.25	
	3.5	3	3	3
	3.25	3	3.25	3
	3.25	3.25	3.25	3.25
	3	3.5	3.25	3.5
3	3.14	3.19	2.66	2.66
\	Windows XP Pro SP2	Windows XP Home SP2	Windows XP Pro SP2	Windows XP Pro SP2
(	Cyberlink Power2Go	Power2Go	Nero 6	Nero 6
4	4/4	4/4	4	4
	6	6	Norton AntiVirus 2005	Norton AntiVirus 2005
	Cyberlink Suite, Collin McRae Rally 2005	Cyberlink Suite, Collin McRae Rally 2005	PowerDVD, Ulead software	PowerDVD, Ulead software
	4/6	4/6	6/6	6/6
	None	Remote Control, Phone Cable	None	Phone Cable
	17.53	14.96	23.98	23.36
	17.33	14.70	23.76	23.30
	10.1	14.2	10.7	20.2
	18.1	14.2	19.6	186
	206	214	186	100
				7400/2222
	6806/2193	6737/2530	7403/2373	7408/2333
	15239/16808	15165/16442	16474/18147	16049/18161
	2296/2298	1981/1979	3049/3057	2993/3002
	22	25	28	27
	25/19	27/21	31/24	30/23
- Z	24/19	27/21	30/23	28/22
		11	10	10
:	39.5/31.7	Failed/Failed	125.8/92.1	110.7/80.7
	14.67/12.38	10.84/5.47	101.54/58.95	98.5/53.72
	2790	2339	3478	3551
	3.25	3.00	3.63	3.13
	155/140	160/145	155/145	165/150
				3
	3	3	3	162
	154	122	179	
	45/2.09	123/1.39	45/2.05	48/2.06
	5.78	5.81	5.92	6.14
	6.06	8.00	4.39	5.25
	58,000	43,900	79,990	66,900
Į.	59.60	59.53	67.51	67.31









#### $\mathbb{V}$

#### **Apple PowerBook G4**

With the PowerBook G4, Apple seems to have put a lot of effort into getting things just right. They have here come up with the successor to the Titanium PowerBook, again implementing a G4 processor, but the 1.5 GHz has been pumped up to 1.67 GHz, and the titanium has been replaced by aluminium—and that's why it's been nicked the AlBook.

The AlBook comes in three flavours—the 12-inch, the 17-inch, and the one we had a look at—the 15-inch.

All new PowerBooks come with a standard 512 MB of memory, fast graphics, integrated Airport 802.11g, Bluetooth 2.0 wireless networking, and two new Apple technologies—the scrolling TrackPad and the Sudden Motion Sensor (SMS).

The SMS senses change in axis position and accelerated movement. In the event of a drop or fall, the SMS instantly parks the hard drive heads so they won't scratch the disks on impact, lessening the risk of damage and improving your chances of retrieving valuable data. When the SMS senses the PowerBook is once again been

levelled, it automatically unlocks hard drive heads.

The TrackPad can sense dual-touch and switch to the scroll feature instantly upon dual-touch, and it works with almost all application windows. The other interesting aspect about this Apple is the OS: Tiger, the latest Mac OS, looks very stable, and is laden with such features as the 'DashBoard', and most importantly, the 'Spotlight'—a real-time indexing engine finds anything on your hard disk as-you-type!

Graphics on the AlBook 15-inch is powered by the ATi Radeon 9700 64 MB (AGP) GPU. The LCD screen is 15.2 inches diagonally, and the picture is clear. The hard disk is 80 GB, and the processor is a 1.67 GHz PowerPC G4.

Also notable is the ambient light-sensor

device that turns on the backlit keyboard and reduces the intensity of the LCD screen in dim light.

It is also the only laptop out there that has both FireWire 400 and 800. The other ports are

Gigabit Ethernet, S-Video out and DVI. This one also flaunts a slot-loadable SuperDrive (DVD-R/CD-RW).

Open or closed, the chassis is commendably rigid for such a thin structure. The AlBook has all its ports on the sides rather than on the back.

There are also no easy-to-break doors hiding the ports!

There's one issue, though: battery life. We tested it by playing a DVD video, and the time recorded was a little less than two hours. Note that this is the worst-case scenario; under normal operation, you can add a 40 to 60 minutes to that.

More than just a pleasant change in a Windows world, this is a unique experience: a world of innovation and perfection at a reasonable price—Rs 1,37,500.

inside. It even came bundled with a Bluetooth mouse that also had the Ferrari logo!

For its designer looks, good build quality, specifications and features, and the Ferrari insignia associated with it, we gave the Acer Ferrari 4002 the highest flaunt rating of 8.19.

Next was the IBM ThinkPad T43 which, with its rough-and-tough looks and a slightly boxy design, seemed more like a business laptop. IBM has incorporated innovative features into its laptops, such as motion sensors that park the hard drive head when they detect that the laptop is falling. Then there were some other important features such as fingerprint recognition and the dual pointer option.

Thanks to its rugged build quality, good design and the brand name, the IBM T43 came in second in the flaunt value department with a score of 7.61. The Fujitsu laptop, had a nice finish, and had some useful features such as fingerprint recognition. It was comfortable to work on, and its 15.4-inch widescreen LCD display was above average. Though it was the heaviest of the lot, we rated it third.

Fourth up was the Samsung Note PC X20, which, too, had the standalone DVD/Audio CD player feature. It had some cool features such as Samsung's DNIe and DNSe for image and sound enhancement. The ATI Radeon 9600 card is good for graphics-intensive applications.

#### **Conclusion**

Priced at Rs 1,15,000, the Fujitsu LifeBook LBN3510's pricing almost worked against it. But it still managed to grab the *Digit* 'Best Buy Silver' award, due to its good performance, features and impressive package contents.

The *Digit* 'Best Buy Gold' winner here was the Acer Ferrari 4002, with its designer looks, good overall features, performance and specifications, as well as a great flaunt value.

#### **A Final Word**

In this comparison test, we've seen some laptops that can be considered niche. The Acer Ferrari looks simply great, and the Ferrari logo creates an aura of sorts around this laptop.

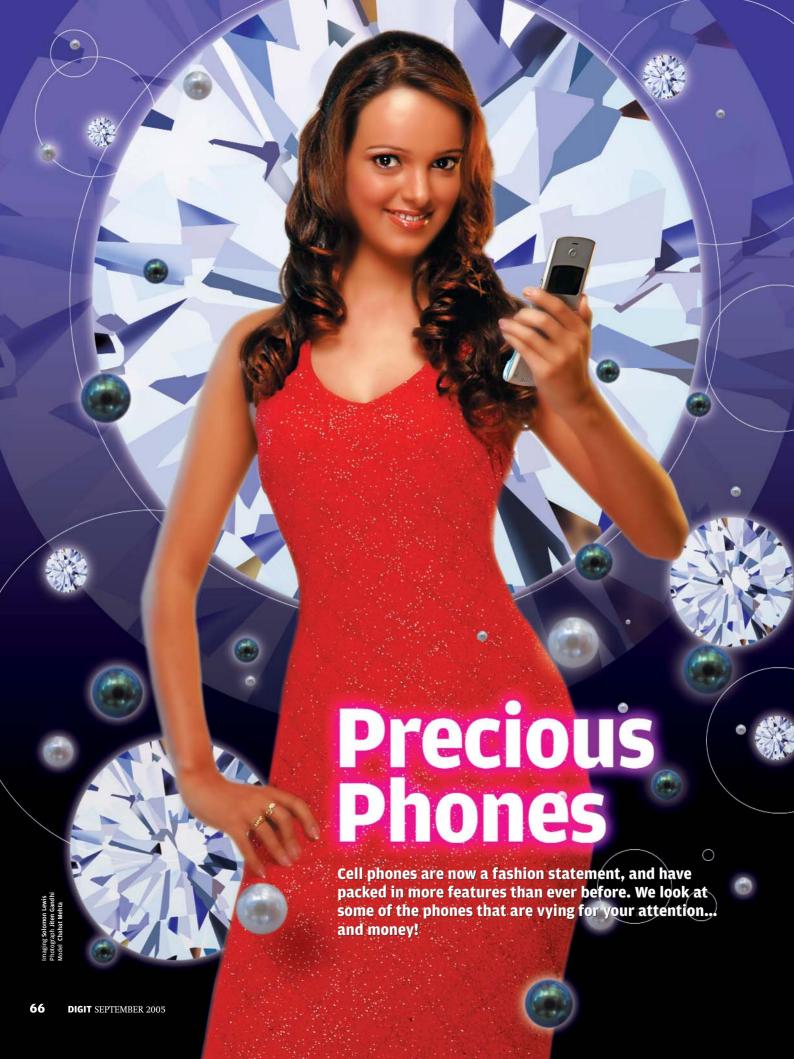
Similarly, the Sony VAIO, too, had looks and features that could blow anyone away. The 'VAIO' name itself has a certain magic to it.

The Apple PowerBook G4 was in a league of its own. It is the ultimate in style, and is a laptop with an attitude. If you are searching for a laptop to brag about without a platform in mind, your search ends here. This is *the* laptop for you—period!

If you're out to make a point and re-affirm to the world that you're no mere mortal, go get one of these!

jayesh\_limaye@thinkdigit.com anup\_nair@thinkdigit.com

W Co	Contact Sheet Life Style Laptops						
Brand	Company	Telephone	E-mail	Web site			
Acer	Acer India (Pvt) Ltd.	080-25219520	lailenquiries@acer.co.in	www.acer.co.in			
Apple	Apple Computer International	1600-425-4683	indiainfo@asia.apple.com	www.apple.co.in			
Dell	Dell Computer India Pvt Ltd	080-25068186	anil_srinivas@dell.com	www.dell.co.in			
Fujitsu	Fujisan Technologies Pvt Ltd	022-56368718	sales@fujisan.co.in	www.fujitsu.co.in			
IBM	Lenovo India Pvt Ltd	080-22063000	pavinoel@in.lenovo.com	www.lenovo.com			
LG	LG Electronics Ltd	0120-2560900	rajeevsaxena@lgezbuy.com	www.lgezbuy.com			
MSI	Micro-Star International Co Ltd	011-51758808	info@msi-india.com	www.msi-india.com			
Samsung	Samsung India Electronics Ltd	011-51511234	raman.singh@samsung.com	www.samsungindia.com			
Sony	Sony India Pvt Ltd	011-55006600	mktginfo@ap.sony.com	www.sonyindia.co.in			





#### **O2 Xphone II**

2's Xphone II runs on Microsoft's Windows Mobile 2003 unlike others which run the Symbian OS, and this second iteration has been tweaked more than just a bit!

With executive styling, this candy bar style phone sure looks polished. Clever use of black and grey gives it a pleasant aesthetic appeal. The solid construction

and feel that O2 products are known for is evident.

The front facia is occupied by the large 2.2-inch TFT display. The screen, though, is no match for Samsung's or Nokia's high-end phones. This 65K colour screen is capable of displaying 176 x 220 pixels, which is sufficient.

The stub-like joystick is slick and complements the rest of the keys. However, we did find the soft menu buttons too small. The stepped key pad—though cramped—does not hamper operation.

On the back panel is the small VGA-class camera, which seems a little lost in the race, when competitors have megapixel offerings and the

quality of photos is reasonably good.

Powering the Xphone II is Texas Instrument's OMAP 200 MHz processor that makes Windows zoom on this device. The phone comes with 32 MB ROM and 64 MB Flash memory. To further boost memory capability, a mini-SD slot is provided—not hot swappable, though. Despite such speedy hardware the phone does take nearly a minute to boot up.

On the software front, Windows Mobile 2003 for smart phones is rich with applications. The best part of having Windows is the ease of synchronisation with desktop applications such as Outlook.

SMS, MMS and e-mail, along with Internet Explorer keeps you connected. Messaging is a bit tardy and should have been just a click away, instead of three.

For short range communication Bluetooth and Infrared is available along with a USB sync port. The threeday battery life is reasonably good considering the big screen.

Priced around Rs 16,500, the O2 Xphone II is the phone for professionals—if they can break away from Nokia and Sony Ericsson (SE), that is!

#### Samsung SGH-E730

astering the art of designing great clamshell phones, and taking another step forward is the SGH-E730 cell phone.

Measuring 87 x 44 x 23 and weighing just 88 gm, the E730 sets new benchmark for compactness in the clamshell design—it's Compact.

Aesthetically, the E730 looks much better than the E700. The new piano-black finish comes straight off its expensive sibling, the SGH-D500. A dark grey variant is also available.

The E730 incorporates an OLED external display. This 65K colour OLED is sharp and can be set to display a good picture or just tell the time with a classy analogue watch.

Just below the small display are three hot keys for the MP3 player and FM radio. While above the screen is the 1.3 MP camera and a tiny flash.

Flip open the phone and a razor sharp 262K colour screen hits you in the eye. Like all Samsung screens, the display on the E730 is vibrant. The silver keypad has decent size buttons and are easy on the fingers. With nice tactile feedback, they are a boon for

SMS junkies. The flap does seem a little fragile, though...

The E730 also has the same camera as the one on the SGH-D500, and borrows both, the good and bad from it. Video recording is ok, but can't replace your handycam!

The SGH-E730 also has a good Media player capable of playing MP3s and AAC files at decent volumes. A FM receiver with 30 station memory is also bundled in the E730 and requires the headset to be connected.

Connectivity options include Bluetooth and USB. Other features include video and voice recording, 64 polyphonic ring tones, SMS, EMS, MMS, email, and Java 2.0.

The SGH-E730 has a memory capacity of 96 MB, shared dynamically between applications and again, memory expansion is not possible.

Priced at Rs 17,000 the SGH-E730 from Samsung is quite a device if you are looking for a smart, flip-open, compact and feature-rich cell phone. We think it would grace a Lady's hand much better...





#### **Nokia 8800**

'f lifestyle is all about getting noticed, then nothing beats the Nokia 8800 for the sheer attention it can get you. While using

exotic materials such as Titanium and Carbon fibre is a rising trend, Nokia has resorted to good-old steel to armour the 8800. As a result, it tips the scales at 137 grams and feels heavy but still exudes an unmatched burly feel. Yes, it's a mans phone!

The 8800 has one of the best slider mechanisms we have seen on a cell phone. Sliding down the cover reveals a black-and-silver keypad, lit by a soothing white back-light.

Design apart, the 8800 is also strewn with good features! Most prominent of them is the brilliant 262K, 208 x 208 pixels, 1.7-inch colour display screen. The screen is protected by tempered sapphire glass, otherwise seen on expensive watches to avoid accidental scratches.

On the multimedia front, the 8800 is equipped with a 0.5 mp camera (hardly impressive), an FM tuner and a media player capable of

playing AAC and MP3 files. The quality of photos is strictly average, as is the audio quality.

Bluetooth, GPRS, EDGE and Triband support completes the connectivity options offered on the 8800.

The UI is a revamped series 40 affair—simple to use, but feels primitive for such a high-class device.

The phone comes with just 64 MB of inbuilt memory and no memory expansion options are available—beyond comprehension, when you have media player and Java 2.0 support.

The overall package is good with a steel desktop charger, an extra battery, a wired headset and a suede pouch.

Though audio quality and signal reception are as good as ever, the batteries do tend to run out quickly! With normal use, the battery barely lasts two days—so that spare battery that Nokia provides is handy!

Priced at Rs 44,000, the Nokia 8800 isn't something just anybody will buy, but no one's complaining. Considering Nokia's target audience for this phone, and its design philosophy, the 8800 achieves the desired impact with aplomb.

#### **Motorola V3 Razr**

rendsetting designs have been the hallmark of many a Motorola cell phone, but somehow, they always fell short of critical acclaim due to shoddy implementation of great ideas. With the V3 Razr, Motorola changes that.

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The V3 sports a complete metallic body. Motorola resorted to space-grade alloys for the body panels making the V3 light yet strong. Measuring 96 x 50 x 12.7 mm and weighing just 95 gm, the V3 is by far the slimmest clamshell phone we have seen. This slim design gives the V3 its 'wow' factor, and is the reason for the Razr moniker.

On the external flap, the V3 Razr has a small 4K colour screen that shows caller ID and also doubles as viewfinder for the camera when taking self-portraits. There are a few buttons on the sides for voice recording and to change profiles on the fly without opening the flap, too.

Opening the flap leads to a big 2.5-inch 256K colour screen capable of delivering crisp and vibrant pictures that are visible even in daylight. Unlike keypads on other phones with raised buttons, the keypad on V3 is

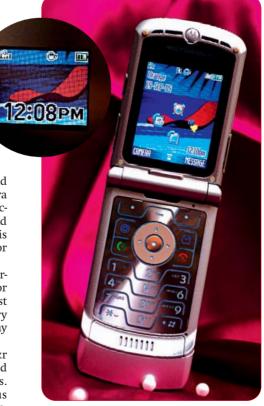
flush with the body. Getting used to the flat keys with the short travel and blue backlight takes time.

The integrated VGA camera hardly compares with the competition; but considering the slim design, no standard camera modules would fit into it! It's a good thing that they didn't completely do away with it!

Feature-wise you get Quad band support, Bluetooth, a VGA camera with 4X digital zoom, GPRS, PIM functionality, MPEG 4 video playback and Java support. A Bluetooth headset is also included with the package for hands free operation.

The Razr V3 has only 5 MB of internal memory and no option for upgrading it. Though enough for most purposes, the skimpy memory support would keep power users away from this phone.

Priced at Rs 20,000, the V3 Razr is a head turner for sure and garners attention wherever it goes. Targeted towards fashion conscious buyers, this phone will make a statement anywhere!







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#### **Sony Ericsson W800i**

n the wake of Apple iPod's phenomenal success it was but natural for Sony to revive it's once-iconic

Walkman' brand in some form or other. The W800i from Sony-Ericsson (SE) is the first cell phone to sport the 'Walkman' logo and holds a lot of promise.

Weighing just 99 grams and measuring 100 x 47 x 21 mm, the W800i is light and compact; but don't be fooled by its diminutive size, for it packs some mean features.

The 1.8-inch, 262K colour screen is bright and crystal clear. The 176 x 220 pixel screen renders colours vividly and is a good aide for playing games or browsing through photos.

The joystick and the keypad on the W800i are good—SMS gurus will love it! The UI is pretty much unchanged and retains the same old charm.

The W800i comes with a classy 2 mp digicam—the same as on the K750i. On the phone side, the W800i is graced with GPRS, High Speed Circuit Switched Data, and offers tri-band support but no EDGE.

For short range communication

Bluetooth, Infrared and USB 1.1 port is offered. The phone comes with 38 MB of internal memory and a Memory Stick Duo slot which can be used with the bundled 512 MB card. Java 2.0 support means you can make good use of that memory.

W800i can be used as a phone or media player only—the media player mode increases battery life. SE has significantly improved the audio quality on the W800i and when coupled with the bundled Sony Fontopia ear buds, this cell can match any standalone MP3 player.

The player supports MP3 and AAC playback, but no support for DRM protected files such as those downloaded from iTunes or Napster.

One good thing SE has done is to include a standard 3.5 mm jack via the headset, which allows you to connect any earphone set to the phone or connect the phone to a Hi-Fi for heart thumping sound. The W800i in Media Player mode can playback audio for about 18 hours before the battery runs out—more than enough.

Priced at Rs 25,000 the W800i is sensibly priced. Our verdict: have money, buy!

#### Sony-Ericsson K750i

he K750i is stylish, but not overtly so, making it a good phone for executives. The buttons have decent tactile feedback, but the five-way joystick is too sensitive and results in navigation errors—until you get used to it!

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The 2 mp camera is perhaps its best feature and also has a decent flash. There are various digital camera options such as 4X zoom, Macro mode, Night mode, a cool Panorama mode for shooting wide scenes, and even a Burst mode for capturing four shots in quick succession.

In movie mode, you have the option of either shooting for MMS or high-quality video. The autofocus feature with the 2 MP camera is something every other manufacturer should try and emulate. Overall, the camera is excellent.

Special controls include a media button on the left, which launches either FM or your media player. On the right are volume controls that double up as zoom controls when in camera mode and the shutter button to click!

Above the joystick is an application button that gives you quick access to various functions.

The speaker is quite low and can hardly be heard on our noisy streets and coupled with a mild vibrator, you are sure to miss a few calls if it's in your pocket. You cannot listen to FM without plugging in the bundled handsfree, and you cannot set the phone to ring both via the external speaker as well as in the handsfree earphones—only when set to silent mode does it ring in-ear!

Bluetooth, GPRS, Infrared, and the bundled USB cable are the various modes of short range communication. The K750i is equipped with 32 MB of internal memory and a 64 MB Memory Stick Duo (MSD) is bundled with the package-you can get as much as 2 GB of space using the MSD slot!

Overall, the phone is great to use, has tons of functions, a great camera and excellent battery life of about three days at normal usage.

At Rs 19,995, the K750i is appropriately priced and makes for a great phone for all occasions.



#### Nokia 6680 / 6681

These cosmetically identical twins from Nokia push up its venerable smartphone line a notch above the rest. The Nokia 6680, the elder sibling, offers more features and is priced accordingly. Apart from some niche features, these two phones are identical in looks as well as performance.

Aesthetically, both phones have a bland and unappealing look. We did rather like the looks of the older 6630, 3G-enabled smartphone better. The 6680 comes in a pale blue colour with dabs of chrome and plastic thrown in on the front face that make this phone look cheap. The 6681, on the other hand, looks slightly better in its silver outfit despite the chrome treatment it has received.

Though the keys on the keypad are of reasonable size, they aren't inspiring due to the lack of proper tactile feedback. Moreover, due to the use of transparent plastic keys, the backlight doesn't help much.

The 262K colour display screens present on both these phones are a delight to work with. They are crisp, render colour perfectly and have a good resolution of 176 x 208 pixels. Nokia has also added a light sensor that automatically reduces or boosts the brightness according to ambient light conditions-which should improve the battery life. The screens were perfectly legible, both, indoors and outdoors.

The Nokia 6680, being 3G-capable, is provided with two camera sensors—one in the front and the other, at the back. The standard 1.3 mp camera, placed on the back panel, is protected by a slider mechanism, which when opened, automatically powers the camera mode. The other 0.3 mp camera on the front is placed at the upper right

6681



hand corner and can be used for video conferencing. Since the 6681 isn't 3G capable, it doesn't need two cameras. It has the same 1.3 mp camera at the back with slider protection design as in the 6680.

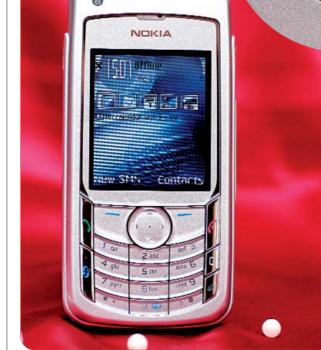
The quality of photos taken by both phones is amazingly good—minimum noise and perfect colour rendition. Videos are good, but don't expect too much. The small LED flash isn't powerful enough and hence, effective at shorter distances only. Both phones are bundled with Photoshop Lite edition software. Due to unavailability of 3G support from providers, we couldn't test the video conferencing feature.

The UI is driven by the familiar Series-60 platform and comes with the usual software bundle. This time around, Nokia has fitted both phones with better processors, and it shows! The bundled PIM and e-mail application has improved a lot and is now much simpler to use.

The 6680 has 10 MB internal memory, while the 6681 has just 8 MB. Both phones come bundled with 64 MB RS-MMC card for those additional games one might be interested in. A memory slot on the side of the phone makes them hot swappable—a much better approach.

Both phones are also tri-band capable and support GPRS and EDGE for high data connection. Both have Bluetooth and USB 2.0 via a Nokia proprietary pop port for short range communication. Battery life remains the same—two to three days with nominal usage.

The Nokia 6681 is priced at Rs 18,500, whereas the 6680 retails for Rs 24,000. Under the present conditions in India, with no 3G support from cellular providers it will be wise to opt for the 6681 over the 3G-ready 6680.



#### **Nokia 3230**

Pollowing the success of its hugely popular 6600, Nokia introduces another great smart phone for the masses—the 3230. Features

abound and the 3230 is sensibly priced to appeal to the average buyer.

Designed in the traditional candy bar form factor, the 3230 is reasonably compact; though the styling does mess up ergonomically.

The keypad is set far away from the top of the screen and feels a little cramped. The navigational buttons are just too hard and have deep travel making them uncomfortable to work with—till you get used to them. Moreover, the silver buttons with a white backlight make reading them hard—an oversight. But the 3230 is equipped with a nimble joystick that offers slick movements.

Moving on, the 65K colour screen as usual is brilliant. The screen does fade out in outdoor settings, but legibility is not affected.

On the back panel, right at the top is the 1.3 mp camera that takes amazing photographs. The Nokia 3230 also

allows shooting an hour-long video with the ability to edit the video on the device itself.

The 3230 supports loads of features: it is tri-band ready and supports GPRS and EDGE, enough for some fast data transfer.

Short range communication is via Bluetooth and USB via pop port. Multimedia capabilities include an MP3 player, FM receiver and Real Player. The games provided with 3230 are good and offer unlimited fun!

Nokia 3230 comes with a 32MB RS MMC card. But it is placed under the battery cover and isn't truly hot-swappable.

The UI on this phone isn't sluggish and feels great to use. Nokia has offered the usual set of applications, and they work great. PIM, messaging and e-mail works without any hiccups, but we will be glad to see some better synchronising capabilities in the future.

The Nokia 3230 retails for Rs 15,000 in India. It is a good entry-level smart phone for the 1.3 mp camera, great display and feature-rich application bundle. But remember the keypad issues before you buy it.



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The MyX-8 from Sagem, is their top-of-the-line model combining good aesthetics with loads of features.

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Designed by Ora-ito for Sagem, the combination of brushed aluminium and milky white plastic gives it an Apple-ish feel. The candy bar form factor measuring 115 x 47 x 20 mm and weighing 125 gm does not feel light or compact.

The front of the phone is dominated by the overly large TFT display. This 256K colour display offers the best in class resolution of 240 x 320. High resolution means cleaner graphics and that's evident!

The white backlit keypad has small, elongated keys that are well spaced out but are hard to press. The small joystick is too recessed and defeats the very purpose of having it all together.

The 1.3 mp camera with 8X digital zoom is located on the back and has a shoddy user interface. Video recording is also available, but is accessible from a different menu.

Audio is probably the strongest point of this phone. The inbuilt

speaker is so loud that people in the *Digit* office mistook it for multimedia speakers!

MP3 and AAC files can be played on it, and to store these songs, the MyX-8 is provided with a RS-MMC slot, which is awkwardly positioned at the base of the cell phone. Though hot swappable, you still need to remove the battery cover to access it, which is pointless.

The nice graphical user interface is decorated with smart looking colourful icons. However the grouping of menus, can do with loads of improvement. Standard applications such as contact manager, calendar, etc., comes bundled with the phone.

The MyX-8 is a tri-band phone and supports GPRS but not EDGE.

For short range communication it has Bluetooth, IR and USB connectivity. Other features include 40 MB shared memory, Java 2.0 support, 64 channel polyphonic ring tones and a media player.

MyX-8 retails for around Rs 18,000, but we would advice you to wait till the MyX-9 if it is ever released.





#### **Samsung SGH-D500**



outfit, this phone looks great. Clever user of chrome plays up well with its sublime beauty.

The brilliant 262K colour display screen is mesmerising and razor sharp. Just below the screen, on a bevelled edge, is the navigational four-way pad, flanked by two soft menu buttons. The call receive and hang-up buttons are below these.

A simple nudge to the slider opens up the well-lit keypad sporting reasonably sized keys. On the back panel, opening the slider reveals the 1.3 MP camera and flash. The quality of photos taken, though good enough, are not nearly as good as other phones in this article. Video recording is also supported with a 4X zoom feature. The integrated flash, as expected, is only effective at short ranges.

Samsung has devised an external speaker for this phone. MP3 playback via the inbuilt speaker is decent and adding the external speaker makes it even better. The well-designed conical module plugs into the sides of the phone to provide richer audio.

Connectivity options include Bluetooth, USB and IR. Other features include video and voice recording, 64 polyphonic ringtones, SMS, EMS, MMS, e-mail, and Java 2.0.

Standard applications include World Time, multiple alarms, calculator, converter, timer, stopwatch and organiser. Three Java games—Forgotten Warrior, Freekick and Arch Angel are pre-loaded. Memory capacity of the device is 96 MB, shared dynamically between applications. But, there is no provision for memory expansion.

In terms of usability, the phone provides a standard icon-based menu, accessible using the soft-key and the navigation button—simple to use and a low adaptation curve. The slider can be operated easily, making one-handed operation a breeze. A 'Voice Clarity' feature cancels ambient noise to enhance your conversation. Battery life is average at best, with the battery lasting between two and three days.

Priced at Rs 22,000, the D500 is a great phone for those who want a sleek camera phone with a high flaunt value.



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How would you hide the Themes, Screensaver, Appearance and Settings tabs in the Display control panel settings as well as prevent changing the desktop wallpaper? Write in with the subject 'Take a crack', and your postal address, to takeacrack@thinkdigit.com with your solution

#### THIS MONTH'S CHALLENGE

## Hide the Themes, Screensaver, Appearance and Settings as well as prevent changing the desktop wallpaper



#### **LAST MONTH'S CHALLENGE**



#### Take a Crack and Win

Enterprise Application Architecture By Joseph Moniz

Published by Shroff Pulishers & Distributors Pvt Ltd

#### **LAST MONTH'S WINNER**

NO Winner for Last month's <u>Challeng</u>e

#### Rules and Regulations

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

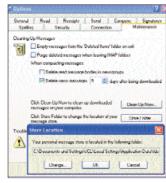
#### Share Outlook Express across multiple versions of Windows in a multi-boot system

There was no winner for our last month's Take A Crack. Given below is the solution to last month's challenge—'How to share Outlook Express (OE) over multiple operating systems.'

**1.** Start up the first Windows installation of your multiboot system. Then create a folder on the hard disk where you would like to store all the mails you send and receive.

Note that this folder must use the same drive letter over all the Windows installations. While Windows 9x/ME will not allow you to change drive letters, Windows XP will, so plan accordingly. Moreover, this folder must not reside on an NTFS drive, since it would be inaccessible in Windows 9x/ME.

Now start up OE. Go to **Tools > Options >** 



Change the mail store folder location in Outlook Express

Maintenance. Click 'Store Folder', then click 'Change'. Browse to the folder you just created and click 'OK'. Click 'OK' once more.

2. Start up the registry editor by going to 'Run' in the Start Menu and typing in 'regedit'. Navigate to each of these keys and do a file export of each of them to any folder on a hard drive that is accessible to all the Windows installations:



**Export the Address book using Regedit** 

HKEY\_CURRENT\_USER\Ident ities
HKEY\_CURRENT\_USER\Soft ware\Microsoft\Internet
Account Manager
HKEY\_CURRENT\_USER\Soft ware\Microsoft\Outlook
Express

A file export means you'll need to click on each of these keys and then click File > Export. When prompted to save, remember, you need to select the 'Save As' type as 'Win9x/NT4 Registration Files.'

**3.** For the address book, navigate to

HKEY\_CURRENT\_USER\Soft ware\Microsoft\WAB\WAB4 \Wab File Name and do a file export.

Once this is done, restart the other Windows installation. Before starting OE here, open the registry editor and go to

HKEY\_CURRENT\_USER\Ident

Then, right click on the 'Identities' sub-key and select 'Delete'.

Once you do this, locate the

four .reg files which you exported earlier, and double-click each one to import them into the registry. Answer 'Yes' to the import prompt.

**4.** After you complete the above steps, OE should open up



**Outlook Express** 

with the same settings, folders, mail, and news that you had in the other Windows installation! ☑

This solution will also be put up on www.thinkdigit.com

Windows Mobile 5.0, 3G, QWERTY keypad, 640x 480 display, Tablet PC style swivel screen...it's virtually a laptop that fits in your palm! Universal... so will this work anywhere in the universe? Not quite, but it's not beyond the realm of possibility. Consider this: it's the world's first PocketPC mobile phone with 3G and Windows Mobile 5.0 OS. This is what HTC calls 'Universal'. Why not?

The swiveling VGA touch screen reveals a 'QWERTY' keypad and an outstanding display with a resolution of 640 x 480 pixels. The VGA display moves about its hinges; folds over the keypad to use as a traditional touch sensitive PDA device. Its sleek body also sports twin cameras; one at the back and the other in front alongside the display.

Connectivity is astonishingly flexible thanks to UMTS (3G) and Wi-Fi along with tri-band GSM and GPRS. Needless to say, Universal has Bluetooth and a USB PC interface. Microsoft adds more punch to the unrivaled device by providing the latest version of Windows Mobile, which not only flaunts a better look-and-feel, but also retains information even when the battery is depleted.

But that's not all! There is slot for expandable memory in the form of an SD card, which is in addition to the inbuilt 96 MB ROM and 128 MB of RAM. The heart pumping behind all the eminent features is a whopping 520 MHz Processor. Drool... drool!





#### **Digital Passion | Visual Explanation**



Google Earth can display the entire land mass of the planet either in detail or at least with terrain markings. Almost a thousand cities can be zoomed into up to a resolution of one metre. Buildings such as the White House are represented in 3D. Thirty-eight cities from across the United States are depicted completely in 3D.

### Earth?





Detailed road maps are currently available for the US, Canada, the UK, and Western Europe. Google Local search is also available for the US, Canada, and the UK. Google plans to soon extend this to other countries around the world.

Imaging Akhilesh Prasad Text Mithun Kidambi

#### Sony Ericsson W800i Walkman Deepak Dhingra

Javing spent 30 days without a cell phone last month, I resolved to treat myself with a brand new one. Luckily for Having spent 30 days without a cell phone last month, I resolved to treat mysen with a plant new one. Euckly for me, Sony Ericsson had just launched the W800i—the first ever mobile to carry the Walkman branding. I asked the benest that was just an excuse to lav my hands on it! good people at the company to send us one to review. To be honest, that was just an excuse to lay my hands on it!

#### Day 1: Good Things Come In Small Packages

A little package wrapped in white arrived. I tore open the casing and out came the neat transparent box that contained the white and orange phone in all its glory. At first glance, the colour combination seemed a trifle too jazzy—this is one phone that was made to flaunt.

#### Day 2: Get, Set, Go

With the SIM card installed and the phone fully charged, I was all set to show off! I powered the phone and immediately a menu popped up that asked whether I wanted to switch on the phone or go into the music mode? Thanks to this option, I could use the phone as a regular MP3 player—and it had great music playing features!

#### Day 4: Music To My Ears

I put the included 512 MB Memory Stick Duo Pro card to good use, and transferred loads of MP3 tracks to the phone. A cable and drivers to connect to a PC were also provided—very thoughtful indeed. The integrated FM radio tuned to available frequencies and within minutes I could listen to radio in the stereo mode. The bundled in-ear wired handsfree kit let me connect to my headphones and my PC's speakers. No wonder they call it the Walkman!

#### Day 9: Flaunt Value

There's a party at the Editor's house. The W800i's integrated 2 megapixel camera with flash is just the thing.

I simply had to slide the switch at the rear, and the 262K colour screen turned into an LCD viewfinder. With complete control over white balance settings and with many shooting modes such as macro,

night, panorama etc, I didn't miss having a dedicated digital camera. The pictures looked brilliant on the screen. Even the boss was impressed with the flattering images!

#### Day 12: Walk Man, Walk

I had to attend a press conference at the other end of town. The one-hour local train journey flew by with the W800i for company. The Media player button at the side of the phone could be set to play either the FM radio or the Walkman, or the most recently used application of the two. I created my own play lists on the device, and adjusted the equaliser settings. With glorious music in my ears and great audio sound, I was soon oblivious to the crowd.

#### Day 20: Games People Play

Raaabo, proud owner of a new Sony Ericsson K750i tried to pass me some Java games I wanted to install using Bluetooth. The two phones detected each other in Bluetooth mode, but we were unable to pair them. We finally figured that the 'Power Save' feature in Bluetooth options was 'on'. It allows pairing only one device through Bluetooth to save power, and I already had a paired Bluetooth headset in my list. Man, they sure have thought of everything.

#### Day 26: Remote Control Your World

In order to try the Remote Control feature under the Entertainment menu, I paired W800i to the Acer Ferrari 4000 notebook using Bluetooth and switched on the Remote control option. I could use the joystick on the phone to control the mouse pointer on the notebook, and even operate various menus and launch applications on it!

