

User-led Innovation: A New Framework for Co-creating Business and Social Value

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Disclaimer

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Preface

The report has been prepared by researchers of the User Environments program of the Smart Internet Technology CRC, based at Swinburne University of Technology in Melbourne. *User-led Innovation: A New Framework for Understanding Business and Social Value* is written for several audiences — the general public, the multi-disciplinary academic research community, government policy makers, and corporate sponsors of the Smart Internet Technology CRC.

The *User-led Innovation* report is a deliverable for the *Next Generation Internet Users* project and was conducted as a combined two-part investigation.

The first part by Darren Sharp presents a comprehensive analysis of the structural changes behind the rise of user-led innovation, and develops a model of an emerging ‘User-led Services Ecology’.

The second part by Mandy Salomon presents a practical case study of the 3D virtual world *Second Life*, an important site from which to explore advanced user-led practices, business strategies, and new forms of social engagement.

Research Objectives

This research seeks to develop a coherent framework for understanding the multiple theories and social practices associated with the emerging field of ‘user-led innovation’. It presents a synthesis of current user-led thinking which is informed by interviews with thought leaders, lead users and insights from the secondary literature. It uses this to develop a model of an emerging ‘User-led Services Ecology’, and explores its possible impact on CRC stakeholders. The research investigates how user-led practices generate business and social value through a major case study of the virtual world *Second Life*. It also canvasses a number of pathways for organisations to leverage the participation of their audiences, customers and citizens, in the interest of co-creating new services, media and knowledge.

The ***first section*** of the report attempts to answer the following:

- What are the key drivers of user-led innovation?
- How does user-led innovation affect organisations’ relationships with key stakeholders?
- What are the most effective strategies to engage user participation?

And the ***second section*** was constructed in response to these questions:

- What are the components of *Second Life* that engender the surge in user-led innovation?
- What are users of *Second Life* creating and experiencing?
- Who are *Second Life*’s ‘lead users’ in Australia and what activities are they engaged in?

Methodology

The research methodology for this report consisted of qualitative interviews with thought leaders in the field of user-led innovation, whose work is instrumental to the successful development of this nascent area. The emergence of user-led innovation has been assisted in no small part by the work of academics, business and community leaders whose concepts, services and insights have given shape to an otherwise nebulous set of changes to media, culture and technology. Such thought leaders have introduced new discourses, models and knowledge frameworks which influence the take-up and cultural acceptance of these new technosocial systems.

The data obtained from these thought leader interviews take the form of conversations, strategically deployed throughout the report to elucidate and expand key themes.

Extensive interviews were conducted with the following experts on the social, economic and legal aspects of user-led innovation:

- **Eric von Hippel** – Head of the Innovation and Entrepreneurship Group at the MIT Sloan School of Management
- **Yochai Benkler** – Berkman Professor of Entrepreneurial Legal Studies at Harvard University, and faculty co-director of the Berkman Center for Internet and Society
- **Jimmy Wales** – Founder of Wikipedia.org, the Open Source Encyclopedia
- **Michel Bauwens** – Founder of the Foundation for Peer to Peer Alternatives
- **Siva Vaidhyanathan** – Associate Professor of Media Studies and Law at the University of Virginia
- **John Howkins** – Director of the Adelphi Charter on Creativity, Innovation and IP
- **Mitch Kapor** – Lotus software pioneer, co-founder of the Electronic Frontier Foundation, venture capitalist and Chairman of Linden Lab

A number of the interviews were conducted while attending the ‘Access 2 Knowledge’ conference (A2K2006) at Yale University, in New Haven Connecticut and related research activities in New York City supported by the Smart Internet Technology CRC.

The research methodology used to compile the *Second Life* case study included insights from published texts, interviews with industry and academic thought leaders, a wide ranging media scan, official *Linden Lab* and *Second Life* online resources, and many hours of in-world exploration. Blogs, wikis, podcasts, *Flickr* and folksonomies from *Second Life*’s diverse user base formed a matrix of invaluable reference threads. Mandy Salomon also gained valuable insights from participating in the ‘State of Play V’ conference in Singapore with support from the Smart Internet Technology CRC.

Another important aspect of the methodology were the ‘lead user’ interviews conducted with a number of Australian *Second Life* practitioners. Eric von Hippel, Professor of Management and Innovation at MIT, developed the term ‘lead user’ to describe a special category of ‘user innovator’ that precede ‘early adopters’, as defined by Rogers’ ‘diffusion of innovations’ theory.¹ Von Hippel’s empirical research findings reveal that ‘lead users’, both firms and individual consumers, are at the leading edge of a market-based trend, and develop novel products for themselves which often have wider user appeal.²

A range of interviews were conducted with the following Australian ‘lead users’ of *Second Life* to highlight local initiatives in this emerging space:

- **Gary Hayes** – Director of AFTRS’ Laboratory of Advanced Media Production (LAMP), and Head of Virtual Worlds Services, The Project Factory
- **Lisa Dethridge** – Program Leader, School of Creative Media, RMIT
- **Bret Treasure** – Business Developer, Inside This World
- **Lisa Romano** – Project Manager, Strategic Development, Australian Broadcasting Corporation
- **Christy Dena** – Cross-media consultant, Co-editor of SLATE magazine
- **Gary Wisniewski** – Founding Director, Cattle Puppy Productions, Second Life Cable News Network (SLCN)
- **Keren Flavell** – Executive Producer and in-world presenter, Second Life Cable News Network (SLCN)
- **Natalie Phillips** – Manager, ICT Capability and Futures, Multimedia Victoria
- **Suku Sinnappan** – Discipline Leader, Information Technology, Systems and Multimedia (ITSM), Swinburne University of Technology
- **Harry Hains** – Secondary school student

About the Authors



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In 2007 Sharp was invited to present his work on citizen innovation and participatory research to the 3rd International Living Knowledge conference in Paris (École Nationale Supérieure des Mines de Paris). His research expertise includes Web culture, social software, blogs, wikis, peer production, the knowledge commons, communication futures and user-led innovation.

Sharp has led the development of the Audience and Social Media research programs for the soon to be established Smart Services CRC. This suite of research will provide thought leadership and surface market opportunities for CRC stakeholders in the media, finance and government sectors. Sharp was an associate editor of the website Australian Policy Online, and produced multimedia for SBS New Media and Eclipse Group. He has appeared in *The Age*, *Sydney Morning Herald* and *The Courier Mail* providing commentary on media related issues, and has been interviewed by ABC Radio and the *7.30 Report*.

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Mandy Salomon is an established media practitioner, having worked as a journalist and commentator in radio, television, newspapers, theatre and documentary film. Mandy joined the Smart Internet Technology CRC in 2006. Based at Swinburne University of Technology in Melbourne, Australia, she researches the social impact of innovative web practices and user-led innovation.

With a specialist interest in virtual worlds, Mandy participates in a global network of virtual world stakeholders, and was a panellist at the ‘State of Play V’ Conference in Singapore in August, 2007. Locally, she has contributed to AIMIA, AIIA, World Internet Partners (WIP), Telstra Innovation, Westpac and AsiaLink events on this emergent field.

Publications include *Business in Second Life: an introduction* (Smart Internet CRC, 2007), and the *Smart Internet 2010* report, to which she contributed the chapter on voice technologies. Mandy will lead the social research programs into virtual worlds and collaborate on the Audience and Market Foresight stream of research for the Smart Services CRC.

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Foreword

Open source software, citizen journalism, crowdsourcing, user-generated content, social networks, the sharing economy, peer production, Multi-User Virtual Environments, participatory media, collaborative creativity. These are all terms in the rapidly expanding lexicon of the field of ‘user-led innovation’. Central to each term is a common concept – that of the co-operative active user. Digital technologies are making it possible for audiences to cease being merely passive consumers of media and, as well, become active producers. Consumers now play a role in the design and marketing of goods, with ‘lead users’ contributing to product innovation. Commercial owners of immersive virtual environments are handing over the design and development of the spaces to users who retain the intellectual property rights to their creations.

These developments represent the beginnings of what is shaping up to be an immense and enduring shift in the relational patterns encompassing the production and consumption of culture, goods and services. It is a shift with major implications for the ways in which the media sector operates. The traditional linear one-to-many broadcast model is coming under increasing pressure as audiences collaborate to produce content for themselves, and for each other, and devise their own ways to connect with, and to distribute what’s relevant to them. The emerging and evolving new models – there are many of them – are changing the power relationships between producers and consumers. Media professionals, like business people and marketers, have to be open to the changed values of audiences and customers who are demanding a voice and a role in the design, production, distribution and marketing chain.

The intelligence contained in this research by Darren Sharp and Mandy Salomon is critical to those of us who are seeking to understand the reshaping and convergence of our economy, culture and society. Their interviews with thought leaders in the fields of ‘user-led innovation’ and ‘participatory culture’ reveal how creative and technologically empowered consumers and audiences, along with a new class of savvy and responsive private and public sector operators are, together, seeing the possibilities, cracks and opportunities to create economic and cultural value in new ways. These people regard themselves as part of a new emerging economic and societal framework that has the potential to give them more control over their lives, which is not only empowering, but also infectious.

Since its beginnings in 2001, *Smart Internet Technology CRC* has been a leader in researching and understanding the shifting social uses of emerging communication technologies. Because social research of this nature is so important to the future of all sectors of the Australian economy, it is particularly pleasing that government, university and industry funding will be made available through to 2014 to enable the evolution of *Smart Internet* into the *Smart Services CRC* to focus on the development of high value mobile and online services across key media, finance and government sectors.

*Tony Walker,
Manager ABC Digital Radio
October, 2007.*

Introduction

It has never been easier for people to tell their own stories, express their creativity, and form communities of passion. A range of Do-It-Yourself Web-based services now give any user with access the ability to become a producer in a variety of social fields. The Web has become the habitat for a new services ecology that is remarkably complex, adaptive, and self-organising. At the heart of these fundamental changes are the shifting value networks of knowledge production, distribution and consumption that have come to be known as ‘user-led innovation’. These shifts are disrupting entrenched power structures, re-defining long-held economic assumptions, and providing opportunities for new terms of engagement between service providers and their user communities.

User-led innovation is transforming the way many organisations develop new products, services and knowledge. Service-based organisations in particular can benefit from leveraging the participation of their audiences, customers and citizens. Today’s consumers have much greater input into the creation and dissemination of the products and services they consume. User-generated content in the form of blogs, wikis and social networks pose a challenge to mainstream media’s monopoly role in the production, aggregation and distribution of cultural content. Open Source software, virtual worlds and media-sharing communities are at the forefront of new modes of user-led innovation that unsettle established boundaries between producers and consumers. Such communities provide CRC partners with valuable insights into new innovation models and forms of knowledge discovery.

As was the case with earlier media epochs, the present new media environment is often characterised as a struggle between contending forces of top-down control and bottom-up anarchy. Henry Jenkins, Director of Comparative Media at MIT has discussed this in terms of two contradictory trends shaping the current media landscape: the concentration of media ownership and the rise of ‘participatory culture’.³ While the idealism for authentic user empowerment holds genuine potential, in many cases it is tempered by the corporate pragmatism of limited licensing agreements, terms of service obligations and intellectual property arrangements that keep a firm leash on user-created material.

