

# New Entertainment Media:

Transforming the Future of Work

Institute for the Future  
Technology Horizons Program  
August 2003  
SR-813





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# Introduction



## THE BUSINESS OPPORTUNITY

The message board on the Cloudmakers forum was buzzing with posts just three hours after the September 11, 2001 attacks on the Pentagon and the World Trade Center. They began to analyze the very serious tragedy that had just gripped the country with fear and uncertainty. They began to

assess their skills. They were resourceful and shared diverse expertise ranging from hacking encrypted codes to deciphering obscure historical, literary, and artistic references. They were experienced at tapping their 7,332-member distributed group for its skills and applying them to time-consuming and complex problems. Could they unravel the truth behind the recent atrocity? They were committed and passionate about their collective intelligence and believed it surpassed any previous self-organized cooperative group in *entertainment* history.



The Cloudmakers were gamers. They were players of an interactive fiction, puzzle-solving game known as *The Beast*.<sup>1</sup>

The Cloudmakers' story highlights the main thesis of this report: Users of new entertainment media are developing skills and practices that they will bring to their work and workplace. The migration of these practices and experiences will transform work—what it is and how we do it.

At the time, the Cloudmakers were experiencing the “lingering immersive effects” of playing *The Beast*, a genre also known as alternate reality games (ARG). Their identity as a distinct group and the collective skills they developed and shared were seeping into their everyday lives. Indeed, a compelling attraction of ARGs is the blurring of conventional reality and the game space. When disaster hit on September 11, the Cloudmakers intuitively identified with one another as problem solvers, and turned to the skills they shared as a distributed collective. They did the same thing when Washington D.C. was plagued by sniper shootings in October 2002. Subsequently in

March 2003, another group, the Collective Detectives, started a “think tank” case in which they applied their collective efforts to solving real-world issues. The topic of the first case was corruption and waste in U.S. federal spending.

The real impact of such grassroots experimentation in new entertainment media comes from the social and cultural practices that they spawn. The goal of our research for this report was to uncover how the workplace will change as new entertainment media users develop skills and share experiences outside of work that stress collective action and collaboration, new forms of managing identity and presence, and sophisticated forms of data sharing and management; identify which specific practices are most likely to seep into the workplace; and offer insights into how companies can leverage the new practices of workers.



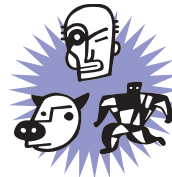
## Introduction

Why entertainment? Entertainment media offers a safe place for people to experiment with new practices and methods of communications. Social innovations in interactive and cooperative practices, and in identity and presence management are diverse and very much a part of the process of play. By observing what is happening in the world of play and entertainment, businesses have a unique opportunity to get an early warning about the kinds of interactive and cooperative practices that are likely to spill into the workplace in the future. Those paying attention now will be able to spot opportunities for new ways of working together that are more productive and effective, rather than confront new waves of social innovations with skepticism and confusion. Ultimately, it means businesses need to learn how to leverage the creativity of employees who are familiar with new entertainment media to solve problems at work. Indeed new forms of competitive advantage will arise from new forms of collective problem solving, new ways of reaching customers and consumers, and new ways of organizing and scheduling work.

### APPROACH: LEARNING FROM NEW ENTERTAINMENT MEDIA

To study how people are using new entertainment media and the skills they are developing as a result, we examined four media—Web logging, digital music, massively multiplayer online games, and alternate reality games. We think that these four are rich areas for developing new social practices that will evolve and migrate into the workplace over the next 5–10 years. We conducted interviews and observations with approximately 20 media users and experts to identify innovative social practices and issues that will have an impact on business. The Institute for the Future (ITF) research team also participated and played with the new media to experience them firsthand.

The four entertainment media cover a range of technologies and devices (PC-based, device-based, mobile/portable, text, image, or audio content) and provide a diverse set of activities to consider. Selection was not based on high diffusion rates, but rather on innovation and potential impact on work practices in the future.



## KEY INSIGHTS

Workplace practices will transform as a result of workers experimenting and learning new modes of interaction, collaboration, and presence management from entertainment media. We see four key insights related to how these media will affect business and the workplace over the next decade.