#### Day 30: The Last Word

Alas, it was time to return the phone to its rightful owners. With a heavy heart, I packed it neatly into its box. Then, I headed straight to the nearest Sony Ericsson dealer, and returned with a considerably lighter wallet! 🗷

deepak\_dhingra@thinkdigit.com

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**R3** Tips & Tricks



**97** Go, Back Up!



100 New & Notable

## Digital TOOS

**Technology For Personal And SoHo Productivity** 

**Enhance** 

## Search, Ads & MORE >>

Ever wondered what the 'More' link above Google's search box is for? We'll tell you

Mithun Kidambi

he Big G of the Internet is in the news again. Early last month it was Google Talk and a talk of a \$4 billion (Rs 16,000 crore) public offering in the stock market-wow! Rumours have it that the money is to fund a lot of other projects that Google plans to undertake, such as free wireless Internet access across the US and elevators that shoot up into space!

Anyway, so Google is doing a lot more than just combing the Web for you. No, we aren't talking about Gmail and Google Talk or even Blogger out here. It's the 'More' that we are referring to. For the uninitiated, 'more' is the link that appears at the top right, above the Google search box.

This article will show you how you can make 'more' work for you. So the next time you feel like looking for that little bit extra on the Web, Google just might have it.

#### You've Got An Alert

The first app or 'service', as Google puts it, is Alert, and it does what it says. It alerts you if there is an update on the Web or in the news about a subject of your choice. So how do you get this alert? Simple, via e-mail.

You can also set alerts by clicking on the relevant link in your mail preference settings. As of today, Google offers to alert you about news or updates. This also extends to Google Groups, so if your topic is India, and some Google Group has a discussion on India, you get a message.



#### **Digital Tools I Enhance**

This is useful when you need to track changes on a daily or weekly basis, or if you'd rather have an alert in your inbox instead of subscribing to an entire newsletter. The frequency of the alert is a maximum of once a day. We'd like to see this alert feature integrated into Google Talk. But then we'd like a lot of features added to Google Talk!

#### **Answer Me!!**

Google Answers is one section that really got us interested. Google realised that people were willing to go through a lot of pain to get the answers they wanted. They hired a few hundred researchers who would comb the Net the entire day and collate and collect information. Please note that these are real people and not the bots that help Google turn out search results. So the aforementioned researchers sit around waiting for you to ask them questions. You also need to quote the price you are willing to pay for getting your question answered.

These researchers, who may or may not be experts in a particular field, will give you a detailed answer. The more complex the question, the more monies you need to put on the table.

Special searches for special needs, seems to be the credo that the search engine follows search, or you could look in the directory given below. The Catalog search covers areas like clothing, computers and food. As we mentioned earlier, it makes more sense for US citizens, as most of the shops or suppliers do not ship overseas. But, then again, we Indians always have a cousin in the US who can order stuff for us, right?

Google's Directory search is the granddaddy of all searches. Web sites in these searches are indexed and given a specific page rank. You can browse through categories ranging from arts to health and sport. Each category is further divided into topics, which in turn may have sub-topics.

Though a little irritating, this categorisation gives precise search results.

Froogle is Google's attempt to set up an online bargain store directory. Again a very region specific search, Froogle claims to be the smart way to shop around your neighbourhood. You can look for shops in a specific area offering very good bargains, if you have a foreign trip planned and shopping figures high on your 'To-Do' list. As of now, this service is not available for shops outside the US, but Google plans to expand it to various countries soon.

Google Local search is yet another region specific service. Using Local search, you can actually zero in onto a particular shop or business in a city. The search throws up a list of shops or business that offers the service you requested, along with telephone numbers and addresses. But what really takes the cake is the map that turns up at the side actually pinpointing where the concerned business is. Even though there's nothing about India, it can be fun—for example, you can direct online friends to Tony's Pizza Pit in Poughkeepsie, New York, the next time they're hungry.

#### **For Those Special Times**

Special searches for special needs seems to be the credo that the search engine follows. A plethora of special searches can be performed by Google and you do not need to know how to optimise your subject details. Google offers targeted searches for operating systems such as Linux, BSD, Apple Macintosh and Microsoft Windows.

You can use it to find the latest updates and packages for Linux! Google also offers a University search that lets you look for a specific University, mostly in the US, and also directs you to the College's home page. This could be useful to students in India looking to apply to colleges abroad. Use it to plan your college education and get necessary details such as admissions information, course schedules, or alumni news, all minus unwanted search results.

Yet another US specific search is the US Government search. This service helps you snoop around all of Uncle Sam's government Web sitesincluding Federal as well as State Government sites. A search for Bechtel corporation threw up a few interesting results, including details of their involvement in India's Atomic programme.

Other search options, like Scholar search, bring up a number of research papers on the topic of your choice. This is extremely useful when you need to refer to such papers for work. You also get the contact information for the authors of these papers. Of course, most of these



An answer for all your questions is what Google Answers promises

You obviously do not need to pay until you get the answer from the researcher. Your question is also put up in a forum where other people looking for answers can take a peek at it and give you some unwelcome gyaan.

The service seems ideal for students who are looking up for something detailed to type out in their projects. You, however, should keep in mind that your questions are not necessarily answered by experts.

#### **Devil In The Details**

Google is essentially a search engine, Talk and GMail notwithstanding. Their expertise in search is acknowledged the world over, so it's obvious that they come up with a number of customised search services. Most of these, though, work for you only if you're in the US, UK, and in some other parts of Western Europe.

Their online Catalog service throws up results from various mail order shopping catalogues. You could search for a specific topic, like a normal are copyright protected, so don't even think of copying anything from them.

In addition to this, you can also search for books online and browse through the text printed in them. The service allows you to browse through a book as you would in a book shop or a reference library. Books whose copyrights are in the public domain can be downloaded, the rest can only be viewed online and are not available for download.

Of course Google offers Web and Image Search as well, but we know about that already. Apart from this, you have Google Groups, which is the ideal way to search through the Usenet, which, as we know, is the largest of news and discussion board communities!

#### **News, New Stuff & New Places**

Google News works as a news aggregator. You can create a news alert for yourself by specifying the topics that interest you. This would keep you updated on all the new happenings from around the world.

Google culls these news articles from Web sites and newspapers from around the globe. They claim to have 4,500 sources for news. The service also has the news divided into a number of categories making it extremely simple for you to search for relevant articles.

You can of course configure your RSS feed reader to keep you updated with the latest stories from Google News. The latest feature added to the News site is the site customisation tool, using which, you can change the layout to suit your taste and save it. So, if Business or Technology news is your area of interest, you can make sure it appears right on top of the site when you visit it.

Another interesting part of Google is Google Labs. Employees at Google are encouraged to work on projects of their own, and if the company feels that a project is worth a shot then it funds the same. This is where the project enters the Google Lab. At present there are a number of innovative products under development at the Lab. A few "graduates" from the Google Lab have been Desktop Search, News Alerts and Local Search.

Google Maps is a product under development at the Google Labs. This is an effort to map the entire world down to the last mile. The online service is quite accurate and helpful when you need to plan a road trip. You get an option of viewing a satellite image, a normal road map or a hybrid of the two. The controls on the site help you zoom in and out of a particular area.

Though it doesn't provide much detail as far as India is concerned, Google claims that this will be rectified very soon. The service however works best if you have a fast internet connection or else be ready for a very long wait while your maps load.

Personally we preferred the satellite images to the road maps. For an American or British user, this service also offers driving directions. All one has to do is key in the query in the search box.

#### The Big Boys

Other than search tools, you have Google Tools to play around with. The most productive tool or service in terms of monetary benefit has been Google AdSense. This classifieds-like advertising tool lets a normal Internet user, who has a blog or a Web site,

#### **Digital Tools I Enhance**



All of Google's More

make a little bit of money by placing ads in them. Of course, there is no limit to the money you can make from this service.

The service is very simple to understand: all a user needs to do, is register his or her site/blog, customise the ad placement and copy the HTML code onto his or her Web page. You get paid every time a visitor to your site clicks on an advertisement. The payment differs on the type of ad and the uniqueness of the click. This ensures that you can't make money by continuously clicking on the ads pasted on your site.

This service has attracted many high traffic Web sites such as Indiatimes and Rediff. It speaks volumes about the financial benefits of the service.

#### 1/4th AD

GMail, with all its bells and whistles, is already nipping at Hotmail's and Yahoo's heels. The unlimited and ever growing storage capacity, the invites and added features, such as auto text completion, spell check, etc., have made it one of the most widely used mail services around—rumoured security threats notwithstanding.

Next is Code—Google's offering for the open source movement. With projects and APIs (application programming interfaces) open for collaborative work, Code aims to give the open source movement a platform to work on. Just when other Internet companies thought they could make some moolah by selling IMs and VoIP services, Google came up with Talk, which is the latest IM to hit the Internet. A simple, bare bones messenger, Talk also provides VoIP services. Though still in the Beta stage, the tool has recorded massive downloads within a month of its launch.

In addition, Google offers a desktop search application, which is a Google Labs "Graduate". The novel indexing technique used by this application has made sure that you don't have to wait too long for local search results to show up. The Google toolbar too, can be integrated to your browser. The toolbar functions exactly like the ones offered by MSN or Yahoo!.

Picasa, an online photo sharing application by Google, is quite handy if you are interested in putting up an online portfolio, or sharing photos of your vacation with family members across the globe. Google's translation tools let you translate text or entire Web pages. The combination of languages is impressive, but we believe there are better translation sites around on the Internet.

Blogger and Google Earth are two heavy duty tools offered by Google. While Blogger was bought over by Google after they acquired Pyra Labs, the company that created the blogging tool, Google Earth is a novel tool that lets you fly around a virtual globe that resides on your desktop.

An advanced version of Keyhole, Google Earth can be useful if you want to plan an expedition to any corner of the globe. It can also be used as a tool by pilots who want to simulate their flight plan and routes. Though the tool is a free download, Google also offers a professional version for \$400. This comes with a GPS application integrated into it, among other features such as high resolution printing and customer support via e-mail.

#### The End

With the Internet becoming a very integral part of our lives it isn't surprising to see Internet companies venturing into every sphere possible. We already look to the Internet to answer all our queries. Increased online transactions, collaborative working and other such activities too have spurred companies such as Google into offering a wide range of services.

With innovation being the key to survival, it is only natural that Google's basket of tools and services grow. We will learn to enhance our productivity by choosing and making optimal use of these tools and services available. Now how do we optimise our tools? We'll tell you that, but some other time.

 $mithun\_kidambi@thinkdigit.com$ 

#### **Windows Movie Maker 2**

#### Capturing Video: Which Format?

Transferring video from a digital camcorder onto your hard drive can be difficult because of huge file sizes. Until recently, video capture was the hardest step for the home video maker as it was fraught with hardware conflicts, system crashes, and dropped frames.

Fortunately, Windows Movie Maker 2 (WMM2) makes the capture process relatively painless. This is due, in part, to Windows XP and its inbuilt support for digital video and picture. On top of that, WMM2's capture wizard is simple, straightforward, and a huge boon for the amateur video maker.

However, before you capture video in WMM2, you need to decide what format you want to capture into? WMM2 lets you capture in both the traditional DV-AVI format, and Windows own WMV format. Each has its own merits.

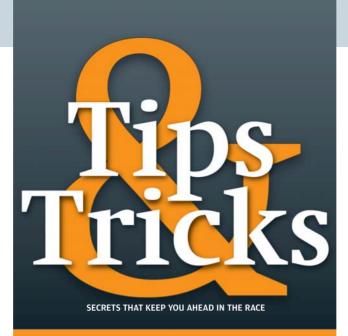
#### The DV-AVI Format

The first format you capture into is DV-AVI. This format, also known as DV or 'digital video', is the video compression format that your camcorder captures onto tape. This format is saved at 30 frames per second. You get video that is potentially of higher quality than a commercial DVD. DV-AVI is the capture and editing format of choice for most video software programs, and they will all recognise it.

However, the digital video format is not without its problems, the major inconvenience being the huge file sizes. Each minute of video takes up a whopping 200 MB of space. That means an hour long tape occupies about 13 GB of hard drive space! If you don't have much hard drive space available you're going to run into problems.

#### Windows Media Video 9

WMM2 offers you the ability to capture your video into its own WMV9



GENERAL TIPS

Windows Movie Maker 2 Adobe Premiere Elash MV 2004

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format. The Windows Media format is set as the 'recommended' default setting when you first attempt a capture. This video format is great, and saves your video into incredibly high-quality video that takes up a tenth of the space that DV does. The quality of WMV9 is so good that some movie theatre companies are switching to digital projectors, dumping their old fashioned film projectors, and projecting their movies from WMV9 files. The compression level of WMV9 is incredible and allows you to backup and create collections of videos on your computer.

However, the WMV9 format has problems. When first capturing your camcorder movie through a FireWire cable, to save the movie into WMV, your computer has to re-encode the video into the WMV9 format on the fly. Even if you set the compression level to highest quality, you are going to lose some of your video image quality through the encoding process. You always lose image quality when you re-encode a video, no matter how high your settings.

The other problem with the format is that it's Microsoft's proprietary format, and no other program uses or recognises WMV9. That means you're stuck using WMM2 for editing.

#### So Which One To Choose?

If you're going to capture a short section of video from your camcorder, say less than 10 minutes (or if the video quality must be the highest quality), we recommend sticking with the original DV-AVI format. If you are hard-pressed for hard drive space, or must capture a long amount of tape, the WMV9 format is just fine. However, if you do go with WMV9, we recommend not using the recommended setting for capture. Set the capture quality level to the absolute maximum (called 'high quality') as you should always start with the highest quality source video before you begin editing.

#### Improving Capture Performance In WMM2

Capturing video onto your hard drive can be frustrating. That's because digital video from your camcorder is very large, and not every system can handle the sustained capture speeds needed to transfer your movie over a FireWire cable onto your hard drive.

Fortunately, most computers today are powerful enough to capture video. For example, you can easily capture and edit video on a 1 GHz-plus laptop computer, and never run into any problems. However, if you do run into problems during capturing, there are several things you can do to speed up your system.

#### ■ Defragment Your Hard Drives

Defragmenting a drive is an easy performance enhancer, and you should defragment regularly.

#### **■** Get A Faster Drive

The main hurdle to capturing big video files is the speed of your hard drive. When you stream video onto your computer through a FireWire cable, the digital video is written onto your hard drive as a large DV-AVI file. This stream runs at a constant 200 MB per minute, and if your hard drive slows down while this stream is running, you will lose some of your video and get dropped frames.

To avoid hard drive hiccups, you should close any background programs, and you may need to invest in a faster 7,200 or even 10,000 rpm hard drive. **■** Use The NTFS Partition If your drive is partitioned in the older FAT32 format, than this is your most likely culprit for capture problems. The older partition structure isn't optimised for video capture, and won't let you capture video files over a certain size (two or four GB). ■ Windows Media Codec If you can't get rid of dropped frames when capturing in the DV-AVI format, you can always try capturing in WMM2's WMV9 codec. Because this format generates small file sizes, you won't run into dropped frames from an underperforming hard drive. However, the compression itself might be tasking on

#### **□** Turn The Preview Monitor Off

your CPU.

When you capture video, you can watch the video capture inside WMM2's preview monitor. However, generating this preview video is tasking

#### **Digital Tools I Tips & Tricks**

on your system. You can turn the preview mode off inside the capture wizard.

#### ■ Decrease The Display Settings

Try setting your display to a lower resolution (1024 x 768 is WMM2's minimum recommendation, but you can go lower if you need to) and decrease your colour depth to 16 million (or 'high colour').

#### Save Project Files Correctly

When you first save a project in WMM2, the program generates a 'movie maker project file' on your hard drive. You can name and save this project file anywhere you want, though WMM2 will attempt to place it within your 'My Movies' folder.

The project file is a 'linking file' that keeps track of every item in your home movie. This includes every video clip, song and picture; the project file knows where each of these items are located on your computer, how they are laid out on the movie timeline, and what effects and transitions should be applied to each.

However, these video objects are not actually embedded within the project file. The project file only links to the actual multimedia files. Because of this, you really need to organise all your files if you ever want to re-edit your project.

Why? Suppose that sometime in the future you decide to give your computer a spring cleaning, and you reorganise some of your media files. You can damage a project if you inadvertently move or delete a file that is used in one of your videos. The next time you open up your video project, WMM2 won't find the media file where it expected to find it, and your project will be forever ruined.

To avoid this problem and keep your project intact, we recommend creating a new folder for each of your video projects. You should then save every movie element into this folder before you import them into WMM2. This folder should include your captured video,

background music, pictures, voice narration, and the project file itself. With all your files together like this, there is no chance of a file being inadvertently deleted or moved. Plus, this method allows you to easily transfer your entire project to another computer (or backup onto an external hard drive).

Don't underestimate the importance of organisation when it comes to editing video. Unless you stay on top of things, your hard drive can quickly become cluttered with random video clips and pictures, and you won't know what's safe to delete.

#### How To Remove 'Junk' Video

The most useful aspect of computer video editing is that you can weed out all the 'junk video' that finds its way into everyone's home movies. There are many kinds of 'junk video' that you might want to remove from your home videos:

#### 1. Zooming

Overzealous use of the camcorder's zoom function is the number one sign of a beginning videographer. Zooming tends to make your audience sea-sick and should

(i.e. zooming between recorded scenes). Fortunately, you can edit these zooms right out of your videos and only show the wide establishing shots followed by close-up shots.

#### 2. Preparing To Speak

If you are filming a narrator or filming a family member, there's always that couple of seconds where they say "OK... is the camcorder running?" Now you can cut that part out and start right with your interview.

#### 3. Stillness

Good video needs motion and action—basically, something happening. For example, if you are filming a birthday and it takes your child two minutes to open his birthday present, consider cutting out the middle 1.5 minutes. Your audience wants to see the motion: your child's delight at seeing the present, and the triumph of getting it open.

There are several ways to get rid of junk video, and a video editing program like WMM2 makes it easy.

#### 4. 'Manual Capture' Only The Video You Want

When you transfer digital video from a camcorder to your computer, WMM2 gives you the option of 'manually capturing' your video, letting you decide exactly what

want to transfer. This allows you to capture only the parts of your video tape that you want in your finished move, thus saving you a lot of precious hard drive space.

5. Cut Clips

WMM2 allows you to cut your video clips in half. This is a great way to get rid of large chunks of junk film. You cut your clips in two different places within the program: both in the preview monitor, and also while working on the timeline. Simply find the location you want to cut and click the 'Cut' located under the preview monitor.

#### 6. Trim The Ends

For the finest control, you can trim the ends off your clips by setting the exact in and out points of each video clip. While working on the timeline, simply drag the ends of each clip to the exact point you would like it to start and stop. You can accomplish very fine control of each clip's start/stop points by trimming, especially if you zoom in on each clip using the magnifying glass.

#### **Video Effects**

WMM2 comes preinstalled with a number of video effects you can add to your movie clips. These effects are numerous and easy to apply. Despite the large assortment of effects, you'll find yourself using certain effects more often, and some of them not at all. Here are some of the most useful effects and some uses you might not have thought of.

#### 1. Brightness

These effects are very useful for fixing your video's exposure levels. If you filmed an indoor scene that looks too dark, you can simply brighten the video with the brightness effect. If your video still isn't bright enough, you can repeat the effect several times until you get the look you want.

2. Greyscale and Sepia
Both these effects remove the
colour from your film, and the
sepia effect gives your film a
pleasant 'yellowed old
photograph' look. You can use
these desaturating effects to





#### **Multiple Desktops In Windows XP**

#### Organise tasks and applications using the Microsoft Virtual Desktop Manager

#### **Anup Nair**

 $P^{\text{owerToys from Microsoft is a set}}_{\text{of executables that add fun and}}$ functionality to an OS. Here we tell you how to install and operate one amongst these toys - the MSVDM (Microsoft Virtual Desktop Manager).

MSVDM enables multiple desktops for Windows XP, a feature that happens to be at the fingertips of GNU Linux users. Most of you probably have no clue as to how useful it can be.

Multiple, or 'virtual', desktops help users classify, and hence group, their tasks or applications into each of the virtual spaces provided. For example, you can work on documents on desktop #1 while simultaneously running a chat or mail program on desktop #2. You can have up to four desktops. (As you can guess, if someone's looking over your shoulder and you want to hide what you've been doing, this is the tool you've been looking for!)

Virtual desktops are numbered on the taskbar. Also accompanying these is a preview button, called a pager, that provides a miniature glance of all the desktops along with the apps running on them. Keyboard shortcuts can be configured for the above purpose. Well, here's how you go about configuring multiple desktops.

#### Installation

**STEP** As this is not part of the Windows XP package, you'll need to download MSVDM from Microsoft's PowerToys site: http://www.microsoft.com/windowsx p/downloads/powertoys/xppowertoys.

The installer runs a wizard that guides you through the installation process. Note here that the installation folder is C:\Windows\ system32\ and not C:\Program Files\ as you might expect it to have been (assuming C: is your Windows drive). The installer adds msvdm.dll under .\System32\.



**Enabling The Desktops** STEP You'll perhaps wonder what changed, as there might not be a visible difference. Well, right-



Right-click on the taskbar to enable the **Desktop Manager** 

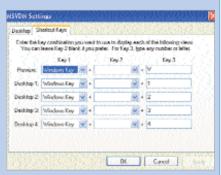
click on the taskbar and enable (check) 'Desktop Manger' from the menu. On doing so, five buttons appear to the left of the system tray. The first button is the 'preview' button, and the rest, numbered one through four, are your four virtual desktops.

#### **Configuring The Settings** There are a few settings

that you can customise. We'll take a look at them in general and follow this up with an optimal customisation.

'Shared desktop' is enabled by default. The taskbar buttons of the Windows. You can stretch, tile or centre the images.

It would be desirable to have keyboard shortcuts to browse



You can configure shortcut keys to navigate between the virtual desktops

through the four desktops. 'Configure keyboard shortcuts' does just that. All you need to do is change the entries under Key1 and Key3. Key2 is optional.

It is so uncool to display 'MSVDM'

on the taskbar! Also, if you are primarily a keyboard user, you would not prefer to see the buttons either. You can disable both by right-clicking any button and then on 'Show title' and 'Show quick buttons' respectively.

By default. animations are enabled. For faster performance, you can disable

'Use Animations' from the taskbar menu. Also, the default shortcut keys may be changed according to your preference for easier and quicker navigation. Windows will warn you if any pattern is already

If you're using virtual desktops for the first time, there's a good chance you'll absolutely fall in love with the idea!

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The 'preview' button shows all four virtual desktops at a glance

apps running in any of the four desktops will be visible. You can toggle between them using [Alt] + [Tab], or by clicking on their taskbar buttons. Disable this option to view open applications only in their respective desktops.

'Configure desktop images' allows you to change the background images of each of the four desktops. You can even browse and select a picture other than those provided by

#### **Digital Tools I Tips & Tricks**

make your movie look classy, or to create a flashback or 'dream sequence' scene within a larger home movie epic.

#### 3. Rotate

There are several rotation effects, but they are not useful for video. However, they work great for photographs, and allow you to align your photos properly.

#### 4. Speed

Slowing down or speeding up can be useful for creating comedy 'movies.' For example, you could make a fake kung-fu movie with your kids and use the speed-up effect to create rapid-motion fighting scenes. Likewise, the slow-down effect could be used to create the clichéd 'slow motion punch'.

#### **Applying Effects**

To apply effects to your film, open up the Video Effects collection. You can preview each effect in the preview monitor by double-clicking the effect thumbnail. To apply the effect to a video clip, simply grab the effect and drop it onto the clip in the storyboard.

Another way to apply effects is by right-clicking on the clip and choosing 'Video effects.' This mode allows you to see exactly what effects are being used. This view is useful if you have to add or remove multiple effects to your clip.

#### **Transitions**

WMM2 comes with a huge selection of transitions that you can place between your video clips. There are 60 transitions to choose from, ranging from simple fades to complex geometric shapes. When first presented with such a plethora of transition options, you may be tempted to use them judiciously throughout your video. For a home movie, that's fine; however, if you are trying to create a 'professional-looking' video, you may want to go easy on the transitions.

#### 1. "Cut!"

This isn't really a transition, but a switch in movie clips: when one clip ends, the next one immediately begins. The timing of cuts is very important, and there are many funny and amazing things you can do with careful timing. WMM2 makes it easy to cut your scenes by allowing you to 'trim' the ends of your video clips.

#### 2. Fade

The fade is the most used transition. It is simply a cross-dissolve between two scenes, and in movies, typically occurs when the story changes locations.

#### 3. Wipe

This effect is used less often than the fade, but implies the same thing-a change in location. This effect is more obvious than the fade. The wipe denotes a major change in location and even a change in time.

#### Adding Music To Your Video

A music background can really spice up a home movie. Music is easy to apply on your computer with a program such as WMM2. In fact, this program has an audio track specifically for music; all you have to do is import a song and drop it onto the music track in the timeline.

After your song is in place, you can trim the end of the song—so that it's the same length as the video—and adjust the volume so it doesn't drown out your video.

WMM2 can import most sound formats. If you own a CD with a song you like, you can always import that song onto your computer using Windows Media Player.

#### **Recording A Narration**

WMM2 makes it really easy to record a voice narration over your movie. The program even has an inbuilt recording wizard that allows you to record over a microphone while you watch a preview of your movie.

This feature is very useful, and allows you to quickly narrate descriptive videos. For example, if you are selling a house, you could film all the rooms and later record a running commentary to go with it. Another great use for a voice track is in creating picture slideshows. You could take pictures from your digital camera, lay them on

the WMM2 timeline, and then record a narration for your slideshow!

To use this function, you'll need a microphone. Fortunately, most cheap desk microphones work fine for voice recording. For the best results, you may want to invest in a headset microphone—the earphones will give you real-time feedback of what your voice sounds like. This allows you to annunciate clearly and correct for voice-popping and inadvertent mouth noises.

To use the voice track wizard, simply press the 'Narrate timeline' button located to the left of the timeline. When you click this button, the narration wizard will pop up, and give you some recording options. Most of these are pretty obvious: you can click 'Show more options' to see more recording choices. You'll need to pick your recording device (your sound card) and plug a microphone into your computer's microphone-in jack.

In the pop-up wizard is a microphone level bar that moves up and down as you speak. If this bar does not appear to be moving, your microphone may not be set up properly. Setting up a microphone for the first time can be frustrating, but here are the major things you should check.

## 1. Your microphone isn't set as the recording device: You may need to go into your sound properties panel, and make sure that your microphone is set as your recording device. You can also do this within WMM2's recording wizard.

#### 2. The microphone boost is on or off:

If you find that your microphone sounds distorted or is too loud or soft, your microphone boost may be on or off respectively. You can find this option under 'Sound properties' under the 'Advanced settings' button. You can try altering this option, also called 'Mic 20dB up,' to get the best sound quality.

#### 3. The sound isn't loud enough:

Make sure you're getting good

#### Bet You Didn't Know

#### Where Transitions Should Be Used

One place you might want to use fancy transitions is in a photo slideshow. WMM2 lets you import pictures from your digicam and lay them on your timeline as a 'video slideshow.' You can even add music or a descriptive voice track over these photos.

Because photos are static and non-moving, transitions are great because they add 'motion' to your movie.

sound levels within the voice wizard. Try to get the sound meter near the red, but not to the topmost red bar. If your sound is set too high, your voice will distort. You can also increase the voice track volume after you lay it down in your timeline.

Once you've got your microphone working, you can record your narration. The narration wizard will play your movie, and you can record your dialogue while watching the movie preview. When you are done talking, click 'Stop.' The wizard will try to save the voice track file onto your hard drive. You should save this audio file inside your project's main folder to keep your files organised.

WMM2 will automatically import your narration into your collections. To place it in your movie, simply drag the audio clip onto the timeline. You can then move or trim the ends of the voice track, and change the volume level with the volume button.

#### Using Both Narration And Music

While it is very easy to add a music or voice narration to your movie, it is very hard to add both a music and voice track to the same movie. That's because WMM2 only comes with a single audio track, which means you have to choose between one or the other. However, if you really need both audio tracks, there are a couple of tricks you can do, though each of these workarounds has its own problems.

#### Method One: Render Your Movie Twice

One method you can try is to render your movie twice. After adding your first audio clip (background music), you can export your movie as a high-quality video file. Next, you can create a new WMM2 project and import that video file as one big video clip (don't let WMM2 automatically split the file into multiple clips!). You can then lav this video clip onto the video timeline and place your other audio material into the 'now empty' audio track.

The problem with this method is that your movie goes through an extra encoding step and loses some quality during this process. However, if you keep your export settings really high this degradation won't be noticeable. Another problem with this method is that you have to 'complete' your video before you can export the first file. However, this rendering method does give you a blank audio track and allows you to perform fine placement of many audio elements. If you are going to create a complicated video with music, voice track, and sound effects, then this is the route to chose.

#### Method Two: Superimpose The Two Tracks

Another way to create two audio tracks is to superimpose them. WMM2 allows you to superimpose two audio clips using the same timeline track, though the method for doing this is not obvious.

First, lay down your music clip on the timeline. Then, lay your second audio track on the timeline after the first one. To superimpose the two, you first have to move the second clip so that its starting edge touches the end of the first audio clip. Now, pick up the second audio clip again and move it to the left. You'll see a blue 'triangle' form over the first audio track: that means they are superimposing. Unfortunately, there's a problem with this

method. If you try to completely superimpose both audio clips, so they both start at the beginning of the movie, the second clip will try to jump in front of the first one. It's really hard to get that second audio clip to start where you want it.

As you can see, running two audio tracks in WMM2 is problematic. But we should say that WMM2 is meant to be a simple video editor. If you find yourself needing multiple audio and video tracks that run concurrently, you may be better served with a professional editing package such as Adobe Premiere.

#### **Adobe Premiere**

#### **Un-erase**

If you accidentally erase a project file, don't panic. Every time you save a project, Premiere saves over the file you're currently working on, but it will also save a copy of the previous version in its Project Archive folder—the folder that holds the actual application.

Project files are tiny compared to video files and they're worth any extra disk space you can allot. In 'Preferences (General and Undo)', you can specify how many versions of a single project Premiere will keep an archive of (up to 100), and the total number of archives Premiere will keep (up to 1,000).

#### **In And Out**

When editing clips in the Source window, holding down [Alt] and dragging the In or Out points will split them into separate Video and Audio In/Out points, allowing for an L or J cut before the clip is even in the timeline. While [Alt] is held down, the In and Out points for audio and video are edited separately.

#### **Poster Frame**

If you have several clips that contain similar footage at the beginning, it may be tough to tell which is which. If you have a clip

selected, Premiere will show you the first frame in the clip in the clip preview window. However, you can move the scrubber to a different part of the clip, and click the small screen icon in the corner of the clip window. This will tell Premiere to use that particular frame as the 'poster' frame.

#### **Export Bin**

If you would like to use the same collection of clips in another project, Premiere allows you to export the contents of a bin to a text file. But finding this feature is a little tricky. With the bin selected, you can go to the Project menu and choose

set to specific F-keys so you can quickly switch between an audio layout of the palettes and one for effects.

#### **Master Clip**

Double-clicking a trimmed clip in the timeline will open that edited clip in the monitor window.

[Ctrl] + [Shift] + double-click will open the Master clip in the monitor window with the current clip's in and out points. In this way, more than one segment can be pulled from a Master clip.

#### **Batch It**

Batch capture saves you hard drive space as well as archiving space by



'Export Bin From Project'. You can also right-click a particular bin and choose to export the contents.

To open the bin, open it as if it was any other document and Premiere will use it accordingly. When opened, the bin will exist in its own window. You can drag and drop the bin or its contents to your current project.

#### **Customise**

Premiere lets you customise the F-keys to choose options in menus. For example, workspaces can be

'previewing' the video before you capture it. Using a saved 'batch list', getting back your video is simply a matter of capturing from the original tape using the list. This feature is accessed by going to File > Capture > Batch Capture.

#### **Audio Editing**

To anyone editing sound in Premiere, the small workspace in the audio track doesn't give you much in the way of precision. Holding down [Shift] while adjusting points in the audio will give



#### **Using The Redaction Add-In For Word 2003**

Sleek editing with the Redaction tool lets you hide or remove top-secret data in confidential documents

#### **Anup Nair**

R edaction refers to careful editing of a document to remove confidential information. The redaction tool is ideal for government documents, legal papers, insurance contracts and other similar sensitive documents.

For instance, if you have to distribute a document that contains some private information, then you should use the Word Redaction tool that can hide valuable details while keeping the rest of the document intact. With this tool you can redact text within MS Word itself. Moreover, you can generate a copy of the document containing your selected redactions while leaving the original document intact.

#### **Download And Install**

**STEP** Microsoft's redaction tool installs only if you have MS

Office 2003 on your machine. You need to download the RedactionSetup.msi from http://snipurl.com/gtka.

Once you download the tool, it's important that you close all MS Office applications before you start the installation. Next, you can run the installation by double-clicking the

body of a document, text inside tables, headers and footers, footnotes and so on. However, the current version of the Redaction Add-in does not support the redaction of graphics (including text inside graphic objects, such as text boxes or frames). The redacted text will appear as a solid black bar in the redacted version of the document.

#### **Using Redaction** STEP On A Document

We recommend you to work in the 'Print Layout' view while using the Redaction tool as it displays the entire document including Headers and Footers. Then, select the word or

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The original Word document with content marked for redaction

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The Redaction toolbar appears in a detached form

RedactionSetup.msi file and follow the instructions. Once you are finished with the installation, open MS Word 2003. You will see that a toolbar for redaction appears at the centre of the screen. You may dock this toolbar wherever you like.



#### **What Can Be Redacted**

STEP Using the Word 2003 Redaction Add-in, you can redact any text, including text in the the line of text that vou want to redact. If the text is within a table then select the particular row, column, cell or table.

On the Redaction toolbar, click 'Mark'. The marked text will turn grey. Repeat the above method for each

section of the document you would like to mark for redaction.

Once you have finished marking the text for redaction, click 'Redact Document' on the Redaction toolbar. Depending on the complexity (such as tables) and the marked content for

redaction, the process may take a few seconds and you will be prompted with a message when it is completed.

#### Saving As A **STEP Redacted Document**

If you click 'Yes', on being prompted with the message "Do you want to protect the redacted document so it cannot be modified?", then Word selects a random password and creates a separate redacted document which cannot be edited at all. Click 'No' if you prefer to have the option to edit the redacted document later. Save the document with the redactions just as you would save any MS Word document.



The redacted Word document appears with black bars



#### **Removing Redaction marks**

The content in your original document that was marked for

redaction remains so unless you remove the marks yourself.

To remove a single redaction mark, select the marked text and click 'Remove Mark' on the Redaction toolbar. To remove all the marks, select the entire document by using [Ctrl + A] or choose 'Select All' under the Edit menu. Now, on the Redaction Toolbar, click 'Remove Mark'. Repeat the same process for Headers and Footers.

The Word Redaction Add-in will definitely reduce your concerns

regarding vital office or personal documents. And its ease of use only adds to the necessity of such a tool. anup\_nair@thinkdigit.com



You can protect the redacted document from modification

#### 0

#### Bet You Didn't Know

#### Multiple Clips In Adobe Premiere

In Adobe Premiere, you can drag multiple clips to the Source window, and choose between them in the popup. To clear the clips stored in the Source window, use [Ctrl] + Backspace. This will delete the currently visible clip and move the others up the list—subsequent deletes will remove the later clips.

you increments of one per cent and display a delta or offset value next to the adjustment.

#### **Backwards**

To play a clip backwards, right-click on a clip and set the 'Speed' option to -100 per cent. Alternately, you can also select a clip and choose 'Speed' from the Clip menu.

#### **Palette Dock**

Most people don't know that if you drag a palette to just below another one, they 'dock' vertically. This is great for managing screen real estate since moving one palette moves the others with it. Press [Tab] to hide the palettes, and [Ctrl] + [Tab] to toggle between the timeline and monitor panes.

#### Flash MX 2004

#### **Navigation**

Navigating through scenes and symbols can be achieved by pressing [Shift] + [F2] and [Ctrl] + [L], for scenes and the Library respectively.

#### Restoring

Well, you messed it up all, the stage looks pathetic and you want to just get rid of everything. What do you do?

