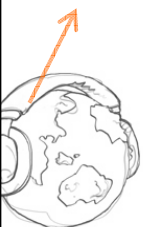


The future of the Internet: Schools of thought

Professor Trevor Barr, Darren Sharp & Alex Burns

Presentation to the *Research: Informing policy; supporting practice* Conference

25 November 2005



Industry & Government Partners

• Industry Partners

- Telstra
- Westpac
- Legalco
- Infosys
- Tenix
- Pacific Knowledge Systems



PACIFIC KNOWLEDGE SYSTEMS



• SME Consortium Partners

- ACT (The Distillery, Catalyst Interactive, Wizard & Epicorp)
- NSW, Vic, Tas, Qld in progress



• Government Partners

- NSW State Government



Department of State and
Regional Development



University Partners

- University of Sydney
- University of New South Wales
- University of Wollongong
- Australian Graduate School of Management
- Australian National University
- Swinburne University of Technology
- Royal Melbourne Institute of Technology
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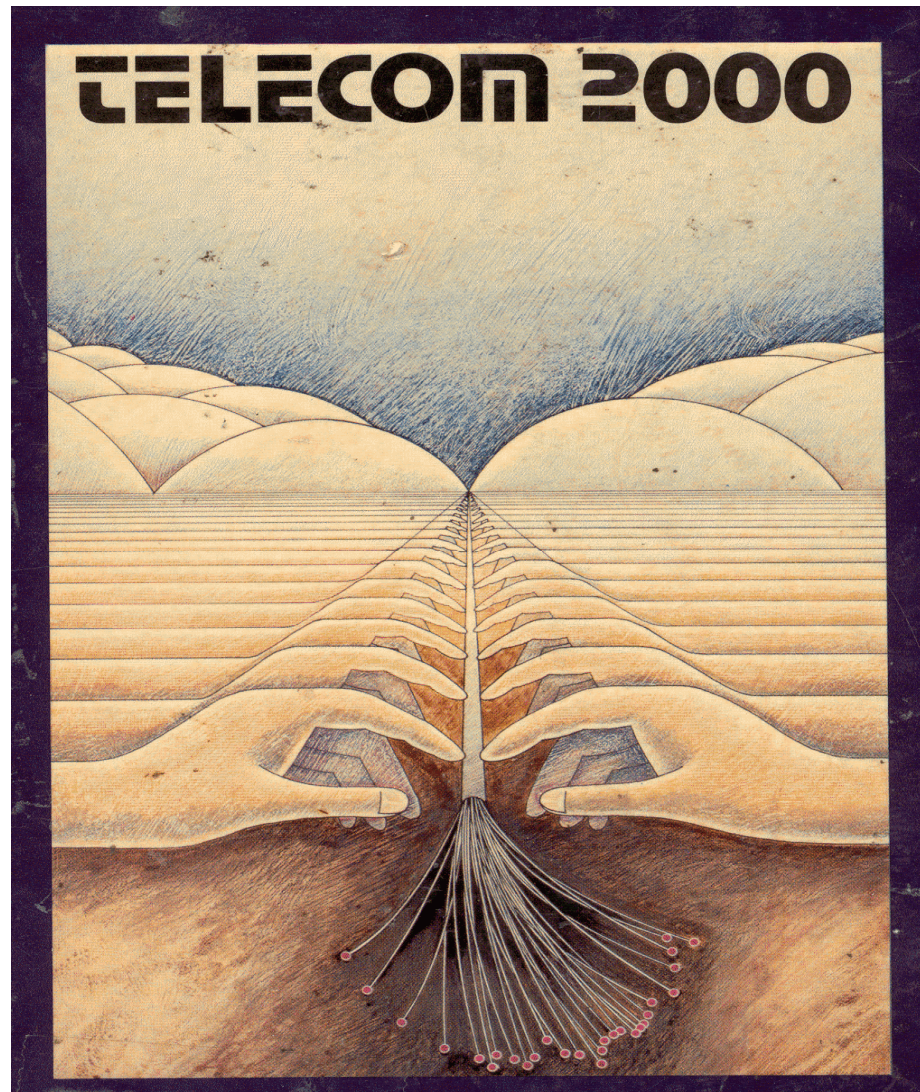
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2010: Research Questions