- **Rapid innovation around social interaction will challenge organizational forms and processes.** New entertainment media are social and creative in nature. They are also easy to use and inexpensive with few barriers for new users. As more workers experiment with collaborative play environments and social spaces, they will be more likely to innovate in social spaces in the workplace. Their experiences with new media will drive innovation in social interactions and just-in-time problem solving, for example. Rapid innovation in social forms will challenge organizational structures and formal processes and contain the seeds of new forms of corporate organization.
- **Emergent cooperation will become a distinct practice and an important work skill.** Ad hoc cooperation and resource locating across remote work locations and sometimes with unknown employees, suppliers, partners, and other “friendly strangers” outside the organization will be recognized as important parts of work life. Emergent cooperatives and collective task forces will rival formal work teams as units of social organization at work. Business will need to consider the company’s social reach (its connections with suppliers, customers, partners, employees, and others) in a new way as emergent cooperation raises the possibility of new kinds of links and connections.
- **A new palette for expressing presence.** New entertainment media will encourage new practices in developing and expressing presence. This will transform the way employees, team members, ad hoc groups, and other work colleagues interact in physical and digital settings. Brands, products, and other corporate objects will take on richer forms of presence that allow more interaction and improved relationships with consumers.
- **Knowledge creation and sharing becomes manageable at the employee level.** For years corporate IT staffs, innovation groups, and other strategic officers of the company (for example, CIO, CKO) have tried to develop and deploy knowledge management systems that encourage staff to share knowledge and provide an enterprise-wide system for organizing and finding it. New media will give these efforts a shot in the arm. New media tools are mostly desktop tools that are easily distributed across the organization with few interoperability issues. They are inherently social media that stress individual participation in the public commons through social protocols that get developed over time by distinct communities. They balance individual ownership and creativity with larger public goods and reciprocity.



## Introduction

### SOCIAL INNOVATIONS WILL SHAPE NEW WORK PRACTICES

The following are specific areas in which new media users are experimenting with social practices of exchange, interaction, collaboration, and identity management. Each one is explored in depth later in the report. They are rich sources of new workplace practices and present business with several challenging issues and opportunities.

- **Flexible play with identity and presence.** Across new media genres, users, players, and authors are playing with a range of new text- and graphics-based identity tools that allow them to build a reputation (or personal brand) that sustains across virtual and physical borders.
- **The audience powers up and talks back.** Each form of entertainment and personal media we explore is organized around new relationships between players and designers, and producers and consumers of media experiences. Self-generated content and audience participation lie at the heart of the experience.
- **A complex public-private interface.** The new media experience is characterized by constant toggling between public commons and private domains. The creation and exchange of “goods” (virtual and physical) is a key factor driving the nature of public and private domains.
- **Content disaggregation and new creative genres.** New modes of creativity are based upon interactions at the smallest modular level of content, that are highly fungible in the “game” or media context. As smaller units of content and knowledge become articulated, tagged, pointed to, and exchanged, greater innovation is possible.
- **Dynamics of distributed and collective intelligence.** New entertainment media are inherently social media; they rely upon the participation and involvement of groups and many-to-many communications. A powerful dimension of new media is the individual empowerment that comes through the collective social agency of the group.
- **Simultaneous channels create layers of context.** Entertainment and personal media take advantage of various forms of pervasive communications—mobile telephony, e-mail, chat, instant messaging (IM), discussion boards, fax, and in-person interactions, to name a few. These multiple channels combine in a layered effect to create multiple contexts for identity expression, establishment of presence, and interaction.
- **The dark side: challenges with reputation management.** The proliferation of methods for persistent online self-expression also enables methods for searching, identifying, and repackaging individuals’ actions in ways they weren’t originally imagined or anticipated. As identity and presence become more flexible, they are also more susceptible to abuse.



THE REPORT IS DIVIDED INTO  
FOUR CHAPTERS:

CHAPTER 1 ..... 1

We provide a summary of the four media, identifying their distinguishing characteristics, the general experience, and their enabling technologies.

CHAPTER 2 ..... 13

We discuss how these media will evolve as new technologies offer new possibilities.

CHAPTER 3 ..... 19

We identify seven key social innovations that emerge from the media and forecast work practices that will shape the work environment in the future.

CHAPTER 4 ..... 33

We discuss the key implications for business and how new work practices will be the source of new opportunities.