The easiest way to erase everything on the Stage is to double-click the Eraser tool in the toolbar. However remember that this works only on one frame at a time, i.e. if the playhead is at frame

13, it will erase everything on Stage at frame 13. To erase other frames move the playhead to those frames.

#### **Edit Bar**

With the release of Flash MX 2004, Macromedia did some tweaking with the interface; while some were good, others were irritating. One of them was moving the Edit bar from underneath the timeline. Want to know how to get it back?

Pressing [Ctrl] + [Shift] and double-clicking on the Edit bar will move it to its rightful original positionunder the Timeline.

To remove the Edit bar from your workspace again, choose **Window** > **Toolbars** > **Edit Bar**. It's gone forever!

The Edit bar serves three basic functions Zooming in and out of the Stage, navigating through looped or nested Timelines, and navigating through scenes and symbols. These functions can be performed by some tricks without touching the Edit bar.

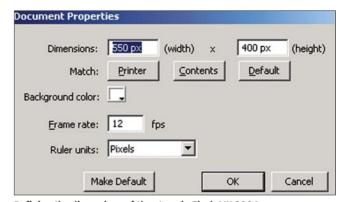
#### Zooming

To zoom, press [Ctrl] then press any number on your number pad between [1] and [8]. These numbers represents zoom levels. So when [Ctrl] + [1] is pressed it represents 100 per cent zoom, [Ctrl] + [3] zooms to 300 per cent and so on. If using shortcuts isn't your thing, you can use the Zoom tool. Click to zoom in and [Alt] + Click to zoom out.

#### The Stage

By default the stage is fixed to 550 x 400 because this is the largest size a flash movie can be, to fill the browser window at 800 x 600. But hardly anybody uses such a big stage; moreover many Flash projects require custom settings.

To modify the stage settings, open the Document Properties dialog box and change the Stage dimensions to something that you generally use for most of your projects. You can also change the



Defining the dimensions of the stage in Flash MX 2004

background colour and frame rate as well. To make these changes permanent, click Make Default, so every time you launch a new document, the Stage will use these settings.

#### **Printing Dummies**

Let's say you've created 15 dummy frames, and then realise that you have to take printouts of them. 15 odd frames of content will take forever to print, and also waste a lot of paper and ink. There's a better way:

In the File menu, select 'Print Margins'. In the subsequent dialog box, leave the margin settings as they are and choose All Frames from the Frames menu, and then Storyboard boxes from the Layout menu. Click OK and then Print ([Ctrl] + [P]).

This will print all the frames, in boxes on a single sheet of paper. The trick for effective presentation is to have some difference in subsequent frames.

#### Flip-books

Since you already have the animation ready, it can be used to make a flip book. To print the animation, convert it to a movie clip and print the symbol's Timeline. Once printed, cut apart the squares on the printed page and staple them together in chronological order of your movie. Now just flip through the pages to see the animation and you've got yourself a flip-book!

#### ımages



Bitmaps are often used in Flash movies and

that add makes the movie bulky—not good for Flash. One can reduce the size of the JPEG images by tweaking the Publish settings for the entire length of the movie, but more often than not, this plays havoc with the pictures—one may look OK but the next might have noise.

To customize the publish settings for individual bitmap images, right-click on the image's name in the Library and choose 'Properties'.

In the 'Bitmap Properties' dialog box, deselect 'Use document default quality' and then change the number in the 'Quality' field. Higher numbers result in higher-quality images with a larger file size. Lower numbers result in lower quality and lower file size. After you set the number, click 'Test'.

The dialog box reports the starting file size and the new file size for the image.

Typically, setting the Quality to 50 can make a 500 KB image publish at less than 20 KB!

You can also use the mouse to drag the image around in the preview pane of the dialog box to see how it will look. If it's grainy, raise the number in the Quality field. If it still looks perfect, you can decrease the quality even more.

#### Organisation

Perfection is all about organising. When working with Flash you have to deal with two files, the raw working original files and the published files. Separating them into two separate folders tends to increase over all readability.

#### **Digital Tools I Tips & Tricks**

Manually moving the published \*.SWF file into other folder at times gets on your nerves. Here's how to do it automatically.

Open the 'Publish Settings' dialog box and click the 'Formats' tab. Click the folder icon present next to

the filename for each file type. This will let you choose a specific folder for the

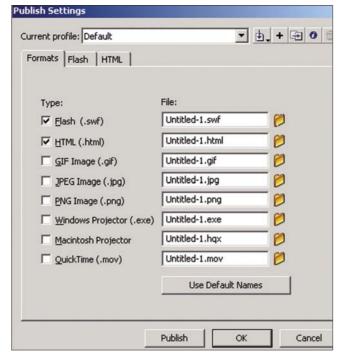
selected file type.

If you keep all your \*.FLA files in the folder named 'work' and published files (\*.SWF) in the 'pub' folder, then type two dots and a colon (...) before the filenames in the Publish Settings. For example, if dummy.fla is saved in folder 'work', and you want the published movie to go into the 'pub' folder, just enter ..:dummy.swf for the Flash filename. When you publish the movie or run a test movie, the .swf file will directly be put in to the 'pub' folder.

#### Replace

Ever stumbled upon a situation where you need to find every instance of something in Flash and replace it with something else?

Choose the Edit menu, and go to 'Find and Replace' to open the 'Find and Replace' dialog box. Here, you can locate and replace text,



The Flash Publish Settings toolbar with the various available options

fonts, symbols, sounds, video clips, bitmaps, and colour.

Here's how to use the magic wand: draw an ellipse and a box on the Stage, and convert them to symbols called ellipse and box. Leave them both on the Stage.

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DUPER, HEROIC WEB
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CHOICE THEN IS...
macromedia
FLASH

Choose Edit > Find and Replace. In the dialog box, choose 'Current Scene' from the 'Search In' menu. Choose 'Symbol' from the 'For' menu. Choose 'Box' from the 'Name' menu. This command will locate all instances of the box symbol. Similarly choose ellipse from the 'Replace With' menu and click 'Replace All'.

#### Spell Check

Flash has an inbuilt spell checker. Before you start using it, you need to set it up. Choose Text and then Spelling setup.
There, select all the options you would like.
Once done, the checker is set for action.

Type some text into the Stage window. To check it, just select it and run the spell checker. If there are suggestions it likes to offer, a dialog box pretty much like in MS Word opens, and you can select to change the spelling or discard it.

#### **Sharing**

Shared Libraries are the bane of Flash MX 2004, and most of you must have already experienced it in some form or other. If you need to open an original Flash document that an external library came from, so that you can edit one of its symbols, press File > Open and locate the file. Flash will tell you that it's already open. This is because to Flash, the library itself is the document. The only way to close the external library is to undock it from the panel set and press the 'Close Panel' button.

To close all open libraries easily, choose File > Close All. Any library or document that is already open will close immediately. Though not the best solution, it's easier.

#### **Reduce Size**

Open up a large Flash file in Flash MX 2004, and from the File menu, select 'Save and Compact'. This feature should reduce a 10 MB Flash file to about 2 MB! Perfect for those with dial-up connections!

#### **ActionScripts**

Flash MX 2004 comes loaded with a few new ActionScript class files that help you make better movies.

The MovieClipLoader class enables you to write a preloader that has negligible file weight—a necessity for any good preloader, and it lacks loop statements. The best part is, you can then turn it into a component and forget about writing a preloader script again.

One problem, though: the onLoadProgress() method of the MovieClipLoader class—the part used to trigger an animation for a progress bar—does not fire when you're testing it on your computer.

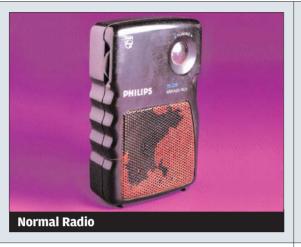
Instead of posting a movie with the preloader script to a Web server, and then reposting it every time you make a change, try this: post one jpeg image to the server and use the loadClip() method to call the absolute URL. Leave the image on the server permanently so you always have a quick way to test your preloader scripts.

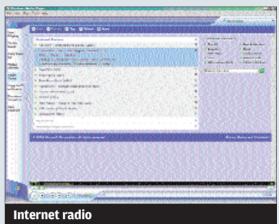


#### Normal Radio v/s Internet Radio

Music makes the world go round! I had a novel experience listening to music-the old way using a transistor and then the new. that is, tech way through the Internet Radio. While I am not a music freak, this test was indeed a fun affair

Preethi Chamikutty (preethi\_chamikutty@thinkdigit.com)





1

I chose a typical transistor to experience the old way of listening to music. No, I didn't go and buy one—I'm too lazy for that. A little bit of hunting around the house and I found my father's old Philips transistor. Asked him if the antique piece was still working and he gave me an earful (I guess he is still very fond of it). It had cost him Rs 300 at the time, but I got it free! I also had to purchase two pencil cells for Rs.15.

This time I am using a PC—something I'm familiar with! I have a computer with an Internet connection. All I needed was the right software (Windows Media Player or something similar) that would let me stream radio through the Internet. As for listening to the music, I used the speakers at home and headphones at work.

2

I tuned to a popular FM channel using the dial. After listening to static for a few seconds, I finally got to listen to "Kajra Re..." from Bunty Aur Babli. Indeed, it was a neat little radio in good condition. As soon as the Radio Jockey started his talk, I changed the channel. I listened to Dido for a while after that.

I used the Windows Media Player (version 9) and selected the Radio Tuner option to access Internet Radio. There were a number of stations on the featured list such as CocoRadio.com, Krock-Echo, MSNBC and more to choose from—in other words, any global radio channel! But don't expect local channels here. However, once I was on the site, the music did not play continuously, since the player had to buffer the music to my hard disk.

3

I could carry the transistor wherever I wanted. It gave me 100 per cent ease of mobility.

The computer being stationary—I couldn't have any music when I was on the go. So thumbs down to the PC when it comes to portability.

4

Using the same old transistor I can listen to all the music I want except for international radio stations. The radio can play non-stop till the battery drains out.

I am not excessively fond of listening to music in this 'pause-resume' manner! But then I had no choice here!

Total Time Taken: 10 minutes
Total Cost: Rs 15



Total Time Taken: 20 minutes
Total Cost: Rs 0



AND THE WINNER Is... The handy portable transistor—some things are just better the old way. While the transistor may not play your favourite collection, it is certainly more hassle-free when compared to a computer. Songs do sound better on Internet radio, but the transistor offers mobility.

Moreover, with the transistor you don't have to worry about a slow or no Internet connection or even a power failure for that matter. Music is a form of relaxation and one would like this aural form of recreation to be as convenient and hassle-free as possible.



#### No Show!

I have a number of players installed on my PC, such as Windows Media Player 10, RealOne Gold player, Hero Soft 2000, VCD Cutter 4.04, PowerDVD XP, and others. But none of these players are able to play .avi files. Different errors such as "no video data available", "file is compressed", "audio stream is not available" and so on turn up. The players are also unable to convert the .avi files to the .mpg format. But these files play easily on my friends' computers, which have similar configurations.

Kajal Sarkar, via e-mail

The problem you are facing is because you haven't installed the codecs required to play compressed AVI files on your computer. There are codecs such as DIVX, XVID, MPEG-4, etc.

These codecs do not come bundled with Windows or the media players. To view your AVI files, you first need to install these codecs. You'll then be able to view them in any media player such as Windows Media Player.

DIVX codecs can be downloaded from www.divx.com, and XVID codecs can be downloaded from www.koepi.org. Alternatively, you may install a codec pack such as the XP Codec Pack from www.xpcodecpack.com.

Alternatively, you can install VLC Player from www.videolan.org (or the *Digit* CD, June 2005) and use it to play your video files.

#### **Still In Hibernation**

Recently, when trying to shut down my computer, I chose to hibernate it. Nothing seemed wrong, but when I tried to restart it, neither the Windows 98 nor the XP OS booted. That there was no way to reinstall either OS only compounded the problem. How can I avoid this in the future?

R Panneer Selvam, via e-mail

This problem occurs when the hardware—such as the video card—has drivers that do not properly support the hibernate feature. Another common cause for this problem is, when you hibernate the system and then make hardware changes such as adding or removing a hard drive or removable drive, the computer tries to restart in hibernate mode and cannot detect the changes.

Another year, another outstanding performance

You do not need to reinstall Windows to solve the problem. While the system boots, press F8 and opt to delete restoration data and boot into Windows to start Windows afresh.

#### **Cell Phone As Modem**

I have a Nokia 6630 cell phone and a postpaid connection that allows accessing the Internet, but I want to use my PC to surf. How can I do this?

Ashish, Assam

To do this, you will first require the Nokia DKU-2 cable to connect your Nokia phone to your computer. Next, you need to install the drivers for this cable from the CD that came with the phone. If you don't have this, you can download the drivers from the Nokia Web site.

The easiest way to set up and configure your Nokia 6630 as a modem is by installing the PC Suite. This includes the modem functionality and facilitates easy configuration of your phone as a modem in Windows. Another way is to download the GPRS settings wizard for the Nokia 6630 from the Nokia Web site and transfer it to your phone using the PC Suite and the DKU-2 cable or wireless connection.

Start the application and select the required settings. The wizard will detect the correct settings of your provider and save it to your phone. Some of the settings might not be available for your particular phone model and you may have to go to http://snipurl.com/digitqa and have them sent to your phone free of charge. If the GPRS settings wizard is unable to configure your phone properly, you will need to call the service provider for the settings.

#### **Quiet Linux**

I have a PC running Windows XP and Turbolinux. While using Turbolinux, the sound card does not work. Is the motherboard CD required to install the sound driver? I am

new to Linux. Another problem I have is, I can't find the boot.ini file on my C: drive despite selecting the 'Show hidden files and folders' options, and am not able to save it after modifying it in Notepad.

Tuku Dash, via e-mail

A It is very unlikely that the sound card drivers for Linux will be available on the motherboard CD, but you may as well give it a try. If they aren't there, you can download them from http://www.realtek.com.tw and install them in TurboLinux. You may also try the ALSA driver from www.alsa-project.org.

To view and edit the boot.ini file, go to Control Panel and open 'System Properties'. Navigate to the 'Advanced' tab and click on 'Settings' under 'Startup and Recovery'. In the window that opens, click on 'Edit'.

The boot.ini file will open in notepad. Click on 'Cancel' to close the previously opened window and close 'System Properties'. You can now edit the boot.ini and save it, and the changes you made will be visible the next time the system boots.



## Play... Play...

I have a Sony-Ericsson K700i mobile. I recorded some videos and saved them on my PC via Bluetooth. I can't play the videos—they're in a format called 3GP. What do I do?

Sapna Rajput, via e-mail

The videos recorded on the Sony-Ericsson K700i are in 3GP format, which is a low-res variation of the MPEG-4 standard. 3GP videos can be played on the PC using a player such as VLC Player from www.videolan.org or Quicktime Player from www.apple.com/quicktime.

## **Can't Standby**

I just formatted my system and my 'Standby' option is disabled. There is no option in the Power Management choices in Control Panel either. How do I get this back?

Ashish Namdeo, via e-mail

You've mentioned that you just formatted your system. The "Standby" option is unavailable when you haven't yet installed the display drivers for your display card or when the display card or drivers of your system do not support power management features.

You will be able to enable the Standby option by installing the latest drivers for your display card from the manufacturer's Web site.

## **Digitising My Music**

I have a Sony Discman (NS-700) and I would like to know if there is any way to convert audio cassettes to ATRAC3.

Siddharth Sen, via e-mail

Sony's ATRAC3 (Adaptive TRansformation Acoustic Coding) format is a proprietary audio compression technology similar to MP3, which allows audio to be compressed to a tenth of its original size. You can convert any audio on your computer to the ATRAC3 format.

For this, you first need to install the Sony ATRAC3 Audio Codec from http://snipurl.com/digitqa2. You may then use a sound editor such as Sony Foundry to convert the audio cassettes to the ATRAC3. Connect the audio cassette player to the line-in of your sound card using a stereo cable.

Double click the volume control icon in the system tray. Click on 'Options' and then 'Properties'. Select 'Recording' and click 'OK'. Check the box next to Line-in and close the volume control window. These steps will configure Line-In to be the recording source.

## **POP Goes Gmail**

I want to get a Gmail account. I want to know how can I get invited and what the SMTP and POP3 settings will be if I want to configure it for use with Outlook Express.

R Kumar, via e-mail



You no longer need an invite to open a Gmail account. You just have to go to www.google.com/accounts/NewAccount. Once you get a new account, you can use Outlook Express to send and receive mail to and from this account.

First you need to log into your Gmail account and 'Enable POP' access. Now open Outlook Express, click the 'Tools' menu and click on 'Accounts'. First click 'Add' and then 'Mail'. Enter your name in the 'Display Name' field and click 'Next'. Enter your full Gmail address in the email address field and click 'Next'.

Enter "pop.gmail.com" in the 'Incoming mail server' field and "smtp.gmail.com" in the 'Outgoing mail server' field, and click 'Next'. Enter your full Gmail address in the 'Account Name' field and your password in the necessary field. Click 'Finish'.

Now, under 'Accounts', click on pop.gmail.com and click on 'Properties'. Click on 'Advanced' and check the box next to 'This server requires a secure connection (SSL)' under

'Outgoing Mail (SMTP).'

Enter 465 in the Outgoing Mail field. Check the box next to 'This server requires a secure connection (SSL)' under 'Incoming mail (POP3)'. The port will change to 995. Click on the 'Servers' tab and check the box next to 'My server requires authentication.' Click 'OK'. You're all set!

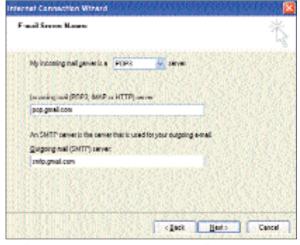
## **SATA But No DOS?**

I'm using a SATA HDD with Windows XP, but the problem is that Windows XP cannot go to the MS-DOS prompt. But I need to use DOS because I want to change a system file, which is not possible through Windows. I tried with the start up disk also but it cannot

detect the C: drive.

Harikishan A K, via e-mail

A lt's not possible to access a SATA drive in DOS mode. You have to do the changes from within Windows. Keep in mind that changing a system file without knowing what the consequences might leave your system unbootable.



Configure your computer so OE can use Gmail





## **Use Microsoft Photo Story 3**

Photographs hold the key to a treasure trove of fond memories. Learn how to create your own photo story

## **Anup Nair**

hoto Story 3 for Windows makes sharing life's memorable moments easier by empowering you to add captions, effects, music and motion to your digital photos—and thus turn them into your own inimitable story. We help you master this art in just five easy steps.



## **Download And Installation STEP** Photo Story is available at: http://snipurl.com/e0cx

It's a genuine Microsoft installer file (PStory.msi). For successful installation, Windows Media Player 10 is needed, so make sure you have it.



## **Begin Your Photo Story**

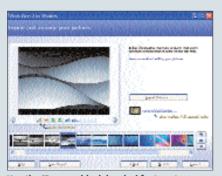
STEP Select Photo Story 3 from the Start menu-it will launch the easy to use wizard. Once that's up and running, to begin a new project, select 'Begin a new story'. You will be prompted to add pictures to your project. These pictures can be selected from either your hard drive or from MSN groups.

Moreover, selecting pictures is uncomplicated, courtesy the easy to navigate File browser window with thumbnail view. A slider at the right hand top corner allows changing the size of the thumbnails. At one go, 300 pictures can be added to a single story and it supports the following file types-.bmp, .dib, .eps, .gif, .jhif, .jpe, .jpg, .pcd, .pcx, .png, .psd, .rle, .tga and .tif).



Import images using a convenient File browser

All the added pictures will be arranged in a form of a film strip at the bottom of the wizard, and you can rearrange them in any way you like. Then, each picture can be given effects or corrected for colour and other artefacts. Photos with incongruous aspect



Use the 'Remove black border' feature to correct the aspect ratio

ratio can be corrected to the ideal 4:3 aspect ratio by using the 'Remove black border' feature.

## **STEP** Now you can give specific titles

## **Adding Title And Motion**

or captions to each photo. The text tool is similar to the one found in MS word and is also easy to grasp. You can align the text at the top, centre or at the bottom of the screen. If you missed adding effects in the previous step, you can still add those in this step using the drop down menu.



Customise motion and add voice to the photo story

Next, you can set motion effects for individual photos and then add transitions between two images. The 'Customise Motion' button provides the interface to set the motion and transition effects.

Under the 'Motion & Duration' tab specify the start and end position of a picture's frame to achieve the motion effect. Under 'Transition', choose the type of image transition to be applied such as cross fade, diagonalinward/outward and so on.

In order to give an authentic story feel to your pictures, Photo Story 3 provides a narration tool. By using a mic

along with this tool you can record a narration for your story. If you haven't saved the project so far, save it immediately before you proceed further.



## **Adding Background**

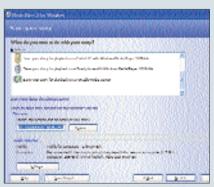
Apart from narration, Photo Story 3 also allows you to add a background score that plays throughout the length of the story. To make your story interesting add different tracks to a range of pictures or individual pictures. The 'Create Music' option allows an easy integration of pre-recorded tracks in case your collection does not have a particular genre of music.



'Create Music' lets you add a background score

## **Saving Your Story**

**STEP** Till this step your work of art has been saved in the .wp3 format-Photo Story's native format that



Save your photo story for viewing at lesiure

opens only in Photo Story. You can save all your projects as activities namely for Computer, E-mail, Pocket PC, Smart Phones and Portable Media Centres in the Windows Media Audio (WMA) format too. This lets you view your photo story in Windows Media Player.



## **Dumb DLLs!**

Recently, when installing a software, I got an error message: "Error number:0x0070725

**Description: Incompatible Version of the RPC stub** 

Setup will now terminate"

I cannot install this software and it's important to me. I have a Pentium III with 192 MB RAM running Win 98.

Ariiit. Via e-mail

This error is caused by an incompatible version of a DLL file that was installed on your system, such as Oleaut32.dll, Olepro32.dll, Asycfilt.dll, or Stdole2.tlb. There are three possible solutions.

If Microsoft Office 2000 or a component is installed, go to http://snipurl.com/digitqa5 and install Office 2000 Service Release 1. If not, download and install the MCRepair Tool from http://snipurl.com/mcrepairpatch. When prompted to overwrite newer files, click 'Yes' for each file.

The above solution applies to all versions of Windows, but the next solution applies for Windows 95/98 only: in Windows 95/98, this error is caused by a bad version of oleaut32.dll. Remove the old file and reinstall it. Be warned that this requires modifications to the System folder, and if not done correctly, can cause serious problems.

Download but do not run http://snipurl.com/digitqa6 for Windows 98. For Windows 95, download-but do not run



http://snipurl.com/digitga7. Select Start > Shutdown > Restart in MSDOS mode and click 'OK'. At the command prompt, enter the following commands:

CD c:\windows\system rename oleaut32.dll oleaut32.old exit

Windows will restart. Ignore the error message that follows. Now run the downloaded file DCOM95.EXE or DCOM98.EXE according to your version of Windows. This will install the correct version of the file oleaut32.dll. Restart Windows.

Your software should install now. However, if your computer fails to function properly after you do this, you can restore the original file by following these steps. Select Start > Shutdown > Restart in MSDOS mode and click 'OK''. At the command prompt, enter the following commands:

CD c:\windows\svstem rename oleaut32.old oleaut32.dll

Windows will restart.

Windows XP does not allow a system file to be replaced while it is in use and hence, you will not be able to replace or delete it in the Windows XP environment. But there is a way around this. You can rename the file you wish to delete and replace. Then, copy the replacement system file to the location of the original file. With this, there is no need to boot into DOS.

You may do this using Windows Explorer. When you boot the next time, the new file will be loaded as the system file and if necessary, you may delete the file you renamed earlier. But it is always wiser to keep that file as a backup.

## Seagate wins the PCQuest Users' Choice Awards 2005 for Hard Drives as well. Seagate

## **Encryption Issues**

My system is running Windows XP Professional (SP2). Recently, I reinstalled the OS and now, I cannot access documents and files. They show up in green, and the 'Properties' tab shows that these are encrypted. How can I access these files?

Babu, via e-mail

It seems that your C: drive uses the NTFS file system and that the files were encrypted with a password. Hence, these files will be accessible only to the user of the previous installation of Windows XP. You'll be able to decrypt these files using software such as Advanced EFS Data Recovery, which you can download from http://snipurl.com/digitqa3.

## **Surging Loss!**

I have seven machines in my office connected on a LAN. Recently, when I restarted one of the machines due to a flickering screen, the D: partition

## **Get Help Now!**

E-mail us your computing problems along with your contact details and complete system configuration to sos@jasubhai.com, and we will 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!

was no longer there. Now it shows up as free space. Even recovery software can't read this partition anymore. How can I recover my data? This machine was running Windows 98. How can I save other machines from such a problem?

Piyush, via e-mail

From what you've described, it seems that an electric surge has destroyed the data on your D: drive. The only way to prevent such a thing from happening again is by installing an online UPS for all your computers.

To recover data from crashed drives, there are some software solutions such

as RFAT Studio, EasyRecovery Pro, etc. that you could try.

## **Corrupt Registry Keys**

I'm having a problem installing programs such as MSW LOGO and Q BASIC. When I get about installing them, a message box appears, stating: "C:\PROGR~1\Symantec\S32EVNT1.DLL. An Installable Virtual Device Driver failed DLL Installation. Close/Ignore". What do I do?

Jayesh S Pandya, via e-mail

Open the registry editor. Locate the key HKEY\_LOCAL\_MACHINE\SYSTEM\ CurrentControlSet\Control\VirtualDeviceDrive rs\VDD. Delete this key. Then, add a value with VDD as the Value Name, and REG\_MULTI\_SZ as the Data Type. When the multi-string editor appears, leave the entry blank. If this doesn't work, or if you are unable to create the VDD key, it may be necessary to delete the entire VirtualDeviceDrivers key. ■

## Go, Back Up!

A hard disk can crash anytime. You know that. And backing up meant either buying a spare hard disk or burning tons of CDs... until now. Enter the now-affordable DVD-Writer

his monsoon will not be forgotten easily by the *Digit* team for multiple reasons, and they're all bad. First, almost the entire team was stranded in office following the cloudburst of July 26. And just as life at *Digit* was returning to normal, another tragedy struck. This time, it was a hard disk crash epidemic.

It started with all the copy editors losing their data, and the problem escalated to epidemic proportions when it spread to the Test Centre. To top it all, the hard drives on the main server also died.

Well, we learnt our lesson the hard way, and decided to change our backup processes. The most important thing to do was to do away with CD-RWs and go in for DVD-RWs. For this, we would need to replace all the CD-Writers with DVD-Writers, and who else was to be handed this task but Yours Truly! So off I went, and I decided to chronicle my quest since it would help you, our readers, too.

Now, there's a dark side to this world of high-capacity storage: different formats and layers spring up uncomfortable compatibility issues. It's not as simple as the world of the 700 MB CD-ROM. So before you go out and buy a DVD drive, there are some things you need to know.

There are two types of DVD media available—single- and dual-layer. While the single layer variant has a capacity of 4.7 GB per disk, dual-layer offers a whopping 8.5 GB of space on a single flat disk. What this also means is there are two types

of writers available. To further complicate matters, each of the DVD media has two flavours-called formats-denoted DVD+R and DVD-R. To write on both, your DVD drive should support them. There are some drives that support only one format, and this is something to be wary of. Your best option to avoid compatibility issues is to go for a Dual Layer-Dual Format (DL-DF) drive.

On my way to the mecca of hardware in Mumbai—Lamington Road—I was making a mental note of what brands and models to ask for, the favourites being Lite-On and Sony.

My first stop was a shop that stocked only Sony drives. From past experience, we know there are two types of Sony drives available. There are subtle differences between the two, the most prominent being the markings on the There's a dark side to this world of high-capacity storage: different formats and layers spring up uncomfortable compatibility issues bezel. While the OEM drive has just the DVD-RW logo, the real Sony-made drive has 'Sony' on it. Being a premium brand, Sony products are usually a little expensive. The DL-DF drive by Sony was about Rs 4,000. Not enough choice for a decision yet. Onward ho!

At the next shop, I was presented with two choices: Lite-On and Pioneer. Both make excellent DVD drives and should ideally pose no problems. However, with Pioneer drives, there is a high possibility of running into media compatibility issues. There is a list of supported and compatible media on their Web site, and if you stick with these, you will have no problems. But this also means you may not be able to use new media that may be introduced. A tricky situation... For the record, the A109 is Pioneer's latest drive, and retails for around Rs 6,000.

Lite-On has always been our favourite: our experience has shown that there aren't too many compatibility issues with these drives, and they don't cost a bomb. During my hunt there were two models available from Lite-On: the 1673s is the running model, and the 1693s is the new flagship model, which caught my eye. We'd recommend the DL-DF 1693s if money is not an issue. The 1673s retails for about Rs 2,750, while the 1693s costs about Rs 3,100.

Plextor, too, should be a drive of choice if you care for the best and money is not a problem. Plextor drives have always been known for some exceptional quality and don't normally disappoint. But they do come at a premium, and retail for about Rs 7,000.

BenQ, too, markets some good drives, and should be considered if you can't locate Lite-On dealers in your vicinity. The LightScribe technology with BenQ drives is an

added feature. Using this, you can label or even etch photographs on the nondata side of the media. This, though, requires a special coat on the media, and such disks are not yet freely available.

Apart from these brands, the regulars—LG and Samsung—also have DVD drives, but you can safely forget about them if Lite-On is available. For our backup process, I got the Lite-On 1693s for around Rs 3,100. And yes, we've changed schedules, and now back up twice a month!

Want more of Agent 001? Turn over to read his answers to your buying questions

Illustration Pradip Ingale

## **iPod Confusion**

I want to buy an iPod, but am unable to decide on the model. Budget is not an issue—I want the best available. Also, where I can buy one from?

Ms Motiwalla

Till recently, three types of iPod were available—the iPod, iPod Mini, and iPod Shuffle. Apple recently phased out the iPod Mini and brought in the iPod Nano, which has a colour screen. It comes in 2 GB and 4 GB variants. While the regular iPod has a capacity ranging from 20 GB to 60 GB, the Shuffle ranges from 512 MB to 1 GB. The iPod is hard drive-based and has a colour screen, while the Shuffle and the Nano are based on Flash memory. The Shuffle lacks a screen.

Over a period of time, all hard-drive based players are prone to failure, but they're cheaper than Flash memory-based players.

The regular iPod offers a large storage capacity at a reasonable price, but do remember that it's a hard drive-based player. The iPod Shuffle offers limited capacity and functionality. The iPod Nano offers the best of both worlds—relatively good storage capacity and the robustness of Flash memory.

The regular iPod starts from Rs 17,000 and goes up to 30 K, depending on capacity. The iPod Nano will set you back by Rs 13,000 for the 2 GB model and Rs 18,000 for the 4 GB. The iPod Shuffle retails at around Rs 5K for the 512 MB and Rs 7,500 for the 1 GB.

You can call Apple's Bangalore office at 080-25550575 for details about your local dealer.

## Which Printer For Me?

I want to purchase an inkjet printer either from Canon or HP. My monthly usage is 200 B/W documents, 30 colour documents and 10 photos. I have assigned a budget of Rs 8,000 at the most. I have used the Canon S200SPX previously.

Dr N V Krishna

From the usage pattern you've mentioned, I think you can safely go in for any mid-range printer, usually costing between Rs 5 K and 7.5 K. Both HP and Canon, have good models that should fit your needs. I would recommend you go for the new Pixma range of printers from Canon. These offer good printing speeds and a decent number of features for the price. Also, they feature individual ink tanks. For your budget, I would recommend the Canon Pixma iP 3000. (Refer the *Digit* August 2005 issue for more on printers.)

## **Dial M For Pentium**

I am considering buying a laptop for routine work. I have done some preliminary research on the Internet and in the local market. I am confused about certain parameters, though. What is the difference between Pentium IV, Pentium M and Celeron M, and what should I purchase?

I will use my laptop for programming on C/C++, VB, Java, Oracle, SQL and .NET to name a few, in addition to

As of today, opting for anything other than Centrino would be foolish using it for multimedia—movies, music and games. Most importantly, my budget is a modest Rs 50 K.

**Peeyush Tripati** 

There are a lot of differences between the Pentium IV and Pentium M processos available for laptops. With laptops, parameters such as battery life and weight dictate the design route a manufacturer would take.

Before the advent of Intel's Centrino platform, the majority of laptops were fitted with desktop variants of Pentium III and then Pentium IV processors. But since these processors were designed to fit in a desktop system, when it came to conserving power, they were inefficient and hence, the battery life of laptops was hugely compromised.

Intel then came up with a new platform called the Centrino. This platform consists of a processor—the Pentium M; a chipset; and a wireless adapter. It was designed from the ground up to be power-efficient. Also, since most of the components were integrated, it helped in reducing bulk.

The Pentium M processor, under no load, scales down its frequency to save power. For example, a 2 GHz processor will scale down to, say, 700 MHz when there is no load, but within microseconds, it attains 2 GHz when additional horses are called for.

AMD's Turion processor is also based around similar technology, and is equally good. The Celeron M is similar to the Pentium M in the power efficiency factor, but like the desktop Celeron, performance takes a back seat.

As of today, opting for anything other than Centrino would be foolish. HP has some good Centrino-based models in the Rs 45 K to 50 K range. Try the Presario M2000 series—it should come to under 50K. ■

## **My Budget PC!**

Month after month, I get letters asking for a PC configuration for about Rs 30K. Here's the configuration I would put my money into! If you need better performance, change the processor to one with a higher rating, put around a GB of RAM and if you want to game, add in the mentioned optional graphics card.

Choose Your Computer							
Component	Make	Cost (Rs)					
СРИ	AMD 939 pin Athlon64 3000+ OR	7,500					
	AMD Athlon64 3000+ (939 pin)						
Motherboard	MSI RS480M2	6,500					
RAM	512 MB DDR 400 Hynix	3,500					
HDD	80 GB SATA Samsung/Seagate	2,650					
Monitor	17" Acer 715	6,500					
Keyboard	Logitech	300					
Mouse	Logitech Optical Mouse	300					
Cabinet	Any cabinet you like	500					
Power supply	Antec / VIP 350 W power supply	2,000					
Optical Drive	Lite-On / Sony Combo drive	2,750					
Speakers	Creative Inspire 2.1	2,400					
Total		33,800					
Graphics Card	XFX Geforce 6600	12,000					
(optional)							

## Ask Away Want a tech product, but

don't know how to go about buying it? E-mail agent001@thinkdigit.com with your complete contact details and get your queries answered. Please mention your PC's detailed configuration to ensure consideration for this section

## Personalfn.com

## Money saved is money earned. Personalfn.com shows you how to make the most of your finances

### Renuka Rane

ow many times have you heard the pithy principle KISS—Keep It Simple, Stupid! Simplicity is the name of the game. Then why should it be any different when it comes to managing your own personal finances? Chalking a secure investment plan has been made easier with Personalfn.com, a finance portal that (for once) has focussed information for the Indian investor.

Investments and insurance are an integral part of financial planning for everyone, and it's never too early to begin. Whether you are a prudent breadwinner looking for tax saving schemes or you want to set aside sums for a rainy day, a visit to this site will leave you better informed.

The advice given is extensively researched and more importantly, unbiased, despite the site's tie-ups with certain financial corporations. Hey, even they need to earn!

## **Aesthetics**

The site has a clean layout, is userfriendly and easily navigable. While the prevalence of text over images on a plain white background gives it a rather muted feel, the comprehensive and well sorted data compensates for the lack of visual appeal.

Even the 'Help' section is choc-abloc with 'FAQs', 'Glossary', 'Tutorials', 'Ask Personalfn' and 'Download Guide!'. Make a mental note of where the 'Search' tool is, we suggest!

It's not all *gyaan*, though. The FAQs are neat, crisp and concise. They range from answers to the most basic questions to the legalities and technicalities in loans, taxation, equities, insurance and so on.



Personalfn.com is a worth a dekko for Indian investors

## Of Interest

Broadly speaking, Personalfn.com provides information on insurance, mutual funds, home loans, tax saving strategies and fixed income. The personalised areas include a host of features such as—'My Planner', 'Quick Calcs', 'Knowledge Centre', 'Asset Review' and 'Tax Corner'. Each of these sections is feature-packed.

To illustrate this point, let's take an example. Under 'Quick Calcs' alone, there are four sub-sections, namely 'Housing Finance', 'Taxation', 'Life Events' and 'Personal Loans'.