- 
- What might the Internet be like in 2010 ?
 - What positions do different people and institutional interests have about the future of the Internet?
 - What are the possible outcomes for end users towards 2010?
- 
- 

Smart Internet 2010: Methodology

- Qualitative research - not statistical forecasting
- Not scenario construction- alternative or preferred
- Schools of Thought - i.e., a shared world view that distils bodies of expert opinion around complex subject matter within a field, and provides common thinking
- Involves rich insights of technologists, academics, journalists, entrepreneurs, policy makers, investors



Interviews

- 
- Paul Boustead (DICE project, Smart Internet Technology CRC)
 - Danah Boyd (University of California Berkeley, Social Networks researcher)
 - Stowe Boyd (Corante Business Intelligence)
 - Charles Britton (Senior Policy Officer, Australian Consumers Association)
 - Roy Christopher (FrontwheelDrive.com)
 - Tom Dawkins (Vibewire.net and ElectionTracker.net founder)
 - Rachael Dixon (Massive Interactive)
 - Cory Doctorow (Electronic Frontier Foundation)
 - Mark Finn (Swinburne University of Technology)
- 
- 

Interviews

- Brian Fitzgerald (Queensland University of Technology, Head of Law School)
- Terry Flew (Queensland University of Technology)
- Robert Freiden (Pennsylvania State University)
- Martin Gibbs (Smart Internet Technology CRC)
- Cecily Gibson (Senior Action Group Eastern Shore)
- Kas Kalba (Kalba International)
- James A. Larson (Intel Corporation, W3C Voice Browser Working Group)
- Olof Lundberg (Former CEO Inmarsat and ICO)
- Richard Metzger (The Disinformation Company)



Interviews

- Kathy Mueller (University of Melbourne, Television Producer)
- Ernie Newman (Chairman International Telecommunications Users Group)
- Mark Pesce (AFTRS, VRML co-creator)
- Mark Poster (University of California)
- Howard Rheingold (US author & critic)
- Evelyn Richardson (Executive Director, Game Development Association of Australia)
- David Rooney (University of Queensland, ACRO)
- Douglas Rushkoff (New York University)
- Katie Salen (Parsons School of Design, GameLab)
- Christine Satchell (RMIT, Smart Internet Technology CRC)