The media and entertainment sectors have begun to embrace the ‘participatory culture’ movement on their own terms by introducing initiatives aimed at appealing to the public’s seemingly insatiable hunger for user-generated content. Established news providers have responded to trends in citizen journalism by encouraging members of the public to upload pictures and video to sites like ‘You Witness News’, developed through a strategic partnership between *Reuters* and *Yahoo*. In 2005 the *BBC* launched the ‘Backstage BBC’ website which provides tools to enable amateur software developers to create Web application hybrids known as ‘mashups’ using *BBC* content.⁴ *Penguin Books* boldly invited budding writers to contribute to the ‘A Million Penguins’ project, a collectively authored wikinovel experiment that tested the power of peer collaboration to create a work of creative fiction.⁵

Hollywood has generally been slow in adapting to changes in user behaviour and technosocial innovation, but *New Line Cinema*, makers of cult horror film ‘Snakes on a

Plane', did a quick about-face when the studio reinstated the film's popular B-grade title in response to immense backlash from fan communities across the Web.⁶ The advertising industry experimented with user-led media when four consumer-created advertisements were shown during the 2007 Super Bowl; the first time such amateur ads were broadcast during the globally televised event. User-generated content is big business and giants of the social media world like *YouTube*, *MySpace* and *Wikipedia* consistently round out the top-10 most visited sites on the Web.⁷ Research analysts with the US investment banking firm *Piper Jaffray* have called this a 'User Revolution' and predict that half of all content will be user-generated over the next 10 years, with global online advertising spending estimated to increase from \$32 billion in 2006, to over \$80 billion in 2011.⁸

Distributed Capitalism

User-generated content represents just the tip-of-the-iceberg of deeper structural changes wrought by the advent of participatory culture which has the potential to reshape our economy and society. Beyond the fervent production and diffusion of videos, blog posts and photos through social networks, user-led developments encompass a much wider field of collaborative practices and production processes. While the creation and sharing of digital media is the most visible of user-led activities, other forms of 'citizen product design' are catering to people's desire for personalised consumer goods.

Notable examples of user designed physical goods include *Threadless*, a Chicago-based company that solicits t-shirt graphics from its customers, produces the most popular designs, and then sells these via its website.⁹ Boutique shoemaker *John Fluevog* provides customers with similar forms of creative engagement through its 'Open Source Footwear' initiative. Customers submit new shoe designs which are then chosen through peer voting and are vetted for manufacturing feasibility.¹⁰ Danish toy manufacturer *Lego* became a champion of user-led innovation after discovering that users were hacking its popular 'Mindstorms' robot kits. The company re-positioned itself by establishing the 'Mindstorms User Panel'; an elite group of volunteer 'lead users' that were recruited to co-create new toy designs and test working prototypes.¹¹

Lower barriers to entry and higher levels of media literacy enable more people to use the Web as a platform for a range of everyday practices, leading to the emergence of new participatory systems of production, distribution and consumption. This new innovation model has been facilitated by the creative practices of professional amateurs (Pro-Ams) who are developing an ever expanding range of business and social applications.¹² The blurring of producer and consumer roles is changing the way companies innovate and gives users a much greater say in product and service design. Such developments problematise long-held assumptions about the distinct separation between production/consumption, work/leisure and professional/amateur.

Throughout most of human history people have relied on small scale production of the goods necessary for housing, farming and survival. Pre-industrial towns and villages were home to both professional artisan guilds and lay craftspeople who specialised in creating all manner of items including tools, furniture and clothing. The advent of the Industrial Revolution saw the rise of a globally-integrated market and a mass production system led by transnational firms that relied on mass consumption in order to maintain profitability. This producer-centric approach became the dominant model of economic organisation and was based on the assumption that innovation was the exclusive domain of global companies, advanced R&D labs and elite universities.

For much of the 20th century business operated on an enterprise logic of ‘managerial capitalism’ which maintains that value is created by organisational producers and is stored inside the products and services they sell.¹³ According to Zuboff and Maxmin, this conventional model of innovation is being re-written as people construct new forms of identity based on self-determination, aided by advanced information and communication technologies. Furthermore, the desire for individual empowerment and personal expression is creating a new form of ‘distributed capitalism’ which necessitates distributed production, ownership and control. This new capitalism is based on relationships of trust and support that are reorganising business processes and in turn subsuming the old ‘command-and control’ managerial system.¹⁴

Managerial Capitalism	Distributed Capitalism	
Mass Consumption	Support Networks	Enterprise Logic
Transactions	Relationships	Economic Model
Hierarchical	Collaborative	Coordination
Products and Services	Individuals	Source of Value
Material Acquisition	Self-determination	Individual Objective

Adapted from Zuboff and Maxmin (2002). *The Support Economy*.

One of the most important and successful forms of distributed capitalism in action is the Open Source software movement. The brainchild of Finnish university student Linus Torvalds, Open Source emerged out of his pioneering efforts to develop a sophisticated feedback system of network-enabled collaboration, culminating in the Linux operating system. Torvalds wrote the Linux code in conjunction with thousands of other keen co-developers, laying the groundwork for future Open Source projects. This created an ingenious process for software development that utilised the ‘collective intelligence’ of other users, and harnessed the power of distributed knowledge production, transfer and exchange.

The evolution of the Open Source model has become a powerful lesson in how innovation can arise when users are given open access to the building blocks of a system, and are encouraged to collaborate on its development with their peers. Eric S. Raymond employs the metaphor of *The Cathedral and the Bazaar* to illustrate the contrasting development models of proprietary software to that of Open Source software.¹⁵ The former typically involves a privileged group of developers working in isolation, and never releasing the source code to the public; while the latter relies on open cooperation between unknown groups of peers to distribute the code and complete specific tasks.

Open Source software is responsible for running the Web through what’s known as the ‘LAMP’ software stack comprising the Linux operating system, Apache Web server, MySQL database and PHP programming language. Open Source has also been embraced by the consumer market, with *Mozilla’s* popular ‘Firefox’ Web browser holding nearly 30% of market share across Europe in mid-2007.¹⁶ The Open Source software model, its related philosophy and licensing agreements, have been the single most important catalyst for the user-led movement, and provided inspiration for numerous other projects.

User Innovation

The current reorganisation of managerial capitalism and the related changes to its industrial production system was foreseen in the 1970s. Futurist Alvin Toffler was one of the first to identify this transformation and coined the term ‘prosumer’ to denote a coming shift from passive to active consumption as mass production made way for an era of mass customisation.¹⁷ These concepts have garnered a great deal of recent media attention through a raft of umbrella terms including ‘Web 2.0’,¹⁸ ‘Generation C’,¹⁹ and ‘crowdsourcing’.²⁰ Each of these neologisms incorporates a new category of social practice by which consumers participate in the production of the products or services they consume; often, but not always, in collaboration with their peers.

Eric von Hippel, Professor of Management and Innovation at MIT, has explored these practices using his notion of ‘user-centred innovation’. His empirical research shows that ‘lead users’, both firms and individual consumers, are at the leading edge of the market and develop novel products with wider customer appeal.²¹ Information Technology has certainly made these processes easier to facilitate but von Hippel’s work predates the Web, to reveal that user innovation has been applied to many activities over decades in a variety of specialist fields, including scientific instrumentation, engineering, and semiconductor equipment assembly.²² These user-centred innovation processes bring benefits in terms of commercialisation opportunities and new forms of community engagement.

Eric von Hippel: users at the leading edge of innovation

Historically the assumption has been that manufacturers are the innovators, they go and they look at users, understand what they need and then develop something in response. We then went and looked at the histories of innovation and found out that very often, very commercially successful products actually had been developed by users at the leading edge of a market-based trend first. So it appeared that in fact innovation was user-led, which means that the users actually develop prototype products and show their value and use of what they really want.²³

Von Hippel developed the ‘lead user method’ as a means of finding cutting-edge uses for industrial and consumer products, and his techniques include the development of toolkits which aid tacit knowledge elicitation from lead users. User toolkits are heuristic (learning-by-doing) devices that enable manufacturers to outsource design tasks to users. Effective toolkits should allow users to learn through trial-and-error and provide user-designed products that are reproducible by the manufacturer.²⁴ Von Hippel’s lead user studies have been applied in a variety of industrial settings, notably by the adhesives company 3M, to surface unidentified product innovations with future market potential.

“Since lead users are at the leading edge of the market with respect to important market trends, one can guess that many of the novel products they develop for their own use will appeal to other users too and so might provide the basis for products manufacturers would wish to commercialize.”²⁵

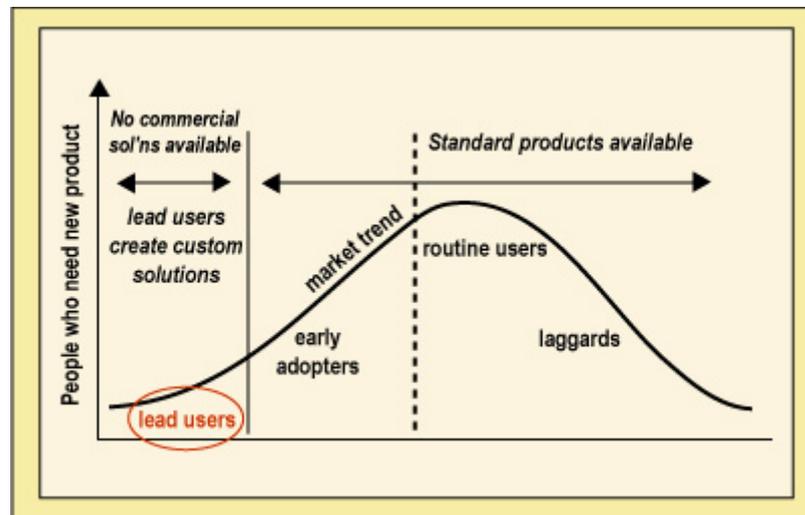


Image courtesy of Prof. Eric von Hippel and MIT OpenCourseWare.²⁶

During an interview for this project, von Hippel was asked why users are motivated to develop and modify products and services for their own use: “Because they can’t get from the manufacturers exactly what they want. And since its getting cheaper with user toolkits to develop things for themselves, they don’t have to make the compromises they used to make.”²⁷ User innovation has been commonplace for decades, as evidenced by the activities of generations of car enthusiasts and computer hobbyists, but the Web has made it much easier for user innovators to swap insights and gain faster feedback in their pursuit of further improvements.

People are also drawn to participate in user innovation communities for the personal learning that it brings along with the enjoyment of problem-solving.²⁸ Innovation by users can also increase the social welfare of a community by adding to the common pool of knowledge resources. As von Hippel explains: “If users will develop something for their own purposes and then reveal it for free, what you get is the cost of the innovation of the user doing it for himself. And then society has free innovations that they otherwise wouldn’t have which lowers everybody’s cost.”²⁹

This process provides benefits to both manufacturers and user communities through a combination of social rewards and economic cost reductions. Von Hippel defines this as ‘free revealing’, the process by which an innovator voluntarily releases proprietary information, giving all parties equal access to that IP, and thus turning it into a public good.³⁰ Free revealing by individuals wanting to share insights with their peers is commonplace, yet similar behaviour from profit-seeking firms can appear anti-intuitive, given the considerable investment required to develop commercial products and services.

Von Hippel shows that industrial innovators can gain many benefits from free revealing through reputation pay-offs, wider adoption and increased network effects.³¹ Companies can profit from giving away knowledge resources by creating new market segments, industry standards or service models as demonstrated by Open Source success stories like *Red Hat*, *IBM* and *Sun Microsystems*. Leading Web companies like *Amazon*, *Google* and *eBay* released the source code of their Application Programming Interfaces (APIs), which unexpectedly catalysed the user innovation of ‘mashups’ and the diffusion of virtual tools for the desktop called ‘widgets’.

The User-led Services Ecology

The user-led movement has been propelled by the sharing of code, data, content and platforms between service providers and users. Widespread convergence of participatory culture, DIY media, collaboration and open exchange, along with decreasing processor, bandwidth and storage costs, have all driven the development of user-led practices across a range of disparate fields. This is leading to the emergence of a post-industrial innovation system that brings with it new production processes, content models, service platforms and licensing agreements.

In contrast to various forms of market-based transactions, user-led practices encompass their own distinctive value systems, motivations and principles governing cooperative forms of social exchange.

This report identifies four ‘user-led niches’ which have become sophisticated enough in their own right to warrant further investigation. Each niche embodies a major driver of the new post-industrial innovation system in the present era of distributed capitalism. These drivers play an important role in shaping the future development of user-led services, and comprise their own unique internal logic, economic model, source of value and objective.