And under 'Housing Finance > Home Loan' you can, in next to no time, compute the equated monthly



Do the math on your EMI payment under 'Quick Calcs'

instalment (EMI) of a home loan by entering a few relevant details such as amount, period and name of the housing finance company. Nifty tool, this. Calls for a bookmark if you are on the prowl for a home loan.

This simple, yet useful exercise will help you draw an appropriate home loan plan. Similarly, there are also 'Retirement', 'Education', 'Property' and 'Marriage Planners' that let you calculate the amount you need to invest for optimum benefits.

In short, there is all the necessary info one would ever need about financial planning. Oh yes, NRIs have been given due consideration too!

## **Know Your Worth**

A prominent section on the right-hand side of the home page titled 'Investment Avenues' deals with 'Cash Assets', 'Fixed Income' and 'Mutual Funds'. Under 'Cash Assets', there is data on liquid funds, short term funds and fixed deposits.

Under 'Fixed Income', there are fact sheets and comparison tables on government bonds, monthly income

plans and post office schemes. Under 'Mutual Funds', you can even see statistics of all mutual funds that have been gainers or losers starting from the last week up to the last five years!

Using the various tools given, you can easily see your net worth position, after adjusting your assets and liabilities and thus control your cash flows.

## **Freebies**

For sound financial advice, download 'Money Simplified'—the site's free online bi-monthly. The present issue tackles investment avenues for women and children—(one of the more neglected areas, as the authors claim) and is certain to benefit every student, working woman and homemaker.

You can even access the archives of 'Money Simplified', some popular ones include: *Investment Guide 2005, Tax Planning*, and *Investment Guide for NRIs*. A free sign-up for their free fortnightly newsletter called 'Yours, Personally' will get this to you on a regular basis.

## Member's Arena

As a member you get the right to use a range of premium online tools including daily e-mail alerts for NAV (Net Asset Value), dividend and portfolio performance, coupled with researched views and analysis. The site's team of consultants provide personalised services for investment, insurance and loans in Indian metros.

For instance, the paid feature, 'My Planner', lets you keep track of assets, liabilities, receipts and payments. There is a free one-month trial period, after which you must pay an annual fee of Rs 300 to continue.

Upon registration, you can create multiple accounts for your family, track individual cash flows and net worth, receive e-mail alerts and free access to trackers for stocks, mutual funds and cash flow data.

If you are already registered, say, for the 'Portfolio Tracker' or any other service, you can use the same username and password to access other features, such as the 'Mutual Fund Watchlist'.

A tight wad or a compulsive spender, bull or bear, Personalfn.com has something for every one. So read, invest and grow rich! And don't forget to tell us your formula!

renuka\_rane@thinkdigit.com

## **Antec P180 Advanced Super Mid-Tower**

The Antec P180, a mid-tower cabinet, is part of their 'Performance One' series. The P180 is built as strong as a tank and weighs all of 14 kg. The major part of

the chassis is made out of cold rolled steel
while the side panels are made up of
three layers consisting of aluminiumplastic-aluminium to dampen the

sound produced. It comes with three 120 mm cooling

fans, of which two have a three-speed switch that can be set manually. The cabinet is internally divided into

The cabinet is internally divided into two separate compartments. The bigger compartment on the top is for the motherboard, hard drives, optical drives etc., whereas the smaller, lower compartment, is for the power supply and some more hard drives. At Rs 9,035, this

product is for the passionate gamer.

Company Cyber Space Abacus Pvt Ltd
Price Rs 9.035

Phone 044-24362681

E-mail info@antecindia.com

Web site www.antecindia.com

Rating

## Asus S-presso (S1-P111) SFF

## **Spice Up Your Home!**

Sleek and dark blue, the Asus S-presso is a bare-bones PC. Its compact and tool-less box encloses abundant features like the unique LED touch-sensor panel that replaces all buttons. The front panel encloses a memory card slot.

Supporting an Intel Pentium IV processor (Socket 478), it can play MP3s,

DVDs/VCDs and even tune in to TV and FM channels without running an OS,

thanks to the innovative 'InstantON' feature.

The only thing the Asus S-presso lacks is a good

quality sound card and a TV-Out connection.

Company ASUS Tek Computer Inc

Price Rs 22,000

Phone **022-56290787** 

E-mail info\_india@asus.com.tw

Web site www.asus.com.tw

Rating



## New&Notable

## **Samsung SyncMaster 730MP**

## A Visual AIO!

If you want more than just an LCD TV, this is probably what you have been praying for. The Samsung SyncMaster 730MP is a 17-inch LCD TV that doubles as a monitor too. With a resolution of 1280 x 1024, it is compatible with high definition sources also. It has an analogue TV and FM radio tuner built into the unit.

The 730MP is sleek and elegant. With silver-finish speakers, a black border for the LCD and the stylish and sturdy stand, it is more of a lifestyle product for your living room than just a monitor for your office. It also has VESA mounting holes and can be mounted on a wall for added emphasis!

There are a host of connection options at the back, which you might not find in an average TV. There is the D-Sub, DVI, RCA composite, S-Video, component, stereo-in and even a RGB-capable SCART socket. Strangely, the 730MP misses out on a basic headphone socket.

The 730MP has media card reader capabilities aplenty and can read all major formats such as SD/MMC, CompactFlash, SmartMedia and MemoryStick. These can be read without the need of a PC. The 730MP also comes with a full feature remote control that can be used to control almost every function.



A picture-in-picture function allows you to use the 730MP as a monitor and watch TV simultaneously. And the TV can be docked in a corner as a small, yet visible, window. Even the transparency of this window can be controlled for easy viewing.

As a computer monitor, the 730MP is a treat for the eyes. It has everything that one can expect from an LCD monitor. In fact, it passed the DisplayMate test with flying colours.

We put the 730MP to another test and plugged in a VCD player and tried to gauge how good it was for movie viewing. The colours were

vibrant, the contrast good, the pictures clear and the sound thumping!

All this augurs well for a really enthralling movie experience. The viewing angle was about 140 degrees, which is rather nice. On the downside, the screen aspect ratio is 4:3—a wide screen would have been better. But overall, a good investment.

Company Samsung India Electronics Ltd

Price **Rs 35.000** 

Phone **011-51511234** 

E-mail **sunil.m@samsung.com** 

Web site www.samsungindia.com

Rating

## **Imation Disc Stakka**

s backed up data bulges on CDs and DVDs, it'll soon be As backed up data ourges on Cos and 2.20, 11 like you (and us!), Imation has introduced the Disc Stakka, which is a multiple disk storage-cum-indexing device that lets you store up to 100 disks along the radius.

At first glance, the Disc Stakka seems like a large box, but is surprisingly light. It connects to the PC's USB port and needs no additional power supply. It has a slot-type disk loader that accepts disks regardless of which side you insert.

It comes with an OpdiTracker—a CD/DVD indexing software that integrates the Stakka seamlessly into XP and creates and maintains a database of disks.

When the unit is full. stack another unit above it, and connect the twoand stack as many as five units-500 disks! However, it's not perfect—there's no disk reader and it can't manually eject a disk. Still, it's an indispensable

peripheral for businesses

and SoHos. Again, at Rs 13,999, it's heavy on the pocket!

Company GlobalNet KVM Solutions Price Rs 13.999 Phone 022-24321530 E-mail raj@globalnetindiainfo.com Web site www.imation.com



## **Samsung SGH-C230 Mobile Phone**

### This One Rocks!

The SGH-C230 cell phone from A Samsung is their latest salvo in the entry-level segment with multiple features at a competitive price.

Sporting a dual tone black and metallic grey outfit, the C230 has a better finish than models in this category from competitors. A dash of chrome lining the display and the soft menu buttons adds some jazz.

The blue backlit keys, though small, are usable but people with large fingers will struggle with the bottom line of keys. The 65K colour display is the best we have seen on an entry level phone-vivid and bright. With an excellent stereo FM receiver, the C230 is good for daily use. The FM playback can be diverted to the sufficiently loud speaker. However, you need to connect the headset as it's the receiving antenna.

Samsung has greatky improved user interface and it's now easy to grasp and use. It also has a 1,000-number phone book, 2 MB of memory, polyphonic ringtones and supports Java applications. GPRS and infrared are the preferred choices for PC connectivity. Sensibly priced at Rs 5,999, the SGH-C230 makes for an excellent entry-level phone.

**Company Samsung India Electronics Ltd** Price **Rs 5,999** Phone **011-51511234** E-mail vikas.tagra@samsung.com Web site www.samsungindia.com



## **Creative DiVi CAM 316**

## **Multiple Personality**

Very similar in looks and functionality to the Samsung Miniket reviewed earlier (Digit, July 2005), the DiVi CAM 316 from Creative works as a digital camera, digital video camera, Web cam, MP3 player and voice recorder.

However, the Creative DiVi CAM has a lot less to speak about in terms of features as compared to the Miniket.

The Miniket boasted of 1 GB memory, 10X optical zoom and a Lithium-ion rechargeable battery whereas the DiVi CAM 316 has just 16 MB internal memory, no optical zoom, and is powered by 4 AAA batteries. However, as with the Miniket, the memory is expandable using the SD expansion slot.

One area, though, where Creative scores over the Miniket is image resolution. The DiVi CAM 316 features a 3.1 megapixel CMOS sensor and can go up to 6.6 megapixels with interpolation.

You can capture stills in JPEG format in 2976 x 2232, 2048 x 1536, 1600 x 1200 and 640 x 480 resolutions, whereas videos can be captured in MPEG-4 format at 640 x 480 or 320 x 240 resolutions. You can preview and review captured images on the 1.6-inch TFT display that can swivel 270 degrees.

Other features include 4X digital zoom, self-timer, macro mode and TV-out functionality in the NTSC or PAL formats. The flash can be set to Auto or OFF whereas white balance can be set to Auto, Sunny, Tungsten, Fluorescent or cloudy.

The interface and button placement is not very intuitive and takes time getting used to. You also need to install the bundled drivers before it is detected as a removable drive. However, what it lacks in features,

the DiVi CAM 316 makes up in performance. The images captured are decent, though videos could have been better. MP3 playback is ok and the same can be said about voice recording.

Overall, the Creative DiVi CAM 316 is a decent all-round device, though you will definitely need to purchase an SD card and rechargeable AAA batteries to use it effectively. A word of advice: Try out the interface before you decide to buy.

Company Creative Technology Ltd

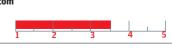
Price Rs 10.499

Phone **0-9820357718** 

E-mail india getcreative@ctl.creative.com

Web site www.creative.com

Rating



## **Motherboards**

## Mercury PI915GVM

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

Contact Kobian ECS India Pvt Itd Phone 022-23020767 / 774 E-mail mumbai@kobian.com Price Rs 4.750



### MSI RS480M2-IL

 ₩ + PCIE based, 6 channel audio, supports 4 GB RAM, socket 939, Firewire port
 No Gigabit

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



## **Graphics cards (High End)**

## XFX GeForce 7800 GTX 256 MB

Extreme performance, great price, exotic features

■ None
Contact Rashi Peripherals
Phone 022-28221013
E-mail navinderc@
rptechindia.com
Price Rs 35,000



## Hard drive based MP3 Player

## **Samsung YH-J70**

■ Good audio quality, video playback

Average bundled earphones

Contact Samsung India Electronics Ltd. Phone 011-51511234 E-mail subrotah.b@samsung.com Price Rs 22,900

## **PDA Phones**

### O2 XDA II Mini

■ Small, thin and pocketable■ One-handed operation not possible

Contact Creative e-biz Phone 022-23828100 E-mail creative@goldkist.net Price Rs 32,000

## **Cell Phones**

## Sony Ericsson W800i

Contact Sony-Ericsson India Phone 124-2560808 E-mail dhiraj.soni@ sonyericsson.com Price Rs 25.000



## Linux

## Xandros Desktop OS 3

**■** Simple to use

**■** Paid

Contact G.T. Enterprise Phone 080-2669 5890/91/92/ 93/94 E-mail gtcdrom@vsnl.com

E-mail gtcdrom@vsnl.com Price Rs 3,914



## SuSe 9.3 Linux Professional

**⊞** Up-to-date software bundling **⊟** None

Contact G.T. Enterprise Phone 080-2669 5890/91/ 92/93/94 E-mail gtcdrom@vsnl.com Price Rs 4,398



## The A-List



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

## **Graphics Cards (Low End)**

## Gainward GeForce 6200 256 MB

■ Good performance, Shader Model 3.0 support, good value for money

**■** None

Contact Mediatech India Phone 022-26361111 E-mail digit@mediatechindia.com Price Rs 3,950

## **Graphics Cards (Mid Range)**

### XFX GeForce 6600GT 256 MB

■ Great performance, good features

**⊞** High price

Contact Rashi Peripherals Phone 022-28221013 E-mail navinderc@ rptechindia.com Price Rs 15,000



## Flash based MP3 Player

## **Samsung YP-T8**

■ Feature packed, video playback

■ Average bundled earphones

Contact Samsung India Electronics Ltd. Phone 011-51511234 E-mail subrotah.b@ samsung.com Price Rs 14,900



## YES YMP-910

■ Excellent audio performance, extra features■ Average quality earphones

Contact Thakral Computers Phone 022-24914090 E-mail prashantgoel88@ gmail.com Price Rs 7,640

## CRT Monitors (17-inch) Acer AC715

■ High resolution of 1600 x 1200 @ 75 Hz, good reproduction of finer details

**■** None

Contact Acer India Pvt.Ltd. Phone 080-5219520 E-mail rajesh\_aiyar@acer.co.in Price Rs 6.995

## **CRT Monitors (19-inch)**

## Samsung SyncMaster 997DF ☐ Good colour reproduction.

■ Good colour reproduction, compact

**■** None

Contact Samsung Electronics India Phone 011-51511234

Phone 011-51511234 E-mail marketing@ samsungindia.com Price Rs 13,999



## LCD Monitors (15-inch) Acer AL1512

■ Very competitively priced, good contrast ratio

■ No vertical swivel

Contact Acer India Pvt. Ltd Phone 080- 5219520-23 E-mail rajesh\_aiyar@acer.co.in Price Rs Rs 9,500

## **LCD Monitors (17-inch)**

## Acer AL714sm

■ Light, good greyscale reproduction

■ None

Contact Acer India Pvt Ltd Phone: 080-5219520 / 23 E-mail rajesh\_aiyar@acer.co.in Price Rs 14,999



## Digital cameras (Entry level) Home Inkjet Printers

## **Canon PowerShot A400**

- Class leading performance and Economical; decent photo decent feature set
- A bit expensive in its class **Contact** Macro Foto Phone 022-22618639 email macrofotoone@yahoo.com **Price** Rs.8,995

## **Digital cameras (Mid Range)**

## Sony Cyber-Shot DSC-W5

- Reproduces some great photographs, good features to close the list
- Relatively expensive in its class

Contact Sony India Pvt. Ltd. Phone 011-55006600 E-mail mktginfo@ap.sony.com Price Rs.18,990



- Pixma iP1000
- printing. ■ No output tray; no PictBridge

Contact Canon India Ltd Phone 0124-5160000 E-mail www.canon.co.in Price Rs 3.195



## Office/ Photo Inkjet **Printers**

## Canon Pixma iP 3000

- **⊞** Fast, excellent photo and text printing
- **■** No LCD

Contact Canon India Ltd. Phone 0124-5160000 Web site www.canon.co.in Price Rs 7,495

## **Colour Laser Printer**

### **Epson AcuLaser C1100**

- **⊞** Duplex printing, network ready, excellent performance
- **⊟** High Cost per page

Contact Epson India Ltd Phone 080-3051 5000 E-mail aculaser@eid.epson.co.in Price Rs 36.500



## **Mono Laser MFDs** Canon MF 3110

High speed, low price ■ No fax

Contact Canon India Ltd. Phone 0124-5160000 Web site www.canon.co.in Price Rs 19.995

## Office Inkiet MFDs

### Lexmark X7170

- **⊞** Full featured MFD, fast printing and copying speeds. decent quality photo prints
- No memory card reader; B&W LCD screen

Contact Lexmark India Ltd Phone 022-26057755 Website www.lexmark.com Price Rs 14,999



## **5.1 Speakers**

## Artis X10 Mini

- **⊞** Compact, sturdy, clear sound
- **■** Slightly weak bass

**Contact** Kunhar Peripherals Pvt Ltd Phone 022-56345758 E-mail salesbom@kunhar.com Price Rs 13,400

## **Digital cameras (Mid** Range)

## **HP PhotoSmart 945**

■8X optical zoom, big lens results in some great photographs

■ Not quite pocketable

Contact J.J Mehta and sons Phone 022-24326865 E-mail sales@ijmehta.com

## **Price** Rs Rs.16,500 **Digital cameras (High**

## Sony CyberShot DSC-P200

End)

■ Compact, 7 Mega Pixel performance oriented camera **■** None

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



## **Mono Laser Printers** Canon LBP 2900

**⊞** Great Performance, price **■** Lacks Duplex printing and network capabilities.

Contact Canon India Ltd. Phone 0124-5160000 Web site www.canon.co.in Price Rs 9.995



## **Brother HL 6050D**

- **⊞** Excellent performance. duplex printing,economical printing
- Not Network Ready

Contact Brother International. Phone 022-25797470 Web site www.brother.co.in Price Rs 35.100

## **Brother MFC-8440**

- **⊞** Good print and scan quality, Sheetfed & CIS scanner
- **■** Low scan speed

Contact Brother International. Phone 022-25797470 Web site www.brother.co.in Price Rs 35,000



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

- **⊞** Inexpensive, excellent and fast text and photo printing
- **■** None

**Contact** Hewlett Packard India Ltd Phone 0124-2566111 Website www.hp.com Price Rs 14,999

## Lifestyle Ultra Portable Laptop

### Sony VAIO VGN-S46GP/S

- **H** Good looks, Great performance. excellent LCD display
- None

Contact Sony India Pvt Ltd Phone 011-55006600 E-mail mktginfo@ap.sony.com Price Rs 99.990

## **Lifestyle Workhorse Laptop** Acer Ferrari 4002

- **H** Great looks and flaunt value, great performance
- None

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



## TECH NIGHTMARES

## Windows Installation

Trouble, when installing Windows, can be really frustrating.

Here are solutions to some oft-encountered problems

### Preethi Chamikutty

## Windows 98

Problem: Windows 98 crashes or hangs during the installation process
Solution: Boot the system from a bootable floppy and reinstall Windows from that point. (If the FAT version that Setup detects on the hard drive is older than MS-DOS 3.1, it displays an incorrect MS-DOS version message onscreen. If this happens, reformat the drive with a more current version of DOS.)

**Problem:** There's a problem copying Windows 98 installation files to the hard drive to repair files damaged in an aborted installation

**Solution:** The Windows 98 installation files are stored on the installation disk in the CAB file format. The best recovery method in such a situation is to boot the system from a floppy, run FDISK to repartition the drive, format the drive and then run Windows 98 Setup.

## Windows NT / 2000

**Problem:** When you boot your computer from the Windows 2000 CD-ROM to start Setup, you are not given the option to upgrade your OS.

**Solution:** Start Windows 2000 Setup from within the OS you want to upgrade. To do so, run the Winnt32.exe program from the Windows 2000 CD-ROM.

Problem: While installing Win2K, the PC stalls or displays a Blue Screen at the point when setup tries to reboot Windows for the first time after copying the drivers. Solution: During installation, a screen stating "Setup is inspecting your computer's hardware configuration..." is displayed, followed by the Setup screen. This screen is displayed if you are installing from the Win2K Deployment Tools Server or from CD-ROM.

The prompt "Press F6 if you need to install a third party SCSI or RAID driver" is displayed at the bottom of the setup screen. At this point, press [F5] (not [F6]). A new screen will be displayed: "Setup could not determine the type of computer

you have or you have chosen to manually specify the computer type." From the menu that appears, select 'Standard PC' and press [Enter].

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The Blue Screen of Death

## Windows XP

**Problem:** You get an error message upon startup saying "NTLDR is missing", after installing Windows XP

**Solution:** You can rectify this by creating a boot disk for your computer. To do so, format a floppy using the Windows XP format utility. Next, copy the 'Ntldr' and 'Ntdetet.com' files from the '1386' folder on the Windows XP Setup CD or from a computer running the same version of XP

## MTLDR is missing Press any key to restart

## The dreaded "NTLDR is missing" screen!

as the computer you want to access with the boot floppy. Create a 'boot.ini' file and then modify it to match the computer you're trying to access.

Problem: You encounter a setup error during an upgrade from Windows 98 or Windows ME to Windows XP

Solution: You encounter this error when 'i386Win9xupgW95upg.dll' cannot be loaded and installed. This can be rectified by performing a clean boot of Windows 98 or Windows ME, and trying again to run

Setup. Next, copy the 'i386' folder from the Windows XP CD-ROM to the hard disk

and then do the Setup manually: access the CD-ROM drive and copy the 'i386' folder to the C: drive. Then open the 'i386' folder and double-click on 'Winnt32.exe', and follow the on-screen instructions. If Setup stops again, boot in Safe Mode and try this procedure again.

**Problem:** During Windows installation, the system reports that the BIOS is not suitable for use with ACPI.

Solution: If your system reports this error, reboot it and wait for the prompt about pressing [F6] (to use other mass storage devices). At this point, press [F7] (not [F6]), and Setup will install APM power management in place of ACPI power management. Installation should then successfully continue to completion.

Problem: When you try to upgrade to XP on a computer that runs Windows ME, 98, or 98 SE, or if you try to upgrade from XP Home Edition to XP Professional, you receive one or more of the following error messages while XP Setup is running, and you cannot complete the upgrade installation:

"Cannot get main entry point for C:WINDOWSSYSTEMVIPERSTI.CPL. Error:127 [ERROR=127 (7Fh)]"

"The signature for Windows XP edition Setup is invalid. The error code is fffffdf0. The system cannot find message text for message number Oxfffffdf0 in the message file for Syssetup.dll." "Setup failed to install the product

catalogs. This is a fatal error. The setup log files should contain more information."

"Warning! Setup failed to remove the setup catalog ieexcep.cat" "Warning! Setup failed to remove the setup catalog sp1.cat"

Solution: Rename the

%WinDir%\System32\ Catroot2 folder. To rename the folder at a command prompt: While the error message still appears on the screen, press [Shift] + [F10] to start a command prompt. At the command prompt, type in "cd\windows\ system32\", and press [Enter]. ■

 $preethi\_chamikutty@thinkdigit.com$ 



112 Work With Me, Here!



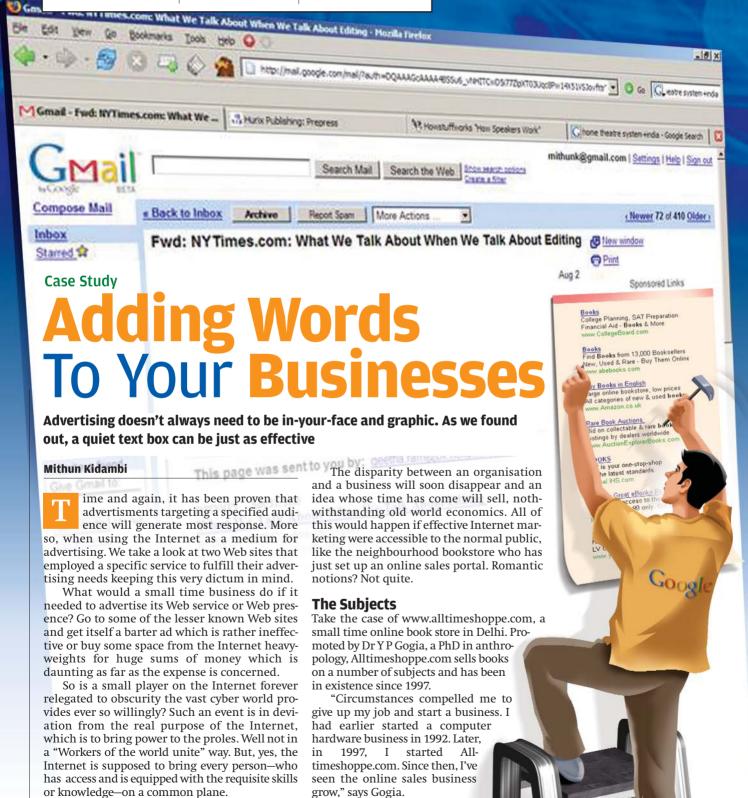
114 No Shooting!



116 PCs: Branded or Non-branded?

## Business

How Technology Can Help Your Organisation



## Digital Business I Case Study

The initial sales via the net were sluggish as the site was based in India and had limited exposure to mainstream media in terms of advertisements. As the Internet population grew, the clientele also increased. Gogia points out, "Book buyers on the net belong to a particular segment. Most of them are students or corporates. Of these, corporates almost always place bulk orders."

A closer look at the segment revealed corporates to be a net-savvy population willing to experiment. Grabbing mindspace in this domain also meant a huge surge in sales, as corporates belong to a high spending category. The only obstacle was to attract this fast moving populace in a cost-effective manner. As Alltimeshoppe.com couldn't afford to have a huge advertising budget, an easier and affordable alternative was required.

At the other end of the spectrum was an Internet biggie, www.naukri.com, one of India's largest job sites. Faced by competition from a number of major players, Naukri.com needed to plug any possible loophole in its advertising and marketing campaigns. Ayesha Kapoor, AVP, Marketing, Naukri.com recalls, "We already had an existing marketing and publicity campaign that was working fine for us."

The important thing for Naukri.com was to be present at the entry point into the Internet. Putting it simply, Naukri.com needed to be high on an Internet user's radar and recall. "We realised that the most common entry point on the Internet was Google. So we need to have something that figured high when a relevant subject was searched for," says Kapoor.

A comparative look at the two companies here proves that the Internet has something for everyone. What we have here are two diverse setups—one a small online book seller, the other an established brand. The objective, though, is the same: to make an impact on the Web user. Only the scales were varied. The binding factor was the fact that both were looking for a tailor-made, low-cost advertising tool.

## The Solution

At the time when both companies were shopping for a solution, Google—riding high on the popularity of its search engine—had also developed advertising tools for both, the Web publisher and the advertiser.

Both services—AdSense for the publisher and AdWords for the advertiser—were simple to implement and effective in terms of grabbing attention by strategic placement. In AdWords, both All-timeshoppe.com and Naukri.com, saw exactly what they were looking for.

"For a Web site like ours, we had to maintain a fine balance between aggressive and restrained marketing," says Gogia. "Adwords was the ideal service for us. While we haven't had a huge surge



Aggressive Internet marketing is the key to increasing the popularity of your site"

**Dr Y P Gogia** Proprieter www.alltimeshoppe.com

in the number of visitors because of the programme, our visibility has certainly increased in relevant circles. For example, if you do a Google search for "books+India", ours would be the first link in the 'Sponsored Links' section. So any Internet user looking for Indian books or books on India would know where to come," he explains.

For Naukri.com, it served the purpose of having a presence at the first entry point. Kapoor states, "Google was the entry point for most Internet users and it was part of our broad Internet marketing stategy to use AdWords for advertising."

What got most users hooked on to the service was its customisation and simplicity. Everything right from the ad layout to the payment cycle and method could be customised. The advertisers pay a 'per click' or 'per page' impression rate. This meant that they pay only if their ads are clicked. Since the ads are placed only on relevant sites or displayed as sponsored links during relevant searches, it ensures that the user never feels the advertisments are an intrusion, unlike pop-ups.

For most advertisers, the biggest advantage is that AdWords looks and acts like a link to their site. The advertiser also has a mechanism to track every hit on his site and check whether it has been via the AdWords link. This facility is provided by Google along with the service or can be done by an independent third party software as well.

## The Result

Both companies are guarded in giving out numbers of any sort. As Gogia, of alltimeshoppe.com, put it, the service had been in use for the last four months and he was convinced enough to continue with it. "It's not that this is the best advertising tool available on the net or that it is the most cost effective. What really appeals to a small business like mine is the flexibilty it offers," says Gogia. Since using AdWords, Alltimeshoppe.com has received bulk orders from clients such as Star TV and the Bombay Stock Exchange.

For Naukri.com, who have been using the service for over a year now, Kapoor says, "It complements our existing campaigns and strategies. Also, Google is a reliable brand with a proven advertising tool. Google does make a lot of money by selling advertisments and there are a number of people who do click on these ads."

An advertising tool that works for small businesses as well as established Internet portals makes AdWords an enviable competitor.

Its simplicity in implementation and cost effectiveness make Adwords a tough option to beat. With companies opting for specific targetted ads instead of widespread ad banner campaign, it only makes sense to develop these audience specific advertising tools. On the Internet, it seems as if the Word still has some value.

mithun\_kidambi@thinkdigit.com



## When it comes to printing versatility, look no further than the Pixma.

- · Automatic Double Sided Printing
- · Direct Printing on DVD/CD
- · 2 Way Paper Feeding
- · Camera Direct Printing





## **Aditya Kuber**

very single day, there are tens of files that go across your computer screen on to those of your co-workers. You make a change, then he or she makes one and sends it back to you. This goes on for a while before both of you lose track of what changes are final. What's worse, along the way, several other versions of the file are created—the one you saved on your hard drive, the one he saved on his, and so on and so forth.

Eventually, no one knows which is the final file with all changes and approvals, and as Murphy's Law dictates, the wrong one goes through to the boss—only to have both of you reprimanded! And all this while the two of you are still in the same office!

Imagine the same scenario with two coworkers in different offices, separated by a few time zones. There's a time lag; add to it mistakes and lack of communication, and you have a recipe for a comedy of errors! Only, you won't be laughing—others would.

Is there no solution? Is it not possible for two people to be in the workspace and work together

on the same file? What about time differences? Well, not much you can do there, but at least you could both be on the same page!

## Let's Groove

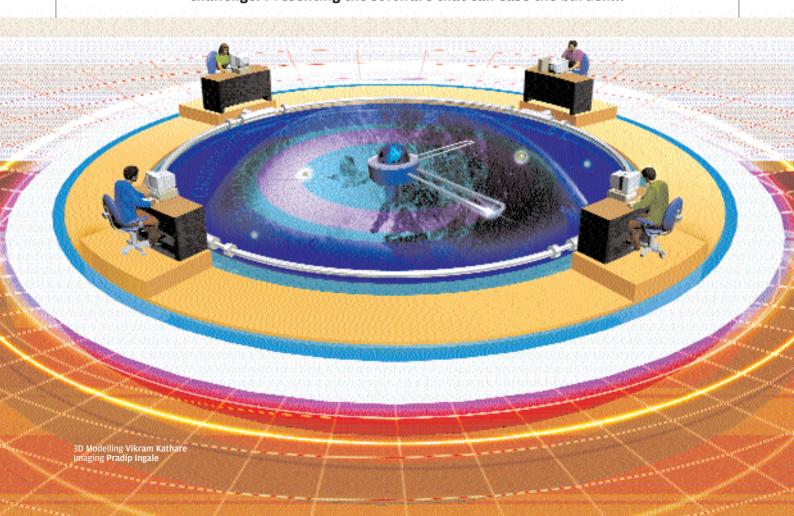
No, we aren't digressing from the topic! Groove Networks has a product that could well solve the problem we've mentioned—the Groove Virtual Office (GVO). This software allows you to share files, manage meetings and projects and also track data and processes. This is a real-time workspace, where you can add multiple teams and create an environment where information can flow back and forth seamlessly.

But it's not restricted to just one workspace. You could create a workspace for every team. Other features include instant messaging, file sharing, collaborative editing and real-time management of data. GVO is not a free product, though. There are three variants available—the File Sharing Edition (Rs 3,000), the Professional Edition (Rs 7,800) and the Project Edition (Rs 10,000). The latter variant offers a full deal, but for a small office setup, the first is good enough.

After an installer download, the software downloads other necessary files and installs in

## Work With Me, Here!

Working together, whether you are in the same office or separated by continents, can be a challenge. Presenting the software that can ease the burden...



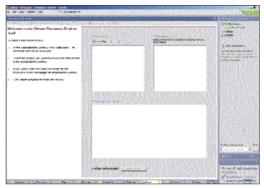


The Groove Launchbar

around 30 minutes on a decent Internet connection. But beyond that, it's not always necessary to be online to work.

Information that others edit in a file can be available to you offline as well—so long as you collect the latest update of a file. Hence the restrictions of having a slow or low-bandwidth connection are also negated.

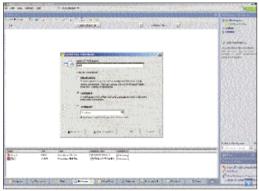
A user can quickly see which other members of the workspace are currently online, whether they are working in that workspace, and even the 'tool' they are using



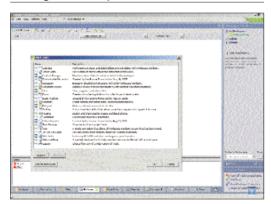
The filesharing app. Using this simple window, multiple users can share and work on a common file

## **How It Works**

Creators of a workspace and members with all necessary permissions can invite other users to the workspace. This can be done using 'Contacts' (which can be imported from Outlook or Outlook Express) in the 'Launchbar' or from within the



Creating a new workspace from scratch



Adding tools to your workspace. This would determine what tools are usable by all members

## W

## **What Groove Offers**

- You can see which members of your team are online
- You can conduct a conversation, post questions and get answers about files, projects or processes
- You can plan, conduct, and follow up on real-time online meetings. Let team members update their own action items and project tasks
- The Project Edition includes advanced features such as Gantt charts, milestone tracking, defining predecessor tasks, and integration with Microsoft Project.

workspace itself. Those not already using Groove can also be invited via e-mail.

Set by default, the workspace creator is the 'Manager', and can set the roles and permissions of others in the workspace as a whole, or within specific workspace tools.

One of the most significant features is the contextual presence awareness within workspaces. A user can quickly see which other members of the workspace are currently online, whether they are working in that workspace, and even the 'tool' they are using. This allows good use of 'presence awareness' (as against the limited information afforded by Instant Messaging), which lets people determine whether to interrupt someone else based on their current work status.

If someone is in a workspace and in the 'Files' tool, that worker is also open to a chat or phone call. However, if he is not (because he may be heading off to another project in another workspace), you could send a message, which causes less interruption.

Once the workspace is established—from scratch or via a template—team members with the required permissions can add and delete tools and tool content as required, a frequent occurrence as the workspace evolves.

From within the 'Files' tool, a user can select another online user and initiate a co-review of a presentation or document. Normally, such functions are found only in advanced online meeting products. But with the Groove, you can combine real-time and persistent collaboration.

Some of the other impressive tools include a Text editor, discussion areas where earlier discussions are saved by default and include the topics and responses of indvidual members too.

But this is not merely a workspace where online collaboration is possible. A Forms tool allows the manager of the workspace to create custom forms that can be filled out by other users of the workspace.

Scheduling online meeting with other members is also a breeze with Groove. Just fill in the time and date and members of the meeting.

You can choose how you want to view all details and also assign tasks for the meeting like the minute-taker and the chairperson for the meeting. Very useful.

There you have it... your entire team finally on the same page!  $\boxtimes$ 

aditya\_kuber@thinkdigit.com



**Jitendra Tanna** Director Rapidigm (India) Limited

o facilitate official communication and serve our customers to the optimum, we allow employees to use cell phones that may have speakerphone and conference facilities. However, as an official policy, we do not allow employees to use camera phones at any level of the company hierarchy.

As part of our value system, we do not infringe on the privacy of our employees and hence, there is no ban on the usage of cell phones. Our employees follow a strict code of conduct and any violation is severely dealt with.

At the same time, we are keeping a close tab on the usage of camera phones in the office premises. If stringent government laws related to camera phone usage are introduced we shall implement those too.

In fact, such policies would be specially welcome in places that are prone to high security risks such as airports, conference halls, and so on.



## No Sho

Security is of prime importance for any organisation. A cell phone integrated with camera is considered an unwelcome intrusion and triggers security concerns for the institution. In such a scenario, as we found out, banning camera phones seems to be the preferred option



**Anupam Arun**Country Head,
Ventura India Pvt Ltd

es, Ventura has a ban on camera phones within its premises. It's not a blanket ban as it is restricted to the operations floor. This ban on camera phones is part of the company policy. In fact, the ban was in place ever since the business started. Moreover, when candidates are being recruited, they are informed about it.