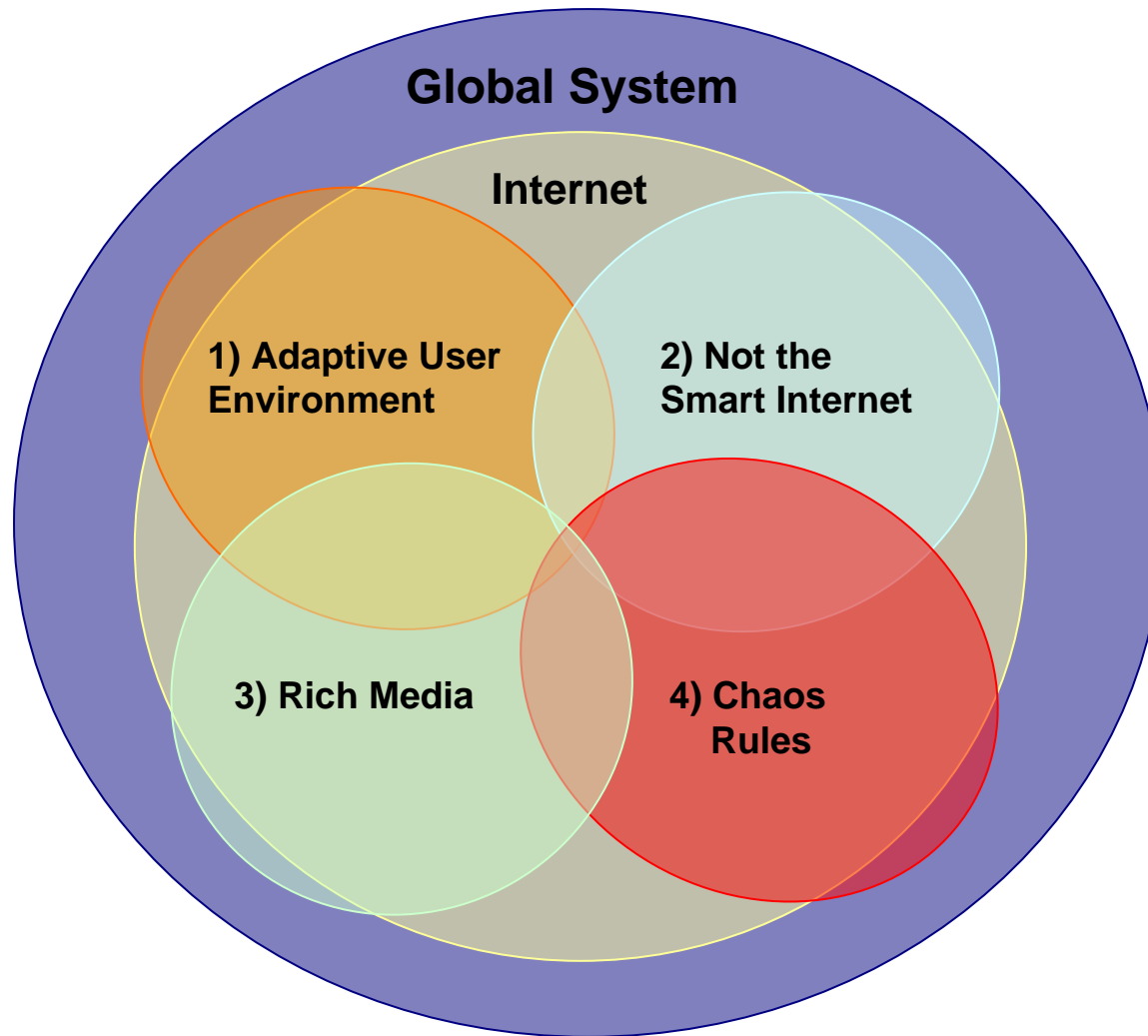


Interviews

- Barry Saunders (IndyMedia, NewsLab)
- Stewart Smith (Linux Users Group of Australia)
- Richard Stallman (Free Software Foundation)
- Paul Turner (University of Tasmania, Smart Internet Technology CRC)
- Peter Waters (Gilbert and Tobin)
- Marcus Westbury (This Is Not Art founder, NextWave Festival)
- Eric Zimmerman (GameLab, International Game Developers Association)
- Con Zymaris (Open Source Industry Australia)



Four Schools of Thought



2010 Outcomes (1)

- In the year 2000 the Internet was seen as ushering in major business and social changes as the **'father of all disruptions'** during the dot.com boom. Debates have now shifted from the Internet society to the ***Internet in society for 2010.***
- Future an era of **user-led innovation** – unexpected 'killer apps' ie., Google, SMS, mail – will progress.
- The Internet by 2010 is likely to emerge as a more **user friendly, more accessible, indispensable lifestyle communications tool.**



2010 Outcomes (2)

- The user paradigm will shift away from people accessing professionally produced content to using the Internet as a **platform for personal connectedness**. Hence the **context**, rather than the content, takes on new significance.
- Important changes in the market place will continue to be driven by **users' preferences** and create structural institutional disruption i.e., peer-to-peer services (music and film), Voice over Internet Protocol (VoIP), dis-intermediation (travel) and re-intermediation (financial services).
- We need 'Internet for all' policies – but a long way to go and will be beyond 2010.



Blogs, Wikis and Social Software

- A range of emerging Internet innovations are empowering users to collaborate, share information and meet up offline to engage in **collective action**.
- Groupware such as online **social networking** applications, **blogs** (Web diaries) and **wikis** (group-edited Web pages) have attracted millions of global users leading to the emergence of novel services that enable **ongoing user participation**.



