TECHFOCUS

3G: The third generation never looked better

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For those of you who do not have the slightest clue what 3G is and are thinking it is possibly connected to the Y2K bug problem; this could be enlightening.

3G is actually a global solution to the same extent as the Y2K bug was a threat.

3G, short for third generation, is the resent most talked about concept in cell-phone technology.

In 3G, users, besides talking on cellphone, can also use it to transfer non-voice data like downloading information, e-mailing, instant messaging etc. Video telephony is one of its most celebrated feature.

Before understanding the concepts of the 3G, one would need to know about the evolution of the cellphone technology. That's right! Their was a 1st and 2nd generation of cellphones before 3G.

1G began with systems like NMT, AMPS, TACS etc. in the 80's. In September 1981, the first cell phone network was initiated in Saudi Arabia, which used the NMT system. Back in those days, analog transmission was in use in all systems.

You can still see one of these massive 1G phones in episodes of the hit 80's TV series like "The A team" or "The Fall guy".

2G era began in USA during the early 90's with the GSM, IS-95 (CDMA), iDEN and IS-136 systems. Finally the digital transmission was in effect.

The 2G phones were also noteworthy for their highly efficient phone to network connectivity.

These phones had smaller handsets, advanced batteries, and had a wide variety of functions, as opposed to the 1G cell phone sets. And yes, the cellphones being used in Bangladesh are of the 2G era.

Soon, the 2.5G and the 2.75G was developed as an extension of the 2G cellphones. These phones used systems like GPRS, HSCSD, etc under 2.5G and CDMA2000 1xRTT and EDGE under 2.75G.

The development of 3G has been going on for quite a while. A number of companies were trying to develop their own technologies with their own desired standards.

Unlike 2G, which was a standard, the 3G technology is currently a set of requirements that need to be fulfilled.

These requirements can be detailed as usability on all popular modes (cellular telephone, e-mail, paging, fax, video conference, and Web browsing), high speed data transmission (at least 2 Mbps), routing flexibility (repeater, satellite, LAN), operation at approximately 2 GHz, transmit and receive frequencies and worldwide roaming capability.

3G is split into UMTS (W-CDMA), CDMA 2000, TD-SCDMA, Wideband CDMA and UMTS TDD variations.

So after its development, where did the 3G fever first break out? The first 3G service was initiated in Japan. Fifty three percent of Japan's cellphone users are currently using 3G and it is speculated that the entire mobile phone using population of the country would be using 3G by the end of this year. Already the development of 3.5G is underway in the country.

Over 70 countries throughout the world have 3G phone services. And why would not the cellphone users of those countries move on to 3G, with all the features being offered by some of the big names in the cellphone industry.

Besides multimedia messaging (MMS) and Instant Messaging (IM), 3G will soon offer music downloads from online music stores according to Motorola and Microsoft. It will also support Windows Media Digital Bytes Management (WMDBM), Windows Media Audio (WMA), WMA Pro, MTP and other features.

Some of the latest sets like Sony Ericsson's W950 and others would have a memory of 4GB. This means that you would be able to store around 4,000 mp3 tracks. Hey, who would need an Ipod or an mp3 player then?

Furthermore, 3G users would also be able to watch TV with video streaming features.

But some of these companies are literally going overboard to sell their technology. In some countries, online gambling via 3G is an option and Hutchison 3G currently provides subscriptions to Playboy images and videos from the Playboy website.

Due to these reasons some concerned individuals worldwide are protesting against the 3G invasion.

So when would we be experiencing 3G? Sources from the leading cellphone operators informed StarTech they are currently working to provide the technology in the Bangladesh. As always, we would have to do the waiting.

Clockwise: 3G Video News Service by Reuters, 3G video phone call, and 3G GPRS mobile connect PCMCIA card in a laptop.

TECHREVIEW

CeBIT '06

World's largest ICT showcase

AHMED ASHIFUL HAQUE

THE CeBIT '06, world's biggest technology and telecoms fair, has drawn to an end at Hanover, Germany last week. Throughout the fair, some pretty interesting technology and concepts have been shown, including brain-to-computer interfaces, 5.4 Ghz personal computers and ten-megapixel camera phones along with numerous new products. We bring you a short look at some of the most interesting stuffs from this year's festival.

Microsoft and Intel unveiled *Origami*: a new concept of an ultra-mobile PC (UMPC) running Windows Tablet (later Vista) and enhanced Microsoft Touch Pack (a suite of apps and utilities meant to optimize using Windows by touch, and not necessarily only by stylus).

Microsoft is aiming UMPCs based on Tablet with Touch Pack at the general consumer. Throughout CeBIT, several hardware manufacturers like Asus and Samsung released different models of these UMPCs, showing details like how user interfaces would work and hardware specifications. The concept has received lukewarm response so far as it doesn't offer anything *worthwhile* and would *probably* come with high price tag.