We found a need to implement a ban on camera phones because it is essential in a BPO environment. This is an acceptable practice among many BPOs. This policy ensures that there is process and data confidentiality, which is a matter of concern to most of our customers. None of our customers have objected to this policy, hence I do not think we need to revoke or rethink about it.

As usage of camera phones is restricted on the operations floor, it is the responsibility of the team leader, floor manager and the IT team to ensure that no lapse occurs. Thankfully, till date, we've never had to deal with any problems of security related to camera phones. And I think it will be a good practice to be adopted by all IT and ITES organisations.



Mandar Marulkar Chief Information Security Officer, KPIT Cummins

Te do have a restriction on the usage of camera phones, but it's limited to our Offshore Development Centres (ODCs) only—mainly in the financial and voice services section.

Moreover, the same request also came in from our customers as they were concerned about the security of their data in view of employees carrying camera phones. In order to make them comfortable and ensure protection of data, we found it essential to impose such a ban. And employees extended their co-operation keeping in mind the sensitive nature of the work. While we had informed all employees about not using the camera phone at work, we made it compulsory only a few months ago. They were given a month's time to make alternative arrangements.

We inform employees about this ban during the induction programme and have even put up posters all over the office indicating the ban. Still, if some employees carry camera phones, they have to deposit the phones with the security and collect them while leaving. They can receive personal calls on the office phone. We have faith in our employees and expect them to follow the rules. In case of a violation, we shall deal with the individual as per our policies.

At the very least, it's necessary for organisations to have such a policy. A camera phone has much scope for misuse than just transferring data over the Internet. It is always better to take preventive measures.

## OTING





Susir Kumar CEO, Intelenet Global Services

amera phones are banned on the operations floor, but are allowed in other areas of our company. Any person entering the operations area has to follow this rule. We have always banned camera phones on our work floors, and reinforced our stand in July 2005.

Even our employees responded co-operatively to this decision. Data security and client confidentiality have always been an intrinsic part of our policy. Banning camera phones is just one of the several procedures we follow to protect customer sensitive information.

Our employees have been inculcated with a high level of awareness on the subject of information security. When we implemented the ban, employees were given a three-week notice. We have nearly 80 CCTVs installed in key locations and several digital video recorders that constantly monitor and capture events. The ban was just another precaution to prevent the occurrence of data frauds and thefts.



**Manju Nichani** Principal, K C College, Mumbai

t KC College, usage of camera phones and all other cell phones within classrooms, labs, seminars halls and library is prohibited. However, students can use the phones if they are in the canteen or once they step out of the college.

It was necessary to implement such a ban, because cell phones are a major cause of distraction. Students were found sending messages to each other even during lectures thus interrupting the entire class. Professors are also not allowed to use cell phones in restricted areas. Students come to the college to study and not to answer phone calls. In case of an emergency, their parents can always contact the college.

If any student is found using a cell phone in the restricted areas, it is confiscated by the authorities and returned only after a few days with a verbal warning. Classrooms are now more peaceful, and students and professors are no longer disturbed. I think all educational institutions should implement a ban on cell phones because it amounts to unnecessary disturbance in the study area."

As told to Preethi Chamikutty (preethi\_chamikutty@thinkdigit.com)

## **Are Non-Branded PCs Better Than Branded Ones?**

This debate has possibly been around since assembled PCs became de rigueur back in the mid-90s. But does it still hold true? We try to find out

## Hurix is an e-learning services company that develops multimedia and Internet-based solutions

hen it comes to deciding about PCs or any other infrastructure-related investment, the important factor we keep in mind is 'cost of downtime', which is very high for us. PC downtime can cost us \$30 to \$300 per hour depending upon the user. In a collaborative development environment, one PC down is the equivalent of failure of equipment in an assembly line... everything comes to standstill.

The second most important factor is service. Even if the PC crashes, the ability of the vendor to resolve the problem

## The Sify iWay Cafes are a chain of broadband internet kiosks across the country

The current setup at my café has over 20 computers. In addition to this we also have a gaming zone. Considering the varied needs of each unit, a PC for surfing the Net and the other for the gaming zone, it made sense to go in for an assembled PC setup. Branded PCs do not give you the flexibility of choosing your components, and if your order is not huge then the price difference does become a major factor. The so-called low cost PCs offered by the branded PC sellers are shipped without an OS and most of them have a 128 MB RAM which is



**Harish Satti** Practice Area Head, Technology, Hurix Systems

"There is a fine line between expense and investment. We believe in investments and not expense. Therefore, only the price is not a criterion"

"The 24 hour service offered by branded PC companies like Dell and HP are indeed enviable but the quality of service depends entirely on the system engineer who comes to service your unit"



**Amberdeep Singh** Franchisee, Sify iWay Café

is important. Certainly, the expertise of the service engineer is always high in the case of a branded PC vendor as compared to assembled PC vendors; they don't resort to a quick-fix method. Other reasons for selecting branded PCs are reliability, employee satisfaction, consistency in performance, ease of upgrade, quality and finish of PC and total cost of ownership.

While buying branded PCs we choose from the volume leaders. The selection procedure is simple. Evaluate vendors on brand history, delivery time, service terms, configuration flexibility, usage experience, price, scope for upgradation and bundled software. We generally decide from two global brand leaders. We bought three brands in equal ratio when we started and are currently sticking to two.

At Hurix, we develop e-learning solutions which are rich in multimedia and performance. Our development team works on cutting-edge technologies, which demand a high performance PC. By high performance, we mean the latest processor and motherboard architecture, good memory and hard drive, backup options such as DVD-writers or tape devices, LAN and W-LAN options (to support collaborative network). Good low-noise keyboards, TFT monitors (desk space effectiveness), and USB ports are an added advantage.

There is a fine line between expense and investment. We believe in investments and not expense. Therefore, only the price is not a criterion. As mentioned, if you buy with the point of 'Cost of Downtime', you will never make a mistake.

barely enough to run Windows XP. At the café the computers used for surfing are primarily Celeron-based units while those used for gaming have AMD 64-bit processors. This customisation would not have been possible if I went in for a branded PC supplier like a HP or LG.

The 24 hour service offered by branded PC companies like Dell and HP are indeed enviable, but the quality of service depends entirely on the system engineer who comes to service your unit. You do run a risk of being taken for a ride by the service offered by assembled PC resellers, but then that threat is not entirely absent with branded PCs either.

The biggest draw towards assembled PCs for a small setup like ours is the high level of customisation and flexibility offered.

Also as a customer I can decide what components and Software I want and not be saddled with a pre-packaged utilities and hardware.

Assembled PCs also make upgrading single units possible and cheaper. With the price still differing by a fairly large margin it makes simple business sense to go in for assembled PCs from a reliable computer seller.

As told to Mithun Kidambi mithun\_kidambi@thinkdigit.com



## **Careers In IT And ITES**

If you have the requisite skill set, a viable, meaningful and high paying job in the IT or ITES sector is yours for the taking

Jayanti Ghose

hen you sit in front of a computer, have you ever wondered that someone has designed the monitor, the mouse, the keyboard, and the electronic circuitry behind your desktop. Somebody else might have written the software that tells your PC what to do. Still others have developed the graphics you see. As and when you have problems making it all work, someone else troubleshoots them.

There is an undeniably strong Information Technology (IT) presence in Indian homes, educational institutions, commercial areas, and so on. This has led to the introduction of IT-enabled services (ITES) banishing all geographic boundaries and helping Indians offer their services not only to any part of the country but also to nations across the world.

There are dozens of professionals who work with computers—software engineers, hardware engineers, designers, programmers, analysts, security experts and technicians. Here are some of the more prominent professions that fall under the scope of IT and ITES sector.

## **Hardware And Software**

Hardware refers to computer chips, circuit boards, computer systems and related equipment such as keyboards, modems and printers—physical objects that are part of computer systems. Many people work almost exclusively with computer hardware—designing, installing and maintaining it.

Software denotes the programme you put in to make the computer work. The design and development of computer software is known as 'software engineering.' People who develop software are called 'programmers'. Titles such as 'Software Developer' and 'Software Engineer' are commonly used for those who work on the development of new systems and applications.

## **Jobs To Look Out For**

■ Data Entry Operators feed data into computer systems for information to be processed.

■ Computer Programmers compose instructions for the computer in a language or code which the computer can understand.

☐ Applications programmers write the software program by breaking up each step of a solution in one of the computer languages.

☑ Programmers maintain the instructions, allied programmes or software that control the entire computer system, including the CPU, terminals, printers and disk drives.

■ Computer Network Specialists/Administrators ensure that networks function well at all times. They are responsible for the security and administration of the networks in companies.

## Digital Business | IT Career

■ Computer Analysts help companies make the best use of the systems. Systems Analysts solve information problems, analyse the way a company uses and stores data, and design methods to help it run smoothly. Often they supervise programmers who create the code.

Database specialists manage the increasingly large and complex databases that exist today. They design, install, update, modify, maintain and repair computer database systems. They reorganise and restructure data to better suit user needs. They are also called Database Administrators, Database Managers or Information Systems Managers.

■ Computer Software Engineers create programmes that can use highly advanced computer hardware to do almost anything. They define and analyse problems and help develop computer software applications to effectively solve them.

 □ Computer Hardware Engineers research, design, develop and test computer hardware and supervise its manufacture and installation.

□ Computer Sales Representatives sell hardware, software and peripheral computer equipment.
 □ Computer Service Technicians install, maintain and service computers.

■ Internet or Web developers look after the day-today site design and creation. Web masters handle the technical aspects of a Web site. The growth of the Internet and World Wide Web created the need for this new breed of Web professionals. ■ Computer teachers train students for careers in

■ Technical writers prepare maintenance manuals, assembly instructions, sales promotion material and project proposals in the IT industry.

## **Personality Profile**

the IT and ITES industry.

For a successful career in the IT industry you need to have, or try to develop these traits:

☐ Accuracy is important to do all data entry work.

☐ Network Specialists must be well organised.

☐ Software engineers need good communication skills and precision.

■ Systems Analysts have to be detail oriented.

## India is one of the most sought after offshore locations for ITenabled services



A degree from IIT can be your passport to success

☑ Teaching Instructors should possess the ability to communicate with students at their level.
☑ Salespeople of IT related products need strong marketing skills in addition to product info.
☑ Web developers must have creativity and imagination, an eye for detail, problem-solving abilities, skill in Web-related programming, and be ready for teamwork and to work under pressure.

## **Placement Opportunities**

Typically, a degree in computer science or engineering would give you the best entry option for a career in computers—be it hardware or software. In reality, highly meritorious students from premier engineering institutions find placement in reputed firms even if they are from other areas of engineering such as 'Electronics' or 'Telecommunication' to name a few.

However, computer science and engineering graduates from less reputed colleges may not find it so easy to get placed in the IT and ITES sector. Those with an MSc (Computer Science), MSc (IT), MCA (Masters in Computer Applications) or a post graduation in Statistics or Mathematics from reputed universities have a good likelihood of getting software and computer applications jobs.

Diploma holders in computers, electronics or allied engineering disciplines can get into computer maintenance and support services. Engineering graduates, diploma holders and MCAs can find work in technical support and also in the knowledge processing outsourcing (KPO) sector.

Computer science and applications graduates can get into Web development and designing with knowledge of relevant languages such as C++, Java, Perl, SQL, and XML in addition to basic HTML.

Entry-level remuneration packages in technical jobs in the IT and ITES areas vary between Rs 7000 to Rs 15000 a month. Nevertheless, the IT and ITES sector holds the promise of huge growth in salaries after a year or two of work experience.

Even MBAs and post graduates in systems management could work as information managers. The starting management cadre salaries are usually more attractive if you are from a premier business school.

In the long run, however, only those who keep themselves updated with the emerging technologies and practices will enjoy a long term advancement prospect in these sectors. 

■

readers letters @jasubhai.com

## Prominent Institutions

## Indian Institute of Technology (IIT)

www.iitb.ac.in www.iitd.ac.in www.iitm.ac.in www.iitr.ac.in www.iitkgp.ernet.in www.iitk.ac.in www.iitg.ernet.in

## International Institute of Information Technology (IIIT) www.iiita.ac.in

www.iiit.ac.in

Indian Institute of Information Technology and Management (IIITM) IIITM Gwalior: www.iiitm.ac.in

## IIITM Kerala:

www.iiitmk.ac.in IIIT Bangalore: www.iiitb.ac.in

## National Institute of Technology (NIT)

www.mnnit.ac.in www.manit.ac.in www.nitc.ac.in www.nitdgp.ac.in www.nitjsr.com www.nitk.ac.in www.nitk.ac.in www.nitt.edu www.nitrkl.ac.in

## Others BIT Mesra

(www.bitmesra.ac.in) BITS Pilani (www.bitspilani.ac.in) Indian Institute of Science, Bangalore (www.iisc.ernet.in) University of Delhi(www.du.ac.in) University of Mumbai(www.mu.ac.in) Jadavpur University Kolkata(www.jadavpur.edu) **University of Pune** (http://cs.unuipune.ernet.in) DOEACC Society-'0', 'A', 'B' and 'C' level courses: www.doeacc.edu.in C-DAC: www.cdac.in

\*The listing is indicative and not in the order of ranking. Private computer institutions offer both entry-level and specialised training programmes.



The Concert's Begun



Globetrotting



**Pirated Before** Release

**Technology Beyond Work** 

**Touched By Tech** 

## **Striking The Right Key**

A special kevboard and software designed for those suffering from cerebral palsy helps them express their sentiments better

Renuka Rane

emant Sachar is visibly excited. He flails his arms and legs to show his eagerness. Every time you glance at him he gives you an endearing, lopsided grin. Sachar (32) has cerebral palsy and is unable to speak.

He has difficultly hearing and cannot use his hands either. The only way he communicates is through his left foot—he has some control in that limb-directing it accordingly to express himself.

Sachar is strapped to his wheelchair at all times to prevent him from falling. We met him at the Happy Hours Centre, an institution dedicated to people affected with cerebral palsy in Bandra, Mumbai.

**Coping With Cerebral Palsy** 

dren. While it's not a progressive disorder, secondary conditions that can develop include muscle spasticity, impairment of sight, hearing or speech, seizures and mental retardation.

Happy Hours Centre started in 1973, and is part of the Cerebral Palsy Association of India. Ella D'Souza, co-founder and director of Happy Hours says, "The right training and therapy can help improve the communication abilities of those suffering from cerebral palsy."

The Breakthrough

"Hemant Sachar has been with us for a long time now. We could only teach him to recognise images but not letters, and so we devised a method of teaching him basic communication using pictures,' says D'Souza.

She adds, "We worked hard trying to improve his communication skills using images and signs. And in 2001, there was a breakthrough: we realised that Sachar could respond far better to the written word than the spoken. So, I set up a three-level dummy keyboard made of thermocol with chart paper for a screen. Next, I categorised his daily needs and activities under words essential for basic communication such as 'Go', 'Eat', 'Drink', 'Do', 'Who' and 'Feel'," recollects D'Souza.

**Learning One Level Up** 

The staff at Happy Hours trained Sachar to touch the corresponding



word. For instance, if they displayed the word 'Go', he would touch the same word that appeared on the makeshift keyboard with his left toe. The staff would then display a chart with images of six different places such as 'Home', 'School', 'Bathroom', 'Park' and so on.

While this may appear to be easy to an onlooker, the fact is that those affected with cerebral palsy can only identify the pattern of the process, and may not necessarily comprehend the written word.

However, as Sachar grew proficient at correctly associating the written word with the image, it became difficult to conduct the project on paper. As the cut-outs increased in number, D'Souza realised she would need to get a special keyboard to continue the phase-wise expansion of Sachar's learning process.

It was then that D'Souza approached Prof Gaur G Ray, a faculty member at the Industrial Design Centre (IDC) at IIT Bombay, a premier design institute in India.

## **From Paper To PC**

A physiology and bio-mechanics expert, Ray has been teaching at IIT Bombay for the past 24 years. His area of specialisation includes ergonomics—developing designs that are physiologically, biomechanically and psycho-physiologically suited to the human body.

Ray has been involved with various spastic associations (including Happy Hours centre) in India as part of his work. When D'Souza inquired about the feasibility of making the special keyboard, Ray took up the challenge.



The trainer at Happy Hours centre helps Sachar learn newer words. Inset—the special keyboard

Ray summarised the plan and assigned the project to his students in the biomedical engineering department—he believed that the ideas from those studying human anatomy and engineering would lead to the best prototype. Meanwhile, he applied to the Ministry of Human Resource Development (MHRD) for funding the project in 2003, and it was duly sanctioned.

## **It's Different**

Ray's students developed a keyboard that had the aforementioned six basic functions—one key for each function. It was customised to meet Sachar's needs. They also designed a software in Visual Basic that linked the words to the images.

When Sachar hit the button labeled 'Drink', the screen would display six pictures of—'Water', 'Tea', 'Coffee', 'Coke', 'Milk' and 'Juice'. Next, he'd choose any one by pressing on the keyboard, the same digit assigned to the picture on the screen. Say, if he wanted water, which was tagged with '1' on the screen, he would press the digit '1' on the keyboard. This would bring up another screen with an image of a glass of water. This helped Sachar communicate his needs to the person in his room.

## **Specifics**

The keyboard had digits from one to 12, and keys such as 'Back' and



Initially, what was meant to be a learning aid developed into an effective mode of communication

**Prof G G Ray** Industrial Design Centre, IIT Bombay 'Forward' for ease of navigation. It was made of a metal frame, and the keys were industrial heavy-duty switches, the tops of which were removed and fitted with an acrylic material. They were then moulded so as to resemble keys on a typical keyboard using a method called 'baceum forming'.

The students also designed the seating arrangement, taking into account the workspace Sachar needed—the monitor had to be at a certain angle, keyboard had to be positioned such that Sachar could operate it with his left foot.

They used a 21-inch monitor. Even the keys were unusually large, and spaced wide apart. As Ray says, "We had to design in terms of inches and not millimetres. Moreover, it turned out to be a very low-cost design."

## **Accolades And Upgrades**

In 2004, this unique keyboard and software package received the 'Best Computer Application Award' at the International Congress on Working with Computers in Malaysia.

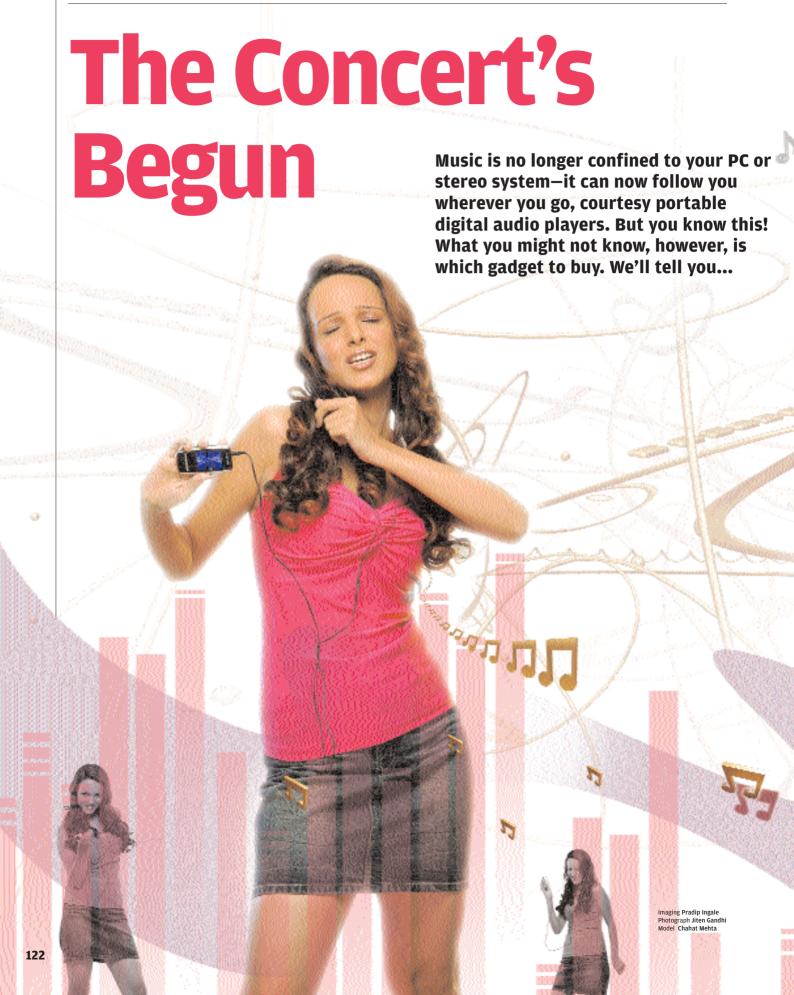
Over time, Ray improvised the entire package, and continues to do so. "Based on the feedback we received from the staff at Happy Hours Centre, we made the desired changes in the package. Initially, what was meant to be a learning aid developed into an effective means of communication for Sachar," says Ray.

Sachar has been using this setup for two years now, and other kids affected with cerebral palsy are also using it. But since Sachar operates the keyboard with his foot, the force with which he hits the keys renders the keyboard unusable after a period of time.

Hence, Ray is working on what he calls an intelligent plate—a smooth rectangular board made of stronger material. He is trying to make it touch-sensitive and also deploy a sensor that will detect which part of the plate is being hit so that the software can, in response, flash relevant images.

Ray bemoans the lack of government initiative to popularise this project. The highly expensive state-of-the-art computers for cerebral palsy patients available abroad are still a distant dream in India. In comparison, the unique product designed by Ray makes for a practical, viable and economical option.

 $renuka\_rane@think digit.com$ 



## Bhaskar Banik and Sanket Naik

A lmost every day we see a new portable audio player model being launched. For instance, the Samsung YH-J70. What is that you may ask? Well, it is the latest portable audio player from Samsung. Another one?

Since *Digit* made its debut, no other gadget related to digital music has gained so much popularity. Traditionally, Walkmans and portable radios upheld the ability to take music with us while on the move, but they were given a much needed rest with the arrival of MP3 players.

The new face of portable music are digital audio players (DAPs), commonly called MP3 players. These tiny little gizmos—once considered too expensive—have suddenly started making more sense than ever before. With the penetration of computers everywhere, these gizmos are the next in line to be accepted by the masses for their dose of music on the move.

In our comparison test, we received players of all shapes and sizes from brands big and small. They were essentially divided into two categories—flash-based and hard drive-based players. This is because there is no direct comparison possible between the two, as the technologies used are different, resulting in disparate features and capacities.

A lot has changed since the last time we compared the portable digital audio players. Capacity, for instance, has increased for flash-based players. Other additions to these players include the ability to display text files, pictures and even video. In fact, some of these devices are already beginning to blur the demarcations between portable digital audio players and the all-in-one portable entertainment handhelds.

## FLASH-BASED PLAYERS

Flash-based audio players are what most people will buy to hop aboard the portable digital audio bandwagon. This is mainly because they cost less than their hard drive (HDD) based counterparts, are lighter and more portable.

This time around, we received 32 players for our tests. There were some older models from the last test, but many more new models including Apple's iPod Shuffle. The Flash-based portable audio player category offers a huge variety of players to choose from. So, whether you want a vanilla player, or one armed to the teeth with features, they are all here...

## **Features**

Apart from offering you the comfort of music on the move, portable digital audio players (DAPs) can also store data. Beyond this there's really been no other groundbreaking feature on the average DAP.

Manufacturers, however, come out with innovative features, and stuff their players silly with any feature they can pack into these tiny gadgets. In our features analysis, we have categorised the competing players under various criteria to give you an overall view of the features that most players had.

## **Display**

The Samsung YP-T8 is a fine example of doing more with less. This is a small-sized player with 1 GB of solid-state (flash) memory, and a very large screen; in fact the largest in the comparison, in all categories! The screen is a 262K 1.8-inch LCD colour screen—comparable to top-of-the-line mobile screens. Interestingly, some players such as the Transcend and YES featured OLED displays.

OLED displays consume less battery power compared to regular LCD screens. The flip side were the iPod Shuffle and Creative MuVo Mix, which did not provide any display screens on the player at all.

## Playback

Most players supported playback of MP3, WMA, WAV and ASF files. The iRiver players added support for OGG files to this list, while a few others, such as the Bravish and Creative, supported only MP3 and WMA files. The iPod Shuffle was another player to support multiple formats, including AAC and Audible.

While MP3 and WMA support are bare minimum requirements for players today, its better to buy a player that supports more file formats. Though MP3 and WMA are more mainstream, other formats, such as OGG and AAC, are rapidly gaining acceptance. AAC is a proprietary codec, OGG is not, hence you should look for players that support the OGG format at least.

## **Battery Type**

Most of the players had internal Li-ion batteries, and only two players, the Samsung YP-C1 and the iRiver iFP-799 use AA batteries. Some other players did not contain any internal battery, and generally opted for an AAA battery solution.

Though having an AA battery in the player does increase its weight, it generally provides more battery life when compared to the other battery types. On the other hand, players with AAA batteries generally look much sleeker and less bulkier.

Battery type is an important deciding factor, since internal batteries become weaker as time passes. In the long run, external battery solutions



## Digital Leisure | Test Centre

seem to be a the better option—albeit at added running costs.

## **Extras**

This is one area where the list of players just keeps on increasing. Starting with the Samsung YP-T8, which has an MPEG-4 video player, FM radio/recorder, voice recorder, photo viewer, motion sensor (for games), and yes, it also features a USB host inside the vertically oriented player! Phew, now that's what we call feature-packed! The colour screen is absolutely vibrant and videos really look good. Flaunt value? It doesn't get better than this—not yet, at least!

The iRivers were the only players that bundled Sennheiser earphones with their players. For the uninitiated, Sennheiser is one of the most respected manufacturers of audio equipment worldwide.

The iRiver and Samsung players also featured Line-In encoding, which lets you encode audio from another source directly to MP3 or WAV format using the player. You can convert your old tape cassettes into MP3s using these players!

Then comes the Creative Brat Pack, the brand which has the distinction of making winners instead of players. This time around, the Creative C100 was the player that stood out. It had a distinctive semi-circular shape resembling a stopwatch used in athletics. Actually, it really does have a lap-timer and stopwatch on the player! Though a little bulky, the player is still very functional, rugged and meant for users who have extended periods of outdoor activity in their lifestyle.

Another distinctive feature of this player is that it can read data from memory cards (SD/MMC) which dramatically increases the storage capacity aspect for the player—it accepts SD/MMC cards of up to 512 MB capacity. Another player to offer memory card support was the UMAX Vega203, which was a well built and rugged player.



The Samsung YP-T8 can also play videos

The YES 910 portable player had a truly unique feature. This player can also be used as a remote control for some TVs. It makes us wonder what features next generation players will have? Lasers to open safes?

The YES 980 was a real looker, with a slide out cover that hid the controls beneath it. With an OLED display, this player was also packed with features including FM and voice recording.

On the other end of the features spectrum is the small unassuming iPod Shuffle. This player stands as an example to the adage that small is beautiful. It will appeal to those users who want a no frills portable audio player. No display, no equalisers, no radio, no nothing! Just a player with the iPod tag.

## **Ergonomics And Ease Of Use**

The iRiver iFP-799 was one of the most rugged players we have seen thus far. Design has been given a lot of attention here, and it is targeted at men. The iRiver T20, on the other hand, is a

## **How We Tested**

The process of testing the portable digital music players was kept very simple to enable fair judging and ensure that the scores fairly reflected the real life performance of the player.

The test system we used ran a Pentium IV 3.2 GHz on an Intel D850EMV2 motherboard with onboard sound and a GeForce2 GTS Ultra 64MB video card. Two Samsung 256 MB RDRAM memory modules provided the system memory while the all the software and the operating system was loaded on a Seagate 40 GB IDE hard drive; Windows XP Professional with Service Pack 1 (for USB 2.0 functionality) was used as the operating system used for our tests.

For the tests, we categorised the players into two distinct categories: flash based players and hard drive based players.

In the Features Test, we included all features a player could possibly have including the storage capacity, FM recording, Line-In Encoding, USB 2.0, various audio formats it supported and so on. Features that were unique to a player such as text and video support (which was available on quite a few players) were given extra points to make sure these features added up in the final Features scores.

In the Ergonomics and Ease of Use tests, we allotted the most weightage to the interface and intuitiveness of the button placement on a player. This was followed by the earphone comfort factor that is very important if you are looking for a portable digital music player. Build quality was another criterion that we looked at since the players should be able to handle a fair amount of wear and tear.

The Performance Tests included playing selected audio files on the players and transferring data to the player. For players that supported voice or audio recording, we recorded a small paragraph at the default settings to check the recording quality.

The songs we included for testing included a heavy bass file, a flange and bass track, 'World On Fire' by Sarah McLachlan and two Hindi tracks: 'Dil Haaray Pukaray' and 'Lamhey' by Jal. Both tracks are guitar-heavy with extremely well laid out vocals.

A real world test was also conducted in which files amounting to 100 MB were transferred from the computer to the player and the time taken was recorded. In the case of micro drive and hard drive based players, we transferred 1 GB worth of music to gauge data transfer speeds.

The battery test was another important factor that all the players were made to go through. For the battery tests, we played all the songs in a loop and kept the 'Repeat All' option turned ON while the display of the player was turned ON from time to time.

player that will appeal to the ladies. It is the smallest, and has that subtle feel of feminity.

The user interface (UI) on all these players was more or less the same, and we're not complaining. We liked the UIs of the Samsung and the Creative players.

The UMAX and Orite players were painful to use—their UIs left a lot to be desired, and their buttons were tiny and cumbersome.

The iPod Shuffle and iRiver N10 and iFP-799 players could only be accessed using their bundled software—iTunes for the iPod and iRiver Music Manager for the iRiver duo. Such functionality simply mars the experience of using a portable music player, since you may not have the software installed on every system you want to transfer music from. While this acts as a deterrent for illegal copying of music, it is also a handicap when trying to use the device for portable storage, unless you have the requisite software handy all the time.

Overall, we had quite a lot of players with features that in some cases were utilitarian but in some, absurd. And, how did these players perform against each other? That is what we talk about, next.

## **Performance**

The performance department is the place where we pit the best against the best. This test was broken up into Audio Quality, Data Transfer and Battery Life tests.

## **Audio Quality**

In terms of performance, there were three distinct groups—Creative, Samsung and iRiver.

The Apple iPod stood out all by itself, but put on an absolutely stunning performance in terms of audio quality. Going by audio performance, the Creative players were worth the money that they retailed at. The earphones on these players complement the players well. They are perfectly balanced in terms of the tone, bass and treble. Of course, pushing the volume envelope does produce a fair amount of jarring, but if you started listening to music at



The iRiver T30 has excellent audio quality



The YES YMP-910 has a TV remote feature

that high decibel levels, say goodbye to your ear drums!

The iRiver trio were the best when it came to audio quality. When listening to music, you can set your own favourite preset or custom equaliser setting that the kind of music you listen to sounds best on. Technologies such as SRS WOW enhance the whole experience of listening to music.

The SRS WOW implementation in these players is extremely good and the bass couldn't get punchier on any other player except the iRivers.

SRS WOW enhancement was sorely missing on the Samsung YP-T8, which would definitely add to the audio quality of the player. The YES YMP-910 player also put up a good show in the audio performance department.

The SAFA trio was another set of players that put up a good performance. These players also had external speakers, but the speakers are useless in noisy environments. The earphones bundled with these players were of good quality and complemented the players.

FM reception was very good on the Samsung and Creative players, while it was just okay on the iRiver players. For the others, MSI Megastick was very good for FM reception, but voice recording was not up to the mark.

The SAFA and Bravish had mediocre FM reception, but the voice recording was good. The rest of the players didn't really have anything outstanding to talk about.

## **Data Transfer**

When it came to data transfer speeds, no one could beat the Samsung YP-T8. We transferred almost 100 MB worth of data to this player in 13 seconds, the fastest in the whole comparison.

The second in terms of the fastest data transfer was its compatriot, the YP-T7 with 14 seconds. Though sluggish, data transfer speeds on the iRivers were faster than some of the other players in this comparison test.

The worst of the lot was the SAFA M520F that took a whopping 192 seconds to transfer 100 MB of data.