The four user-led niches identified are:

- **Social Currency Niche**
- **Collaborative Niche**
- **Extractive Niche**
- **Hybrid Niche**

User-led Services Ecology

Social Currency

IL: Sharing
EM: Aggregation
SV: Attention
OB: Connection

Collaborative

IL: Self-organisation
EM: Gift Economy
SV: Openness
OB: Quality

Extractive

IL: Appropriation
EM: Commodification
SV: Free Labour
OB: Ownership

Hybrid

IL: Mutualism
EM: Reciprocity
SV: Symbiosis
OB: Co-creation

Niche

Niche

Niche

Niche

Legend

IL = Internal Logic
EM = Economic Model
SV = Source of Value
OB = Objective

Social Currency

When the social networking site *MySpace* started to gain popularity in 2004, parents, educators and community leaders began wondering why their kids were spending so much time online. Were they using social networks to avoid doing homework, flirting with that boy Mum didn't approve of, or engaging in any number of untold mischievous activities? There's no doubting some combination of the above rings true, but the real reason millions of young people were spending hours a day on *MySpace* was for the music; not just the music, but the bands that used the platform to communicate with their audience. Young fans flocked to the site in their millions, and in the process, helped reinvent the music business for the 21st century.³²

Bands have always had a symbiotic relationship with their fan base, especially the passionate, committed minority who promote their music, merchandise and tour dates through their social networks. *MySpace* co-founders, Tom Anderson and Chris DeWolfe had the insight to create a digital environment in which bands could post their music and also let fans form communities of interest around their favourite artists. Following its success, the site's parent company *Intermix Media* was purchased by Murdoch's *News Corporation* for US\$580 million in July 2005. Social currency sites like *MySpace* have been largely successful by enabling users to share tidbits of media, popular culture and user-generated content with their social network.

Media theorist Douglas Rushkoff has written extensively about how media – jingles, narratives and images – are a form of social currency that work to 'break the ice' in social interactions. As he writes: "Social currency is like a good joke. When a bunch of friends sit around and tell jokes, what are they really doing? Entertaining one another? Sure, for a start. But they are also using content -- mostly unoriginal content that they've heard elsewhere -- in order to lubricate a social occasion."³³ Rushkoff argues that all content is a potential medium through which social interaction can occur. People consume products and services as a means to renew social bonds within their communities. For media to succeed as social currency it must have the capacity to be shared with other people.³⁴

Community	Social Currency
MySpace	Music
Flickr	Photos
YouTube	Videos
Delicious	Bookmarks
Boompa	Cars
Sneakerplay	Sneakers
Dogster & Catster	Pets

Platforms that facilitate the friction-free exchange of social currency are an integral part of the ‘User-led Services Ecology’ because they provide an important means for people to connect with friends and form ad-hoc communities with like-minded peers. Millions of users have embraced media-sharing platforms to exchange bite-sized clips on *YouTube*, photos on *Flickr* and bookmarks on *Delicious*.³⁵ Beyond enabling users to share their user-generated creations, these platforms also give people the opportunity to publicly articulate important markers of social status like taste, style and niche expertise. Social currency can take many forms, and the media shared can include everything from cars, collectables and sneakers, to jobs, sports and pets.

Jyri Engeström: The case for object-centred sociality

Finish ethnographer Jyri Engeström has raised serious doubts about the usefulness of reducing social networks to the task of relational mapping between individuals. He defends an alternative approach to social networks called ‘object centered sociality’ which takes inspiration from the work of sociologist Karin Knorr Cetina. Engeström argues that social networking services that don’t provide a space for the exchange of ‘social objects’ put themselves at risk of irrelevance. He writes: “Social networking makes little sense if we leave out the objects that mediate the ties between people. Think about the object as the reason why people affiliate with each specific other and not just anyone. The fallacy is to think that social networks are just made up of people. They’re not; social networks consist of people who are connected by a shared object.”³⁶

The ability to share media is driving some of the biggest changes to the media and entertainment sectors, as many-to-many platforms subsume traditional one-to-many models. The combined effect of *YouTube*, Personal Video Recorders (PVRs) and peer-to-peer (p2p) downloading through ‘BitTorrent’, is fragmenting media audiences, and eroding the relevancy of broadcast media. Successful social media companies face the challenge of finding sustainable ways to make their popularity financially viable. So far business models have achieved mixed success and generally revolve around aggregating the attention of users and selling this to advertisers.

Michel Bauwens: the sharing economy

Social media businesses play an indispensable role in connecting people with common interests according to Michel Bauwens, founder of the *Foundation for Peer to Peer Alternatives*. For Bauwens the ‘sharing economy’ does not function through conscious cooperation but relies on people forming weak links, as most new information is received from people outside one’s close personal network. As he notes: “It’s very difficult to create a shared infrastructure by yourself, so that void is taken up by proprietary platforms that empower users to participate in this sharing. These platforms are non-monetary; people participate for the pleasure of sharing. Then you can monetise the site by bringing in advertising so that you can fund the platform and make it profitable.”³⁷

Collaborative Production

In his seminal work, *The Wealth of Networks*, Harvard Law Professor Yochai Benkler outlines the present shift taking place from an ‘industrial information economy’ towards an emerging ‘networked information economy’. Until very recently the information and cultural sectors required huge capital investments in communication technologies to create and distribute its artefacts. These physical constraints placed a ‘scarcity model’ on information and cultural production more akin to the industrial model for material goods. The democratisation of ICT has given over one billion people access to the means of information and cultural production, enabling decentralised individual action, and creating a completely new networked communications environment.³⁸

These changes have facilitated the emergence of what Benkler calls ‘commons-based peer production’, which he defines as “the practice of many people collaborating on producing information, knowledge and culture without relying on price signals or managerial commands.”³⁹ He suggests such ‘peer-production’ networks represent a ‘third mode of production’ that takes place beyond the market and the firm.⁴⁰ The most successful examples of peer production are Open Source software projects such as *Mozilla*’s ‘Firefox’ and the collaboratively produced encyclopedia *Wikipedia*.

Yochai Benkler: from competition to facilitation

It all revolves around changing from the conception of the person who used to be the consumer as a participant in the production system. They become the user of a production platform instead of the user of an end product. They become a cooperative supplier; they become a prosumer who adds value on a much more flexible platform instead of a lower value special purpose platform. Market value develops around not trying to squash these new modes, but instead trying to accept them as new social practices that people value, around which then business can wrap for themselves a facilitation model instead of the competition model.⁴¹

People are motivated to participate in peer production projects for a range of social-psychological reasons and nonmarket rewards, including social standing, esteem and recognition.⁴² These communities are self-organising in the sense that individual actors self-select the tasks they undertake, and do so cooperatively for the purpose of adding to the collective pool of knowledge. Benkler suggests that for peer production projects to succeed they must be modular, in the sense that they can be broken down into independently produced components; and granular which refers to small modules that require minimal time and effort of its contributors.⁴³

Granularity is important because the success of large-scale collaborative projects is predicated on the fine-grained nature of the modules under development. The smaller the modules, the larger the number of voluntary user contributions which can be drawn into the project, as less time and effort is required to participate. As Benkler stated during interview: “The implications are in some sense economic because it allows us to pool insight, wisdom and time from people - who

otherwise wouldn't be able to engage because they would be engaged elsewhere - in small increments, from very large communities...while at the same time creating a sustainable system of production that can respond to much more intensely felt social needs than to market signals or political power."⁴⁴

The 1% Rule: Recognising Participation Inequality

It's a well known fact that user-led platforms have exceedingly higher numbers of site viewers than contributors. Charles Arthur writing in *The Guardian* referred to the '1% rule' in reflecting on metrics showing that in 2006 *YouTube* was streaming 100 million videos per day while receiving 65,000 video uploads.⁴⁵ Usability guru, Jakob Nielsen, refers to this as 'participation inequality' and shows that user participation generally follows a 90-9-1 rule: "90% of users are lurkers; 9% of users contribute from time to time; and 1% of users participate a lot and account for most contributions."⁴⁶ This has been confirmed by Angela Beesley, *Wikimedia Foundation* Chair, in a sample taken across all 'Wikia' sites in November 2006.⁴⁷ Nielsen acknowledges that participation inequality is inevitable but suggests ways to blunt its effects including: making it easier to contribute; making participation a side effect; letting users build their contributions by modifying existing templates; rewarding people for contributing; and promoting quality contributors.⁴⁸

Users are collaborating on a wide range of projects through global networks to 'co-create' all manner of products, services, and knowledge via the Web. Scholarly endeavours like the 'Open Source Biotechnology' initiative have embraced the principles of collaborative production to advance the practice of biotechnology R&D.⁴⁹ Distributed production has moved beyond the realm of software and is being used to further the development of hardware in the material sphere. German Internet consultant Markus Merz founded the 'OScar project', an ambitious experiment to design and manufacture the world's first Open Source car.⁵⁰ A group of students at the *IT-University* in Copenhagen created an 'Open Source Beer' allowing anyone to use the recipe as long as they agree to publish it on the bottle so that other budding brewers would have the freedom to improve it.⁵¹

Collaborative production projects are generally 'commons-based', meaning that resources like code, infrastructure and knowledge are freely available to the entire community. The concept has its roots in community sharing of physical resources that are held in common like forests, pastureland, irrigation channels and fisheries. Howard Rheingold uses the example of the World Wide Web to remind us that 'commons-based' initiatives are the bedrock of future innovation by providing 'platforms for cooperation' that enable entrepreneurs, the market and society at large to create opportunities for mutual benefit and advantage.⁵² Yet the future success of these platforms remains at risk from legislation that gives market forces the power to fully enclose the 'information commons' through punitive copyright and intellectual property mechanisms.

The collaborative production model first pioneered by the Open Source community has been successfully employed by *Wikipedia* to leverage a global community of volunteers to co-create a vast stock of knowledge, protected under the ‘GNU Free Documentation License’.⁵³ The wiki technology itself was invented by Ward Cunningham in 1995 as an Open Source collaborative Web protocol which could be directly edited by anyone with access.⁵⁴ It remained relatively unknown until Jimmy Wales applied it to his struggling *Nupedia* project to create the open-edit encyclopedia now known as *Wikipedia*.

Containing approximately eight million articles in 253 languages, over two million of which are written in English, *Wikipedia* is now the largest and most extensive encyclopedia in human history.⁵⁵ In discussing *Wikipedia*’s governance model, Wales has said that it works by a confusing but workable mix of: consensus (minority views count); democracy (but not usually simple voting); aristocracy (those who have built respect in the community have greater sway); and monarchy (‘benevolent dictator’— someone to make a decision when it needs to be made).⁵⁶

Many peer production projects have benefited enormously from the Creative Commons (CC) project, a new licensing framework that broadens creative boundaries for numerous forms of cultural production. Established by Stanford professor Lawrence Lessig and his supporters, Creative Commons provides protection within the framework of domestic copyright legislation but adds new provisions to meet the demands of today’s user-generated industries. CC licenses facilitate relatively friction-free sharing and remixing of user-generated material on popular media-sharing platforms like *Flickr*, *Revver* and *blip.tv*. It has also spawned a raft of related ventures including ‘Science Commons’, an initiative to provide easier access to scholarly literature and ‘ccLearn’ which minimises barriers to the sharing and re-use of educational resources.⁵⁷

Siva Vaidhyanathan: Wikipedia on guard over copyright

I think the basic systems work rather well with Wikipedia. It’s thriving within the copyright system in a way because it’s smartly designed so that the copyright system doesn’t run over it – but there’s always a chance. I have a sense that the Wikipedia community is constantly on guard for the one lawsuit that will bring it down because somebody posted too much copyright material in a particular area. And we could see something like that bring down something as beautiful – and important – as Wikipedia.⁵⁸

The Extractive Economy

A number of companies have attempted to jump on the user-led bandwagon without paying adequate attention to rewarding the contributors of user-generated content. Organisations taking the plunge into user-led services often take a rear-view of the present and “march backwards into the future”, to quote McLuhan.⁵⁹ Stubborn adherence to industrial models of property ownership has led to an over-emphasis on stifling legal mechanisms and an adversarial approach to customer engagement. These poor strategic decisions risk alienating users from the cultural production process and have the potential to cause unnecessary rifts between service providers and their attendant communities.