MySpace.com

www.myspace.com/murdoch_rupert - Mozilla Firefox

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Rupert Murdoch

"The Dirty Digger"

Male
74 years old
New York, New York

Last Login: 11/14/2005

View more pics

Contacting Rupert Murdoch

Send Message Forward to Friend
Add to Friends Add to Favorites
Instant Message Block User
Add to Group Rank User

MySpace URL:
http://www.myspace.com/murdoch_rupert

Rupert Murdoch is in your extended network

Rupert Murdoch's Latest Blog Entry [Subscribe to this Blog]

I own, Fox News... is 'Outfoxed' right or wrong? ([view more](#))

How do you feel about me buying MySpace? ([view more](#))

Republicanism has become a cult. ([view more](#))

I now own MySpace.com, what's next? ([view more](#))

[[View All Blog Entries](#)]

Rupert Murdoch's Blurbs

About me:
I just bought MySpace.com, soon I will own the rest of the internet.

I aspire to become the most powerful man in the world. I promote the efforts and conjunction between right wing conservatism and government. I encourage my television and radio stations to become Republican soapboxes.

There are many important benefits to fascism.

Done

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John Quiggin's Blog

John Quiggin - Mozilla Firefox

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AOL to Have Reruns on Demand | Yale Information Society Project | International Journal of Commu... | Network Insight Institute | **John Quiggin**

John Quiggin
Commentary on Australian & World Events from a Social-Democratic Perspective

Bogus quote yet again

November 14th, 2005
Posted in **Environment**
20 Comments »

Via Jennifer Marohasy, I found this recycling of the infamous doctored Schneider quote, this time by Frank Furedi who writes in the Times Higher Education Supplement

Appeals to a "greater truth" are also prominent in debates about the environment. It is claimed that problems such as global warming are so important that a campaign of fear is justified. Stephen Schneider, a climatologist at Stanford University, justified the distortion of evidence in the following terms: "Because we are not just scientists but human beings... as well... we need to capture the public imagination." He added that "we have to offer up scary scenarios, make simplified statements and make little mention of any doubts that we have".

Schneider's statement was originally quoted in an article in *Discover* magazine (not available online as far as I can tell). Reading it in full

Search

"One of the elder statesmen of the Oz blogosphere" - Age Media Blog

(Alternative pictures [here](#) and [here](#))

email me - [johnquiggin](#) +AT +gmail +DOT +com

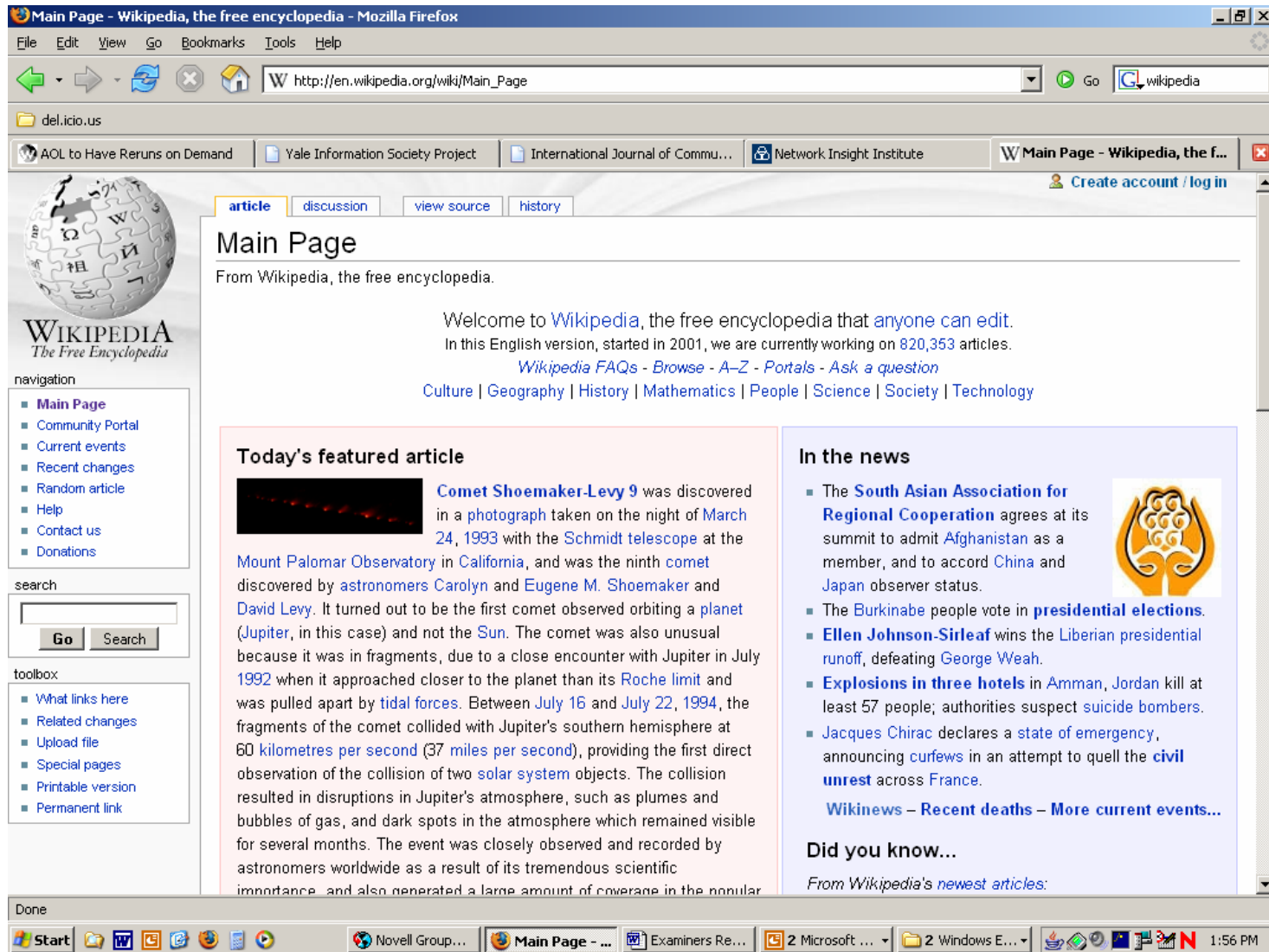
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Bush lied (70), last by Katz
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Today's featured article