BRAND Model Features Storage Type/Capacity Battery Type/No. of Batteries Rechargeable Batterie(s) (Y/N)	Apple	Bravish						
Features Storage Type/Capacity Battery Type/No. of Batteries	'- Let (6)	DIAVISII	Bravish	Bravish	Creative	Creative MuVo	Creative	Creative
Storage Type/Capacity Battery Type/No. of Batteries	iPod Shuffle	M332	M339	M339	C100	Micro N200	MuVo Mix	MuVo Slim
Battery Type/No. of Batteries	14.80	21.16	23.64	23.96	19.56	18.36	11.24	23.68
, ,, ,	Solid State/1GB		Solid State/256MB					Solid-State/128MB
Rechargeable Ratterio(c) (V/M)	Internal Li-Ion	External AAA	External AAA	External AAA	External AAA	External AAA	External AAA	Rechargeable LI-ior
	4	6	6	6	6	6	6	4
Separate Power Adaptor (Y/N)	6	6	6	6	6	6	6	6
Inbuilt Display/Type/Colours	6/6/6	4/LCD/NA	4/LCD/NA	4/LCD/NA	4/LCD/NA	4/LCD/NA	6/6/6	4/LCD/NA
Text/Photo/Video support	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6
PC Interface	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Audio Formats Supported	AAC, MP3, MP3 VBR, WAV, AA	MP3, WMA	MP3, WMA, WMV, ASF, WAV	MP3, WMA, WMV, ASF, WAV	MP3, WMA	MP3, WMA	MP3, WMA	MP3, WMA
Firmware Upgradeable/Voice Recording	4/6	4/4	4/4	4/4	4/6	4/6	4/6	4/4
FM Tuner/Built-In Speakers	6/6	4/6	4/6	4/6	6/6	4/6	6/6	4/6
ID3 Tag Support/Power Saving	6/6	4/6	4/4	4/4	4/4	4/6	6/6	4/4
Custom Equalizers/A-B repeat	6/6	6/4	6/4	6/4	4/4	6/6	6/6	4/4
Direct Line-In/FM Recording	6/6	6/4	6/4	6/4	6/6	4/6	6/6	6/4
Preset Equalizer Modes	NA	5	5	5	4	Fixed	Fixed	5
Playback Features	IVA							-
Custom Playlists /Track Browser/	4/6/6	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4	6/6/6	4/6/6
Intro Mode								
Folder Support (Y/N)	4	4	4	4	4	4	4	4
Miscellaneous Features	None	None	None	None	SD/MMC Slot, Splash Proof, Stop Watch	None	Easy drag and drop	None
Bundled Software	iPod software	Installation CD	Installation CD	Installation CD	Install CD	Install CD	Installation CD	Creative MediaSour
buildied Software	iPou soitware	installation CD	IIIStaliation CD	installation CD	mstan eb	mstan CD	installation CD	Creative Mediasour
Bundled Accessories	Ear phone	Neck strap, Ear phone	Neck strap, Ear phone	Neck strap, ear phone	Splash-proof ear phone, Neck Strap, arm-band	Ear phone, USB Cable, Line in, Neck Strap	Ear phone, Neck strap	Earphone, USB Cable, pouch
					and case			
Francomy & Eaco of Uso	(12	724	7.77	7.77		776	7.40	770
Ergonomy & Ease of Use	6.12	7.34	7.27	7.27	7.39	7.76	7.49	7.78
Dimensions (mm)/Weight (gms)	86 x 25 x 9/22.11	13 (H), 56 Ø/29	89 x 30 x 21/25	89 x 30 x 21/25	<b>7.39</b> 61.5x80.6x22.5/54	65.5 x 3.5 x 13/22	72.9x35.1x16/39.1	85 x 55 x 7/34
Dimensions (mm)/Weight (gms) Portability (SO5)	86 x 25 x 9/22.11	13 (H), 56 Ø/29 4	89 x 30 x 21/25 4	89 x 30 x 21/25 4	7.39 61.5x80.6x22.5/54 3.5	65.5 x 3.5 x 13/22	72.9x35.1x16/39.1 3.5	85 x 55 x 7/34 4
Dimensions (mm)/Weight (gms) Portability (S05) Intuitive Button Placement (S05)	86 x 25 x 9/22.11 4 4	13 (H), 56 Ø/29 4 3	89 x 30 x 21/25 4 3	89 x 30 x 21/25 4 3	7.39 61.5x80.6x22.5/54 3.5 3.5	65.5 x 3.5 x 13/22 4 3	72.9x35.1x16/39.1 3.5 3.5	85 x 55 x 7/34 4 4
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5)	86 x 25 x 9/22.11 4 4 4	13 (H), 56 Ø/29 4 3 3	89 x 30 x 21/25 4 3 3	89 x 30 x 21/25 4 3 3	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5	65.5 x 3.5 x 13/22 4 3 3.5	72.9x35.1x16/39.1 3.5 3.5 3.5	85 x 55 x 7/34 4 4
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5)	86 x 25 x 9/22.11 4 4 4 4	13 (H), 56 Ø/29 4 3 3 3.5	89 x 30 x 21/25 4 3 3 3.5	89 x 30 x 21/25 4 3 3 3.5	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5	65.5 x 3.5 x 13/22 4 3 3.5 3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5	85 x 55 x 7/34 4 4 4 4.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible	86 x 25 x 9/22.11 4 4 4	13 (H), 56 Ø/29 4 3 3	89 x 30 x 21/25 4 3 3	89 x 30 x 21/25 4 3 3	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5	65.5 x 3.5 x 13/22 4 3 3.5	72.9x35.1x16/39.1 3.5 3.5 3.5	85 x 55 x 7/34 4 4 4
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5)	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA	13 (H), 56 Ø/29 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4	85 x 55 x 7/34 4 4 4 4.5 4/4
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5)	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA	13 (H), 56 Ø/29 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA	13 (H), 56 Ø/29 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4	85 x 55 x 7/34 4 4 4 4 4.5 4/4
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA	13 (H), 56 Ø/29 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	89 x 30 x 21/25 4 3 3 3.5 4/4	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5)	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA 4 16.08	13 (H), 56 Ø/29 4 3 3 3.5 4/4 3.5 13.56	89 x 30 x 21/25 4 3 3 3 3.5 4/4 3 12.66	89 x 30 x 21/25 4 3 3 3 3.5 4/4 3 12.66	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5) English/Hindi #1/Hindi #2 (SO5)	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA 4 16.08 4/4	13 (H), 56 Ø/29 4 3 3 3 3.5 4/4 3.5 13.56 3.5/3	89 x 30 x 21/25 4 3 3 3 3.5 4/4 3 12.66	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14 4/4 4/4/4	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95 3.5/3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00 3.5/3.5	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5) English/Hindi #1/Hindi #2 (SO5) Voice Recording Quality (SO5)	86 x 25 x 9/22.11 4 4 4 4 NA/NA 4 16.08 4/4	13 (H), 56 Ø/29 4 3 3 3.5 4/4 3.5 13.56 3.5/3 3/3.5/3.5	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14 4/4 NA	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95 3.5/3.5 3.5/3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00 3.5/3.5 NA	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5 3.5/3.5/3.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5) English/Hindi #1/Hindi #2 (SO5) Voice Recording Quality (SO5) 100 MB Data Transfer (secs)/Battery Life (hrs)	86 x 25 x 9/22.11 4 4 4 4 4 NA/NA 4 16.08 4/4	13 (H), 56 Ø/29 4 3 3 3 3.5 4/4 3.5 13.56 3.5/3	89 x 30 x 21/25 4 3 3 3 3.5 4/4 3 12.66	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14 4/4 4/4/4 NA 45/16.5	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95 3.5/3.5 3.5/3.5 3.5/3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00 3.5/3.5	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5) English/Hindi #1/Hindi #2 (SO5) Voice Recording Quality (SO5) 100 MB Data Transfer (secs)/Battery Life (hrs) Price Index	86 x 25 x 9/22.11 4 4 4 4 NA/NA 4 16.08 4/4	13 (H), 56 Ø/29 4 3 3 3.5 4/4 3.5 13.56 3.5/3 3/3.5/3.5	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14 4/4 4/4/4 NA 45/16.5	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95 3.5/3.5 3.5/3.5 3.5/3.5 3.5/3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00 3.5/3.5 3.5/3.5 NA 36/17	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5 3.5/3.5/3.5 3.5 52/18
Dimensions (mm)/Weight (gms) Portability (SO5) Intuitive Button Placement (SO5) Interface/Menu Navigation (SO5) Earphone Comfort Factor (SO5) Backlit Display/Adjustible Contrast (SO5) Build Quality (SO5) Performance Audio Quality Heavy Treble & Flange/Heavy Bass (SO5) English/Hindi #1/Hindi #2 (SO5) Voice Recording Quality (SO5) 100 MB Data Transfer (secs)/Battery Life (hrs)	86 x 25 x 9/22.11 4 4 4 4 NA/NA 4 16.08 4/4 4/4/4 NA 47/12.5	13 (H), 56 Ø/29 4 3 3 3 3.5 4/4 3.5 13.56 3.5/3 3/3.5/3.5 3.5 139/9	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5 137/9	89 x 30 x 21/25 4 3 3 3.5 4/4 3 12.66 3/3 3/3/3 3.5 137/9	7.39 61.5x80.6x22.5/54 3.5 3.5 3.5 3.5 4/4 4 17.14 4/4 4/4/4 NA 45/16.5	65.5 x 3.5 x 13/22 4 3 3.5 3.5 4/4 4 16.95 3.5/3.5 3.5/3.5 3.5/3.5	72.9x35.1x16/39.1 3.5 3.5 3.5 3.5 4/4 4 16.00 3.5/3.5 3.5/3.5 NA 36/17	85 x 55 x 7/34 4 4 4 4.5 4/4 2.5 15.91 3.5/3.5 3.5/3.5/3.5 3.5



			Flash Based	MP3 Players	•		,
Creative	Ennyah	iRiver	iRiver	iRiver	iRiver	MSI	Orite
	DIGISound II DS601		N10	T20	T30	MegaStick	Music Cookie
23.08	22.60	27.44	23.28	26.04	25.72	23.32	19.40
	Solid-State/128MB	Solid-State/1GB	Solid-State/256MB	Solid-State/512MB	Solid-State/256MB	Solid State/512MB	Solid-State/128MB
External AAA	AAA,1	External AA	Internal Li-Polymer		External AAA	External AAA	AAA,1
6	6	6	4	4	6	6	6
6	6	6	6	6	6	6	6
4/LCD/NA	4/LCD/NA	4/LCD (4 Line)/NA	4/OLED/Gray	4/LCD (3 Line)/NA	4/LCD (4 Line)/NA		4/LCD/NA
6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6
USB 2.0	USB 1.1	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 1.1
MP3, WMA	MP3, WMA	MP3, WMA, OGG,	MP3, WMA, ASF	MP3, WMA, OGG,	MP3, WMA, OGG Q10,		MP3
5,	5,	ASF	5,, ,	ASF	ASF	iii 3, iiiia , iiiia	WII 3
4/4	4/4	4/4	4/4	4/4	4/4	6/4	4/4
-/ -	-/ -	-/ -	1/ 1	-/ -	-/ -	0/ 4	I/ I
4/6	4/6	4/6	6/6	4/6	4/6	4/6	4/6
		4/4	4/4		4/4		
4/4	4/4 4/4	4/4	6/4	4/4	4/4	4/4	4/4
						6/4	6/4
6/4	6/4	4/4	6/6	4/4	4/4	4/4	6/6
4	5	7	6	10	10	5	6
	-1.1.						
4/4/4	6/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/6
4	4	4	4	4	4	4	6
None	None	Skip-free and sport- ready	None	None	None	Display Lyric on Playback	None
		•				Тиуваск	
Install CD	Format Utility,	PC Software and	Installation CD	iRiver plus 2	iRiver plus 2	Driver CD	Winamp 2.91,
	Drivers, MusicMatch	Driver					Lyrie121, Screensaver
	Jukebox						Editor, Drivers
							, , , , , , , , , , , , , , , , , , , ,
Ear phone, Neck	Earphone, AAA bat-	Ear Phones.USB	Neck lace ear	Neck strap, ear	Neck strap, ear phone	Far phone, USB cable	Earphone cum neck
Strap	tery, USB extension		phone, USB cable,	phone		zar priority dob table	strap, AAA battery,
ot. ap	cable,	Wrist band, Neck	USB adapter	pilotic			USB Cable
	cable,	strap, Line-in cable	dob adapter				U3D Cable
		strap, Line-in Cable					
7.53	5.94	7.66	7.95	7.92	7.92	7.02	6.32
	88 x 32 x 20/57	87 x 32 x 26.7/62	27.2x62.5x13.3/28.5		57.5 x 27 x 14/30	92 x 30 x 19.3/32	65 x 41 x 18/42
4	4	4	4	4	4	3.5	4
3	3	4	4	4	4	3	2
3.5	3.5	3	3	3	3	3	2.5
3.5	3	4	4	4	4	3	3
4/4	4/6	4/4	4/4	4/4	4/4	4/4	4/4
4/4	4/0	4/4	4/4	4/4	4/4	4/4	4/4
4	3.5	4	4	4	4	3.5	2.5
18.43	12.21	19.70	16.22	18.07	17.48	16.27	11.18
10/10		1,7,70	10,62	20.07	23710	10121	11/10
4/4	3.5/3	4/4	4/4	4/4	4/4	3.5/3.5	3/2
1, 4	3.3/3	1/ 1	1/ 1	1/ 1	1/ 1	3.3/ 3.3	J <sub>1</sub> L
4/4/4	3/3/3	4/4/4	4/4/4	4/4/4	4/4/4	3.5/3.5/3.5	2.5/3/2.5
	3		4/4/4				
41/16 5		4		4	4	3.5	3
41/16.5	190/7	69/23	128/10.5	32/14	34/12	47/15	136/8.5
10.07	12.//	4.25	5.00	F 00	10.00	0.00	0.45
10.87	12.66	4.35	5.88	5.88	10.00	9.09	9.17
4,099	3,950	11,499	8,499	8,499	4,999	5,500	5,450
59.92	53.41	59.15	53.33	57.91	61.12	55.70	46.07



- + Excellent
  Sound quality
   Small buttons
- ty +



- performance - Average
- Average quality earphones



- + Rugged build quality
- Software required for data transfer



- + Excellent audio quality
- Software required for data transfer



- + Well designed, sleek
- Slow data transfer rates



- + Excellent audio quality
- slow data transfer rates



- + Good audio quality
- Quirky battery compatibility



- + good design
   Interface not
- up to the mark



sic Disk M 18 2 id State/128MB S ernal AAA E OLED/NA 4 5/6 6 3 2.0 U 3, WMA M	M520F 44.36 Solid State/256MB External AAA	<b>SAFA M850F</b> 30.68 Solid State/512MB	ased MP3 P SAFA M890F	Samsung		Samsung	Samsung
sic Disk M 18 2 id State/128MB S ernal AAA E OLED/NA 4 5/6 6 3 2.0 U 3, WMA M	4.36 solid State/256MB external AAA 5 6 1/LCD/7	<b>M850F</b> 30.68 Solid State/512MB				Samsung	Samsung
sic Disk M 18 2 id State/128MB S ernal AAA E OLED/NA 4 5/6 6 3 2.0 U 3, WMA M	4.36 solid State/256MB external AAA 5 6 1/LCD/7	<b>M850F</b> 30.68 Solid State/512MB				Janisung	
2 id State/128MB Sernal AAA Eernal AAAA Eernal AAA Eernal AAAA Eernal AAA Eernal AAAA Eernal AAAA Eernal AAA Eernal AAAA Eernal AAA Eernal AAAA Eer	24.36 Golid State/256MB External AAA G G A/LCD/7	30.68 Solid State/512MB	1010701	YP-C1	YP-F1	YP-T7	үр-т8
id State/128MB Sernal AAA Eernal Eernal AAA Eernal Eernal AAAA Eernal Eernal AAA Eernal Eernal AAA Eernal Eern	oolid State/256MB External AAA 5 6 6 6 1/LCD/7	Solid State/512MB	31.00	26.20		29.20	34.04
ernal AAA	External AAA 5 6 6 4/LCD/7					Solid-State/256MB	
66 60 60 60 60 60 60 60 60 60 60 60 60 6	5 4/LCD/7	Internal Li-Ion	Internal Li-Ion	External AA		Internal Li-Poly	Internal Li-Ion
60LED/NA 4 5/6 6 3 2.0 U 3, WMA M	5 1/LCD/7	4	4	6		4	4
DLED/NA 4 5/6 6 3 2.0 U 3, WMA M	L/LCD/7						
5/6 6 3 2.0 U 3, WMA M		4	4	6		4	4
3 2.0 U 3, WMA N	5/6/6	4/LCD/65K	4/LCD/65K	4/LCD/NA		4/LCD/65K	4/TFT-LCD/262K
3, WMA		4/4/6	4/4/6	6/6/6		4/4/6	4/4/4
-,	JSB 1.1	USB 1.1	USB 1.1	USB 2.0		USB 2.0	USB 2.0
1	MP3, WMA	MP3, WMA, OGG	MP3, WMA, OGG	OGG, MP3, WMA, ASF		OGG, MP3, WMA, ASF	OGG, MP3, ASF, W Secure WMA Play
4	1/4	4/4	4/4	4/4	4/4	4/4	4/4
5 4	1/4	4/4	4/4	4/6	4/6	4/6	4/6
		4/4	4/4	4/4	·	4/4	4/4
							4/4
							4/4
6	)	6	6	4	4	4	10
1/4 4	1/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4
4	l .	4	4	4	4	4	4
ne M		Treasure Hunt,	Treasure Hunt,	None	None	None	G-Sensor game function
20 I	nctallation CD			Installation CD	Installation CD	Installation CD	Installation CD
ie "	installation CD	installation CD	mstallation CD	ilistaliation CD	mstanation CD	mstanation CD	installation CD
c	able, Tel phone daptor, Audio	phone, Audio	Neck strap, ear phone, Audio cable	Pouch, neck strap, USB cable, earphones	phones, USB cable	USB cable, ear- phones, LINE-in	Pouch, neck strap USB cable, earph LINE-in cable, US cable, USB host adapter
7	777	762	762	7.92	720	730	7.46
							4
							4
							4
							3.5
1 4	1/4	4/4	4/4	4/4	4/4	4/4	4/4
1	1	4	4	4	3.5	3.5	3
4	1	15.94	15.94	19.63			
	3.18				14.04	16.91	19.06
					14.04	16.91	19.06
95 1	3.18	3.5/3.5	3.5/3.5	3.5/3.5		3.5/3.5	19.06 3.5/3.5
95 1 3 .5/3.5 3	3.18 3.5/3.5 3.5/3.5/3.5	3.5/3.5 3.5/3.5/3.5	3.5/3.5/3.5	3.5/3.5/3.5	3/3.5 3.5/3.5/3.5		
95 1 3 .5/3.5 3	3.18 3.5/3.5 3.5/3.5/3.5 3.5	3.5/3.5			3/3.5 3.5/3.5/3.5 3.5	3.5/3.5 3.5/3.5/3.5	3.5/3.5 3.5/3.5/3.5
95 1 3 .5/3.5 3 3 /6.5 1	3.18 3.5/3.5 3.5/3.5/3.5 3.5 92/5.5	3.5/3.5 3.5/3.5/3.5 3.5 147/16	3.5/3.5/3.5 3.5 147/16	3.5/3.5/3.5 4 41/27	3/3.5 3.5/3.5/3.5 3.5 47/7.5	3.5/3.5 3.5/3.5/3.5 4 14/9	3.5/3.5 3.5/3.5/3.5 4 13/16.5
95 1 3 3.5/3.5 3 3/6.5 1	3.18 3.5/3.5 3.5/3.5/3.5 3.5 92/5.5	3.5/3.5 3.5/3.5/3.5 3.5 147/16 5.71	3.5/3.5/3.5 3.5 147/16	3.5/3.5/3.5 4 41/27 6.33	3/3.5 3.5/3.5/3.5 3.5 47/7.5 5.62	3.5/3.5 3.5/3.5/3.5 4 14/9 5.05	3.5/3.5 3.5/3.5/3.5 4 13/16.5 3.36
3 35/3.5 3 3/6.5 1 52 7 95	3.18 3.5/3.5 3.5/3.5/3.5 3.5 92/5.5 1.15 6,995	3.5/3.5 3.5/3.5/3.5 3.5 147/16 5.71	3.5/3.5/3.5 3.5 147/16	3.5/3.5/3.5 4 41/27	3/3.5 3.5/3.5/3.5 3.5 47/7.5 5.62 8,900	3.5/3.5 3.5/3.5/3.5 4 14/9	3.5/3.5 3.5/3.5/3.5 4 13/16.5
1 5 1 1 1 1	24 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4/6 6/4 6 4 4/4/4 4 4 9 Memo Function Installation CD Shone Ear phone, USB cable, Tel phone adaptor, Audio cable 7.77 84x29.5x18.8/34.5 4 3.5 4 3.5 4/4	4/6 6/4 4/4 6 6 6 6 6 6 6 6 6 6 7 4 4/4/4 4/4/4 4 4 4 4 4 4 9 Memo Function Games (Othello, Treasure Hunt, Memo function Installation CD  Dhone Ear phone, USB cable, Tel phone adaptor, Audio cable  7.77 7.62 84x29.5x18.8/34.5 4 4 3.5 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 3.5 3.5 4 4 4 4 3.5 3.5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4/6 6/4 6/4 4/4 6/4 6/4 6/4 4/4 6 6 6 6	4/6	4/6	4/6



						OCTOBER 2005	
			Flash Based	<b>MP3 Players</b>			
C Madia	Tuesday	Tuesday				Vec	VEC.
S-Media Butterfly	Transcend T.Sonic 610	Transcend T.Sonic 610	Umax Voga 107	Umax	YES YMP-900	YES	YES
<u> </u>			Vega 107	Vega203		YMP-910	YMP-980
27.76 Solid-State/128MB	24.44	23.48	21.96	22.96	25.40 Solid State/256MB	30.96	26.64
		Solid-State/512MB	Solid State/128MB	Solid State/256MB	· · · · · · · · · · · · · · · · · · ·	Solid State/256MB	Solid State/256MB
Rechargeable	Internal Li-Ion	Internal Li-Ion	External AAA	External AAA	External AAA	Internal Li-Ion	Internal Li-Ion
4	6	6	6	6	6	4	4
6	6	6	6	6	6	4	6
4/LCD/NA	4/OLED/2	4/OLED/2	4/LCD/NA	4/LCD/NA	4/LCD/5	4/LCD/65K	4/OLED/2
6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	6/6/6	4/4/6	6/6/6
USB 1.1	USB 2.0	USB 2.0	USB 1.1	USB 1.1	USB 2.0	USB 2.0	USB 2.0
MP3, WMA	MP3, WAV, WMA	MP3, WAV, WMA	MP3, WMA, WMV,	MP3, WMA	MP3, WMA, ASF	MP3, MP2, WMA, ASF,	MP3, WMA
			ASF			WAV	
4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
4/4	4/6	4/6	4/6	4/6	4/6	4/6	4/6
4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
4/4	4/4	4/4	6/4	4/4	4/4	4/4	4/4
4/4	6/4	6/4	6/6	6/6	4/4	4/4	4/4
6	6	6	6	5	4	5	6
4/4/6	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4	4/4/4
4	6	6	4	4	4	4	4
None	None	None	None	Memory card	None	Can be used as a	None
				SD/MMC		remote control (IR) for	TTOTIC
				3D/ WINC		TV, Game(Black Jack)	
Drivers	Driver CD	Driver CD	Install CD	Install CD	Install CD		Install CD
Dilvers	Dilvei CD	Dilvei CD	IIIStall CD	IIIStall CD	IIISIdii CD	Install CD	Ilistali CD
	5 1 11 1 1	5 1 1 1	- 1	- 1	- 1		
Earphone, neck	Pouch, Neck strap,	Pouch, neck strap,	Ear phone, USB	Ear phone, USB	Earphone, Neck	USB cable, Line-in	Earphone, Neck Strap
strap, Extension	USB cable,	USB cable, ear-	Cable	Cable	Strap, Pouch, USB	cable, Carry case, arm-	
cable, holder	Earphones	phones			Cable, Line-in	band, Necklace-ear-	Cable, Line-in
						phone	
724	7.54	254		750	7.0		
7.21	7.51	7.51	6.86	7.59	7.60	7.07	6.86
83 x 32 x 19.5/62	70 x 34.5 x 15.5/28	70 x 34.5 x 15.5/28	93 x 31 x 18/25	80 x 40x 18/42	57.5 x 27.15 x 17.8/24	86 x 29 x 19/42	36 x 68 x 17.2/50
4	4	4	3.5	3	4	4	4
3	3.5	3.5	3	3.5	3.5	3	3
3	3	3	1	3.5	3	2.5	2.5
3.5	3	3	3	3	3.5	3	3
4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
4	4	4	4	4.5	3.5	4	3.5
14.09	13.38	13.38	13.26	12.98	13.76	19.03	12.83
2.5/2	2 5 /2 5	2.5/2.5	2/2	2/2	2/2	2/25	2.5/2
3.5/3	2.5/2.5	2.5/2.5	3/3	3/3	3/3	3/3.5	2.5/3
2 = /2 = /=	2 /2 /2	2 /2 /2	2/2/2	2 = /2 = /2	2 /2 /2		- /- /-
3.5/3.5/3	3/3/3	3/3/3	3/3/3	3.5/3.5/3	3/3/3	3.5/3.5/3.5	3/3/3
2.5	3	3	3	3	3.5	3	3
181/12.5	47/12.5	47/12.5	120/11.75	139/8.5	46/11	47/27.5	150/11.5
6.21	5.06	6.41	12.50	8.33	8.50	6.54	7.27
8,055	9,880	7,800	4,000	6,000	5,880	7,640	6,880
55.27	50.38	50.77	54.58	51.86	55.26	63.60	53.59
	1	0	9		(D) (C)		
		and the same of th	4		1000	10 15	13
0			Called				
					. Woll placed		
+ External	+OLED Display	+ OLED Display	+ Good battery	+ Rugged built	+ Well placed	+ Excellent audio	+ Sleek, slide out
- 1					DUITTONC GOOD		

life

- Bad interface

- Small buttons

Speakers

- Average

quality

earphones

- Small buttons

player, OLED display

Average audio

quality.

performance,

extra features

Average quality

earphones

buttons, good

Average quality

interface

earphones

quality, can

cards

read SD/MMC

Bad interface

## V

## **Evolution Of MP3 Players**

The earliest precursors to portable digital audio players were portable CD players and mini disc players. The Eiger Labs MPMan F10, a 32 MB portable digital player, was one of the earliest non-mechanical digital audio players in the American market and was released in 1998.

The first big selling Digital Audio Player (DAP) was the Rio PMP300 from Diamond Multimedia, introduced in September 1998. The huge success of the Rio player brought about a large amount of interest and investment in the digital music sector. Other early DAPs included Sensory Science's Rave MP2100, the I-Jam IJ-100, and the Creative Labs Nomad. These portables were small and light, and

could hold around 7 to 20 songs at normal 128 Kbps compression, and had compact flash memories for storage.

By 2000 when USB ports had gained popularity and were increasingly used to transfer data, digital audio players came integrated with them. At around this time a company called Remote Solutions made a significant improvement in the storage problems faced by DAPs by using a laptop hard drive for storing songs rather than the low-capacity flash memory. The Personal Jukebox (PJB-100) had 4.8 GB of storage space, and held about 1,200 songs. This was the beginning of what would be called the jukebox segment of digital audio players. This segment eventually went onto become

the dominant one in MP3 players.

Apple computers then released their iconic iPod in 2001, along with the iTunes music download service. They also released versions that could hold over 30 GB of data including images and music files. This opened the floodgates of the industry and the market was soon inundated with players offering various storage capacities and also recording and playback capabilities.

In a reversal of sorts, with advances in flash memory technologies, companies today are heading back to flash storage from solid state storage devices. The recently released iPod Nano has up to 4 GB of flash-based storage capacity.

## **Battery Life**

Some of the players had strange quirks. For instance, the MSI Mega-Stick would hang when battery power was running out. We should mention that the same batteries powered other players without problems.

The YES YMP-910 was the best in terms of battery life, and scored the highest with 27.5 hours of non-stop play. It uses an internal Li-Ion battery. The



Rugged build quality identifies the Creative MuVo C100

Samsung YP-C1 followed it with 27 hours of continuous play on an AA external alkaline battery. This also brings into perspective the question of what is better—internal Li-Ion or external AA or AAA batteries.

While Li-ion offers the possibility of charging from a PC via USB, AA or AAA batteries give you the freedom of keeping a backup when in need. For us, an external battery is much more utilitarian than an internal one. Of course, this is only a general perspective that we are offering, and in no way affects the scores in this test.

Other players that put in a commendable performance included the Bravish, Smedia Butterfly and the MSI MegaStick.

## Conclusion

The flash-based portable audio category saw some stiff competition. Almost all the players except the Creative MuVo Mix and the iPod Shuffle had displays. Granted that not having a display does increase battery life, but managing or listening to songs on a player that lacks a display can be quite cumbersome.

Another factor that resulted in the tough competition was the features that are available on all the players. Features, such as video, were exclusive to only one player while features like text and image viewing are available on quite a few. This time around we have a tie for the *Digit* 'Best Buy Gold' award—the Samsung YP-T8 and the YES YMP-910. These players performed very well in the audio quality department without compromising on features.

The *Digit* 'Best Buy Silver' award goes to the iRiver T30. This is one spunky little gadget that packs a wallop when it comes to audio quality. With a price of Rs 4,999, this player is a must-buy.

## HARD DRIVE-BASED PLAYERS

Flash-based players can offer all the comforts of having a portable digital audio player that is rugged and can withstand the roughest of shocks, but it can never offer the capacity of a hard drive-based player. Hard drive (HDD) players such as the iPod can hold your entire music collection, and then some.

We received eight HDD-based players for our comparison this time, including the iPods. All of these were feature packed and proved to be quite a handful in our comparison tests. For all the juicy details, read on...

## **Features**

So what is new in the HDD based portable players scene? Well, a lot, we must say. Let's find out.

## **Display**

Amongst the HDD-based portable players, the Samsung YH-J70 had the most features. It is the elder sibling of the YP-T8 that we checked out in the flash-based players comparison. Only, in this player, the screen is smaller. The Samsung YH-J70 again has a 262K TFT-LCD screen similar to the YP-T8 flash model.

Next up was the iRiver. The player also featured an OLED screen with 262K colour depth. The other players featured the regular LCD screens and some changing lights (which actually look bad) such as on the Creative ZEN NEEON.

The Creative MuVo 2 player's display was too small for its size. The display is a two-line LCD screen. It serves the purpose, but viewing tracks on the player becomes cumbersome since you can only check two track names at a time when scrolling.

## **Playback**

In the file support department, none could compare with the iPods. Both the iPods support AAC, MP3, MP3 VBR, Apple Lossless, WAV, AIFF, Audible formats. The only player that could come close to them was the Samsung YH-J70 which supports MP3, WAV, WMA, OGG file formats. The other players including the iRiver were regular run of the mill players and supported only MP3, WMA, and in some cases, WAV playback.

## **Battery Type**

The iRiver H10 was a player that featured a removable Li-ion battery, which comes bundled with the player. Removable Li-ion battery packs are available for the iRiver H10 which can be purchased separately.

Another player that had the same feature was the Creative NOMAD Jukebox Zen Xtra—though removing the battery requires you to take off the front cover of the player.

All other players featured regular internal Liion batteries.

## **Extras**

The Samsung YH-J70 was the most feature packed of all. Although it has a smaller screen, this player ups the ante when it comes to features. Yes, SRS WOW is right here along with a host of other presets that enhance your listening experience. Not satisfied with the presets, then make your own custom equaliser. This feature of custom equaliser was available on most players, except the iPod.

This Samsung also has a game feature for those boring times when you want to listen to music and do something else as well—you can also play video, view photos and read text files on this player. However, the earphones left a lot to be desired, and a better pair would be a welcome addition for this player. This player can also act as a USB host, which lets you connect specific models of digital cameras directly to the player and transfer images to it.



The Samsung YH-J70 has motion sensors to prevent shocks

## V

## **Jargon Buster**

SRS WOW: WOW is a state-of-the-art technology from SRS (Sound Retrieval System) Labs that uses special algorithms to improve the quality, dynamics, spatial experience and bass tone of digitally compressed audio files. In effect, WOW helps even small speaker systems including PC speakers and television deliver audio with richer bass and an enhanced 3D spatial experience.

Audio Codecs (MP3, WMA, AAC, etc.): An audio codec is a computer program that compresses or decompresses digital audio data so that the file size of the audio data reduces to a fraction of that of the original raw data. There are a variety of audio Codecs available such as MP3, WMA, AAC, FLAC, etc. Codecs can be lossy, like MP3 which results in a loss of detail in the audio quality but a higher compression ratio or lossless, like FLAC, results in faithful reproduction of audio but are not exactly 'high-compression'.

**Audio encoding:** Audio encoding is the process of analysing the information in an audio file and rearranging it in a format that has been predefined by a Codec.

**Bitrate:** This is the number of bits of data transmitted per unit time. It is usually expressed in bits per second or bps. The higher the bitrate, the more the information transmitted and the higher the fidelity of the audio. **Compression ratio:** Compression ratio of an audio file is the ratio of the file size of the encoded audio file to the file size of the same audio data in raw form.

The iRiver H10 was the only player in the whole comparison, which bundled a premium Sennhieser MX400 pair of earphones with the player as a part of the package. This was another player that had support for displaying text files and photos. No other player in the HDD-based portable players comparison could match up to these two in terms of features.

## **Ergonomics And Ease Of Use**

The interface of the Samsung YH-J70, again, is similar to its younger sibling and very intuitive. Button placement is excellent and everything is easily accessible for one handed operation. This is one surefire iPod killer from the Samsung stables!

The interface of the iRiver is clean and uncluttered although the buttons are a little less responsive as compared to the Samsung, Creative or iPod players. Again, this device needed to be used with the proprietary iRiver Plus software for transferring music to the device.

However, if you connect this device without installing the software, it still shows up as a removable drive and you can transfer data, which includes music that can be played back. But this transferred music is not categorised under various headings such as Artist, Title etc. which happens when you use the proprietory software to transfer music. Playlist support is present using both software and on-the-fly transfers and you can create custom playlists in the player.

The Apple iPod and the iPod Mini were identical in terms of usability, and the ease of use that is a trademark of Apple devices. The feather touch response of the buttons on these devices makes them a dream to use.

These devices, too, were dependent on the iTunes software for being able transfer music to the device. This whole concept of making portable device software dependent is advantageous

## Digital Leisure | Test Centre

to an extent, but essentially destroys the whole notion of plugand-play.

The Creative ZEN NEEON has a particularly sluggish interface. Button placements are okay, but needed more design thought. The Creative NOMAD Jukebox Zen Xtra was huge. This was a player that had a very primitive interface. It was bulkier, slower and did not even support the creation and use of folders. The only redeeming feature was the interface of the player that was easy to use. The buttons on the player however, can make do with a change in their positions. Considering the features, this player lacks a lot when compared to the other players in the comparison.

## **Performance**

HDD-based portable audio players generally have to be used more carefully than flash-based players. This is because the HDD based players not only cost more, but are also more fragile due to moving parts. However, the newer generations of players that we tested were out to prove this wrong.

## **Audio Quality**

The Samsung YH-J70 is at the forefront of this race. This baby has motion sensors to prevent accidental damage to the drive from jerks and falls.

To test this, we used this player when commuting on the roads of Mumbai, using public transport. Not once did it skip or restart—and some of the roads we traveled across are the worst in the country, especially after the terrible monsoon this year!

The Samsung gave us rock solid performance when it came to using it as a "portable" player. FM radio and audio recording quality was acceptable—though the FM reception quality could be improved upon.

## **Earphone Buying Guide**

The wrong earphones with the right player can cause a lot of heartburn. Earphones play a very important role in your whole digital music player experience. Therefore, to help you out, here is a small buying guide that will enhance your experience. Use these as generic guidelines when purchasing earphones or headphones. Prices may vary from region to region.

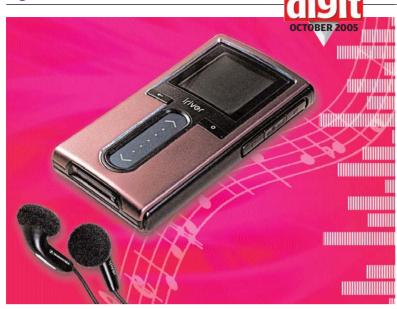
- Settle for the right fit. Some earphones have the tendency of slipping out of your ear. When buying an ear bud type of earphone, check if it fits your ear properly. Regular good quality earphones start retailing upwards of Rs300
- If you are not comfortable with an earphone, check out a headphone. The downside to this would be more consumption of battery, since the drivers are bigger on a headphone. Good quality headphones start retailing at approximately Rs1,000.
- Earphones can be either the regular or noise-canceling ones that plug right into the ear canal. Noise canceling earphones cost a bomb and are not recommended for long music sessions. However, the quality of these earphones is impeccable, since the audio waves directly hit the eardrum without any external interference leading to more clearer and noise free sound. The inherent drawback to these earphones is that low bitrate music files sound absolutely pathetic since they are encoded using lossy compression techniques.
- Headphones are also available in the noise-canceling flavor, and are extremely expensive. You can probably buy another player for the same price.
- For earphones, check if they have small ports at the back of the buds. These ports give more depth to the sound quality, especially to the bass. Such earphones can be expensive, but its money well spent. Good quality headphones also have small ports on the back of the ear cups.