Such lapses in judgment are understandable given these new dynamics require a redefined approach to stakeholder management that genuinely address the complexities of dealing with empowered customers, audiences and citizens. The transparency of Web 2.0 along with the ‘perpetual beta’ state of many services mean that offensive provisions that unfairly constrain user experience take place in full view of a very scrutinising public.⁶⁰ Service providers’ blatant exploitation of user communities can work to disrupt ongoing user participation and damage the trust required for the continued co-creation of content and viral diffusion of cultural goods via social networks.

‘Star Wars’ Empire Strikes Back: The Revenge of the Silk

In July 2007 ‘free culture’ advocate Lawrence Lessig wrote a piece in *The Washington Post* about *Lucasfilm*’s announcement that it was giving ‘Star Wars’ fans the chance to ‘remix’ clips from the series with their own user-generated content. *Lucasfilm* took the decision to use an existing Web platform called *Eyepot* that enables users to easily create ‘mashups’ of music and video content. Lessig points out that *Eyepot* technology typically gives users the rights to own their creations. *Lucasfilm* then decided to strip ‘remixers’ rights and grant itself exclusive commercial rights with no user compensation. Put in Lessig’s terms: “The remixer becomes the sharecropper of the digital age.”⁶¹

The worst conceivable fears of corporate take-over and imagined loss of user autonomy were realised when Rupert Murdoch purchased *MySpace* in mid 2005. As was the case with other social networking services, *MySpace* began life as a consumer marketing vehicle. But the acquisition still came as an unwelcome surprise to the sites youthful and unwieldy community, many of whom were suspicious of the media mogul’s perceived conservative agenda. The first major sign of trouble came in 2006 when English musician Billy Bragg withdrew his songs from *MySpace* in protest of the site’s terms and conditions which gave *News Corporation* the right to reuse his music without any remuneration.⁶² The company was subsequently persuaded to change its user agreement and renounce all ownership rights to users’ material within a week of Bragg writing a letter of objection to *Music Week*.⁶³

The capacity for platform owners and publishers to appropriate all forms of user-generated content residing on their network, without appropriate sharing of rights or user compensation,

remains a cause for concern. But there is no denying that innovators have the right to protect their work through intellectual property arrangements. Yet von Hippel's work on user-centred innovation has shown that onerous intellectual property and copyright provisions have an 'innovation discouraging effect' on the 'free revealing' of ideas by user innovators.⁶⁴ Protecting the integrity of the 'information commons' remains a sustainable strategy to overcoming these roadblocks, as the discussion on collaborative production communities has demonstrated.

The user-led landscape is littered with examples of companies having taken the wrong approach by seeking the benefits of 'free revealing' while treating user innovators with contempt. The computer-hardware company *Dell* found success in the mid 1980s through the custom-assembly of PC systems. Michael Dell's return in 2007 to the company he founded brought with it the vision for a renewed 'Dell 2.0' strategy that sought to leverage customer involvement in product design. This saw the launch of a new initiative called 'IdeaStorm', a *Dell* platform giving customers the opportunity to post new product and service ideas which are then collaboratively filtered by the community.⁶⁵ It didn't take long for the blogosphere to find fault with 'IdeaStorm's' terms of service license which grants *Dell*, "a perpetual, irrevocable, non-exclusive fully-paid up and royalty free license", to use any ideas submitted by the user community.⁶⁶

Such practices have spawned condemnation of these platforms from certain cultural critics who denounce the commodification of social relations, and what they view as the appropriation of 'free labour' under the guise of user empowerment.⁶⁷ Companies relying on legal and technological fixes to extract user creativity for purely self-interested purposes expose themselves to user migration. New players are entering the market with a focus on providing user innovators with a better mix of commerce and community.

John Howkins: Current IP regime stifles user innovation

I think the major legal problem is the uncertainty we have about knowing whether the stuff we use is ours to play around with, or whether it is other people's stuff. We don't know what the parameters are or what we have to operate within. We suspect we are infringing someone else's rights; we don't know who the person is; we don't know how much money he wants. There's an absence of any easy quick licensing protocol in the user and creator's position. There's a tendency to believe that intellectual property in an absolutist way is a good thing; that isn't the case. That mindset is hanging onto rights for longer, more completely. The current intellectual property regime procedures and conventions are certainly hurting user-consumer innovation and creativity. It is not at the moment hurting the existing publishers or film studios.⁶⁸

Hybrid Platforms

Shortly after American adventurer Steve Fossett went missing while flying his single-engine plane over western Nevada, *Amazon* produced a ‘Help find Steve Fossett’ site to leverage the ‘collective intelligence’ of the concerned public.⁶⁹ Good Samaritans were invited to search for Fossett’s airplane using detailed satellite imagery of his last known whereabouts. The Fossett site used *Amazon’s* ‘Mechanical Turk’ (MTurk) web service; named in honour of the 18th century mechanical chess-playing automaton that was later discovered to be a hoax.⁷⁰ *Amazon’s* ‘MTurk’ is a user-led marketplace that pays people for completing ‘Human Intelligence Tasks’ deemed too difficult for computers, such as finding objects in pictures, translating text or writing product descriptions. While contributors receive only a few cents per task completed, ‘MTurk’ is among a new breed of hybrid platforms that seek to reward user participation through a range of incentives.

YouTube has become synonymous with user-generated video and makes money by aggregating the attention of its users which it sells to advertisers. Other market entrants have developed alternative business models in attempts to differentiate their service offerings from competitors by rewarding both popular content creators and their distributors. The viral video network *Revver* rewards video producers by pairing their content with targeted advertising, splitting the revenue 50/50 with the video creator, after paying 20% to distributors who embed the video through other web sites.⁷¹ *Ninemsn* has launched a re-badged Australian version of the *Revver* platform called *yourCut*.⁷² *Revver* claims to have paid over \$1 million to video producers and associated distributors in its first year of operation.⁷³

Recognising the benefits of this reciprocal economic model, *YouTube* announced a similar strategy to monetise user-generated video, but has taken a slightly different approach through its ‘Partners Program’, a revenue sharing arrangement squarely pitched at rewarding its top content creators like LonelyGirl15 and LisaNova.⁷⁴ Clay Shirky reminds us that power law distributions in social media result in a small number of people generating a disproportionate amount of attention.⁷⁵ *YouTube’s* ‘Partners Program’ clearly caters to this small group of ‘A-list’ video producers that bring in large amounts of traffic. In October 2007, *Google* also revealed a new ad-sharing service called ‘Video Units’; a customisable video player that enables both ‘AdSense’ publishers and content partners to earn money from *YouTube* videos through targeted advertising.

Hybrid platforms have emerged as a response to the shifting value networks of production, distribution and consumption that are characteristic of user-led innovation. Users have become important actors through which value is created, and many organisations are beginning to recognise their customers, audiences and citizens as key stakeholders in the co-creation of services, content and platforms. As Hemetsberger observes, this requires companies to become facilitators of new practices: “A company’s role should no longer be limited to providing products and services. Success – under these circumstances – rather becomes a question of designing a system of inherently joyful and challenging activities and tasks within which consumers can create their own value embedded in a common purpose.”⁷⁶ The move by many organisations towards user-led services reflects the changes that have come about due to the distributed nature of production, ownership and control in a networked-enabled world.

P&G's Distributed Innovation Gamble

In 2000, consumer goods giant *Procter & Gamble* (P&G) lost half its market capitalisation when its share price fell from \$118 to \$52 due to “nimble competitors, flattening sales, lackluster new launches, and a quarterly earnings miss.”⁷⁷ With lagging R&D productivity and the need to sustain steady growth of 4-6% per year, new CEO A.G. Lafley took the radical step of transforming P&G's innovation model from one of internal invention, to the goal of acquiring 50% of innovations from outside the company.⁷⁸ To achieve this, P&G created the ‘Connect + Develop’ innovation model as a means of sharing insights with other companies, entrepreneurs and individual inventors. This strategy has led to the profitable development of new products like ‘Pringles Prints’ and the ‘Mr. Clean Magic Eraser’. P&G encourages collaboration with outside inventors and engages them through a combination of IP sharing, licensing agreements, and technology acquisition.

Hybrid platforms still face many challenges in dealing with user innovators, including issues surrounding data sharing and commercialisation. Many Web companies now publicly release their Application Programming Interfaces (APIs), and third-party developers have taken the liberty of access to this data as an opportunity to create innovative hybrid Web-apps called ‘mashups’. In most cases the data sources available have non-profit clauses and traffic limitations that prevent any serious business models from emerging. Mashup creators’ revenue streams have been hampered by the small sums available through ad hosting, lead generation and affiliate programs.

In May 2007 the social networking utility *Facebook* launched its own Web-apps platform to leverage innovation from external contributors and outmaneuver the competition. Unlike mashup creators, developers of popular *Facebook* ‘apps’ like ‘Foodfight’, ‘Likeness’, ‘Picnik’ and ‘Amazing Giftbox’, have been given the chance to properly monetise their creations through advertising, direct selling and sponsorship deals. *Facebook* is also seeking to disrupt rival *MySpace* by sharing sensitive user data like age, interests and friends with developers, in the hope of creating more targeted applications.⁷⁹

But *Facebook* might have to re-think its approach to handling user data, especially following the launch of its ‘social advertising’ strategy, with privacy being such a mounting concern within the community.⁸⁰ *Microsoft*'s \$240 million investment in the platform, along with demands for greater user control of the ‘social graph’ and future support for user-centred digital identity initiatives like ‘OpenID’, could potentially ignite sustained user backlash.⁸¹ *Google*'s launch of the ‘OpenSocial’ platform, an industry alliance to create a shared standard for social network application developers, could also threaten *Facebook*'s continued success.⁸²

Jimmy Wales: give your audience a home to call their own

We are becoming a more participatory culture. We can see the emergence of more participatory media which is going to have a large impact on broadcast media. As broadcast media breeds broadcast politics, participatory media breeds a more participatory politics. There are a lot of ramifications that I don't think any of us really understand very well yet. I think the organisations that will be successful going forward will be the ones that adopt a hybrid model where they look at their operations and realise there are some things they do well and other things the community could do better. Any media business who takes the ostrich approach with their head in the sand will miss opportunities for user-led innovation. If you look at newspaper websites and start thinking about communities, about as far as we've gotten in that area is letting the public hang around and make some comments or send in letters to the editor in a more voluminous way than in the past. But we haven't yet seen a lot of really bold experiments that let the users build the site with the owners. The idea of saying we're still here, we're still in charge but we're going to let the public come in and start living here with us is the right way forward.⁸³

Users contribute their knowledge, expertise and skills for a range of different incentives. Some hybrid platforms like the Korean news site *OhMyNews* reward its citizen journalists with cash payments of between \$2 to \$20 per article or photograph.⁸⁴ The question of paying user contributors remains vexed due to issues surrounding value, quality and equity, along with the inability to measure the extent to which social drivers motivate people to participate in these platforms. This very issue created a storm when outspoken Web entrepreneur Jason Calacanis attempted to create a market for user-generated content by offering to pay the top *Digg*, *Reddit*, *Flickr* and *Newsvine* contributors \$1,000 per month to post their editorial suggestions to his *Netscape*-backed social media news clone.⁸⁵

The move spurred a debate between technology blogger Nicholas Carr and Yale Law Professor Yochai Benkler. Carr came out in defense of Calacanis and suggested that user-generated sites do not represent a new means of production, and only rely on volunteer participation because a price system had yet to take shape in these emerging platforms.⁸⁶ Carr and Benkler then made a polite bet on whether by 2011 social media sites like *Digg* and *Flickr* will be driven by mostly paid or unpaid labour, which has come to be known by Web watchers as the 'Carr-Benkler wager'.⁸⁷ In the meantime Jason Calacanis's *Digg*-clone and bold bid to attract elite social media taggers failed, and he later resigned from *Netscape*'s parent company *AOL* to pursue other interests.