BenQ, Nokia, Siemens, Samsung, Sony Ericsson and many other companies unveiled their brand new phones with increased memory capacity, processing power, more features, better cameras, and *most importantly*, with more stylish looks.

Many companies also introduced Cellphones with TV tuners and *relatively* bigger screens, hoping that these would attract Football fans who'd like to watch the upcoming World Cup from wherever they want and not miss anything. But it didn't work. There were too many different mobile TV-transmission formats and they were incompatible with each other, resulting in too much confusion. Bitter competition and poor service just pushed back mobile TV. Instead, fans opted for fixed TVs and companies making LCD TVs reported increased sales.

Samsung's SCH-B600, a cameraphone with a 10 megapixel resolution, caught a lot of attention at CeBIT and throughout the web for *obvious* reasons: its high resolution images even surpass most mid-range Digital SLR cameras. The B600 has a 3x optical zoom, flash, S-DMB support, Bluetooth, EV-DO, TV-out, and will surely carry a price tag to make most tech-lovers weep. Samsung also released another smartphone with a whopping 8 gigabytes of memory.

Another new working concept shown at CeBIT allowed volunteers to type out sentences and play a (video) game of *PONG* using just their minds. The technology works by translating thoughts into cursor movements on a computer screen allowing users to type messages onto a computer screen or control an on-screen object by mentally controlling the movement of the cursor. The concept is still at infancy and it needs a lot of refining, but it does have a huge potential.

A new robot for the masses was unveiled in CeBIT: Robonova. It's a fully customizable and programmable aluminium-built robot. The movement of this robot is done with HiTEC "muscles." These smart muscles and joints give complete control of torque, speed and position. The programming software is simple, so any user can make the Robonova do anything they want. But what really sets it apart from its other running, jumping, dancing cousins is that the Robonova is one of the *cheapest* robots available.

A group of manufacturers built what they're calling the fastest commercially available personal computer, an Intel Pentium 4 workstation running at 5.46 GHz. The Intel P4 3.8GHz CPU had to undergo some serious over-clocking to churn out that kind of speed. To keep things from frying, a cooling system which keeps the temperature surrounding that CPU at a chilly -33 degrees Celsius was used, along with a water cooling system keeping the graphics and motherboard chipset from melting.

Advances in the widely used Secure Digital format continue unabated, with cards now trickling out that support the new SDHC (SD High Capacity), or SD 2.0, standard. Panasonic has just announced a SDHC 4GB model which, although only compatible with FAT32-compliant current-gen readers, promises capacities as high as 32GB.

CeBIT is a huge show, but unfortunately, these days all of the *real* announcements seem to happen in the US and Asian shows only. The announcements from CeBIT follow a different trend: Microsoft's new Origami, improvements in flash drives, lots of Portable Media Players and (Portable TV) tuners and more capable cell phones. This is a design show. It's not about technology anymore.

But that can be good. Because we know now how to make pretty machines and interfaces, we can hide lots of the back-end stuff from the user in ways that we have so far only dreamed of. Remember the exciting days of 286 computers and 10MB hard drives? All that stuff was complex and hard to grasp, especially for someone without a computer science degree. Now, someone could probably walk through CeBIT with his grandmother and kind of explain to her what's up: "That's a portable video player; you can put your favourite shows on there… that's a computer that looks like an aeroplane…"

Sure it's simplistic, but it's where we need to be in order to prove to the wider world that technology isn't just for the smart and rich. It's for everyone, now, and it's all very usable.

1. The Festo "Tron-X" robot mimics the gestures of a fair-goer; 2. A mannequin is fitted with a prototype of a "mental typewriter", which is an EEG Cap that processes electric impulses from the brain into commands for a computer; 3. Doctor Erich Schneider of the university clinic of Munich presents an eye-controlled video camera to be used for surgery; and 4. A Samsung UMPC model presented at the CeBIT '06.

PHOTO: AFP

TECHNEWS

Smarty

Bangladeshi techie coauthors PHP book

BANGLADESH has some good programmers, software and web developers, who have proved their capabilities time and again.

This very fact will be re-established by the end of this month when the book 'Smarty PHP Template Programming and Applications' is released worldwide.

Lucian Gheorghe, a Romanian, Joao Prado, an American, and Hasin Hayder, a Bangladeshi, have written the book.

"The book is a step by step guide that will aid aspiring individuals toward building PHP websites and applications using the Smarty template engine. It will be an extreme help to PHP developers worldwide," Hayder told Star Tech.

He explained that Smarty, a template engine, is a highly effective tool that can bridge the gap between web designers and programmers.

"Smarty uses both templates and coding. As such designers and programmers would never be at a conflict," he explained.

He further discussed that unknown to most programmers, Smarty is a very useful engine with which the codes can be debugged quite easily.