## 1/2 pg V AD





					OCTOBER 2005			OCTOBER 200:
Scoreboard		Micro	drive-based Pla	ayers	v		<b>HDD Based Play</b>	er
BRAND	Apple	Creative	Creative	Creative	iRiver	Apple	Creative	Samsung
Model	iPod Mini	MuVo2 FM 5GB	ZEN Micro	Zen NEEON	H10	iPod 20GB	NOMAD Jukebox ZEN Extra	YH-J70
eatures	21	23.4	26.04	25.96	29.28	21.92	23	30.16
torage Type/Capacity (GB)	Microdrive/4	Microdrive/5	Microdrive/5	Microdrive/5	Microdrive/5	HDD/20	HDD/30	HDD/30
Battery Type/No. of Batteries	Internal Li-Ion	Internal Li-Ion	Internal Li-Ion	Internal Li-Ion	Removable Li-Ion	Internal Li-Ion	Internal Li-Ion	Internal Li-Ion
Display Size (No.of Lines)	5	2	6	4	8	7	6	8
Display Type/Number of colors	LCD/Grayscale	LCD/Grayscale	LCD/Grayscale	LCD/Grayascale	TFT-LCD/262K	LCD/Grayscale	LCD/Grayscale	TFT-LCD/262K
Remote Control (Y/N)	Optional	4	6	6	6	Optional	6	6
PC Interface	USB2.0, Firewire	USB2.0	USB 2.0	USB 2.0	USB 2.0	USB2.0, Firewire	USB 2.0	USB 2.0
Audio Formats Supported	AAC, MP3, MP3 VBR, Apple Lossless, WAV, AIFF, Audible	WMA, MP3, WAV	MP3, WAV, WMA	MP3, WMA, WAV	MP3, WMA	AAC, MP3, MP3 VBR, Apple Lossless, WAV, AIFF, Audible	MP3, WMA, WAV	MP3, WAV, WMA, OGG
Voice Recording (Y/N)	6	4	4	4	4	6	6	4
M Tuner/Built-in speakers	-	4/6	4/6	4/6	4/6	6/6	6/6	4/6
Custom Equalizers/A-B repeat	6/6	4/6	4/4	4/4	4/6	6/6	4/6	4/4
	6/6	6/4	6/4	4/4	4/4	6/6	6/6	4/4
	22/6	4/6	8/4	4/4	10/4	22/6	10+/Y	11/4
Miscellaneous Features	Contacts, Notes, Alarm, Games, Calendar, Customisable Main Menu, Sound Check	None	Vertical touch pad, Contacts, cal- endar and tasks	Changeable back	None	Rate Songs, Contacts, Notes, Alarm, Games, Calendar, Customisable Main Menu, Sound Check	Find, Playlist Creation & auto- matic ID3 tag cate- gorization, Personalise profile settings, EAX	None
Bundled Software	iTunes	Creative MediaSource	MediaSoure, Installation CD Ear phone, pouch,	Creative MediaSoure	iriver plus	iTunes	Zen Media Explorer, Creative MediaSource	Installation CD
Bundled Accessories	Belt Clip, Earphones, AC adapter, FireWire cable, USB 2.0 cable	Wired Remote, AC Adapter, Power Cord, Earphones, USB cable	USB Cable, Belt Clip & Stand	Ear phone, leather poch, Stick on, Traveller Adapter	Ear-phone, Carry- case with belt clip, USB cable		None	Case, ear phones, line-in cable, USB cable, USB host adapter, Docking Cradle
Text File support	6	6	6	6	4	6	6	4
Video Formats Playable (If any)	6	6	6	6	6	6	6	4
Photo Display Support	6	6	6	6	4	6	6	4
Ergonomy & Ease of Use	8.66	8.04	8.12	8.24	8.72	8.33	6.79	8.63
Dimensions (Inches)	3.6 x 2.0 x 0.5	2.6 x 2.6 x 0.8	2 x 3.3 x 0.7	1.83 x 3.14 x 0.63	3.76 x 2.15 X 0.59	4.1 x 2.4 x 0.69	3 x 4.45 x 0.87	2.44 x 3.93 x 0.65
Weight (gms)		99.8	108	75	96.2	158	226	135
ntuitive Button Placement (SO5)		3.5	4	4	4	4.5	3.5	4.5
nterface/Menu Navigation (SO5)		3.5	3.5	3	4	4.5	4	4.5
	4	4	4	4	4.5	4	4	3.5
Portability (SO5)	4	4	4	4	4.5	3.5	3	4.5
/ibration Felt (Y/N)	6	6	6	6	6	6	4	6
Build Quality (SO5)	4.5	4	4	4	4.5	4.5	4	5
Performance	22.00	25.64	21.84	24.33	23.49	25.35	16.43	26.68
	4/4	3.5/4	4/4	4/4	4/4	4/4	3/3	3.5/3.5
Heavy Bass (SO5) English /Hindi #1/Hindi #2 (SO5)	4 E /4 E /4 E	4/4/4	4/4/4	4/4/4	4/4/4	A F /A F /A F	2/2/2	A /A /A
oice Recording Quality (SO5)		4/4/4	4/4/4	4/4/4	4/4/4	4.5/4.5/4.5	3/3/3	4/4/4
GB Data Transfer (secs)/Battery		3.5	3.5	3.5	3.5	NA 107/15	NA 600/11	320/20
ife (hrs)	207/7.3	185/15.5	259/8.5	264/15	216/11	197/15	600/11	220/20
Price Index	10.42	10.70	10.07	10.79	0.26	8.06	8.11	6.55
Price (in Rupees)	14,400	10.79 13,899	10.07 14,899	13,899	9.38	18,600	18,499	22,900
otal (Out of 100)	62.08	67.88	66.06	69.33	15,999 70.87	63.66	54.33	72.02
	+ Excellent User Interface - Low Battery Life	+ Excellent FM quality - Slightly bulky	+ Excellent Audio quality - Low Battery life	+ Excellent Audio quality - Sluggish Interface	+ Very good all round performance	+ Excellent User Interface - No customiz- able equalizer	+ Good user interface - Slow data transfer rates	+ Feature packe - Average bundled earphone



The Iriver H10 has bundled Sennheiser earphones

The Creative Zen Micro was another player that not only looked trendy, but also performed well in our tests. Using a micro drive, even this player delivered good scores in our listening test. The earphones that accompany this player are more like tiny speakers that scream their hearts out at high volume. Voice recording is good, but Line-In encoding would have been a welcome feature.

Its counterpart, the Zen NEEON, was another player that performed very well in our audio quality tests. The Creative ZEN Micro and NEEON followed close behind. The new earphones, which Creative bundles with its ZEN series, are mostly responsible for this.

Software issues apart, the iRiver was one of the best players that we tested. Listening to music on the iRiver was pure pleasure. The voice recording quality and FM reception quality was also good.

The Apple iPods that we received were a generation older, and did hold their own against the competition, but there have been a lot of improved and feature packed players from other companies after them. The iPods, as usual, sailed through the listening tests but did face heavy competition from other players.

The worst of the lot was the NOMAD Jukebox ZEN Extra, which, for all of its bulk, did not even have folder support! Any song that you transferred stayed put in the root of the drive without the folder.

<b></b> ▼ Co	ntact Sheet		Portable Digital Audio Players		
Brand	Company	Telephone	E-mail	Web site	
Apple	Apple Computer International	1600-425-4683	indiainfo@asia.apple.com	www.apple.co.in	
Bravish	Mediaman Infotech Pvt Ltd	022- 23828100	sales@mediamangroup.com	www.bravish.com	
Creative	Creative Technology Ltd	98203 57718	india_getcreative@ctl.creative.com	http://in.creative.com/	
Ennyah	Great World Tech Pvt Ltd	022-23892828	sales@gtechworld.com	www.ennyah.com.tw/	
iRiver	Salora International	011-51614322	support@iriverindia.com	www.iriverindia.com	
MSI	Micro-Star International Co Ltd	011-51758808	info@msi-india.com	www.msi-india.com	
Orite	Mediatech India	022-26361111	info@mediatechindia.com	www.orite.com.tw	
SAFA	Arihant Computers	022- 23822424	arihant_computers@vsnl.com	www.safa.co.kr	
Samsung	Samsung India Electronics Ltd	011-51511234	subrotah.b@samsung.com	www.samsungindia.com	
S-Media	Xserve India (Pvt) Ltd	080-5113 1001	info@xserves.com	www.s-media.com	
Transcend	Mediaman Infotech	022-23828100	sales@mediamangroup.com	www.transcendusa.com	
Umax	Neoteric	022-39828600	sales@neoteric-info.com	www.umax.com	
Yes	Thakral Computers	022-24914090	prashantgoel88@gmail.com	www.iloveyes.net	

### **Data Transfer**

The Creative MuVo2 was the fastest in our data transfer tests, clocking 185 seconds. The Apple iPod duo followed close behind while the other players were just average in these tests.

The black sheep in these tests was the Creative NOMAD Jukebox ZEN Extra with excruciatingly slow data transfer speeds.

## **Battery Tests**

The Samsung lasted a solid 20 hours, which is 5 hours less than its rated battery life, but hey, we are not complaining.

The Apple iPod Mini, followed by the Creative Zen Micro, suffered from low battery life malady with only 7.5 and 8.5 hours of battery life respectively. The other players put in at least over 10 hours in the battery tests with Samsung taking the top honours.

## Conclusion

The HDD-based player comparison saw some stiff competition this year. Not so surprisingly, the iPod duo lost out on features such as FM that came standard on the other players. Of course, the audio quality of the iPods is excellent, but they need to add more features to their players' repertoire.

The Samsung YH-J70 was unanimously adjudged the *Digit* 'Best Buy Gold' winner not only for its sterling performance, but also for the features it bundled. All this at a price that is just a tad more than the iPods!

The iRiver H10 was awarded the *Digit* 'Best Buy Silver' winner for its superb audio performance and also the features that it has. The Creative Zen NEEON did give the iRiver H10 a run for its money in the audio quality department, but sadly lost due to its clumsy interface.

## In The End

The competition just gets better and better each year, with players having more features packed into them.

The Samsung duo border on being called portable digital media players rather than just audio players. Moreover, this is a trend that is fast catching up. Users today have become more demanding and manufacturers are listening to them. With cut-throat competition in the market, there are myriad options available for us users to pick and choose from.

While the capacities on the hard drive-based player keep increasing, this is also a category that sees the most innovations. Motion sensor technology for instance is one of these innovations.

The flash-based players category on the other hand is extremely dynamic with every other manufacturer selling an "MP3 player." For users, this is a boon since they can purchase a no-name portable digital player for rock bottom prices, never mind the quality. The premium manufacturers, however, provide more in terms of features that justifies the price they retail for.

The test this year is just a glimpse of what you can expect in the future. Rest assured, we will be there to help you make the right decision. ☑

bhaskar\_banik@thinkdigit.com sanket\_naik@thinkdigit.com

# Globetrotting

And no, by this we don't mean some new way of virtual travel. What we're telling you is how to plan your entire trip-business or pleasure-online, from the comfort of your chair!

**Aditya Kuber** 

holiday is a time to relax, but often, you get so hassled ensuring everything goes smoothly that you forget to relax! Is there any way to avoid making ten trips to ten agents trying to get the best deal? Is there an easier way to plan your own trip?

The answer is yes. Online.

Over the last few years, security for online payments has improved considerably. With almost all online payments going through SSL (Secure Sockets Layers) servers, there's little need to worry. But is there a one-stop solution to planning a trip online? Read on...

## The Information Desk

Before you can plan your trip, it's important to know where exactly you want to go. All right, you've decided it's going to be Australia, but you cannot see the whole of Australia in ten days. You can't even see the whole of Mumbai in that much time! So educate vourself. How?

Travel agency Web sites are often a good resource to know more about your destination. As a matter of fact, these can be a better source of information than other resources, Web or print. For one, these are more focused on your destination, and can provide a good indicator of what to expect. This can be especially helpful as a starting point if you are taking a package tour, and can also be a point of comparison.

In addition to knowing more about the destination, there are a couple of links (found on most travel sites) you must click on: 'Details' and 'Itinerary'.

'Details' usually spells out all that's 'Included' and all that's not in your package (in the case of a package tour). 'Itinerary' tells you exactly how much time you would have to yourself and how many places you are going to visit and when.

In the case of airline ticket booking, the link called 'Details' or 'Terms and Conditions' is the most important. Airlines allow you to book a one-way, round trip or a multicity trip online. The cancellation rules and regulations as well as some booking guidelines are very important.

For instance, Jet Airways does not allow online booking of tickets for infants. Also, when booking domestic travel tickets on Jet Airways, foreign nationals

have to pay in US dollars. You have to read the fine-print points before proceeding with a final booking.



# The Electronic Ticket

Planning and booking your flight online is a good idea. You can also print your ticket at home, and if you've paid for it, it will also let you into the airport!

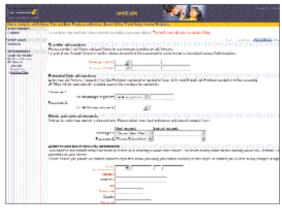
■ Electronic Ticket is Jet Airways' ticketless travel service. An electronic image of your ticket is stored in Jet Airways' reservation system.



Booking a ticket online starts at the homepage itself. Just choose your origin and destination and start the process



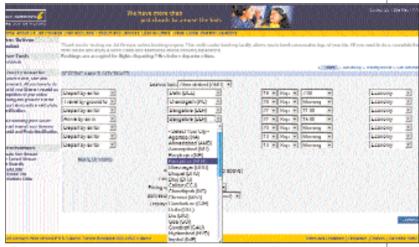
Once you have chosen all the legs of your journey, you can choose from the various flights available to confirm



Once your itinerary is fixed, fill in your personal details so the ticket can be generated



A multi-city tour, such as where you fly from Mumbai to Ahmedabad to Delhi and back to Mumbai, can also be booked online



There are a couple of bugs here, too, like when the drop down menu shows places that cannot be included in a multi-city domestic tour—like Singapore!

The itinerary receipt is your confirmation of travel.

On a successful purchase the system will generate an Electronic Ticket and a printable itinerary receipt will be displayed.

■ You will need to print this itinerary receipt and use it for your access to the airport and check-in.

■ To enter the airport and for check-in, you must present the itinerary receipt along with a valid photo identification (Official Government issued photo identification/driving license/election photo identification/passport (for international passengers only)/photo credit card).

■ For valid reason(s) if your ticket does not get generated online, your itinerary receipt will show an alert as "Your Ticket was not issued". Hence, this receipt cannot be used for airport entry or check-in.

#### The Fine Print

To do this, you need to contact a Jet Airways Reservation office. (Reproduced from www.jetairways.com)



Raj Travels' homepage

# **Read The Fine Print**

And that's why you simply must read the fine print. Mind you, this still does not include airport taxes (if any) at Singapore, cost of visa, and any other 'overheads'. Simply put, this trip could cost anywhere between Rs 50,000 and Rs 60,000 (including some shopping and other necessary expenses). \$49 was only a marketing price.

Anyway, these sites also offer online flight booking, adventure holiday package booking, honeymoon packages, wildlife holidays and even car bookings.

Travel portals apart, leading travel agencies are also offering online booking options today. Raj Travels (http://rajtravels.com) is one of the few travel agencies that allows you to book online

using ICICI Bank's payment gateway.

Some of the other bigger agencies such as Cox and Kings, SOTC and Kesari Tours, to name a few, have a lot of information on their sites, but do not offer the option of booking your trip online.

SOTC, for example, allows you to download a PDF of their booking form and print it out yourself. Cox and Kings allows you to 'Plan Your Trip',

but this is really not as interactive or 'online' as one would have liked—all you can do is enter some basic info and wait for them to write back to you with details. The same is the case with Kesari Tours, who let you 'Book Now'—but at the fag end of the process it's revealed that a "sales person would get in touch with you shortly". Bummer!

Planning your own trip is also possible via an airline portal such as Jet Airways' or that of Sahara Airlines or even Indian Airlines. Jet also offers 'Jet Getaways', a travel package in addition to their ticket booking option. Similarly, Sahara Airlines has its own travel packages going to domestic locations like Goa and Kerala and some international destinations

Links			
Airline	Type of Airline	Online Booking	Web site
Air India	Domestic and International	Yes	www.airindia.com
Indian Airlines	Domestic and International	Yes	www.indian-airlines.nic.in
Air Sahara	Domestic and International	Yes	www.airsahara.net
Jet Airways	Domestic and International	Yes	www.jetairways.com
Spice Jet	Domestic	Yes	www.spicejet.com
Air Charters India	Domestic (Charter flights)	No	www.airchartersindia.net
Air India Express	Domestic and International	Yes	www.airindiaexpress.in
Deccan Air	Domestic	Yes	www.airdeccan.net
Kingfisher Airlines	Domestic	Yes	www.flykingfisher.com
Travel Agency	Offers	Online Booking	Web site
Cox and Kings	Domestic and outbound	No; only info	www.coxandkings.com
	tours; special packages	collected	
SOTC	Outbound tours	No; only info	www.sotc.co.in
		collected	
Kesari Tours	Domestic and outbound	No; only info	www.kesari.in
	tours; special packages	collected	
Raj Travels	Domestic and outbound	Yes	www.rajtravels.com
	tours; special packages		
MakeMyTrip.com	All types of tours including	Yes	www.makemytrip.com
	adventure holidays		
TravelJini.com	All types of tours including	No; only info	www.traveljini.com
	adventure holidays	collected	

# $\mathbb{V}$

# I- and E-Ticketing: IRCTC

I-Tickets can be delivered to the customer at his desired address through courier. This delivery of I-Tickets through courier is limited to postal addresses covered by the PIN codes listed under the 'Places of Delivery' link.

For E-Tickets (e-reservations), the user can take a printout of the Reservation Slip and conduct the journey without requiring the regular ticket to be delivered.



We missed the IRCTC online booking by just about 2 minutes!

Reproduced from wwww.irctc.com

like Singapore. Of course, the air travel has to happen with them!

If, however, you want to plan your own trip, you can fix your flight plan online, book and even print your tickets at home. You use these tickets to enter the airport and you're issued boarding passes against them.

Airlines today are highly competitive, and this augurs well for the traveller. Special offers, frequent flyer miles and even tickets up for bidding means there's always a better price available. Once again, be sure to read the fine print very carefully. Spice Jet, one of the new entrants in the domestic airspace, is also letting you to choose your seats at the time of booking.

Railway booking online, too, has been a reality for some time now. The Indian Railways Catering and Tourism Corporation (http://irctc.co.in) requires a signup and then you're away. Some special schemes even allow your payments to be broken into EMIs.

The IRCTC has gone a step further and is also allowing SMS booking. You need to provide them with the cell number at the time of sign-up, and as of right now, payment is possible only through ICICI Bank.

But here's the baffling part: reservation is possible only between 4 AM and 11.30 PM. As is evident in the screenshot above, we missed it... by two minutes!

Despite all the shortcomings and quirks though, online travel planning is a reality. You no longer need to suffer long queues before you can relax!



One of the few online travel portals that offer information and the option of booking your trip online is TravelJini.com

# **Plan Your Trip**

A package tour is something where your itinerary is planned to the 't' by the travel agency, and all you need to do is show up. And of course, pay up!

Doing this online is also a realistic option today. Whether it's a reputed tour organiser or a dedicated online portal, you can go online and choose a package that fits your budget, time schedule and destination.

Portals such as Traveljini (http://traveljini.com) let you plan a trip or choose from one of their many packages. Often, they also have a variety of great promotional offers, and if they are running when you are planning, there couldn't be anything better.

In fact, Traveljini had a \$49-99 deal that offered some packages (3 Days/2 Nights and more) for either \$49 (Rs 2,300) or \$99 (Rs 4,650). Sound great? Well, it almost is!

One catch in planning a trip this way is there's a lot of fine print involved that simply must be read. In the case of the trips mentioned above, the prices were per head per day, and the package did not include airfare! So a trip to Singapore for 3 Days and 2 Nights for two people would cost about\$1,025 (Rs 48,178). Here's how we arrived at this figure:

Cost of stay as specified by Traveljini: \$49 per head per day

Duration of stay: 3 Days 2 Nights

Payable days: 3
[A] Total cost of stay:

\$49 x 3 x 2 = \$294 (Rs 13,818)

Remember, this does not include the airline costs. We checked up on http://jetairways.com for their Mumbai-Singapore flight. We asked for two economy



# **Gadgets To Carry**

# **CELL PHONES**

#### **HP iPAQ hw6515 Mobile Messenger**

For those who wander around the globe, the new iPAQ hw6515 Mobile Messenger is the perfect travelling companion. One of the latest PDA phones launched by HP, the hw6515 Mobile Messenger lives true to its name and keeps you connected wherever you are.

Featuring a quad-band GSM phone (850/900/1800/ 1900 MHz), the device also supports GPRS/EDGE technologies that provide high-speed connectivity. Boasting of an internal GPS receiver, the iPAQ hw6515 (coupled with GPS software and digital city maps) is capable of pinpointing your exact location and provide you with turn-by-turn driving instructions to your destination.

What's more, you also get a 1.3 megapixel HP Photosmart Camera built into the device, so you can capture both still images and videos and share them instantly using MMS or e-mail.

Price: Rs 29,000 (plus taxes)

# **DIGITAL CAMERAS**

#### Sony DSC P200

There's a reason we think that the Sony DSC P200 would be a good travel companion. For one, it has a massive 7.1-megapixel CCD, and it is feature rich. You can easily drop it into your



pocket and move on whenever required.

Moreover, it has all the features a serious photographer would want. When travelling, you'd prefer a camera that starts up almost instantly and is ready to shoot before you lose the moment. This is the one.

Price: Rs 20,990

#### **Nikon Coolpix 5900**

If small yet powerful cameras are your thing, this is a great piece to have. With a 5.1-megapixel CCD, a variety of flash modes and great features, this camera will not disappoint.

The Coolpix 5900 also boasts of 3X optical zoom and some digital zoom. In terms of its performance, the 5900 is a reliable camera with good colour reproduction and optical clarity.

Price: Rs 21,000

# **CAMCORDERS**

#### **Samsung DuoCam**

With a MiniDV camcorder for high quality recording and 5.2 mp digicam crisp images, the DuoCam lets you choose how you want to capture. It has two lenses and CCD image sensors ensuring high clarity and quality for all photos and video clips.

Price: Rs 25,000



# Sony DCR HC42E

This compact little camcorder is equipped with a 1/5.5" megapixel CCD and a CZ Vario-Tessar lens and will probably deliver the best image quality you could ask for. The DCR HC42E also has a 12X optical zoom lens and can zoom up to 480X in digital zoom more.

Ease of use is high thanks to the touch panel for all operations and the newest added technology-Easy Handycam. What's that? Using this function, all settings are automated, making it possible to just point and shoot! Storage options include a Memory Stick DUO Slot, especially useful for the digital still camera. Priced very well, this is a camera that can be a good companion on your travels. Price: Rs 34,995

seats at the 'Lowest Available' fares, and each seat cost us Rs 17.180.

[B] Cost of travel (Jet Airways): Rs 17,180 x 2 = Rs 34,360 Grand Total (A+B): Rs 48,178 (\$1,025 approx)

## **The Online Travel Planners**

Planning an entire holiday using one of the two major portals available-TravelJini.com and MakeMyTrip.com-can sure make life easier.

TravelJini.com, for example, also houses surrogate travel agents White Mischief and Black Mischief who offer adventure, romance, 'friends' and 'high spirits' holidays! These trips are planned to the last detail and offer destinations including Bangalore-Mysore-Ooty-Coimbatore and Goa and even a Himalayan Jeep Safari. The Safari, for example, includes an open jeep journey throughout with stops in Manali and Khajjar, touted as "India's Switzerland"!

Other seasonal holidays even included a 'Ganeshotsav' package near Panvel in Maharashtra and a contest where you could win a holiday in Goa. International holidays here include destinations in Austria in particular and the rest of Europe in general.

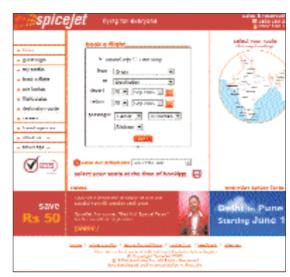
To be honest, the list of destinations offered here is so extensive that we cannot possibly include it. Suffice to say, though, that any place you are planning from Ladakh to Kerala to visit is on their list.

But its not only domestic holidays that one can book using these portals. Even international destinations are available and TravelJini.com has a fairly exhaustive list of these as well. Make-MyTrip.com it seems is focussing more on the foreign trips with the homepage advertising mostly these while the Indian holidays are spread across the page with a special link on the top.

But a click on the 'Holidays' link on the homepage will lead you to a very nice search tool that will update destination options based on initial choices of regions. So if you choose 'North India', a list of destinations from this area will be available in the next list. Clicking on the required



MakeMyTrip.com is perhaps the only complete portal that lets you pay and complete all formalities online



Online booking is almost a given with all domestic airlines, including the newer ones such as SpiceJet

options will bring up all packages available in that area for your choice of dates.

One of the main advantages of searching and booking using such a portal is that when choosing your destinations itself, you are offered all necessary information on the destination that you can read up on before deciding. Notably, Make-MyTrip.com is a global portal and also has the option of paying in US dollars.

In the case of TravelJini.com, the domestic travel options are mind-boggling and you could well find yourself confused about where you would want to go! It's almost an embarrassment of riches.

For actually booking your holiday with either portal, a free registration is required. This information is used for your contact details and so on so the next time you book a journey with them, you don't have to fill in these details again.

A noteworthy addition here is the 'Create an alert' one that lets you create an alert for airfares between two chosen destinations. This way, you are kept aware of the lowest fares for that journey from time to time. It's also worth keeping an eye on this site if you fly frequently for they claim to have the lowest airfare available.

Payment options are not too large and paying on MakeMyTrip.com is through major credit cards. TravelJini.com, though, will tell you your fare and other expense details and "Get back to you shortly"!

#### **Au Revoir**

Almost none of the travel agents (barring two) offers online payment options, all the airlines are offering this option making it that much easier to plan a journey but not a holiday.

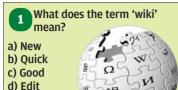
One thing that one does miss out on here is the option of planning a customised trip. You are better off doing that by yourself especially if you want a trekking or hiking trip.

Also, unlike in the US, in India, renting a car for an adventure journey of your own is not all that easy. You will probably be better off landing up at your destination and then booking a vehicle for local transport.

aditya\_kuber@thinkdigit.com



# From Final Fantasy to RFID



- Name the VoIP (Voice over Internet Protocol) company that Microsoft took over in Aug this year.
- a) Skype
- b) Buzz
- c) Teleo
- d) Talk
- Which of the following is not an Internet protocol?
- a) UDP
- h) PPP
- c) X.25
- d) HTTP
- Which Internet company has the mission statement-"We aim to be the most essential global Internet service for consumers and businesses"?
- a) Yahoo
- b) AOL
- c) Rediff
- d) Google

- Which company introduced the gaming network 'Gameline' in the early 1980s?
- a) Nintendo
- h) KaZaa
- c) AOL
- d) Microsoft
- What popular machines do Diebold and NCR manufacture?
- a) Keyboards
- b) ATMs
- c) Credit Card Readers
- d) Access Control Systems
- **Identify the Tourism Ministry** of India's official Web site.
- a) www.tourismindia.com
- b) www.tourism.co.in
- c) www.itdc.com
- d) www.indiantourism.com
- What is the leading event Centrum der büro- und informationstechnik better known as?
- a) CeBIT
- b) Computer Expo
- c) Comdex
- d) Wikimania
- American Express recently introduced a credit card equipped with RFID (Radio Frequency Identification). What

- are these cards called?
- a) BlueExpress
- b) Amex Blue
- c) ExpressPav
- d) Radio Debit
- In the role-playing videogame Final Fantasy VII, what is the name of the main character?
- a) Jagger
- b) Fox
- c) Cloud
- d) Crono

The mouse was invented by Douglas Engelbart of Stanford Research Institute in 1963 after extensive usability testing. It was also called the "bug", but eventually "bug" was dropped in favour of "mouse."

**Did You** 

#### **Answers**

10. Cloud	5. AOL
9. ExpressPay	4. Yahoo
S. CeBIT	3. X.25
moo.sibnimsiruot.www. 7	2. Teleo
sMTA .a	1. Quick

# Crossword

#### Across

Got an

interesting

Send it in with

the answer to

tq@thinkdigit.com

Mark 'TQ' in the

subject area

question?

- 1. Short for electronic copy (1,4)
- 4. Unit of electromagnetic resistance (5)
- 9. American Standard Code for Information Interchange(abbr) (5)
- 10. Not fixed (5)
- 12. Branch If Greater or Equal(abbr) (3) 13. Disk drive (4)
- 14. Over-backup operational mode (4)
- 16. Manufacturer of digital and film cameras (6) 18. Lock-up or prison for hackers (4)
- 20. bar-strip of buttons containing icons representing commands (4)
- 21. TCP Offload Engine(abbr) (3)
- 23. File transfer protocols faster than X devices (1,6)
- 24. A scheme compiler- 'rob it'anagram (5)
- 25. Utility feature containing user names and ID's (7,4)

- 2. High speed independent storage device (5)
- 3. Personal net-account fraud-'high pins'-anagram (8)
- 5. band-telecommunication system (4)
- 6. Sabeer Bhatia's free web-based service (7)
- 7. 'CC' in 'Bcc' or 'Fcc' (6,4)
- 8. Xpress-design and layout software (5)
- 11. Codename of Pentium 4 (10)
- 15, E -, malicious intent to overload recipients system
- - 17. Programming command or parameter-'dve work'anagram (7)
  - 19. Dot web sites (4)
  - 21. Forbidden site (5)
  - 22. Date, month, in sequence (4)

Send your answers to the crossword with complete contact details to

TQ@thinkdigit.com on or before October 15. One lucky participant will win: The UNIX

**Programming Environment** by Brian Kernighan and Rob Pike published by Pearson Education (Singapore) Pvt Ltd (Indian branch in New Delhi)



# **September 2005 Solution**



There was no winner for the September 2005 crossword.

GAMES

# **Hard Days For The Knight**

Fight the Dark Side of the force as a Jedi Knight or join them in this latest Star Wars Role Playing Game. May the force be with you!!

f you aren't a die hard 'Knights of the Old Republic' fan, and if you don't know your Star Wars from your Star Trek, then KOTOR 2: The Sith Lords is not a sequel you would appreciate. However, for those of us who feel the force, the latest RPG from the Lucas Arts stable, this is a fitting sequel to its predecessor which in 2003 was awarded 'Game of the Year.'

# The Prologue

Five years after the events that occured in Knights of the Old Republic, the Sith Lords have hunted the Jedi to the edge of extinction and are on the verge of crushing the Old Republic. With all hope lost and the Jedi Order in ruins, the Republic's only hope is a Jedi Knight suffering from amnesia and struggling to reconnect with the Force. As with all the galaxy's heroes the Jedi is faced with the most dire decision in the galaxy, whether to follow the path of the light or to succumb to the dark side.

# The Gameplay

The story begins on a freighter heading into an asteroid belt. The character you've chosen lies unconscious in it's medical bay. Your first task is to guide a T3 droid around the ship and ensure a safe landing on the closest planet. After regaining consciousness your character goes through a process of self discovery and learning about his or her past. All this while combating sabotaged maintainence droids and other vile creatures.

With characters from KOTOR popping up for a visit it gives you a sense of being part of a long saga. The user interface and the look of the game too are reminiscent of the predecessor, however the story grips you and keeps you engaged in the gameplay and doesn't give you an overwhelming sense of deja vu. Also present is the original game's deep system of ethics. The missions that you choose to perform, the people that you work with, even the things that you say in casual conversation all can have effects on your force alignment. This intricate conversation system is one of KOTOR 2's biggest plus points. Essentially, if you do bad things or are rude in your conversations then you will lean towards the dark side of the Force. However, in practice, things get a little more complicated than this. Sometimes, doing the right thing the wrong way, or doing something that looks like the right





Fighting the sabotaged droids

thing, but really isn't, can earn you some dark points. In this game, there is also such thing as a gray area and the player must try to navigate this in order to keep from earning points that would jeopardise your choice of alignment. Your actions also influence the personalities of your fellow party members, these are your allies or teammates and characters you can play. The more you lean towards the dark side the more corrupt your team mates get.

## Tech Specs

Technically the game is not too demanding and would work fine on an averagely configured computer. That has a flipside of course and that's the lack of zing in the graphics department. Tested on a PC that just made the cut, the game ran perfectly well and did so again when tested on a high end machine with 2.4 GHz processor, 1GB RAM and a 256 MB graphics card. On occassions you could see the character type out commands on non-existent keyboards.

One of the biggest pluses though was the sound and the music. The sound effects are crisp and very clear, and the voice acting is done very well. With a unique dialogue set and a great background score the game has one of the best sound among the RPGs.

#### The Final Word

Though the game takes the galactic saga forward it doesn't quite bring in any new twists to the Revan-Malak storyline. This game as a stand alone RPG is as good as any around today, but the expectations were sky high after KOTOR. If RPG is your cup of tea the KOTOR 2 is a must play more so if you think you are a Jedi reborn. We would give it an 8/10.⊠

Publisher: Obsidian Entertainment Software Requirements: Windows 98 SE, 2000 and XP Minimum System Configuration: Pentium III or Athlon 1 GHz, 256 MB RAM, 32 MB OpenGL Graphics Card, DirectX 9.0c compatible

Price: Rs 1,299

mithun\_kidambi@thinkdigit.com

# **FIFA 2006 (Demo)**

he demo installed and ran without any problems on our considerably underpowered machine: Pentium 4 1.7 GHz, 512 MB SD RAM, and Intel's onboard Extreme 82845G graphics chipset. This is definitely a plus.

The graphics are stunning-compared to EA's 'Cricket 2005'. The sound effects are great, and the players are instantly recognisable. We played a Manchester United vs AC Milan friendly-the demo version only offers a small selection of matches.

The gameplay is very good, and the precision with which you can control players and the passes they make is very impressive. Memorising the different buttons for each command can be a little tiresome at times. Personally we feel the game is better suited for consoles!

The full version is said to have amazing reality, especially in the Manager Mode, where you control a club for 15 years! Everything from budgets, the coaching staff to playing the field by buying and selling players is possible. With over 20 leagues and about 10,000 players to choose from, FIFA 2006 is as real as it gets for soccer enthusiastic gamers.

The standard customisation features, such as Create A Player, My FIFA and Team Management lets you control everything from a player's body type to team strategy. All in all it promises to be a great full version.

Advanced intricacies include something called



team chemistry, which defines how well your team gets along and gels! This is good and brings even more reality to the gameplay.

The AI is pretty decent, and if you don't figure out the control fast, be prepared to have opposition players (computer) run circles around you.

Those used to playing earlier FIFA versions will love 2006, and will have no problems controlling players. The graphics are much improved and the moves are much more realistic than ever before. The commentary, to be honest, as with all EA's games, needs work, and gets boring after the first 2 games!

Overall this is a great game for soccer fans, and well, is perhaps the only decent game they can go out and buy anyway. So whether we give it a 10 or a 2, soccer fans will still buy it! We give it an 8/10 rating, by the way! We hope you enjoy the demo as much as we did!

robert\_smith@thinkdigit.com

# VietCong 2 (Demo)

So we have yet another First Person Shooter Game based on the Vietnam war. However, this demo of VietCong looks promising. The good part is you can be a US Marine trying hard to capture a crucial post or you could be a Vietnamese guerilla warrior.

The game doesn't have the usual gung-ho Seargeants or ovezealous Captains as characters. Instead you play the role of a normal Private. If you choose to be a Vietnamese fighter the game perspective changes by 180°.



The graphics for the demo are above average and the battle scenes enthralling, as they capture the tension of the war. The hide and seek nature of the fight adds a fresh look to the FPS. Watch out while sneaking through the tunnels!!

No other war game manages to give such a sense of phobia of being confined in a small space. The bullet shells ejecting from the firing guns looks pretty realistic even on a modestly configured PC. The sound adds to the gameplay however it does

tend to be a little slow at times but overall doesn't prove to overshadow the graphics. With Half-Life2 and Doom 3 raising the benchmark in the graphics department a better job should have been done.

If you are used to the typical shooting games you'd do well in the demo. In the multiplayer online section you can drive the vehicle, which you have



1. GTA San Andreas Rs 2,999

E-xpress Interactive Software Pvt Ltd

2. Counter Strike Condition Zero Rs 699 Universal Music India Pvt Ltd

3. Fantastic 4
Rs 999
Activision Australia Pvt Ltd

4. EA Sports Cricket 2005 Rs 999 Gayatri Impex

5. Brian Lara Int'l Cricket 2005 Rs 1,299 Origin Marketing Pvt Ltd

snagged after killing your oppenents, as well. Though not a novelty it adds a bit of a fun element to an other wise relatively tense game.

After a first look at the demo we would give it a 7/10. ■ ishan\_prakash@thinkdigit.com

# TechCritique

Courtesy Crossword Mumbai



# Media Wise

**USATODAY.com, September 6, 2005** 

# **PCs Could Make In-dash Splash**

"MAYBE YOU WERE PLANNING to buy an SUV the size of Liechtenstein," asks Kevin Maney. But with a tank of fuel now costing as much as a ranch home, splurging on such a vehicle seems tacky. And stupid. And not cool. So he says!

If this keeps up, owning a big honkin' SUV will be about as hip as owning music on cassette tapes.

So what can you do if you want to dance on the leading edge of automotive style?

Why, you can geek your ride.

In other words, you can put a butt-whuppin' PC in your car with a touch-screen panel in the dashboard, Wi-Fi antenna, iTunes pumping music through speakers, Global Positioning System (GPS) tracking, video games, e-mail and technology that can both keep your attention on the road and help you sue anyone who rear-ends you.

Most of the PCs going into cars are Microsoft Windows-based,

which prompts jokes that burble around the Internet. Like: If the air bag is about to go off, will it first say, "Are you sure?"

Companies have been trying to popularize car PCs for years, but the gadgets have never really taken off.

That seems to be changing as hobbyists pour into the market. Two recent books are pulling in newcomers. One, Car PC Hacks, is by Damien Stolarz, who's been outfitting cars with computers since 1998. The other, Geek My Ride, has a foreword by Apple

Computer co-founder Steve Wozniak.

Entrepreneurs have been launching car computer start-ups. Big tech companies such as Microsoft, Intel and IBM show off prototypes at auto shows. And carmakers, especially General Motors, say next-generation cars will come loaded with this stuff.

Says a Forrester Research report: "Just as the hot rodders of the 1950s begat Detroit's muscle cars of the 1960s, today's telematics hackers portend the future of telematics innovation."

By the way, what corporate goober decided that the industry should use "telematics" to describe putting computers linked to wireless communications into cars? Hackers wouldn't be caught dead calling their handiwork telematics.

The word's origin is telematique, which the French used to describe their Minitel-based pseudo-Internet in the 1970s. But now it just sounds like a made-up word you'd hear in a ThighMaster infomercial: "We used advanced telematics to determine the exact force needed to shape your thigh muscles ..."

Anyway, a number of factors seem to be coming together to give car PCs a boost. "One is that the computers are cheap enough now," author Stolarz says. "But, more importantly, the market is educated enough."