Digital games are on the frontline of user-led practices with legions of gamers playing an integral role in the ongoing development of these environments. Such 'player-creators' co-create artwork, gameplay and characters, or remix game assets to make machinima movies and game modifications, albeit with varying degrees of support from the publishers.⁸⁸ Will Wright's successful life-simulation game *The Sims*, gives players tools to create and trade their own custom objects; this has driven huge network effects and resulted in over 90% of *The Sims*'

content being user-generated.⁸⁹ *Sony* is seeking to capitalise on these trends in ‘emergent gameplay’ with the forthcoming release of *LittleBigPlanet*, a new PlayStation 3 game which provides simple toolkits for players to collaboratively develop new levels that can be shared with peers via the company’s online gaming community.⁹⁰

While not a game, the virtual world *Second Life* represents an important new breed of hybrid platform through which to explore these dynamics. *Second Life* completely relies on its residents to create their own content within its 3D environment, but unlike other virtual worlds (*The Sims*), this content remains the intellectual property of its creators. User-generated content in *Second Life* includes everything from simple items like clothing or avatar accessories, to incredibly rich and detailed environments known as ‘islands’. As Mandy Salomon’s *Second Life* case study will show, many organisations are entering virtual worlds to facilitate deeper audience, customer and civic engagement.

Hybrid platforms represent an important new wave of user-led services and have the potential to overcome some of the limitations identified in the extractive model which tends to elevate the appropriation and ownership of user-generated content above all other considerations. The rise of participatory culture gives this one dimensional strategy limited viability as users become key stakeholders of the products, services and content they co-create on a daily basis. User-led innovation is becoming a very powerful productive force in the economy, generating multiple forms of value that benefit both business and the wider community. Organisations considering strategies to engage the participation of their users must tread carefully in balancing institutional interests with the social needs of the communities and individuals involved. Or as Yochai Benkler eloquently puts it: “managing the marriage of money and nonmoney without making nonmoney feel like a sucker.”⁹¹

Introduction

The multi-user online virtual environment, *Second Life* (SL), created by *Linden Lab*, stands out as an instructive model of user-led innovation. The alpha version of the world began in 2002 with six ‘sims’ (a simulator equates a server) of un-formed land.⁹² Five years on, *Second Life* represents in excess of 712.60 square kilometres of land, about five times the size of San Francisco. Just 12 months ago, there were 650,000 registered users, but by October 2007 this figure had grown to 9.5 million (and counting). Around 10 % of these are considered to be active participants, with 35-45,000 logged-in at any given time.⁹³

Observers of virtual realms will be quick to point out that other 3D platforms have had similar or greater percentage growth. Hitwise reports that *Club Penguin*, aimed at the 6- to-14 age group, had enlisted 12 million users in its first two years, 2005-7, and grew by an astounding 329% from June ’06 to June ’07.⁹⁴ But what makes *Second Life* an obvious choice for a case study, is the level of user-led innovation that has ensued. According to *Linden Lab*’s Joe Miller, Vice President of Platform and Technology Development, in March 2007 there were over 35 terabytes of user-created content, many more events than can be tracked in a day, 520,000 unique items sold or traded per month, and 15 million concurrent scripts running at any given time. Moreover, the creative output of *Second Life* ‘residents’, as they are known, extends beyond the construction of objects. In *Second Life*, content is also expressed as *action*, underpinned by applications which allow for connectedness; the kind of Web 2.0 strategies which are redefining the way we engage with one another online, is embodied in the social and market driven activities of *Second Life* residents.⁹⁵

In fact ‘embodiment’ is a central theme in this study, as users are literally embodied, as avatars (digital personas), and are able to see themselves and others when they are ‘in-world’. *Linden Lab*’s CEO Philip Rosedale believes the single greatest attribute of *Second Life* is its sense of presence: “When you look at a web page, you are alone, when you go into *Second Life*, you are never alone”, he says.⁹⁶

A New Pathway to Community and Industry Engagement

Just how these two factors: *content creation*, where content is seen as both object and action, and *presence*, contribute to innovation, particularly in light of services, is the basis of the key research questions of this case study. Sharp makes the point that the dominant model of innovation in the 20th Century was “producer-centric”, and was “based on the assumption that innovation was the exclusive domain of global companies, advanced R&D labs and elite universities.” Clearly, the value in a study on *Second Life* is not only to observe user-led innovation, expressed as content creation, but also the opportunity to view such creativity as a pathway to new community and industry engagement.

Sharp also argues that “service-based organisations can particularly benefit from leveraging the participation of their audiences, customers and citizens.” *Second Life*’s compelling business

model is predicated on the active participation of residents which flow through all three sectors of Sharp's participatory net; being audience, customer and citizen simultaneously. In *Second Life*, the service provider and user work in concert; both groups being actors in an interdependent and mutually beneficial environment. *Linden Lab* acknowledges it could never have created all the rich complexity of *Second Life* by itself. User participation determines the shape and form of this synthetic universe. It is a social world, growing as its community determines it, buoyed by an in-world free market economy. *Second Life* provides a model case study of 'distributed capitalism', as discussed by Sharp, because production, ownership and control of the virtual world is shared between its multiple stakeholders.

What factors have driven user-led innovation?

In 1999, the advances in broadband, connectivity and graphics cards made it possible to create 3D environments. It was then that physicist Philip Rosedale left his job at *Real Networks* where he engineered audio streaming to pursue his idea of creating the 'metaverse': a synthetic world in which people could inhabit, construct, play, indeed do or make anything their imagination led them to. His idea was to "create digital atoms, and make a system in which all the tiny pieces could be recombined to just about anything... and then trust that if people could jump into this environment, that they could rapidly create a world."⁹⁷

Today, as CEO of *Linden Lab*, Rosedale freely admits that *Second Life* "barely works." "It's still hard to use 3D, the interface is awkward and it doesn't work on every computer", he told attendees at the 2007 Stanford Innovation Summit.⁹⁸ Even so, it has proven to be a compelling concept. Rosedale believes: "The thing that makes it grow is the success of individuals in two ways: being able to find and connect to each other and those individuals who are able to work together."⁹⁹

Second Life's rapidly expanding user base is intricately networked: firstly due to its architecture which integrates many Web 2.0 applications, and secondly because inherent in the platform are the scripting and building tools which allow users to customise and develop the world according to their own interests and needs. The third defining feature is that users maintain the intellectual property rights of any content they generate. This might range from a simple clothing object worn by an avatar to a complex environment within *Second Life* with embedded interactive and multimedia features.

These technosocial designs lie at the heart of innovative practice, embraced by both native and 'mixed reality' (where a physical world organisation migrates to the virtual) enterprises. According to Mitch Kapor, software pioneer, venture capitalist and *Linden's* chairman, the decision to hand creation of content over to users was a practical one. He recalled: "It was necessary because there was no way we were ever going to have the budget to hire artists and graphics people that game companies had."¹⁰⁰ He hastened to add that as early as 2000, Philip Rosedale, the CEO of *Linden* "also had just intuited before anyone else, the power of user-generated content."¹⁰¹

Over time the pragmatism of the company's decision was overpowered by the agenda of the user community itself. By 2004, it was estimated that one-third of the time users spent in *Second Life*, was spent actively creating content.¹⁰² *Linden* CTO Cory Ondrejka points to the decentralisation of the technology as an important economic factor, in that the scripting tools place decisions in

the hands of those who actually have the information needed to make the choice. *Second Life* shares this element with many Open Source and collaborative projects such as *Apache* and *Wikipedia*. Although personal skills vary, theoretically any resident in *Second Life* with an idea or need has the tools to create it. And many do. In September 2006, Ondrejka told the Austin Games Conference: “The idea that (SL) could be created by a centralised team is untenable. A different way of looking at it: 160,000 user hours per day and quarter of that time is creating content...If we had to pay them, we’d be paying users \$720 million to make content per year.”¹⁰³

Second Life differentiates itself from role playing environments such as *World of Warcraft* in that it is open-ended; there are no quests or top down game plans. However equally important is the difference in service provision. In traditional online game environments such as *World of Warcraft*, the proprietary rights of the developers are protected exclusively. Content, though refined and glorious in its execution, is impermeable and uneditable, at least in theory. Gamers must pay for the privilege of add-ons and expander packs or risk prosecution if they tamper with the code. *Blizzard*, the creators of *World of Warcraft*, state:

“You acknowledge and agree that you may not sublicense, assign or otherwise transfer this license or the Downloaded Content and that no title to the Downloaded Content has been or will be transferred to you from Blizzard Entertainment® or anyone else. You also agree that you will not alter, disassemble, decompile, reverse engineer or otherwise modify the Downloaded Content.”¹⁰⁴

Contrast this with *Second Life*’s ‘Terms of Service’ in which modifying content is encouraged, providing it is done within the stipulated copyright frameworks. *Linden* has also released the *Second Life* source code and has issued the right to modify and redistribute it under the ‘GNU General Public License’, issued by the Free Software Foundation.¹⁰⁵

Hackers have always found their way into games, seeking to modify or duplicate the content. Virtual properties, character accounts, currency, weaponry or engineered game items can be illegally procured, and rake in phenomenal figures for individual and corporate sellers in secondary markets. Such items increase a player’s power and enable fast entry into higher levels. In early 2007, games publishers succeeded in having *eBay* ban trade in virtual goods, but the black market is still thought to be worth multi-billions of dollars, with the centre of ‘gold farming’ operations emanating from China.¹⁰⁶ *Second Life* on the other hand, is a platform where user trade, barter and asset accumulation are essential to its participation and growth, and not surprisingly, the *eBay* freeze on virtual trades does not extend to it. The trading of goods and services in *Second Life* are routinely in excess of US\$1.1million over a 24 hour period.¹⁰⁷

The *Second Life* model highlights the dilemma faced by publishers of digitised products and online platforms: not only does banning users and attempting to block real world transactions criminalise and marginalise a large section of the user base; it also antagonises the innovative benefits that free markets and competition bring to economies. As Cory Ondrejka put it in his treatise on user-created content entitled *Escaping the Gilded Cage*: “By allowing those users to freely compete in open markets, developers allow innovation to provide tangible benefits both to the innovator and to the world itself.”¹⁰⁸

Embracing the user-led philosophy meant changing *Linden Labs*’ revenue model. *Second Life* got off to a slow start because, according to Mitch Kapor, the initial model was based on premium subscriptions. He noted that, “users expressed an interest in having greater control - and

the business model switched to land ownership, where land users could control their interests by acquiring property for a fee. It was at first an experiment which was quickly validated.¹⁰⁹

Today there are over 9,000 islands each representing 16 acres, used variously by educational institutions, government, real world businesses, virtual world enterprises and service providers, NGOs and individuals. (If you wish to construct items with permanence you need land on which to build and store it). Land parcels are subdivided by entrepreneurs, then developed and auctioned off, just as they are in the real world. Similarly, land in more desirable areas or with added facilities fetch a higher price. *Linden's* revenue stream comes from users who purchase unformed territory - in fact server space - for a fixed price. Once purchased, land holders pay 'Linden Dollars', a monthly maintenance fee, in the same way that internet users pay a service provider.¹¹⁰

Unlike game platforms, *Second Life* has no load limit. It is built to accommodate new content, which in turn is built upon, shared, traded and recombined by its user base, further escalating *Second Life's* growth and complexity.¹¹¹ With upwards of 12,000 simulators running at once, *Linden* has devised a dynamic, Linux-based, distributed grid system in which content passes from simulator to simulator without the user being aware of the transition. Users see their world as a continuous space and every user in the same place sees the same thing. There is a sense (when all is working as it should – and with lag times, grid overhauls and bugs, this is not always the case) of travelling seamlessly through the world.¹¹² *Linden* believes that *Second Life* cannot truly succeed as long as one company controls the Grid and recently confirmed that users now have access to the back-end protocols, giving them the ability to host their own servers.¹¹³ This furthers *Linden's* ambitions for *Second Life* to be a fully distributed 3D network, built on interoperability and independent of any one owner - a bit like the Web itself.

Second Life's Users

Who are Second Life's users?