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## Endnotes

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<sup>1</sup> For more discussion on the collective practices of the Cloudmakers and their implications for non-game cooperative applications, see, “*This Is Not a Game: Immersive Aesthetics and Collective Play*” by Jane McGonigal, University of California, Berkeley, in *Proceedings of the Fifth International Digital Arts and Culture Conference*. RMIT, Melbourne, Australia. May 19-23, 2003. <http://hypertext.rmit.edu.au/dac/papers/McGonigal.pdf>.

# Four Key Entertainment Media

# 1



We studied four new entertainment media that we think will play the biggest role in transforming work practices in the future. None of them requires ownership of sophisticated technologies nor expert technological or computer programming skills. All of them are Web-driven and are complemented by well-diffused communications tools such as mobile phones, PDAs, e-mail, instant messaging, online chat, discussion boards, fax, and phone conferencing.



**WEB LOGS** Web logs, more commonly referred to as “blogs,” are self-published, personal Web sites in journal form that encourage linking to other blogs, Web sites, or other Web-based content and commentary from readers, creating a web of people and ideas.



**DIGITAL MUSIC** This includes a range of activities including CD burning, storage of digital music on hard drives and portable MP3 players, and music exchange through file sharing on peer-to-peer (P2P) networks.



**MASSIVELY MULTIPLAYER ONLINE GAMES** Massively multiplayer online games (MMPs) are world-building or role-playing games that take place in the virtual world. They involve intensive character development, the creation and exchange of goods, and social interactions. Examples include *The Sims Online*, *There, Game Neverending*, and *EverQuest*.



**ALTERNATE REALITY GAMES** Alternate reality games (ARGs) combine interactive fiction and adventure into a game in which clues, missions, and interactions can span both the online and offline world. Players combine their smarts with others to collectively solve puzzles and mysteries. *The Beast* and *Majestic* are two online examples while *The Go Game* takes place in the physical world.



# 1 Four Key Entertainment Media

## SHIFTS IN THE NATURE OF ENTERTAINMENT

Together these media reflect several key shifts in the nature of entertainment media that we identified in our 2002 report, *Technology and Daily Life: A Spotlight on Entertainment* (IFTF SR-788 B). These shifts characterize the direction of new entertainment media, and will be present in business media and communications as well.

- **From mass to personal** where consumers appropriate mass-media tools and content for their own personal expression.
- **From pre-packaged to self-generated** where consumers create the entertainment experiences in which they engage.
- **From episodic to persistent experience** where the entertainment experience is ongoing and has no clear starting and stopping point.
- **From virtual to embedded** where digital information, images, music, and experiences are embedded in physical objects and in the physical world.

## KEY DRIVERS FOR MEDIA ADOPTION

Several factors will drive the adoption of these four media and shape their impact on work practices.

### Continued Widespread Adoption and Familiarity with the Internet

Internet use continues to grow at a double-digit pace in most regions of the world. Between 2000 and 2004, North America will see 14.3% annual average growth in Internet users, reaching 184.5 million users in 2004. Over the same time period, Europe will reach 221.7 million (21.7% growth); Asia-Pacific will reach 232.1 million (17.1%); Latin America will reach 60.6 million (39.9% growth); and Africa will reach 10.9 million during this time (27.7% growth).<sup>2</sup>

### Increasing Adoption of Broadband Connectivity

By 2010 approximately 60% of U.S. households will have broadband Internet connectivity and 58% will have home networks, allowing users to share broadband access.<sup>3</sup> Reports show that broadband access leads to more intensive use of the Internet.

### Proliferation of Mobile Tools and Wireless Access

Portable tools and wireless connectivity allow users to access media from multiple locations and integrate their uses across various domains of their lives. Intel's new Wi-Fi enabled Centrino microchip integrates wireless 802.11b connectivity into portable devices and laptops, making wireless connectivity a common feature and eliminating the need for adapter cards and cumbersome retrofits. Combined with for-pay and free Wi-Fi hotspots in public settings (such as Starbucks which charges users and Marriott



Hotels' mid-price properties which offer Wi-Fi broadband Internet access free to guests), anywhere, anytime Internet access is becoming more of a reality.<sup>4</sup>