 **Comet Shoemaker-Levy 9** was discovered in a [photograph](#) taken on the night of [March 24, 1993](#) with the [Schmidt telescope](#) at the [Mount Palomar Observatory](#) in [California](#), and was the ninth [comet](#) discovered by [astronomers Carolyn and Eugene M. Shoemaker](#) and [David Levy](#). It turned out to be the first comet observed orbiting a [planet](#) ([Jupiter](#), in this case) and not the [Sun](#). The comet was also unusual because it was in fragments, due to a close encounter with Jupiter in July [1992](#) when it approached closer to the planet than its [Roche limit](#) and was pulled apart by [tidal forces](#). Between [July 16](#) and [July 22, 1994](#), the fragments of the comet collided with Jupiter's southern hemisphere at [60 kilometres per second](#) ([37 miles per second](#)), providing the first direct observation of the collision of two [solar system](#) objects. The collision resulted in disruptions in Jupiter's atmosphere, such as plumes and bubbles of gas, and dark spots in the atmosphere which remained visible for several months. The event was closely observed and recorded by astronomers worldwide as a result of its tremendous scientific importance, and also generated a large amount of coverage in the popular

In the news

- The [South Asian Association for Regional Cooperation](#) agrees at its summit to admit [Afghanistan](#) as a member, and to accord [China](#) and [Japan](#) observer status.
- The [Burkinabe](#) people vote in [presidential elections](#).
- [Ellen Johnson-Sirleaf](#) wins the [Liberian presidential runoff](#), defeating [George Weah](#).
- [Explosions in three hotels](#) in [Amman](#), [Jordan](#) kill at least 57 people; authorities suspect [suicide bombers](#).
- [Jacques Chirac](#) declares a [state of emergency](#), announcing [curfews](#) in an attempt to quell the [civil unrest](#) across [France](#).

[Wikinews](#) - [Recent deaths](#) - [More current events...](#)

Did you know...

From Wikipedia's [newest articles](#):

Done

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Real-time Social Infrastructure

- The active knowledge transfer taking place over the **'Live Web'** is the foundation for a new type of real-time social infrastructure.
- Early adopters have begun a move away from traditional media sources to rely on trusted sources in their network of friends, family and fellow travellers for reviews, feedback, and advice about the latest product, service, or political party.
- Amazon, Epinions, Trip Advisor, Whirlpool, PhoneChoice, InfoChoice, MoveOn, Meetup.