Arguably, the real story of *Second Life* is not about the service provider or its technology, but the community of *Second Life* residents, and its ability to generate content. Joe Miller, *Linden*'s Vice President for Platform and Technology development summed it up succinctly at a virtual worlds' get-together in March 2007, when he said: "collaborative creativity is really the killer app."¹¹⁴

The average age of *Second Life* users is 33 years, with 43% being female. In terms of hours spent, men's and women's use is roughly even.¹¹⁵ In the early days of *Second Life*, nearly all users came from the US. Today, 60% of *Second Life*'s active user base comes from outside North America, with the EU alone exceeding the US in numbers. The number of Australians actively involved in *Second Life*, as of August 2007, is around 13,500, meaning that Australia has moved to 10th place in the world with 2.61% of the active population.¹¹⁶

Lisa Dethridge: *Second Life* consultant and RMIT lecturer recalls her first encounter with SL

*It took a lot of encouragement from my friend. He would ring me up, encouraging me and offering to meet me there – so I needed urging. It took me a while – I was hopeless with navigation because I didn't have high bandwidth on my machine, I was really quite spasticated. I was obviously a newbie so I spent quite a lot of time hanging out in the newbie area, I couldn't even walk straight, and then my friend teleported me to his environment which was way more advanced and he taught me a lot more about navigation and camera controls and things like that. And showed me around his house. And I became quite fascinated then being in a different sort of environment: a home environment as it were. A different set of potentials emerged.*¹¹⁷

Many *Second Life* communities gather in locations emblematic of their real world locations: at *Telstra*'s 'The Pond', Aussies hang out in the 'Billabong Bar' where they can chat over a virtual beer and spin Cold Chisel and John Farnham on the juke box.

Many real world locations are replicated such as Beijing's Forbidden City; there is also a virtual New York, Amsterdam, Singapore, Tokyo, Melbourne and Sydney.

As *Second Life* communities evolve, so too do issues around governance. *Second Life* is an open society with few behavioural codes. *Linden* is of the view that "the best way to foster communication and expression is to put power into the hands of the people by giving you better tools for local control."¹¹⁸ This is feature-driven, with groups given the ability to fine tune the rights and responsibilities of their members. Users can establish ban lists, make their land parcels invisible, and estate owners can assign a covenant to their land that explains the rules they wish visitors and residents to abide by. But whilst *Linden* wants its users to set their own values and rules and goals, unregulated gambling activities and 'broadly offensive' sexual content have caused the company to intervene.¹¹⁹ This raises the question: who controls the metaverse, *Linden*

or the inhabitants - and to what degree should real world jurisdiction make claims on a synthetic environment?¹²⁰

What are users creating and experiencing together?

Second Life is an entrepreneurial environment, just as it was in the early days of the Web. A walk down any precinct in *Second Life* will display shops with virtual gadgets and an exotic array of apparel and accessories. Goods are bought and sold using *Second Life*'s unit-of-trade, the 'Linden Dollar'. A floating currency, 'Lindens' are traded on the 'Lindex', *Second Life*'s in-world exchange. In terms of conversion rates, around L\$275 equates to US\$1. Users top up their in-world account with *PayPal* or credit card transactions. A recent innovation, the 'MetaCard™', introduces credit card services into the virtual economy, with an account that is paid in 'Linden Dollars' monthly.¹²¹

Bret Treasure: Business Developer for 'Inside This World'

For me the overriding thing is: you put a bunch of people in this environment and they have a sense of shared space and they bond very quickly. And that's powerful for business, particularly where they have distributed work forces. And they want people to work together that don't live in the same place. You form alliances very quickly and you have shared experiences. And so it's a collaboration too...In-world, we are mostly modelling our past and our present but we should be modelling our futures. Not so much the way the buildings look as the way that we interact. Second Life is a tool for social experimentation. That's the area we should be concentrating on. What if it were possible to have many kinds of marriage instead of one? What will be the effect of people role-playing the other sex? What if you earned money every time you were nice to somebody? Can we develop better systems for generating agreement amongst people?¹²²

Second Life residents take tours, attend concerts, join special interest groups, and participate in educational events and public forums. There are trade shows, art exhibitions, film screenings, in-world magazines to read, competitions to enter and games to play. Business and learning institutions use *Second Life* for training and recruitment. Special interest groups create centres for meeting up and sharing resources. There are worlds within the world, with subgroups so large that they constitute micro nations and have their own customs and nuances. Friends meet at dance clubs, teleport to one another's homes or go to community sandboxes where they can collaborate on a build.

Insight from Tateru Nino: High profile Australian *Second Lifer*, demographer and blogger at ‘Second Life Insider’:

“I’m 41 years old. I’m autistic, with Asperger Syndrome, and this has led to a fairly disappointing chain of real life jobs and social encounters. Actually, my initial intention was to come here, and be ‘a nobody’. Just find myself a corner and thinker with the tools for my own education. You could say that I seriously failed that plan. Right now, I’m one of SL’s best known celebrities. A couple of things. One - Second Life minimises my handicap. When we’re communicating in typed words, your thoughts are serialised - a little more cohesive and thought through. It makes you think a little more like me. None of the confusing tone-of-voice, facial-expression, body-language issues. And freed of that hampering factor, I discovered that I wasn’t the person I’d more or less resigned myself to being.”¹²³

Much has been made of the real world businesses that have gone into *Second Life*, only to find their virtual locations and products ignored. Clearly, virtual worlds have their own terms of engagement. Companies who have got the real world/virtual world mix right, including *Telstra*, *Endemol*, makers of ‘Big Brother’ and *Showtime*’s ‘The L Word’, have high levels of interactivity and community interaction. Companies who have ignored the culture have fallen by the wayside, just as the rush to capitalise on the hyped-up promise of e-commerce caused many start-ups to stall.

Gary Wisniewski: Founding Director of *Cattle Puppy Productions*, ‘Second Life Cable News Network’ (SLCN)

*In Second Life, we can make television for \$100.00 per hour. Compared [to the cost of making television at] 11.30pm on Channel 7. The viewing numbers probably aren’t that much different...We did the Bruce Willis ‘Diehard’ promotion in Second Life. Now if Paramount Studios had set up in SL it would have been empty. But because we are well established in Second Life, they were able to use us a bridge between the event and the community.*¹²⁴

According to Keren Flavell: Executive Producer and in-world presenter of ‘Second Life Cable News Network’ (SLCN): “Brands investing inside the virtual world have a very big imperative to reveal what they are doing and prove to stakeholders that it is something of interest and that there is an artefact made of it to be seen later. So SLCN is paid by those brands to do that capturing of footage.”¹²⁵

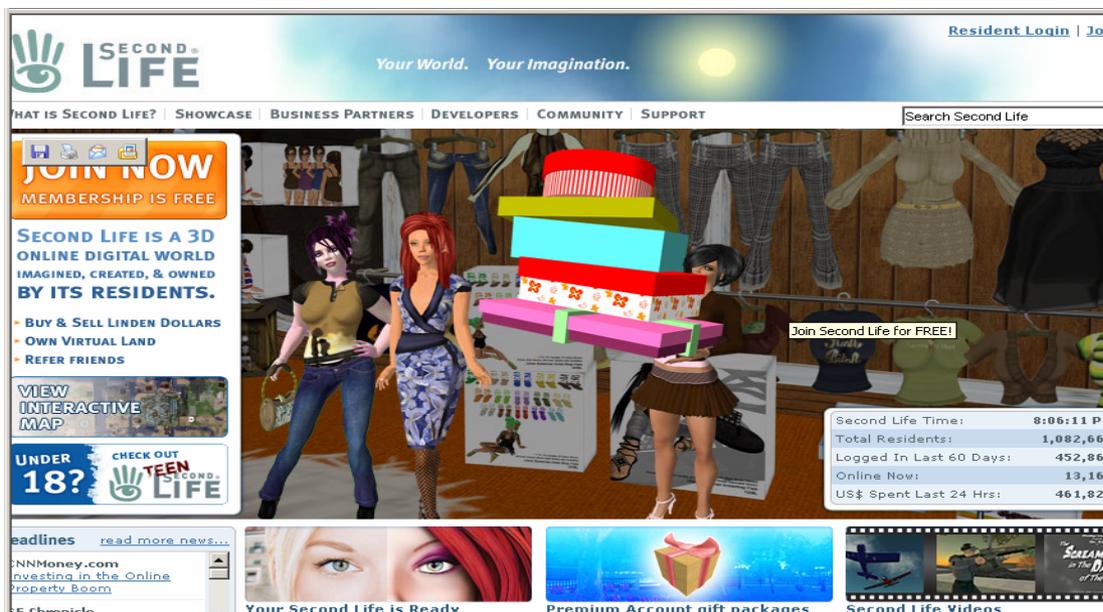
Arguably, in commercial terms, the business lead is coming from indigenous virtual world service providers who understand the motivations and habits of *Second Life* inhabitants. Based on October 2007 statistics released by the established *Second Life* demographer, Tateru Nino, ‘Phat Cats Jazzy Blue Lounge’ has a stable number of weekly visits in excess of 23,000. In contrast, her results for the *Telstra/BigPond* initiative, ‘The Pond’, generally regarded as the most popular ‘mixed reality’ site in *Second Life*, numbers 11,568.¹²⁶

The sale of virtual goods is now recognised as multi-billion dollar industry. In 2006, a player of *Entropia Universe* famously paid US\$100,000 for an asteroid space station.¹²⁷ Craig Sherman,

CEO of *Gaia Online*, a fast growing teen site, revealed that a rare gold halo used on the platform was bought for \$6,000 at *Gaia's eBay* style market place.¹²⁸ Virtual products, it seems, are fundamental to establishing online identities.

In *Second Life*, where creation is in the hands of users rather than a platform owner or games publisher, *Linden* surveys have determined that 90% of the 10,000 or so in-world businesses which have sprung up to support residents have a 'Positive Monthly Linden Dollar Flow' (PMFL) relative to the cost incurred in participating.¹²⁹ Yet, according to *Linden Lab* analyst, the Australian recruit Chris Connell, there are now over 800 businesses that make profits of US\$1,000 per month.¹³⁰ Granted these figures are tiny in real world terms (L\$275 = approx US\$1), but they gain significance when seen in the context that virtual goods do not actually exist, and can only be used in one discreet online environment. Also, many products cost between fifty cents and two dollars in US currency, so sale units are small. It takes many purchases to reach any significant sum.

Another factor is that the cost of production is negligible. As demand for an item increases, the item can be reproduced infinitely by the owner for no cost other than that which is required to participate in the world. One often quoted success story is that of *Anshe Chung Studios*, the Chinese-based virtual property development company that creates idyllic lifestyle precincts within *Second Life* which it on-sells to virtual retailers and residents. Recognised as the most successful virtual business in *Second Life*, its land holding equates to 8,800 acres, and in November 2006 the company released news of a US\$1 million net profit.¹³¹ Virtual worlds' developer and industry maven Raph Koster remains phlegmatic: "Anyone looking to make a buck should assume they are the sucker, and be pleasantly surprised if it turns out otherwise."¹³²



Screenshot of *Second Life's* home page

Second Life's Lead Users

Who are *Second Life's* lead users in Australia and what are they engaged in?

Christy Dena: Cross-media-platform consultant

*I consult with small arts organisations. Ideally what they would like is a dedicated space to do exhibitions and installations. But it's not in their funding to be able to do that, so they are thinking that they can do that in Second Life. There's this sense that you can do things in the virtual worlds that you couldn't do in real life.*¹³³

A worldwide surge of interest in *Second Life* came in the third quarter of 2006. Growth was compounding at over 20% per month. The spike was due in no small part to a media avalanche. Technology writers were smitten by *Linden's* ability to provide an infinitely expanding universe which allowed participants to travel seamlessly through its regions. But deeper than that, was the journalists' fascination for the possibility of an open-ended social online world built by users.

Second Life was then on the covers of *BusinessWeek*, *The US Economic Review*, *Scientific American* and *Yahoo*. There was a documentary series on *Channel 4* in Britain. *CBC* and the *BBC* featured it in their news bulletins. Then came the *New York Times*, *Wall Street Journal*, *The Sydney Morning Herald*...on and on it went, with tantalising stories about avatars' in-world experiences, its growing economy, corporations moving in, and the audacious claims by *Linden Lab's* Philip Rosedale, of creating a new model for the way humans live and interact.