### Easy to Use and Inexpensive

The four entertainment media are easy to use and relatively inexpensive, sometimes even free, provided one has a base, personal technology infrastructure such as a PC. Several file-sharing software programs for downloading digital music are free (for example, Kazaa, Morpheus, Grokster). Most ARGs are free and some even offer cash prizes to winners. MMPs charge for software (\$35–50) and a monthly fee (\$10–15). The price of digital music players is going down. Apple now offers iPod MP3 digital music players for as low as \$299. And through Apple's iTunes online digital music store, users can purchase individual songs for 99 cents. Blogging software is typically free, with advanced or upgraded versions available for a subscription fee. All the media are easy to use with graphical user interfaces, pull down menus, and template forms to assist even novice users.

### Youth Culture Will Bring Formative Media Experiences to the Workplace

College students and teenagers are steeped in social practices and values associated with portable, customizable media and communications tools that make up a large part of their formative social and educational experiences. For example, the Pew Internet & American Life Project reports that 66% of teens have downloaded or played games online, and 56% of college students play online games. This generation will bring their experiences into the workplace.



Source: <http://new.blogger.com/home.pyra>



Source: [www.listen.com](http://www.listen.com)



## WEB LOGS

Estimated number of blogs:  
**500,000**

Source: Newsweek, September, 2002

Subscribers to Blogger:  
**1,000,000**

Source: Blogger (new.blogger.com)  
January 6, 2003



Source: www.boingboing.net

### DISTINGUISHING CHARACTERISTICS OF BLOGS

- ▶ Personal voice.
- ▶ Ownership of the blog space.
- ▶ Creation of linked webs of ideas, knowledge, photos, social networks.
- ▶ Persistent and searchable.
- ▶ Author attribution for posts, even if pseudonymous: not anonymous.
- ▶ Metadata shows traffic flows and popularity of topics and posts.

### WEB LOGS:

#### A DISTRIBUTED PUBLIC CONVERSATION SPACE

Web logging, or blogging, is a paradigmatic example of a technological phenomenon driven by open standards, ease of use, and social encouragement, rather than cutting-edge hardware or software. Blogs are a new genre of online publishing. Broadly, blogs are personal online journals or columns, written and published using software that manages both the editorial and publishing functions. Dedicated bloggers post entries on a regular basis, which appear on their Web sites in reverse chronological order (that is, with the newest posts first), making them more reader-friendly.

Blog topics range from political and current events written by well known journalists (for example, Andrew Sullivan's "The Revolution Will Be Blogged" at [www.Andrew.Sullivan.com](http://www.Andrew.Sullivan.com) and Dan Gillmor's "Inside the Tech Economy" at <http://weblog.siliconvalley.com/column/dangillmor/>), to family photo blogs, product-based blogs (for example, Randy's personal Toyota Prius blog at [www.randyrathbun.org/prius](http://www.randyrathbun.org/prius)), fan blogs, and personal accounts and reflections of daily life (for example, a New Jersey lawyer writes poetically about the characters, joys, and sorrows as a lawyer at [www.unbillablehours.com](http://www.unbillablehours.com)). Several variants of blogs—photoblogs ([www.fotolog.net](http://www.fotolog.net)), video blogs (vlogs), and mobile blogs (moblogs), to name but three—have also emerged in the last year, and are growing rapidly in popularity. There are probably several million people worldwide who blog regularly, and millions more who read blogs, but there are no precise estimates.

The blog style is characterized by the personal voice; it would be rare to find a blog written in the third person, for example. However, it is not safe to assume that all blog identities are the same as real life identities. Some bloggers assume a pseudonym to distinguish views and opinions in the blog from other aspects of their lives. Reasons for using a pseudonym range from political to work and social implications. For example, consultants may maintain a distinct voice for their professional blog but use a completely different one for a hobby-based blog, and employees may use a pseudonym for their personal blog to hide their identity from their employer.

Users describe their blogs in many ways: a personal studio, a personal archive of ideas, a place to share things they think are interesting, or a memory tool. One blogger commented that the rigor of writing succinct entries sharpened his point of view and helped him remember ideas. While clearly personally oriented, blogs are a form of public documentation. Some bloggers take this aspect very seriously and post content that they feel ought to be in the public record—scathing news about a company, poignant letters from a correspondent in Eastern Europe, or SARS folk art, for example. Others have learned the hard way that blogs are a public forum. A boyfriend blogs something nasty about a girlfriend, or an employee blogs something bad about her boss, assuming that the target of their blogs will never read it. But given that blogs are public, archived, and searchable, this is not a safe assumption.