Rear-seat DVD players, MP3 players, satellite radio, GPS navigation systems—little by little, these devices have invaded cars and made people aware of the value of digital electronics in a moving vehicle. Car PCs are the next step—a single machine that can handle all of a car's entertainment, information and communication, but also enable capabilities few people even dreamed of a decade ago.

One example: mobile e-mail. Stolarz built a car PC with Wi-Fi. He can stop in front of a Starbucks that has Wi-Fi, connect, and download all his e-mail. He then touches a button on the screen in his dash and has a British-sounding voice synthesizer read his e-mail aloud as he drives.

For the complete column, go to: http://snipurl.com/digitmw1

PCMAG.com, September 2005

# **Web Publishing Still Unsettled**

BLOGGING IS WHAT Serious Personal Audio (http://spa.machrone.net), owner Bill Machrone is contemplating. Even after his blog was up and running he discovered that using blogging software as a bargain-basement Content Management System has its pitfalls

Blogging tools expect you to update often and can't grasp the concept that you'd like to control the articles on the main page independently of the date. But that's exactly what you'd want to do if you were publishing a site for a club or an organization—or if

you just want to leave a welcome message up.

Movable Type, the software I chose, has a plug-in that allows you to keep items fixed on the page, but I haven't had a chance to install it yet. Ideally, I'd like an expansion field in the article database for an article number, and logic in the main page code that would sort the main page based on that number.

Right now, my braindead hack is simply to push

the article dates far into the future, so they don't archive off at the end of the month. I can change the sort order by changing the dates, but that changes the permalink, or article URL, which is bad if others are linking to my articles. I can also change the code to make the article date invisible, and then add a nonsorting date at the top.

I've received lots of mail from readers urging me (and PC Magazine) to explore this content-management-system-on-thecheap route. And others who already use blogging software creatively have sent notes of encouragement, plus useful links.

Adrian Bacon, who runs Apple Log, Linux Log, and Microsoft Log, as well as his own site, said I should take a look at WordPress (WP), the free blogging tool offered by my ISP. He runs four WP blogs, although all seem to use the standard template. I'm going to try it, although I don't really like the stock look. I'll also investigate replacement templates.

I found several sites with downloadable WP themes and hacks, such as www.alexking.org, as well as an ambitious generator that builds a two- or three-column layout based on fields that you complete: www.erisfree.com/d2/apart.php. You can find these and other WP resources at http://wordpress.org.

A couple of readers strongly recommended Expression Engine (www.pmachine.com/ee). Their fervor alone is enough to get it on to my to-look-at list. Another reader said that b2, the ancestral code of WordPress, is alive and growing again at www.b2evolution.net.

If you need a real content management system, check out www.opensourcecms.com. This site has user ratings on many systems, and lets you test-drive most of them. The site also covers blog software, forums, groupware, and more.

For the complete column, go to: http://snipurl.com/digitmw2

# AdWise

Business Standard, September 21, 2005

Business Standard

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# **Swinging The Spotlight**

BLOGGER JAI ARJUN Singh aka Jabberwock muses on the changing nature of blogs, the initiatives taken by bloggers and the role that blogs and bloggers may play in the future

Though blogs started out as personal journals, and then started providing links and information across a range of topics, the medium has evolved sufficiently to allow for high-quality specialisation.

There are now intelligent, well-written, `exclusive' blogs on practically any topic you can think of - from management to food, from music to celebrities to even Star Wars.

One of the categories taken most seriously is literary blogs run by a small but very dedicated circle of bloggers who make available reams of information on the latest developments in the world of publishing.

On sites like The Elegant Variation (http://marksarvas.blogs.com/elegvar), Chekhov's Mistress (http://www.chekhovsmistress.com/) and The Rake's Progress (http://rakesprogress.typepad.com/rakes\_progress/), you'll find not

just links to external reviews but also original reviews, literary discussions, coverage of author tours and bookstore signings, and much more.

By their very nature, literary blogs are unlikely to be as widely read as the more popular personal blogs or technology blogs - but the reader bases they have are intense and capable of fostering the most impassioned debates.

Some of the more respected

literary bloggers have fan followings of their own: they are often invited to participate in prize ceremonies, both offline and online.

One example was the First Annual TMN Tournament of Books, hosted earlier this year by The Morning News (http://themorningnews.org/), which audaciously paired books off against each other in a tennis-tournament format, with jury members debating their merits and demerits at each stage (for the record, David Mitchell's Cloud Atlas beat Philip Roth's The Plot Against America in the 'final', by a 10-5 margin).

One of the more notable joint initiatives by literary bloggers is the Read This! movement, launched in April 2005 by a website called The LitBlog Co-op (http://lbc.typepad.com/). The idea was born when some bloggers realised that, too often their sites were all providing the same sets of links and talking about books and authors that were already in the news.

Consequently, they made it their mission to pick one deserving book that wasn't getting adequate publicity and to highlight it on the LBC website for a period of three months. "What would happen," they asked, "if a bunch of your favourite literary blogs got together four times a year and picked a book from obscurity, an overlooked literary gem that we'd get behind as a group and bring to your attention, flogging it ceaselessly both here and on our respective individual blogs?"

The literary co-op inaugurated its first title in May this year. The book that it is currently being promoted is Kate Atkinson's Case Histories and the author herself has made regular appearances on the site to answer readers' questions and share thoughts on her work.

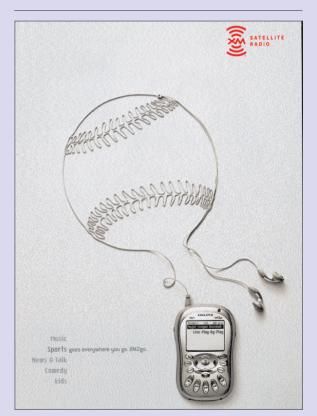
For the complete column, got to: http://snipurl.com/digitmw4



affinity

## **△** Like Bees To Honev

And the ad goes well with the company name as well: Affinity! Simple, straightforward and an ad that will make you smile. Btw, they generate buzz for your Web site! Terrific communication.



# ■ Play Ball!

It's a radio that plays anything, anytime, anywhere. "If it's in your head, it's on the radio" is their message. And the point is made as succinctly as any other. Who cares about the body copy when the visual says it all. Home Run!

#### Scream 4?

The first in a series of Wearable Body Organs: the ScreamBody, a portable space for screaming. When you are about to experience the need to scream, inhale as much as possible and scream your lungs out. You can record the scream for later use to see how you fared!



#### **Virus In The Neeon**

About a hundred Japanese Zen Neeons, Creative's 5 GB MP3 player, were infected with the W32.Wullik.B@mm virus. After Creative caught this Outlook-spamming nasty, it recalled the majority of them. There's no word on if the tainted batch reached other shores.



# Escape

#### THORN IN HIS EVE

# **Ballmer Goes Ballistic!**

If recent reports (or rumours, if you like) are to be believed, Steve Ballmer, CEO of Microsoft, has a mid-year resolution: To Kill Google! And he made his intentions clear in no uncertain terms.

Mark Lucovsky, an engineer who had been with MS for six years, announced he was leaving to take up a job at Google. This isn't the first time something of the sort has happened—Google has also been responsible for poaching Microsoft executive Kai-Fu Lee to oversee an R&D centre that Google plans to open in China.

As soon as Ballmer heard of Lucovsky's decision—and especially about where he was headed—Ballmer picked up his chair and hurled it across his office, according to the declaration filed in a Washington court. (There are sworn testimonies from Lucovsky about what Ballmer said.)

This, as Kai-Fu Lee recalls, was similar to his encounter with Ballmer in July when "Steve Ballmer swore like a trooper, and threw a chair around the office" The reports say Ballmer laced his ramblings with generous dosages of expletives and went on to say, "I'm going to bury that guy, I have done it before, and I will do it again ... " referring to Google CEO

Eric Schmidt.

But Ballmer, according to The Wall Street Journal, described Lucovsky's witness statement as an exaggeration and inaccurate. In a statement, Ballmer described Lucovsky's recollection as a "gross exaggeration. Mark's decision to leave was disappointing and I urged

him strongly to change his mind. But his characterisation of that meeting is not accurate."

Microsoft alleges that Lee breached his conditions of employment by taking a job with Google, and is now suing to prevent Lee from leading Google's China expansion, saying that doing that would violate the terms of a non-compete agreement that he signed.

# **UNUSABLE!**

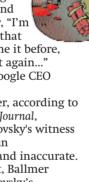
#### **Steam from Valve**

Anyone who has played Half-Life 2 game has given it nothing but accolades. However, before they actually started playing the game, they fumed over its authentication system, aptly titled Steam.

Steam is proprietary software developed by Valve Corporation and consists of a Content Delivery System, **Digital Rights Management** and Multiplayer System all rolled into one. So far, so good! The problems start after you install Half-Life 2 (the retail version). Before the game starts, you need to connect to the Steam server to authenticate your copy. Here's where the boat starts rocking. To connect to the Steam server, you need to wait at least half your lifetime. And when you finally do, the software starts updating. Even if you reach 99 per cent, and the connection breaks, voila, you need to start from scratch.

If you don't want to go through this pain, then download the complete Steam software from the Valve Web site. Although, after you install this software, it still wants to connect to the Steam server. The wait period for connecting varies, but God save you if you are on dial-up.

While Valve's idea of delivering content is bright, its implementation isn't. And before we go, we will let you on to a secret. We didn't provide the Half-life 2 demo on our DVD for the same reason!



# Win! W

# My Desktop

Think you have the most beautiful, most innovative desktop around? E-mail with subject 'My Desktop' and your postal address to mydesktop@thinkdigit.com, and Digit will publish the most eye-catching of them each month.

This month's winner receives **EA Cricket 2004** Game





The winner of this month is Karan Kadam email: karankadam@gmail.com

# DigiPick

# The 'Cool'est PC



This month's winner is Jayesh Karathiya A/5 Ambicanagar, Nikol gam road Ahmedabad -382350

He wins
Cracking The
Quant
by Prof. Jagdeep
Vaishnav and
Nishant Patel
Published by
Biztantra,
New Delhi



## WIN!

Send in your entry and you could win an exciting gift just by sharing an amusing picture with a tech angle to it. The picture should be shot by you, and should not have been published anywhere earlier. E-mail your picture with the subject 'DigiPick' and your postal address on or before 15th of this month to digipick@thinkdigit.com. One prize-winning picture will be published each month.

# **SCAMSTERS HIT NEW LOW**

# Online Scams Exploit Katrina Disaster

hurricane hit a city and devastated it to the extent of almost wiping it off the face of the earth. But in the online world, this just means an opportunity to make money. Spam e-mails alleging to offer links to news about Katrina are in use to tempt potential victims onto a site hosting Trojan malware.

The site exploits well-known vulnerabilities of Internet Explorer to install a variety of Trojans including Cgab-A, Borobot-P, Borobot-Q, Borodldr-H and Inor-R. Security firm Sophos has reported that subject lines used in the malicious emails go something like "Re: g8 Tropical storm flooded New Orleans." There's always a "g8", or a "q7", or something of the sort.

In the body of the message, clicking on the "Read More.." link takes the user to the malicious Web site that poses as a news

story. The site uses code to exploit vulnerabilities within Internet Explorer to install the malware. From there, the attacker could remotely access the user's computer.

The malicious site—hosted in Poland—also harbours a secondary line of attack designed to dupe Windows users, reports Secure Computing. It offers

a purportedly "free scan" for the Zotob worm, which actually infects users with code that gives hackers control over compromised Windows PCs.

The SANS Institute is reporting that there are several e-mails soliciting donations through a PayPal link. According to SANS, it may be difficult to tell whether the e-mail is from a legitimate organisation.

Since the discovery of the sites, several have been removed. "There are now about 230 .com domains that contain the strings 'katrina' and 'hurricane'. We will make a list of more domains like this public soon to ask for your help to review them," SANS said on its Web site.

# **ALGOHOLICS ANONYMOUS**

# Cracking The Google Code

The 'Google Dance' has now become an annual ritual and is fast becoming a strategic event as well. Apart from employees and business partners, the invitees at this People Who Changed Computing

# **Dr DRAM**

Born in Texas in 1932, Robert Heath Dennard invented Dynamic Random Access Memory



Dr Robert Heath Dennard

(DRAM). His invention of the one-transistor DRAM helped improve computer memory density

while helping bring down production costs.

Dennard says his inspiration for the development of the single-transistor DRAM came after a presentation by his competitors at the research division of IBM in 1966. At that time, he was working on a complex six-transistor arrangement for the storage of a single bitwhich he was trying to simplify. His key insight was that it should be possible to store binary data as a charge on a capacitor.

After months of experimenting, Dennard had reduced his RAM cell to a small capacitor and a single field-effect transistor (FET) 'gating' the flow of data to and from a data line. Within a year of that invention, IBM was granted a patent on the technologies of the single-transistor DRAM.

Dennard still works with IBM, and is an IBM Fellow with the T J Watson Research Center. He received the National Medal of Technology in 1988, and was inducted into the National Inventors Hall of Fame in 1997. Dennard was the 2005 recipient of the \$100,000 Lemelson-MIT Lifetime Achievement Award.



HUMANS AND

BEWARE!!

OMPUTERS OF

KNOCK KNOCK



# **Visual Basic**

Today, Visual Basic or VB is one of the most preferred development environment programming languages. At present, it's being fully developed by Microsoft and comes in a VB.net versionintegrated with Microsoft's .NET platform. It's an eventdriven programming language, which simply means code is executed whenever an event is triggered (a mouse click, a key press, etc). Although it's developed by Microsoft, it derives heavily from BASIC. VB enables RAD (Rapid Application Development) for most of the GUI (Graphic User Interface) platforms. One of the significant things to know about VB is that all the ActiveX controls are developed using the VB platform.

So anytime you want to impress your peers with your knowledge of VB, remember the following attributes.

VB Script is the default language for all ASP (Active Server Page) pages.

If some one asks how VB.NET works, all you need to say is, "it resembles VB only in syntax, is a separate language and is executed by the Windows Script Host as opposed to the VB runtime." Simple, isn't it?

create simple GUI applications, but it can be used to develop fairly complex applications too.

■ VB versions 5 and 6 are object-oriented languages but do not include implementation inheritance.

VB provides a syntax for access to attributes called 'property methods', and this is often implemented using getters and setters in, say, C++.

VB is only available for Windows. However, much of the code can run on MS Office applications using the VB platform, including applications running on Mac OS X.

■ The latest version of Visual Basic is 6.0.

# **Music To Our Ears**

s you know, there's never a dull Amoment at Digit. Yet again, this issue had us working round-the-clock and to get us in the groove, and all our working hours were accompanied by some really eclectic music, courtesy the resident DJs of team Digit—Ishan, Mithun, Robert and Vijay—who also take requests, by the way!

Every morning, as we sip our hot cuppas, our in-house DJs start to belt it out! We get to hear everything-rhythm-andblues-and-country, death metal, pop, and even soulful Carnatic melodies!

Of course, we get to hear some more than others. Ishan's obsession with U2 is of the till-death-do-us-part kind. Mithun is equally happy head-banging to metal or listening to Mozart. If Satriani worshipper Raaabo is around, guitar solos and rock-nroll rule! And if you like boy bands, be ready to hear "Who's playing girly music?"

For Vijay, the soundtrack from The Last Of The Mohicans is the way to start the day. He'll gladly play it over and over and over... **DIGIT DIARY** 

Aditya resorts to wearing headphones, but every now and then, he threatens to switch on his set of speakers if Vijay doesn't stop playing the OST.

As for the girls, Renuka cheers for the LOTM soundtrack, and hums if 'J'Attends' from Black Hawk Down is played. Give Preethi a chance to turn DJ, and George Michael's Fast Love will greet your ears.

If a song is found to be 'right' for the prevalent mood, the DJ of the moment is accosted with shouts of "Increase the volume please!" in thickly-accented Malayalam. Eventually, our ed Deepak has to referee the who-can-play-the-loudest battle that ensues!

This month, we had more reason to make merry—editor Deepak threw us a party at his new home. We made quite a motley bunch-the chatter, laughter and the general feeling of bonhomie helped us unwind. There were a few surprises too-for one, ex-editor Sachin Kalbag made an

appearance, and the usually reticent Ram was in his element that

> day. More such gatherings have been since assured!

Google's headquarters. That's where the "cunning Internet

entrepreneurs," who try to manipulate Google's search engine results for a competitive edge, were trying to make the most of a rare opportunity to match wits face-to-face with the company's top engineers.

That Google's codetalking experts were in no mood to reveal their "secret sauce"-Google's tightly guarded formula for ranking Web sites-didn't zap the energy from the 'Dance', which has become

a metaphor for the behind-the-scenes twists and turns that can cause Web sites to rise and fall in Google's search results.

Attending Webmasters and their consultants paid particularly close attention to Google engineer Matt Cutts, the company's main liaison with the Webmaster community and this party's star attraction. "That's the Mick

Jagger of search!" exclaimed e-marketing strategist Seth Wilde as he strolled by Cutts and his audience of Webmasters.

The efforts to outsmart Google gall some Webmasters such as Shari Thurow, who believes the best way to increase a site's search engine ranking is to offer valuable content and products. She describes the Black Hats as "pathetic algoholics" so obsessed are they to figure out Google's algorithms.

#### **RETAIL WARTS**

# **'Microsoft** Store' As Hot As 'Apple Store'?

his would not be the first time Microsoft would be trying to ape Apple. Several years ago when Apple decided to open retail stores dedicated to selling Apple hardware and software, they were branded "crazy" and condemned to fail by

year's event also included people who are widely regarded as "cunning entrepreneurs who try to manipulate Google's search results". These are the Black Hats who spend their time trying to figure out Google's algorithms so their page rankings rise significantly.

But unlike a run-of-themill geek celebration, this party had it all. Free-flowing beer, live music, karaoke and arcade games kept the party raging at the Googleplex, but the real action was unfolding inside a sterile conference room at



# whatweretheythinking.com

# www.fuzzybumblebee.com

 $\mathbf{W}^{\text{e've}}$  seen some bad sites but this one takes your breath away. The natural exclamation you let out as soon as the homepage opens is "What the..." . Beyond that, you sort of go numb—in the head, that is.

Here are the facts: Fuzzybumblebee.com claims to be a site for "handspun yarn and crochet creations." While their products would certainly have some takers, we were not impressed. They sell hats, frocks, warmers and even something called 'objects'—just one look will transport you to the house of the wicked witch in Hansel and Gretel. Jeepers Creepers!

Apparently, some of the vivid creations, such as 'lulupony hats',



'angoraparrot warmers' and 'bloodshotbash yarn' have actually been sold! Unfortunately, in this space, we can comment on the site alone and not the products (which could well warrant a few pages).

As far as the layout goes, there's none, and despite great temptation to thrash the photography and the other related technical aspects, we shall refrain. The only well-done piece is the navigation oval, which

contains a drawing of a humungous fuzzy bee (hence the name!) surrounded by links. The bee is dressed up in crocheted fur, and appears in a fresh ensemble every time you open a new link. Aha!

There are pictures of real models with bohemian (read ghastly) make-up wearing the outrageous products. A quick glance to either the left or the right will show you the background, and while it's just yarn, you could be easily fooled into thinking it was human hair adorned with bits of skinny chicken legs. Stay far away!

pundits. One reason for this was probably the timing when many other companies were shutting down their signature stores to cut costs. Obviously the idea has succeeded and Apple's stores are now wildly successful.

Microsoft had also tried this once in 1999 but their venture lasted only three years (in San Francisco) and one thought this was one idea that was shelved for good. Apparently not. Microsoft, in its continuing attempt to appear like they are copying Apple, is trying their hand at retail stores again.

Recent reports suggest that Microsoft has been in contact with New York real estate brokers who work with Times Square transactions in the past few weeks. It's not just Times Square they are after, but the most famed of all Times Square buildings, One Times Square, otherwise known as "News Years Eve Big-A\*\* Ball-Dropping Zone".

It is important to

understand the reasons for Apple's success before we delve into why MS would fail. It comes from their small market share and relatively small target market, not to mention the iPod. Apple sells sleek, sexy hardware and Microsoft sells boxed software and a minuscule amount of hardware.

So while there is no shortage of reasons to browse in an Apple Store, one has to wonder if there are compelling enough, if any, reasons to visit a Microsoft retail store. The answer isn't so obvious and Microsoft is likely to have its hands full as it attempts to create a successful retail presence.

But, with its mountains of money and a major OS release scheduled for late 2006, opening a store in one of the most highly trafficked areas of New York might be worth a gamble. We'll see!

Compiled by Aditya Kuber, Ishan Prakash, Ram Mohan Rao and Renuka Rane

# Bog

Imagine capitalising on the likeness between the date 31 Aug and the word 'blog' itself! Also read about what comprises God, surveillance technology and popular blog carnivals in the virtual world

#### The 3rd World View

http://rezwanul.blogspot.com/2005/08/blog-day-2005-bash-nir-ofir-israeli.html

Nir Ofir, an Israeli blogger first noticed that the date 3108 (August 31st) looks like the word "Blog". He started to promote an idea based on this.

David Sasaki of 'Global Voices Online' writes about Nir's idea:

He had also become increasingly aware that as more weblogs from around the world make their way onto the internet, the more we get stuck in our regular reading habits without searching for new content and new voices from other cultures and viewpoints. Despite the rhetoric of the internet making the world a smaller place, most weblogs still link to bloggers from their same country and with their same political outlook.

#### Fafblog

http://fafblog.blogspot.com/2005/08/creation-science-creation-technology.html

## **Creation Science, Creation Technology!**

Yknow we been hearin a lot lately about how Intelligent Design's not real science. Well that's just crazy talk! Ever since we got scientific evidence of the existence of God everybody down at the Faflab has been buildin off this cuttin edge field to come up with latest scientological developments.

#### Physics

By observing the mating of Galapagos finches with

high-precision godometers, designmatologists have discovered the existence of the Godtrino-the subatomic particle that God is made of! Theoretical Godmologists have believed that evolution was caused by the presence of Godtrinos for years but this is our first concrete proof. And think of the practical applications once we manage to harness the power of mass Godtrino production! Turnin water into wine, smiting, more smiting, Gomorrorah burning, Jesus resuscitation. The possibilities are endless!

# Junto Boyz

http://bernardmoon.blogspot.com

More On MS... Waking Up The Sleeping Giant
I've been meaning to post Brad Feld's thoughts on how
2006 will be Microsoft's year, but it's good that I was
busy with other stuff and forgot to do so. Brad's post:
I'm often wrong (but never in doubt) and—after
spending the day at PDC and an evening with a number
of the project leads for various Vista technologies—it
feels like 2006 is going to be Microsoft's year. Microsoft
has been kicked around plenty the last few years by the
likes of Google, Yahoo, the press, and many participants
in the software industry. During this time, the Microsoft
money machine has continued to generate cash at a
prodigious rate. The home of "build it cheap and stack
it high" is about to have two major project releases
relevant to over 500 million computers...

# **Digit Forum**

## **Opera is now FREE**

Indyan Digitized!

Location: Asansol, W.B

Opera Software today permanently removed the ad banner and licensing fee from its award-winning Web browser. The ad-free, full-featured Opera browser is now available for download—completely free of charge—at http://www.opera.com.

\*\*\*\*\*\*\*\*\*\*

expertno.1

Digitized Spammer Location: Expert Planet

Oh man. I am tooo excited. NOW OPERA is the best, better than FireFox. Finally FireFox is going to face the challenge. Hurray

\*\*\*\*\*\*\*\*\*\*\*\*

**QwertyManiac**Digitized Flooder
Location: Guess Where?

Gr8 News! Will, download it today! Will try to bid FF bye! Thanx for the confirmation!

## **apoorva84** Analogue Novice

I think this was expected from the time they gave out Opera for free just for a day when they celebrated 10 years.

Also I feel Opera is any day better than FireFox, except that it is not open source and because of that you cant have too many plugins, etc.

But it has a great download manager, and browsing speeds are awesome. I think even FireFox users will make a switch or at least they will download it and see.

Plus since it does not have ActiveX, no major security threats as well, unlike Internet Explorer. I have been using it for three years and it has served me very well.

\*\*\*\*\*\*\*\*\*\*\*

lywyre Warmed-Un

Warmed-Up Nerd Location: 12.9° N 79.2° E

Opera is good yes, but in terms of Speed. I feel FF is better because I can extract rich text without loosing the formatting or images. I use Opera for forums, checking mail and casual surfing (cached images is pretty much useful) and FF for finding materials.

The two things I hate Opera are

- 1. Can't copy Formatted content
- 2. Saves all the support files in the same folder (very clumsy)

# Digitised Till I Die!

One day I came across Digit at a newsstand. I'd heard about it earlier and decided to buy. That was the June 2005 issue and I read a lot all month long.

My whole month turned technical and I learned a lot more about computers. But that month was very sad for me because I was unable to register for the Digit patron program. The next month, I bought another technology magazine but it didn't compare to *Digit*. Right then, I decided that I would buy *Digit* every month, every year till my last breath!

The next month, though, when I bought the mag, the price had increased a little. But I don't mind... the power of Digit is high I don't mind the Rs 25 hike. Do carry on with the good work. For the record, I am an arts student.

Bibhudatta Dhal

Rourkela

Dear Bibhudatta,

Thanks a lot for your vote of confidence. It is readers like you that keep us going and with continued support from you, we assure you of our best efforts to continually improve the standards of *Digit*.

-Editor

# Why Register?

I am an old subscriber of *Digit*. It helps a lot to those studying as well as those working. The magazine also looks attractive, and the content, too, is interesting. I have increased my general awareness of technology since I started reading the magazine.

Earlier, I went through other magazines as well, but I could not find my way through them the way I can in *Digit.* Even the editor's message is very interesting!

I have also suggested to my friends that they subscribe, but some say it is expensive. While I agree with them, I should reiterate that it is very important to us.

The only problem we have is the CD/DVD, which has certain software only for a trial period. And then some need us to register on a Web site. Think about students who live in small rooms in villages near an engineering college. To go to a Net café and register the software and bring it back is difficult. How many can afford to pay for the Internet? And with software Web sites, they say we have to pay money to register...

Ashok Gali Via E-mail Dear Ashok,

We appreciate your problems and while we would love to solve them, some of this is beyond our control. You have to understand that in the case of certain trial versions, companies need registration to collect data for sales and also feedback about the product.

Moreover, distributing software for free is not possible due to copyright and licensing laws, and only trial versions are available to be distributed with the CD/DVD. Since the very existence of these companies depends on the sales of their products, it is not viable for them to just distribute it for free.

- Editor

# **Playing Favourites?**

Thank you for your support regarding my subscription. Digit has really evolved from its early days. Your work in the Fast Track books is great, and the CDs and DVDs are really loaded with stuff.

Only one thing annoys me, though. I have written many letters to Digit, but not one has been published yet. When I saw this month's (and the previous month's) Inbox, I was sad that though similar feelings have been expressed by me, my letter has never been published. They were regarding the *Digit* Patron and the *Digit* DVD content.

Many times, I have also observed that Digit gives preference to North Indian readers as opposed to South Indians.

Here are some suggestions:

☐ The Digit DVD should contain all of a particular company's products' trial versions (for example, in the case of Ahead, Nero 4 packs and PhotoSnap).
☐ The Fast Track book is excellent. But the pages look very dull. You may as well increase the price to Rs 150 and improve the paper quality.

☑ Special CDs including fonts, cliparts and other such stuff should be given for Digit Patrons. Including hardware components in Digit Patron is also not a bad idea.

☑ The Registry Tweaks, Tips, and Q&A are limited to 10 pages. It should be increased to at least 20.

☑ And you are not at all reviewing new software. You should introduce the latest software reviews in the magazine. This could be just two pages with each software described in about two or three paragraphs.

**G Vijaya Venkateswara Rao** Via E-mail



#### Write to the Editor

E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul, Navi Mumbai 400 706 Digit will publish the best letters on these pages. Letters may be edited for clarity. You must include your complete address in all communication.

For subscription queries, call the Help Desk at 022-27629191/9200, Fax 022-27629224, or send an e-mail to help@jasubhai.com

# Inbox

Dear Vijaya,

First of all, let me assure you that there is no favouritism in *Digit*. All our readers are just as important, irrespective of what part of India they belong to. All letters published here are chosen solely on the subject matter and nothing else. Like this one, for example!

While we thank you for your suggestions, may I point out that entire suites of products (trial versions) are being provided wherever possible. For example, over a span of two months (July and August 2005), we provided the entire Adobe CS2 suite on DVD.

As for your suggestion about other suites, we will do that as well over the next few months. Keep writing in to us: even if we don't feature your letter here, we value your suggestions and try to implement them.

- Editor

# **Digit Made Me Famous!**

Although I am not a subscriber of *Digit*, I have never missed an issue for the past two years. I appreciate your move to give separate content in DVD and CD, and the *Fast Track* books are fabulous. This completely justifies the Rs 25 price increase.

I used to try each and every tip and trick given in the magazine and this made me famous as a tech geek in my friends' circle! I think *Digit* stands out in the market because of its commitment towards us. It has everything for everyone, from novices to advanced readers.

Sumit Uniyal Jaipur

Dear Sumit.

We are glad to hear of your fame and are proud that we were able to help you! Also, many thanks for your kind words. We will continue to be committed to our readers.

-Editor

# Digit, My Brother

I have had a computer since I was eight. I have faced many problems when using a computer but since my brother is an expert in hardware and software, I used to fix everything with his guidance.

Suddenly, though, he left for Bangalore and I was in a trouble! Then, one day, I came across *Digit* and read through it. I was satisfied with it... now, I can fix the problems, know all the latest news and am well updated—just like my PC is with software and updates!

By introducing the DVD and Fast Track, you have proved to be the best of all and are now unbeatable. As for teenagers, we

always want to know about the latest games. *Digit* includes game video reviews in the CD or DVD, which is great.

Digit Patron is one of the best ways to reward its readers. But the gifts should be changed a little, without giving just the old magazines. It would be nice if you gave Nintendo GameBoy, Playstation, Graphics cards, etc!

I'm not complaining; this is a request. You guys there are the real heroes, bringing out *Digit* every month without fail.

M Avinash Via E-mail

Dear Avinash,

It gives us great heart when we read that our readers are independently able to troubleshoot their computers. Also, thanks for all the compliments! About your suggestions regarding prizes, we will look into it and try and change them as and when possible.

-Editor

# A Month In Advance?

I have been an ardent fan of technology magazines for the past eight years... and now, *Digit* is my favourite. I subscribed in 2004 and continue to be one of the *Digit* family. I'd say the magazine has something for everyone, month after month, and I have no worries about the price hike of a mere Rs 25. It is worth it because it provides loads of goodies which no other magazine can: the



whopping 5 GB of software and other goodies, a 150-page colour infotainment magazine, and the best part is the Fast Track book. That's just amazing.

Forget about the quality of paper. I prefer it that way because the book is light enough to carry around for quick reference.

I would like to tell other readers that the *Digit* team slogs for us. Looks like they work 20 hours a day! Another part of it is they make sure all subscribers get their copy before the 5<sup>th</sup> of every month (I got mine on the 2<sup>nd</sup> of September).

Looks like Digit makes magazines one

month in advance! I just love *Digit*, and have just extended my subscription by another year.

**Edward Samuel** 

Bangalore

Dear Edward,

What can I say? We slog, yes, but for you. And it's appreciation like yours that keeps us going. We'd love to create two or three issues in advance, but we also want to give you the latest and hence, cannot do that. It's just the thought that you await the magazine that makes us work harder. Keep reading and keep writing in to us.

-Fditor

## And The Winner Is...

I'm not a regular reader of *Digit* or any technology magazine for that matter. After almost three years, though, I decided to pick one and chose *Digit*.

I must say I'm very impressed with the packaging. I like the idea of the CD/DVD packed in a DVD-style jewel case, and the additional *Fast Track* book.

Thanks also to Agent001 for mentioning various indicative prices and names of dealers. OK, enough praise; I don't want to let it go to your head!

## A few suggestions/requests:

☑ Although you have the best and most extensive shootouts for hardware, I feel the same is not been done for software. You could carry something like an AntiVirus or a Firewall shootout. ☑ You could include some articles on topics like BCP/DRP (would be nice after the recent deluge in Mumbai), BS7799 Standard and also Information Security Management System (ISMS). ☑ It would nice if you could dedicate one article every issue on various careers in the IT field, including some practical info on courses available, pre-requisites etc.

**HRS** Via E-mail

Dear H R S (What is your complete name?), Thanks for the kind words and the suggestions. Very soon, we will be acting upon your suggestions and doing software shootouts as well. Keep reading for that! As for the second suggestion about standards and security related articles, you are right. Whatever isn't beyond the scope of the mag, we will cover in due course. And as for your third suggestion, you got it! There is already one article on education in this issue and this is just the start. Send in more specific suggestions about courses or streams you would like to know of.

-Editor



People And Events That Grabbed Headlines-For Better Or For Worse

# Pirated Before Release



The Rolling Stones' latest album was available online before its release

ant proof that the Rolling Stones still rock? Here: their new album 'A Bigger Bang' which was due to be launched in early September was in fact available online before the release date. This was the group's first album in eight years.

Of course, the reason for such a long hiatus is that even by the standards of rock dinosaurs, the Stones are getting on a bit!

Anyway the world was awaiting their latest album 'A Bigger Bang' and according to UK tabloid *The Star*, the first low-quality files of new Rolling Stones music were found illegally posted on September 12

and the whole lot was available. The music was being streamed from the Stones' Web site and was probably lifted that way.

A spokeswoman for the Stones' record company EMI told *The Times*, London: "The first low-quality files of new album were found illegally posted the same day we began making the new album available for consumers to listen to via radio and streaming." The entire 16-track album is available for a 'listen' on the site.

The Stones are not the first to fall prey to Internet piracy. U2, Oasis and Eminem, have been stung by illegal downloads before an album released.

That's rock 'n roll, baby!

# **Flashing For Defiance**

Apparently, quite a bit. A Web site where people sent pictures of themselves declaring 'we are not afraid' after the 7/7 terror attacks in London, was flooded with naked photos.

As a sign of defiance, thousands of Londoners were posting to the site but as is wont with the Internet, some idiots had to step in! The site's creator Alfie Dennan revealed that not all of the 17,000 images were suitable for publication.

He said: "We had loads of rude pictures sent in that were just too 'saucy' for the site. "One had five naked girls on a beach with 'we are not afraid' written across them in sunscreen cream. We also had lots of naked men sending in their pics for some reason!"

Speaking ahead of the exhibition displaying the e-mails, Dennan added: "I really hope the visiting public will realise that the whole world came out in support of London after 7/7." Came out and how!

# **Eat That And You're Fired!**

ating at work' just got a whole new meaning.
Sample this (sic): A computer engineer was sacked for eating pizza left over from a company meeting. That's an expensive snack! And the engineer in turn entered his sacking in a competition for the most outrageous firing and won!

The competition, run by Simply Hired, said that Jim Garrison's was chosen as the most bizarre sacking from more than 1,000 entries. Garrison will win a free Caribbean cruise with passengers famously fired by the billionaire Donald Trump on his popular television show, "The Apprentice".

Garrison ate two of the six pieces of pepperoni pizza left over from a company meeting, although he was not part of the department that held the meeting. He thought that since the company had bought it and it would be wasted if it wasn't eaten, he might as well have it.

However, several employees from the right department had planned to take the pizza home and well, told on Garrison to the management.

It took the company a month to fire Garrison—the pizza was given as the reason. Simply Hired refused to release the name of the employer but said it was a large mortgage company based in the US.

# You Didn't!

Thieves are supposed to be cunning—the kind of people who plot and plan everything to the last detail. Well, not this one.

Authorities in the US have recently identified a cell phone thief who was recognised via the pictures he snapped with a stolen Sanyo 5500. The phone has Sprint service and that means photos are automatically stored online when e-mailed.

Apparently, the real owner of the phone saw some dozens of photos and movies of the

thief posing in a compromising manner after logging onto the Web site. Police have not clamped down on the thief yet but were tickled with his antics.

According to Wired News, the phone's owner sent the following message to the man in question. "Like to steal cell phones and use them to take pics of yourself and make videos... HA! [G]uess what pal ... [I] have every pic you took and the videos. I will be plastering the town with pics of your face." What a loser!

# 3-Easy-Steps to Freebies!

- Log on to www.thinkdigit.com/digitpatron
- Enter this 16-digit code and score points (you will find your code at this place every issue
- Your points get added every month and can be redeemed for exciting gifts!