Whirlpool

Broadband Choice - Mozilla Firefox

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WHIRLPOOL NEWS

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- Submit an ISP

DISCUSSION FORUM

CREATE USER ACCOUNT

LOGIN NOW

FAQs, LINKS & RESOURCES

- Wiki
- Whirlpool FAQ

australia's most comprehensive broadband isp directory

Find a broadband plan:

For the most accurate search, enter your land-line telephone number:

OK

For a generalised ISP search, select your state from this map:

NT WA SA QLD NSW VIC TAS

Broadband News

Telstra announces Next-Gen Network

Telstra announced its Next Generation Network today, with plans to provide 12Mbit/s ADSL to five major cities.

whirlpool.net.au - 15 Nov 2005

Telstra to cut 12,000 jobs

Telstra will axe up to 12,000 jobs over the next five years, chief executive Sol Trujillo told analysts in Sydney today.

Australian IT - 15 Nov 2005

Discussions

Choosing an ISP

0 mins ago Broadband Minimum Contract

8 mins ago AAPT or Optus

29 mins ago Need a very reliable ISP

DSL General

39 mins ago Dropouts

Today adsl2 from telstra in couple of weeks?

Today ADSL Excuses, Bring 'em On.

Statistics

246 ISPs listed in detail

4009 plans in our database

Our members use:

- #1 iiNet
- #2 Internode
- #3 Telstra BigPond
- #4 OptusNet
- #5 TPG Internet

Done

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PhoneChoice

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- Update your Details

News & Views:

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Huh? Broadband traffic lights?
More info...

14 Nov 05
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Fixed Line:
Go here for all your information on local, international and national call rates and plans.

Broadband:
Find the broadband plan that's right for you here.

VoIP:
Find out the facts behind the hype on making voice calls over the internet.

Free consumer information service

Free membership

Quick Poll

Q: What would you most use 3G phones for?

- ☐ Video calls
- ☐ Voice calls
- ☐ Mobile internet
- ☐ Mobile TV
- ☐ Wouldn't use

Submit

Show Results

Telecommunications Industry Ombudsman

Done

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The Mobile Internet and Digital Lifestyles

- The growth of '**texting**' and next generation mobile phones has created the space for a range of social practices to occur beyond the place-boundedness of the home, office or school.
- Mobile digital lifestyles will create new forms of social interaction as fluid, network-enabled **swarms** of users exploit technology to coordinate group action, collaborate, create and exchange content at an unprecedented scale and speed.
- Key mobile Internet services will include location-based games, moblogging, peer-to-peer applications and content delivery.

Citizen Journalists: Tsunami and London bombings footage.



Social Networks

- By incorporating **location-based technologies** users will be able to determine the proximity of friends, seamlessly exchange pictures, music and movies through mobile blogs and engage in 'peercasting' using novel combinations of these networked multimedia.
- The power of Social Networks enables users to embrace the **collective intelligence** of their surrounding social environment. By 2010 these **empowered consumers** will form ad-hoc lobbies with formidable power to influence the fate of brands, companies or products that fail to deliver value, quality and maintain ethical standards.
- Rheingold's *Smart Mobs*: Early indicators include Flash Mobs, political mobilisation, Kryptonite Bike Lock video.



The Do-It-Yourself (DIY) Internet

- A range of simple Do-It-Yourself (DIY) media technologies have given any user with access the ability to become a producer in a variety of social fields.
- This has spawned an entirely new understanding of authorship and content production in film (machinima), games (player-producers), journalism (blogs), radio (podcasting), music (mash-ups) and knowledge production (Wikipedia).
- Raises debates over the Innovation Commons.



The Open Source Movement

- Free and Open Source Software provides no-cost alternatives to proprietary software.
- Beginning to make inroads into the desktop market.
- Success attributed to its vendor independence, cost benefits, security, and reliability.
- Firefox web browser is a major turning point.
- Software includes Open Office, Linux and Red Hat.