A blog can put authors or creators in touch with an interested audience. Through comments and permanent cross-blog linking, readers and writers of blogs engage in what is essentially a distributed conversation. Tracking tools allow bloggers to see who has linked to their blog, or a specific post, and where they are from. Such data can reveal the breadth and depth of the dispersion of an idea.

### Enabling Technologies

Blogging is supported by a technological system of editing, publishing, and reading tools. The editing tools—the equivalent of word processors for blogs—can either be server-based, or reside on writers' machines. Blogger and Movable Type, two of the most popular blogging programs, are both server-based, and are accessed through a Web interface. Radio Userland and Tinderbox, in contrast, combine Web design and outlining tools with blogging functionality, but are run from users' computers.

Part of the popularity of blogs stems from the fact that they manage to hit a sweet spot between simplicity and accessibility (which is appealing to new users) and technical complexity and power (which is appealing to more advanced users). Blogger, one of the most popular software packages, boasts that it provides “push-button publishing;” the only technical skill it requires is an ability to fill out forms. Movable Type and Radio Userland allow users to directly edit the cascading style sheets (CSS) that control the look and feel of their blogs; they also create and manage metadata, automatically produce XML-compliant pages, and generate Really Simple Syndication (RSS) feeds.

Since most developers have been enthusiasts of Extensible Markup Language (XML) and open standards, blogging has evolved into an open, user-driven ecology of programs, applets, and services. Developers—many of whom are bloggers themselves—have created everything from services for managing links (blogdexes), to tools to monitor site statistics, to plug-ins for Web-cam photos, news and weather tickers, or instant messaging.



## DIGITAL MUSIC

Users of file sharing services: **57 million**

Source: Yankee Group as reported by Washington Post, June 25, 2003

Users of file sharing software: **40 million**

Source: Ipsos TEMPO, 2002



Source: www.kazaa.com

### DISTINGUISHING CHARACTERISTICS OF DIGITAL MUSIC

- ▶ P2P network sharing creates an open system.
- ▶ Selectivity and content choice enhanced.
- ▶ Vast storage and portability of digital content.
- ▶ Music easily integrated with other media as a context marker.

### DIGITAL MUSIC:

#### A LESSON IN PERSONAL DATA MANAGEMENT

Digital music is one of the most popular, and most contentious, forms of entertainment today. The last ten years have seen considerable innovation in products for music creation, distribution, and listening, almost all of which build on existing technologies or practices.

Music recording has undergone great changes in the last decade. The personal computer has morphed into a tool for studio-quality music recording and mixing, allowing musicians and independent labels to create offerings technically indistinguishable from those of major studios. But more important than digital recording methods is the rise in popularity of listening to digital music.

With the addition of CD-players to PCs, music listening has become more PC-focused in the last several years. Indeed, traditional stereo systems are declining in popularity, as more people listen to music on their computers and build home theater systems that handle both music and video. In addition, portable MP3 players allow users to carry near CD-quality music with them wherever they go, and MP3 player software has also made its way onto other portable devices, like PDAs and cell phones, giving listeners even more options for enjoying digital music on the go.

While these forms of digital music have not created revolutionary changes in music practices, file sharing is transforming how music is collected, shared, listened to, and purchased. In just a few short years, file sharing has become a common practice and has already caused a crisis in the music industry. Estimates of the number of music downloaders and file sharers vary greatly. Conservative estimates from a Pew Internet & American Life study found that 29% (35 million people) of Internet users download music and 21% (26 million people) share music files online. Most users have treated file-sharing services as giant, free music stores. Music lovers download songs to sample before buying, or they collect their favorite songs and artists to support their personal collections, playlists, and digital music mixes (known as mash-ups) that add to the shared public music database. The services have been plagued with “free rider” problems: in some systems 80% of downloads are provided by only about 10% of users. A few users report discovering music that they otherwise would not have, but since the vast majority of downloads are of Top 40 hits, and



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services have not offered collaborative filtering or recommendations tools, file sharing has not popularized obscure music, or widened the reputations of local bands, yet.