Initially slow to catch on, Australian interest accelerated in late 2006 with the launch of the *Australian Film Television and Radio School's* 'Esperance Island'. Then in the first quarter of 2007, two of Australia's biggest corporations, the *ABC* and *Telstra*, launched their *Second Life* presences, cementing local participation with the platform.

Lisa Romano: Strategic Development for ABC Innovation

*SL is a really interesting testing ground. It's a small project. It has minimal funding. We haven't given it much publicity. It's just a word of mouth thing that's pushing this along... It's about community on ABC Island. Events, learning and building in 3D... This is a brave new world for the ABC. It's quite a risky environment to be in. We really need be aware of our editorial policies. This is why it's just an R&D project. This 3D environment with this kind of live interaction can't be monitored in the same way as our websites which are moderated and totally covered off legally for balance, commerce, advertising and vilification before anything gets posted.*¹³⁴

In fact there was a synergistic element at play. Gary Hayes, a pioneer in cross platform media production with the *BBC* and *British Telecom* amongst others, spear-headed *AFTRS* efforts

through their Laboratory of Advanced Media Production (LAMP). Not only was Hayes driving *AFTRS* students into the space, encouraging them to see *Second Life* as a new place in which to experiment with narrative, role playing and animation, but he was able to put into practice his own theories about the ‘co-creative web’, in which real time collaboration and communication are inherent.¹³⁵

Gary Hayes AFTRS: Know what your users want to do and give them the means to do it

*Second Life is about the user's experience and the key with any build is to make sure the client understands that. The shift is not to push material at them, as if they were an audience, which is what happened with Web 1.0, but to be aware of what users might want to do and enable them to do it, create their own stories. So the build must bring people together, allow them to socialise. That way they can play and express themselves.*¹³⁶

Hayes and his team, including Lisa Dethridge from RMIT, saw to it that the Telstra and ABC builds had communal areas where users could congregate and interact. An emphasis was placed on sandboxes (toolkits) where users could learn building techniques, exercise their imagination and collaborate with one another.



The Amphitheatre ABC Island



The Pondex Sandbox

Lisa Romano, the *ABC's Second Life* project director, cites the ‘Sandbox Tower’ as the *ABC's* most frequented location, drawing a global audience to the site: “We find people come to visit because we don’t have billboards and shops. It’s a peaceful place and we’re not trying to sell anything. A lot of people find that refreshing.”¹³⁷ In the *ABC's* case, in-world events extend discussion and activities of existing *ABC* programs. ‘The Eco House’, a communally constructed edifice relates to content on *Radio National's* ‘By Design’ program. At the Amphitheatre, avatars gather for forums; recent examples include a ‘Four Corners’ episode on *Second Life* and a ‘Sunday Arts’ special, ‘Thursday’s Child’ and the home-grown comedy ‘The Librarians’. *CSIRO* scientists have been conducting in-world seminars on the topics of life extension, data

exchange between worlds and the convergence between real and virtual worlds, subjects which are a good fit with technosocial interests in SL itself.

Hayes' skill set established him as Australia's pre-eminent virtual worlds' content builder and he was pivotal in the realisation of *Telstra's* 'The Pond' and 'ABC Island'. His other major commission is the construction of *Tourism Victoria* and *Multimedia Victoria's* shared *Second Life* space 'Laneways', so named because of Melbourne's affection for its lively inner city lanes, and its resonance with *Tourism Victoria's* 'Loose yourself in Melbourne' campaign.¹³⁸

Telstra's Big Lead

Telstra's decision to explore *Second Life* was led by Jason Romney, General Manager, *BigPond* Innovation. With a background in new media advocacy and law, he provides thought leadership, seeing 'The Pond' as eventually bridging online music, movie games and shopping, as part of *Telstra's* transformation into a technology-based communications and media company.¹³⁹

'The Pond' was launched in March 2007 and *BigPond* subscribers were given un-metered access to the site, meaning that time spent in *Second Life* would not impact upon their monthly bandwidth quota. In a far-from-shy start, *Telstra* purchased eleven islands, equating 176 acres and added another two, 'Pondagon' and 'Pondi Beach' nine months later. Familiar landmarks include the Sydney Harbour Bridge and the Sydney Opera House. There's an orientation area and initially a 'manned' avatar, 'Very Mulberry' was on hand for customer support. Shops, a bar, music, video screens and sporting events, as well as the sandbox region enrich the user experience, consistently positioning *Telstra's* islands as some of *Second Life's* most visited destinations.¹⁴⁰

'The Pond' is an impressive stake in *BigPond's* research and development profile. The telco has set up its own orientation area for new users and is addressing some of the technical hitches of the platform, one example being that when too many people flood onto one sim, 'lag' sets in and avatars are unable to function. To solve this problem, *BigPond* engineers created software which distributes new arrivals across six islands, an application which comes into its own when there is a publicised event which creates a surge of interest and boosts the number of new registrations.¹⁴¹ *Telstra* also can supply RSS feeds in-world, and users can click through to the Web, features which Romney sees as "the start of a much more powerful marriage between virtual worlds, RSS and personalised information."¹⁴²

The boldest innovation to date is *Telstra's* decision to lease some of its virtual land to residents. *The Trading Post*, a classifieds business of *Telstra* subsidiary *Sensis*, was used as an auction and registration site for the project. Full occupancy, comprising 77 plots, was achieved within days of the release. Payment is made in-world using 'Linden Dollars', equating to AUD\$10 – \$80 per month depending on the size of the plot. According to Romney, users found the terms appealing for a number of key reasons: renting was perceived to be much less risky than buying; users could cancel on a month-by-month basis, simply dropping out if they wished; and they were under the auspices of a trusted brand with its own terms of service and community expectations.¹⁴³ *BigPond* residents are able to create their own dwelling, and can conduct business from their location. This is a great example of a hybrid user-led strategy in action.

With an eye to the future, such sites could become well-established branded locations, with *BigPond* the host, much as domain names are today, capable of streaming audio and visual

media, differentiation themselves from one another with software add-ons and their own stream of visitors. Romney also identifies cultural anchoring as a feature, suggesting that “providing a permanent home in cyberspace - one which embodies Australian values of fairness, justice and liberalism - is as potentially valuable as an export as the Australian landscape is for tourists in the real world”, and sees the possibility of creating “a virtual culture as uniquely Australian as our sporting ethos, our bush heroes or even the haunting poignancy of the Aboriginal dreamtime.”¹⁴⁴

Insights from Government and Education Providers

A number of reports in the mainstream media in which the more sensationalist elements of role-playing were highlighted, play to the misconception that what motivates many *Second Life* users is the opportunity to fill the gap in their otherwise empty real world existences. However, the growth in institutional interest, particularly from the education, government and NGO sectors, is changing this attitude.

Indicative of the shift, is the Victorian Government’s \$100,000 investment in the ‘Melbourne Laneways Project’, a research and development project to establish a Melbourne location in *Second Life* and to encourage businesses to engage with the experiment. The prototype is located in the *ABC* precinct and takes up one sixth of an island. Federation Square and graffiti and poster adorned laneways and cafes provide a visual setting.

In its report *Would your Business benefit from a Second Life?* launched in October 2007, the Victorian Minister for Information, Communication and Technology, Theo Theophanous explained: “We are monitoring all new media platforms to ensure Victoria remains a technologically advanced state and is best positioned to make the most of these rapidly developing worlds.”¹⁴⁵ Its findings reinforce the response by many business organisations entering *Second Life*: that “commerce is currently a high risk, low return option in *Second Life*, leaving the branding and marketing aspects as key drivers at this early stage.”¹⁴⁶

Natalie Phillips: Manager of ICT Capability and Futures Multimedia Victoria

*We think there are a number of different elements that contribute to creating an overall atmosphere that is sometimes lacking from places in Second Life including the integration of photos and real sounds from Laneways; the fact that there are elements of specific physical spaces in Melbourne (such as the Federation Square type floating shards of glass) and from different parts of the CBD rather than reproductions; the fact that everything is not revealed at once and that there are little hidden areas which make it a fun place to explore; and the existence of nice locations to settle and socialise such as the cafes and bars.*¹⁴⁷



Screenshot of *Multimedia Victoria's* 'Laneways Project'

In the education sector there is a virtual stampede. Amongst the growing list of tertiary institutions are Monash, La Trobe, RMIT, Edith Cowan, Wollongong, Sydney, QUT, Southern Queensland, Victoria University, Swinburne, Deakin and numerous TAFEs. The Universities of Melbourne, New South Wales and Queensland are participants in the global online graduate school U21's virtual campus.¹⁴⁸ In the secondary school domain, Melbourne Grammar has embarked on an investigation of the educational potential offered by *Second Life* for its Creative Arts, Design Technology, Business Studies, English and of course Information Technology programs. Teachers of Philosophy and Ethics have also expressed interest in engaging with *Second Life* for teaching purposes.¹⁴⁹

Suku Sinnappan: Discipline Leader, Information Technology, Systems and Multimedia (ITSM) at SYwinburne University. Suku uses *Second Life* to devise e-business strategies

*The Students love it. It's real e-commerce. Things really work. How do you attract people? What do people go for? Your imagination is not limited as to what you can do. Other virtual environments aren't as interesting. In other game environments you can't change anything.*¹⁵⁰

A Hot House of Innovation

*We believe that this is better than the real world and a lot of them [users] live here. And they build things and they make friends here and externalise their thoughts in a way that in the real world you just can't. We don't see it as a game, we see it as a platform that is in many ways better than the real world and everything so far indicates that it is going that way.*¹⁵¹

Philip Rosedale: CEO *Linden Lab* and creator of *Second Life*

According to the statistics publicly released by *Linden* as of July 2007, 22% of all *Second Life* sessions end 'abnormally'.¹⁵² In his September 2007 keynote address to the *Second Life* Community Conference, Philip Rosedale vowed that reliability and stability of the SL platform was *Linden's* number one priority – ahead of technical innovation. This is good news for educational, community and business interests whose efforts can be stymied by drop-outs, lag and crashes. Yet, in spite of lack of scalability, unreliability and user interface difficulties, *Second Life* continues to fire the imagination of its users. The platform is becoming increasingly open with *Linden Lab's* plans to release the source code well underway. This will further accelerate user innovation from which will emerge killer apps that harness the rich capabilities of immersive environments. With the universe of virtual worlds expanding on an almost weekly basis, the passionate experimentation of *Second Life's* lead users is destined to flow into other 3D platforms, many of which are targeted to the teens and under age groups who will intuitively inhabit the immersive Web.

Harry Hains: 14 year old lead user of *Second Life*

*I created a hover car, and you can create as many copies as you want and sell them to people. And you can keep the original. That's what I did. But I never got to sell it. I was going to but then I got banned. I've done a few events, like they have bingo games and things or strange games - some things that people make are extremely good that you'd never think anyone could have made. It's like really weird but really cool.*¹⁵³

Increasingly, real world businesses are scouring *Second Life*, looking for inspiration, innovation, opportunity and an understanding of the way virtual communities work. Virtual tourism, pioneered by the in-world community, is now being explored by *STA Travel* and *Lonely Planet*.¹⁵⁴ Communities of developers gathering in *Second Life* have led *Microsoft* and other technology companies to see the value of recruiting there.¹⁵⁵ The interest residents have in virtual property has led to major US real estate brand *Coldwell Banker* to market a real home in *Second Life*.¹⁵⁶ The fit between broadband users and gaming environments led to *Telstra's* island foray into *Second Life*, an initiative which CEO Sol Tujillo describes as "representing further steps in our integration strategy and our evolution into a media-comms company."¹⁵⁷

'Mixed reality' enterprises, that is, real world companies which have created virtual presences, continue to take leads from native virtual worlds' start-ups, borne of the metaverse. Amy Jo Kim, an internationally-known designer of social games and online communities told the 'Virtual

Goods Summit' in June 2007, that "users prefer to buy user-generated designs from other users than facsimiles from real world producers."¹⁵⁸

Perth-based marketing consultant Bret Treasure would seem to agree, having illustrated the observation himself:

The failure of real life companies to spark interest in their venues is partly flawed strategies and partly the nature of the medium. Let me make the point visually.



