Age of the internet

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The Straits Times, 30 December 2009

The first decade of the new millennium has been one of profound change. In Part Four of our series looking back at the highlights of the past 10 years, The Straits Times looks at how the Web has changed the way we work, play and live

MOVIE star Will Smith, asked for the best pick-up line he ever had from his legion of female fans, described how a woman once sidled up to him and whispered: 'Any time. Anywhere. Anything.'

The Internet now oozes the same appeal today.

Its viral spread into everyday life has been the biggest technology change of the decade. And as online content wormed its way into mainstream communication through mediums such as Google and Twitter, instant gratification became the catchphrase of the day.

The Internet has shaped everything from education and entertainment to media, shopping and politics, but also created a new underbelly of addictions and vices.

How it happened
THE century's prospects did not start off looking bright, with companies labouring under the shadow of the Y2K bug which threatened to wreak havoc on technological devices. An estimated US$300 billion was spent to make sure that computers would continue to work.

But as midnight chimed on Dec 31, 1999, the millennium bug fizzled out with barely a whimper.

When the dot.com bubble burst around that time, it wiped out in one fell swoop an estimated US$5 trillion in the market value of technology companies.

But technology was relentless. Brushing off its shaky start to the millennium, it rode escalating surfing speeds and widespread connectivity, creating new computing devices small enough to fit into your back pocket, and heralding the new age of the Internet.

With Moore's Law still the rule of the day, computing power has continued to double every two years, allowing computers to be smaller, nimbler and cheaper, while having more brain power than ever before.

Compared with its ancestors of 2000, the average computer today is six times faster; even handheld devices have more space than the Y2K desktop did, to store music, movies and photographs.

The crawl of 56kbps (kilobits per second) for dial-up connections has been replaced by dazzling speeds almost 2,000 times faster (100Mbps), which means that surfing is almost instantaneous, rather than a laborious process where pages take minutes to load against the distinctive tones produced by the dial-up modem (this musical relic can be downloaded online by those who are nostalgic).

Smartphones, the geek's plaything in early 2000, have now gone mainstream with the launch of the iPhone two years ago. Apple's touchscreen product, with its tens of thousands

of downloadable applications, has turned the phone into a handheld computer, and made the device popular with the regular Joe.

In Singapore, one of the most wired nations in the world, more than 1.4 million households had broadband Internet access this year. Mobile phone take-up rates stand at 130 per cent here, and more than one-third of the population already own Web- and media-enabled mobile phones.

The number of high-speed surfers continues to balloon with the growing reach of free network Wireless@SG, which delivers free wireless broadband in public spaces such as shopping malls and restaurants.

The nation's multibillion-dollar ultra-fast broadband network is also expected to reach about 60 per cent of households next year. Then, surfers can soon expect speeds of at least 100Mbps and as much as 1Gbps and beyond, allowing movies and 3-D animation videos, for example, to be downloaded in minutes.

What Microsoft chairman Bill Gates predicted in 2001 has proven prescient.

'In the Digital Decade, you'll no longer think of the PC as a tool you use only to carry out specific tasks - it will become something you come to rely on all the time,' he wrote.

'The power of the PC will be as ubiquitous and reliable as electricity, and vastly more useful than any single device we use today.'

Applications we cannot live without
MADAM Rosie Chan, 68, has dozens of photos and videos of her three grandchildren, aged eight, 10 and 14, stored on her mobile phone.

She finds out what they are doing via the social networking site Facebook, and has even started her own blog, mainly as an online diary.

'Once I got used to it, I realised these methods were a great way of keeping in touch with my family and friends, especially in connecting with the younger ones,' said the retired teacher.

The 'Noughties', as the last decade has been called, have allowed people to squeeze thousands of songs, movies, photographs and books into their back pockets. Videos ranging from four-year-old Daisy at her first singing competition to popular movie clips can be broadcast and seen around the world via YouTube, at numbers that make television companies salivate.

'Battle at Kruger', riveting amateur footage of buffalos fighting to reclaim a young herd member from lions, has been watched by about 50 million people, for example.

Web search and advertising giant Google has become a must-have, with its host of applications ranging from search engine to mail, telephone and satellite imaging applications. It has become so mainstream that 'google' is now considered a legitimate verb.

Real-world activities have also become virtual, allowing you to inspect and buy that coveted Italian car accessory at the click of a button or to vote, from overseas, in an upcoming election.