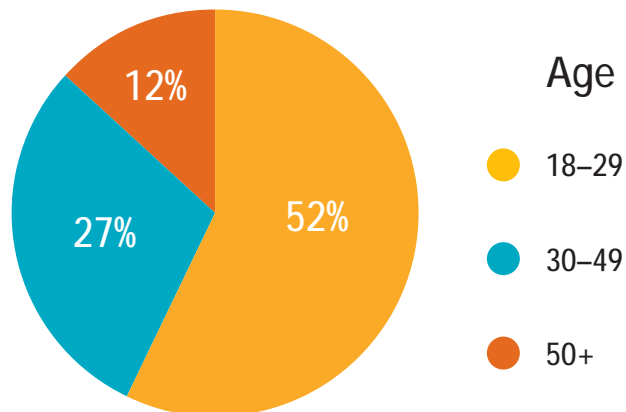
### Enabling Technologies

The rise of the multimedia-ready personal computer in the mid-1990s (which made CD players and then burners standard equipment) gave millions of users a new platform for listening to digital music. The publication of the MP3 standard for music compression (which allows users to create relatively small, high-quality music files) and the rise of Napster combined to make music file swapping feasible. File sharing took off quickly because the basic resources necessary to participate in it—multimedia PCs, Internet connections, and digital music collections—were already widely distributed. Napster, the first free file-

sharing program, compiled records of files users willing to share, and provided a platform for trading those files. Subsequent file sharing systems like Grokster and Kazaa have been purer P2P systems that eliminate the central database that proved to be Napster's Achilles heel.

Portable digital music players also benefited from the MP3 standard, and from a wealth of design knowledge gained with portable tape and CD players. For digital music, the biggest innovations have been in two areas: inexpensive 32–128 MB flash memory that allows users to carry a few hours of music, and small, high-density hard drives that can hold hundreds of CDs and thousands of songs—in many cases, an owner's entire CD collection. In fact, one of this report's authors has 281 CDs and 3,340 songs on his MP3 player!

YOUNG PEOPLE ARE  
MORE LIKELY TO  
DOWNLOAD MUSIC



Source: Pew Internet & American Life, July 2003.



# MASSIVELY MULTIPLAYER ONLINE GAMES

MMP players in the United States: **1–1.5 million**

Lineage players in South Korea: **4 million**

Active EverQuest players: **430,000**

Star Wars Galaxies players signed on at release: **203,000**

The Sims Online players: **80,000**

Source: IGDA Online Games White Paper, March 2003; panelist presentations by Lucas Arts, Electronic Arts at AAMA, July 2003.

## DISTINGUISHING CHARACTERISTICS OF MMPs

- ▶ Real-time character creation through personalized pursuit of skills, acquisition of objects, and alliance building.
- ▶ Designed to be played over a long period of time: investment of time means loyalty to the franchise.
- ▶ Community building (a clan, a house).
- ▶ Generally a bounded virtual world where players are captured within the game space. GNE is breaking the mold by creating gateways to other spaces on the Web such as Web logs.
- ▶ Multiple opportunities for communication in and out of the game.

## MASSIVELY MULTIPLAYER ONLINE GAMES: A TRAINING GROUND FOR PRESENCE MANAGEMENT

PC-based, massively multiplayer games (MMPs), also called massively multiplayer online role-playing games (MMORPGs) or persistent world games, are virtual worlds in which thousands or even hundreds of thousands of players improvise in real-time, sometimes role playing, across a persistent world “map.”<sup>5</sup> MMPs have their roots in the popular multiplayer games of the 1980s like Dungeons and Dragons. MMP players generally purchase the basic game software, but the bulk of revenue comes from \$10–15 monthly subscriptions to play the games online with others.

The MMP game experience is characterized by the creation of avatars (personally designed, persistent characters), which interact in real time with thousands of others in an always-on virtual world. Each person creates their own avatar (also called a “paper doll”) by selecting from a character kit that includes attributes such as appearance (or “skins”), social position (e.g., “blacksmith” or “bounty hunter”), species, city, and more. Once created, avatars then venture forth into the fictional world to explore, build alliances, acquire skills and goods, and fulfill missions. Each game contains its own balance of designed experience and emergent spontaneity between players.