Here is a pair of shoes that Adidas are marketing in Second Life.



And here's the in-world competition Ladies! Cast your vote!¹⁵⁹

This parallels von Hippel's findings that user innovations have wider commercial appeal to other users.¹⁶⁰ Business is also advantaged by the experience of educators and artists whose projects are often less prescriptive or outcomes-based. Locally, the *Australia Council* has sponsored a work in *Second Life* to the tune of \$20,000. The winning applicant, a Melbourne consortium, explores the connection between physical and virtual environments by devising a simultaneous installation in *Second Life*, and in a real world gallery, where gallery visitors can be directly involved in its creation via voice recognition software and a computer interface.¹⁶¹

How open is this 'open social world'?

Clearly, the distinguishing element which sets *Second Life* apart from other 3D environments is that it allows for diverse and ever-changing interactions. Its open-ended architecture allows for third parties – be they corporate or individual – to engage directly with the platform in a rich, affordable way. Innovation and play occurs without paying a fee, seeking permission or adhering to set paths. Giff Constable, vice president of the leading virtual world add-on software developer, *Electric Sheep Company*, believes this engenders 'entrepreneurial optimism' which in itself is a driver of innovation. Constable suggests such a spirit enables the content creator/developer to "focus on tomorrow not today, even if there is risk of failure."¹⁶² The links between optimism and innovation were noted by the co-founder of the Creative Commons licensing framework, Lawrence Lessig, when he suggested: "we are happier if we have reason to believe that the future will be better than the past. Stated simply, ongoing innovation makes us feel that way."¹⁶³

However, whilst the freedoms users experience relative to many other virtual and media platforms are not disputed, there is one glaring inconsistency: who actually controls the metaverse, *Linden* or the inhabitants?

As users become more acquainted with the idea of establishing themselves in a virtual community and assuming greater ownership of their virtual domain, (measured in property and identity), they may be less comfortable with the idea of a God-like presence pulling the strings, even if it is a relatively benign one.

CEO Rosedale denies he is the capital 'C' creator, saying the code is God. Yet he asserts *Linden's* right to play with that, adding that there is "a biblical or mythical analogy" in it all.¹⁶⁴ *New York Law School's* technology law specialist James Grimmelman paints a more secular picture: "Every decision made by designers of a virtual world is a political decision. Every debate over the rules and every change to the software is political. When players talk about the rules, they are practising politics."¹⁶⁵

As the platform evolves, so too does discontent over the inequity of control. The 'Terms of Service' (ToS) or 'End User License Agreement' (EULA) can be used by service providers as a weapon against users that are perceived to have breached the limits of acceptable behaviour. *Second Life's* ToS, which virtual world's commentator Julian Dibbell terms "that egregious tool of corporate tyranny over the defenceless voiceless customer", gives *Linden Lab* the power to repossess virtual goods if it contends that a user has not abided by its terms.¹⁶⁶ This was contested in the infamous Bragg Case (2006-2007), in which Marc Bragg, a Pennsylvanian attorney, sued *Linden Lab*, the creators of *Second Life* for allegedly seizing his virtual land. Bragg argued that the \$13,900 of real money he invested in virtual land, (which he acquired through a loophole in *Linden's* real estate system), should have been returned to him, and sought reimbursement of legal fees in excess of \$100,000.¹⁶⁷ The case tests the definition of 'ownership', as *Linden* argued that 'ownership' constitutes a license to computing resources. While Bragg argued that if he owned the land, it couldn't simply be taken from him. The case, no doubt the first of many, was settled out-of-court for an undisclosed sum in October 2007.¹⁶⁸

The Bragg case tests not only the binding nature of the Terms of Service but *Linden's* commitment to self-regulation and self-determination, famously expressed in CEO Philip Rosedale's Jeffersonian-like 'Town Hall Forum' of November 2006, in which he stated the need to implement policies that would: "facilitate residents banding together and creating their own civic centres around their unique ideals and ambitions."¹⁶⁹ *Linden's* hands-off approach to policing and governance was tested in 2007 when the company decided to ban gambling and so-called 'age-play'.¹⁷⁰ Both prohibitions were in response to real world pressures, notably from US and German authorities.¹⁷¹ As a result, land was sold off, residents vacated, business experienced a downturn and the 'Linden Dollar' dropped in value.¹⁷²

Policy-on-the-run may be an inevitable outcome of a rapidly developing metaverse; in *Linden's* favour, users' predilections are hard to predict and responses *should* be agile. But policies which significantly restrict users' behaviour and expectations are bound to impact on their confidence in the platform.

Looking to the Future

As this nascent world takes shape, the lines between real and virtual will diminish. Theoretically at least, *Second Life*, like the Web, could become fully integrated into our lives. But it may not be an obvious transition. As the history of technosocial change demonstrates, there is often a lag between apparatus and application. So it will be with *Second Life*, for the sum of its disruptive consequences are only beginning to be envisaged. What for example, might be borne of *Linden Lab's* CTO Cory Ondrejka's observation that the "profound difference of *Second Life* compared to the Web is the simultaneity of experience: the fact that we create content as we consume content."¹⁷³ *Second Life's* founder Philip Rosedale's recent comments similarly challenge our existing constructs about human interaction and communication: "When you walk into a virtual world ten years from now you will be walking into a world that looks like stepping through a screen into a film."¹⁷⁴

But unlike the established hierarchy of the film industry, *Second Life* consumers are also its producers, actively shaping the metaverse according to their needs – and who is to refute that such a world will not be as engaging and challenging as the real world? Less speculative – and the evidence is already there – that in the process of building a metaverse, users will construct new metaphors for the real world, adding to the new order of social, technological and economic conditions, already underway, by the rise of user-led innovation.

Appendix

Second Life Resources

These sites will assist familiarise readers with *Second Life* society, business, technology and culture. First point of call should be the *Second Life* Website: <http://secondlife.com/> and Wiki: <http://secondlife.wikia.com>

Terms of Service: <http://secondlife.com/corporate/tos.php>

Community Standards, Policy and Policing

- <http://secondlife.com/corporate/cs.php>
- ‘Mission of Linden Lab’ by Philip Linden: Nov 6th 2006
<http://blog.secondlife.com/2006/11/06/the-mission-of-linden-lab/>
- Civic Centre http://secondlife.com/newsletter/2006_12/html/civiccenter.html

Legal Issues in Virtual Worlds

- Virtually blind: <http://virtuallyblind.com/>
- State of Play, New York Law School: <http://www.nyls.edu/pages/2396.asp>

Social History of *Second Life*

- Recounted in ‘2005 Avatar of the Year: Prokofy Neva’
http://www.secondlifeherald.com/slh/2006/01/avatar_of_the_y.html

Support

- User overview: <https://wiki.secondlife.com/wiki/Features>
- Minimum system requirements: <http://secondlife.com/corporate/sysreqs.php>
- Known Issues: <http://secondlife.com/support/known-issues.php>
- Release Notes: http://history.secondservers.net/index.php/Release_Notes
- Beta Test Grid: <http://secondlife.com/community/preview.php>
- Technical Talk: <http://forums.secondlife.com/> (must have a valid account to log in)
- Knowledge Base: <http://secondlife.com/knowledgebase/?page=HomePage>

Digital Rights Management

- <http://secondlife.com/corporate/dmca.php>

Copyright& Content Creation

- <http://blog.secondlife.com/2006/11/13/copyrights-and-content-creation-in-second-life>

Developer Information

- <http://secondlife.com/developers/>
- Open Source: <http://secondlife.com/developers/opensource/>
- Keynote address on OS release by Cory ‘Linden’ Ondrejka, CTO, Linden Lab, Jan 2007
<http://blog.secondlife.com/2007/01/09/pre-town-hall-answers/>

- SLDev: a forum for Software development issues relating to *Second Life* at <https://lists.secondlife.com/cgi-bin/mailman/listinfo/sldev>
- Renowned *Second Life* content and creation service: Aimee Weber <http://www.aimeeweber.com/>. See her tour of the solar system made from in-world tools at: <http://alt-zoom.com/movies/azpresents/aweber/SolarSystem.mov>
- <https://lists.secondlife.com/cgi-bin/mailman/listinfo/sldev>

Sandbox Tools

- Dreamland: an island designed for survivors of strokes, those living with autism and Asperger syndrome <http://slurl.com/secondlife/Dreams/49/171/24>
- ABC Island <http://slurl.com/secondlife/ABC%20Island/128/128/0/>
- Telstra's 'The Pond' <http://slurl.com/secondlife/The%20Pond/127/135/41>

Music Streaming

- <http://secondlife.com/developers/resources/musicguide.php>

Video Streaming

- https://wiki.secondlife.com/wiki/Streaming_Video

Second Life Forums

- Official *Linden* Blog <http://blog.secondlife.com/>
- *Second Life* Forums <http://forums.secondlife.com/> (need a valid account to log in)
- Resident-run Forums <http://secondlife.com/community/fansites.php>
- 'Second Life Talk - Make your own blog' <http://www.secondlifetalk.com/>
- SL Blog aggregator: 'Planet world of SL'. Contact Tao Takashi to have blog added to the list. <http://planet.worldofsl.com/>
- 'bloghud' - Enables blogging inside of *Second Life* to the outside web <http://bloghud.com/>
- Town Hall Broadcasts, official *Linden Lab* question and answer sessions <http://feeds.feedburner.com/lindenlabtownhalls>

Source for Business Information

- <http://simchronicity.wordpress.com/>
- Business communicators of *Second Life* http://freshtakes.typepad.com/sl_communicators/2006/09/a_second_life_c.html
- SL Business Magazine <http://slbusinessmag.com/edition/>
- *Second Life* Economic Stats. Snapshot of in-world business activity on a daily basis. http://secondlife.com/whatis/economy_stats.php
- End of 2006 assessment of growth in *Second Life* <http://blog.secondlife.com/2006/12/12/growth-of-second-life-community-and-economy/>
- The Virtual Economy Research Network <http://virtual-economy.org/>

Recommended 'Insider' Blogs

- Raph Koster <http://www.raphkoster.com/>
- Slog <http://secondslog.blogspot.com/>

- Tateru Nino <http://www.secondlifeinsider.com/>
- Mark Wallace <http://www.3pointd.com>
- http://www.secondlifeherald.com/slh/2006/11/11/s_metaverse_s.html
- New World Notes: news from SL's embedded reporter James Wagner Au <http://nwn.blogs.com/>
- Australian SL marketing consultant Bret Treasure at <http://freebeer.com.au>
Also see his *Second Life* business site: <http://insidethisworld.com>
- Prokofy Neva: <http://secondthoughts.typepad.com/>

***Second Life* Podcasts**

- A range of *Second Life* Podcasts can be sourced at: <http://www.secondcast.com/>

'Myspace' for *Second Life* residents

- <http://www.SLProfiles.com>

In-world Media

- Reuters: SLurl <http://secondlife.reuters.com>
- NMC: video <http://media.nmc.org/sl/video/seriously-engaging.mov>
- Wired: SLurl <http://slurl.com/secondlife/>
- Text 100 Machinima Video: http://www.text100.com/secondlife/Text100_3.mov
- 'In the Grid': an in-world culture magazine. Issue 1 Oct 06
<http://www.jasonpettus.com/inthegrid/itg01eu.pdf>
- SLATE (*Second Life* Arts Total Entertainment) Magazine: <http://www.slatenight.com/>

Education

- <http://virtualworlds.nmc.org/> site for educational institutions
- Ausslers, Australian *Second Life* Educators and Researchers resource <http://www.drama-education.com/ausslers/mod/resource/view.php?id=7>
- *Second Life* in Education: <http://sleducation.wikispaces.com/educationaluses#literature>
- SL Educators can join this list serv: subscribe to: educators-request@lists.secondlife.com
http://secondlife.wikia.com/wiki/Main_Page

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