Hayder wrote three of the important chapters in the book.

"I began writing for the book in October 2005 and the overall work was completed by the beginning of this year," he said.

Packt, a UK-based publisher, is taking online pre-orders for the book at its site www.packtpub.com at £19.99, while the cover price is £24.99.

Hayder is currently working on another book on 'Wordpress' -- an open source blog engine. "Hopefully this will be released by October 2006," he informed.

Hayder graduated from the department of civil engineering at Rajshahi University of Engineering and Technology (Ruet). He is currently serving as the web application developer at Somewhere In, an IT firm.

He is also the administrator of PHP Experts, the largest PHP users group in Bangladesh, and maintains the open source framework at zephyr-php/sourceforge.net.

Syed Tashfin Chowdhury

Smarty
Web Development
A complete guide to the most popular PHP templating language
Lucian Gheorghe   Hasin Hayder   Joao Prado Maia   PACKT
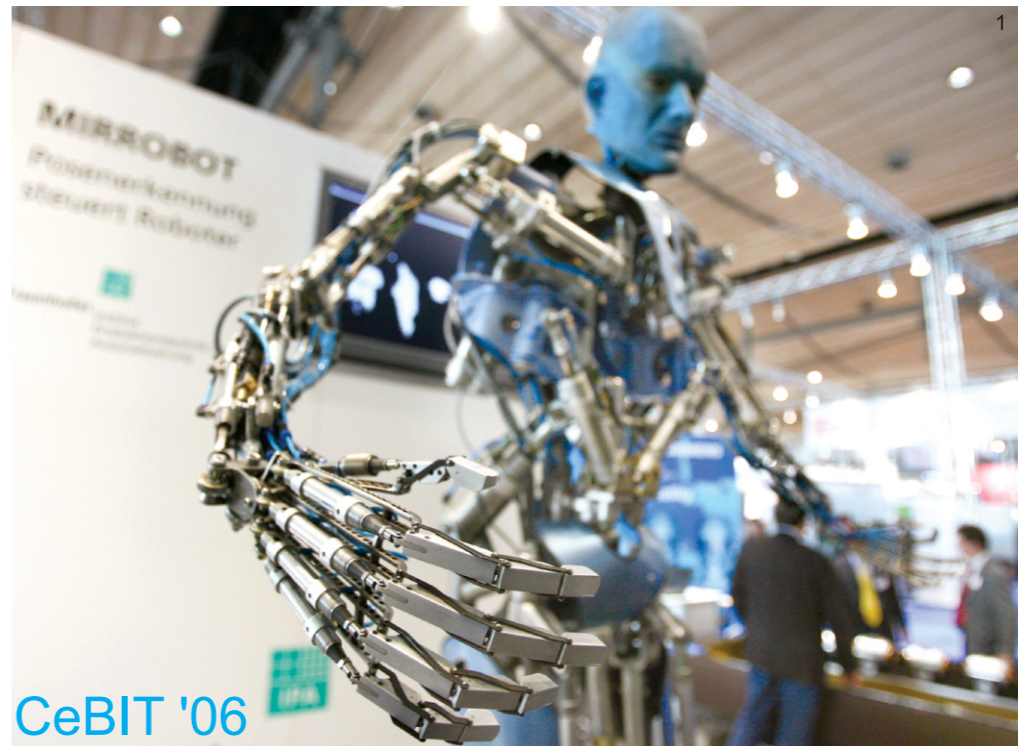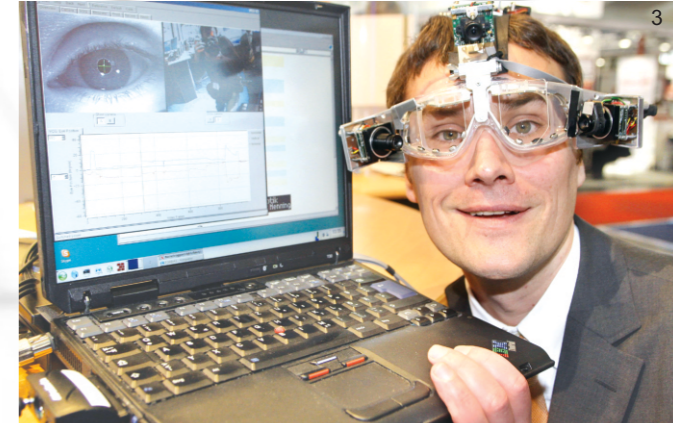
PHOTOTECH

BLUETOOTH WATCH

This hand-out picture shows a prototype Bluetooth watch or (Mobile Computing Promotion Consortium) MCPC TR-006 ver.1.0 announced by Japan's Seiko Instruments Inc. on March 4. The hi-tech watch that communicates with a cell phone, will be released onto the market at the beginning of 2007.

PHOTO: AFP