Creative Commons

- Lessig's Creative Commons movement provides the legal and cultural mechanisms to expand the Open Source model **beyond software**, and provides opportunities for content producers to gain control over the use of their products in a variety of contexts.
- Creative Commons type initiatives could catalyse the birth of a **parallel creative economy**. This gives producers the ability to engage directly with each other's material, and their audience, leading to new forms of collaboration and the development of innovative cultural products.
- Punitive IP and copyright regime threatens innovation.



The Future of Innovation

- **Open Source, DIY media, 'remix culture', Social Networking and p2p** will disrupt more areas of social life as users self-organise to form "communities of practice" and "knowledge collectives".
- These highly adaptive swarms have potential to force media and entertainment monopolies to re-evaluate value creation, influence politics through blogs and Smart Mobs (Rheingold), impact business through boycotts and develop **new modes of user-led innovation** through what Benkler describes as 'commons-based peer production'.



Digital Homes



- Rich Media school of thought
- Digital Hollywood's preferred vision
- New Broadband-enabled entertainment console (Microsoft Xbox 360 and Sony PlayStation 3)
- 'Always connected, always personalized, and always in high-definition' (Microsoft, GDCA, 2005)
- Broader gamer demographics than 'youthful' stereotype



Digital Games Global Context

- Global industry revenues of \$US30 billion annually
- Four major markets:
 - Arcade, PC (IBM compatible, Apple), Handhelds Nintendo, Sony, mobiles) and Console (Microsoft Xbox and Sony PlayStation)
- Two tiers: game publishers and developers
- *Doom 3* sold 300,000 units in first week (August 2004)
- Sony's *EverQuest*: Massively Multiplayer Online Games
- Popularity of mobile games and Digital Lifestyle products



New Games Console Platforms

- Sony PSP (September 2005)
- Microsoft Xbox 360 (Late 2005: Europe, Japan, Nth. America)
- Sony PlayStation 3 (2006)

- Support for Digital Media and High-Definition Games
- Wireless support (WLAN) and integration
- Adaptive User Environments insights for interfaces

Integration of e-commerce and Player-Producer communities

Opportunities to monetise new revenue streams



Australian Industry Context

- Generated \$A100 million in exports (2002)
- Game Developers' Association forecasts:
 - \$A500 million (2005) and \$A1 billion (2010)
 - Significant potential for jobs growth in near-term
- Potential for Digital Media/Games clusters
 - Victoria's *GamePlan* (Multimedia Victoria)
 - QUT's *Creative Industries* program

Australian firms have won international contracts for game development (Auran, Atari Melbourne House)



Digital Games and Social Networks

- Underpins the growth of RPG and MMRPGs
- *Doom* pioneered user-created levels ('mods')
- The 'cultural infrastructure' for MMOGs (Sony)
- South Korea's *Counter-Strike* became one of the most highly successful games due to player communities
- Innovative designers in player communities are often hired by game publishers/developers
- Many MMOGs feature 'clans' of regular players
- 'Virtual economies' are an unforeseen effect



Digital Games: Regulatory Issues

- Videogame violence is 'cyclical' regulatory issue
- Influenced by media sound-bites and policymaker agendas
- Often framed using the 'Chaos Rules' school of thought
- Rockstar's *Grand Theft Auto: San Andreas* (2004) 'hack'
- OFLC has failed to adopt an 'R' rating for digital games
- Players avoid national regulations via downloads
- 'Player-Producers' as innovators and IP creators
- Genre-inclusive Design and Digital Culture as solutions




Innovation Lessons

- Forward-looking, creative, and execution-oriented
- The 'Play Ethic' as central to design and innovation
- Digital Culture as key to vibrant economy
- Shift from 'information' to 'conceptual' age (Daniel Pink)
- Siva Vaidhyanathan's *Anarchist in the Library* (2004): online battles have real-world implications, legal rules, social norms
- Sanjiv Augustine's *Managing Agile Projects* (2005)
- David Allen's *Getting Things Done* (2003) and 'life-hacking' movement ('Meet the Life-hackers', *NYT*, 16 October 2005)



Access to the Report

- 
- Officially launched by the Hon. Senator Helen Coonan, Minister for Communications, Information Technology and the Arts on 1st September 2005.
 - 50,000 word report available at:

<http://www.smartinternet.com.au>