Of all the goodies that have surfaced over the decade, social networking is considered by many to have had the greatest impact.

With Web tools becoming easier to use over the last few years, blogs have exploded, as have sites such as Facebook and Twitter, allowing millions of people to share hobbies, opinions, personal experiences or random thoughts.

Ten years ago, all this was restricted mainly to e-mail messages, instant messaging and forum chats. Snail mail, telephones, CDs and television sets, for example, were relatively cumbersome and independent entities.

The Internet created a platform to merge and customise such applications, in a fast, cheap and easy manner, and also seemed to fulfil a human desire to reach out and grab the limelight.

Facebook, for example, founded in 2004 by Harvard University undergraduate Mark Zuckerberg as a limited social site for students at his university, now has 350 million users (including one in three people in Singapore) who sign on regularly to give status updates, play games or even 'poke' friends online.

Freelance writer Thomas Yeo, 42, joined Facebook in 2007 as a means of keeping in touch with friends.

What he did not expect, two years later, was to have 1,000 friends on the site, including some childhood buddies he had lost touch with, and strangers whom he randomly agreed to accept as friends.

'It's a great communication tool, though it's rather indulgent to think that everyone is interested in reading about your current status, such as whether you had a big meal or are working over the weekend,' he said.

'But I'm as guilty as anyone of making inane comments.'

Meanwhile, new kid on the block Twitter has been making inroads.

Mashable, one of the world's largest blogs focusing on social media, said Twitter and its emergence as a mainstream platform for communication made it the technology of 2009.

There are now about 40 million people using the microblogging service, where users can post updates of up to 140 characters.

Mr Tan Tarn How, a senior research fellow at the Institute of Policy Studies (IPS), who researches cultural and media policy, said that while the Internet had yet to fulfil its potential in areas such as politics - in bringing democracy to authoritarian societies - its contribution had been immense.

'The Internet has transformed how we live, work and play. Imagine what life would be like if tomorrow we were deprived of e-mail, sites like YouTube or tools like Google Search.'

The dark side
AVAILABLE, accessible information ripe for the picking is not always a good thing.

Just as companies, organisations and charities use social networking to advertise and promote causes, hackers and con men have been quick on the uptake - using spam and worms or launching phishing attacks on millions of users to trick them into revealing their user names and passwords.

A common ploy by hackers, for example, is to send Facebook messages to a victim's list of friends, claiming the person is stranded overseas and asking for money to bail him out.

The porn industry, frequently a far-sighted and early adopter of new technologies, has also pushed adult entertainment increasingly into the mainstream via the Internet.

In the workplace, employees have been caught red-handed when their Facebook accounts showed photos of them out having fun when they were supposed to be at home on sick leave.

Even when staff are at work, Internet surfing is costing companies money.

A survey of 1,460 office workers in Britain earlier this year found that half of them visited social networking sites during office hours, spending an average of 40 minutes a week, posting sensitive information, and costing £1.38 billion (S$3.1 billion) in lost work hours.

Then there are the many humiliated people who have had compromising photos or information of themselves posted online, or others who were victims of online sexual harassment or cyber-bullying.

In one of the most notorious of such cases in 2006, 13-year-old American Megan Meier killed herself after being taunted online. Her friend's mother had created a fake persona of a male teenager online to torment her, because she thought Megan was gossiping about her daughter.

Spending too much time on such sites can also be damaging, leading to addiction problems and anti-social behaviour, said psychologists, who are already seeing such numbers picking up.

Undergraduate Chris Wong, 20, who admits to spending more than four hours a day surfing and playing computer games, admits how the Internet can be isolating.

'We have countless online friends but fewer real ones. We have so many activities in cyberspace but spend even more time alone. The Internet has brought people closer, and pulled them further apart, than ever before.'

It will be difficult to predict what will happen over the next 10 years, say the experts, although the IPS' Mr Tan says that, barring another unpredictable revolution like the Internet, computing speeds will be even faster.

'Imagine downloading a whole movie in a minute or so. Access will also become even more mobile, so that even more of what you get on your PC will be available on handheld gadgets like phones.'

Companies are also looking at areas such as how best to track eye movements so as to assess search efficiency, online advertisements and navigation, or how to search images based on visual characteristics instead of text tags.

But, added Mr Tan, not everything should go virtual.

'There will still be wet markets, New Year countdowns in Orchard Road, beer with our best buddies at a kopitiam.

'Some things are just not right when done the new way.'
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