In the most popular MMPs such as Electronic Arts’ *Ultima* and Sony’s *EverQuest*, players “win” by moving from one skill or status level to the next, gaining public recognition, beating others with hard-won skills and alliances, and staking claim to elaborately customized personal environments (homes, castles, and so on). To keep the action hopping, customer support avatars wander around the worlds, evolving the game and changing the rules by creating new events and missions, or stimulating conflict and drama.

In the emerging genre of MMPs like Ludicorp’s *Game Neverending (GNE)*, success is defined less by completing levels or missions, and more by participating in player-generated groups and organizing others in creative social interactions. For example, *GNE* players can hold their own elections or levy taxes, There.com has been the site of a number of well-publicized political protests, and Linden Lab’s *Second Life* players can gain fame by designing their own furniture, appearances, and clothing. Some MMPs also allow for “skinning,” or “dollmaking,” which is the practice of creating your own virtual objects (e.g., a new bedroom

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furniture set, a new game map, a new cauldron) and importing them into the game. Players have constructed an elaborate economy outside of the MMP worlds, where they buy, sell, and trade their virtual products, often for real money.

In the typical MMP, players grow more powerful by acquiring skills, objects, property, money, and perhaps most importantly, by building relationships with other players. Players communicate with one another through public text-based speech, in-game IM, e-mail, and in some cases, voice; out of the game, game developers often provide discussion forums and Web sites, which are complemented by a wide range of player-hosted Web sites, blogs, discussion boards, e-mail, IM, and so on. Many players describe the addictive quality of building an online community, chock full of high-drama, high-strategy events such as coups, battles, and marriages, that come to rival their offline friendships. The online world experience often becomes a backdrop for friendships that are maintained well beyond the boundaries of the virtual world.

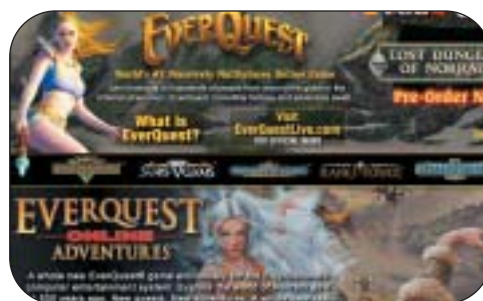
The International Game Developers Association estimates the current U.S. market for MMPs is still small at 1–1.5 million, a number that is dwarfed by other forms of Web-based games such as gambling and chess. But consider South Korea, where nearly 70% of households have broadband and public online gaming is a popular social activity, and the top selling MMP game *Lineage* boasts 4 million subscribers

While the market is dominated by medieval, science fiction, and super-hero virtual worlds, newer games like *Game Neverending* (*GNE*), EA's *The Sims Online* (*TSO*), and services like There Inc.'s *There* are taking MMPs into new territory. Stewart Butterfield, president of Ludicorp, describes the *GNE* world as “starting from a platform for presence ... and social interaction and then adding elements of play into it until it becomes a game.” By starting from the bottom

up with an explicit design for presence, conversation, and relationships, *GNE* encourages players to generate their own virtual economic, political, and religious systems. Developers hope that opening up the world to more customizable, non-genre specific social interactions will attract players beyond the “hard-core gamer” base of young and middle-aged men.

### Enabling Technologies

Most MMPs require little in way of special hardware, though players with more sophisticated graphics cards and faster processors have an advantage. (Game designers tend to design for the latest machines: for example, inhabitants of the new online *Star Wars Galaxies* MMP universe will essentially need brand-new computers to play.) However, a more significant variable is the availability of broadband Internet access. Indeed, it is no coincidence that broadband-saturated South Korea is an epicenter of online gaming. MMPs present greater challenges on the server side: managing tens of thousands of players, and the vast quantities of data created in the game and communicated between players (every object, landscape, player, and message has unique properties which must be tracked and managed) requires sophisticated servers and fat pipes, not to mention always-on technology and customer support staff.



Source: [everquest.station.sony.com/](http://everquest.station.sony.com/)



## ALTERNATE REALITY GAMES

Cloudmakers created a self-organized collective of over 7,000 people from around the world.

Alternate reality game site [www.arg.com](http://www.arg.com) reports 22 million hits in the last year.

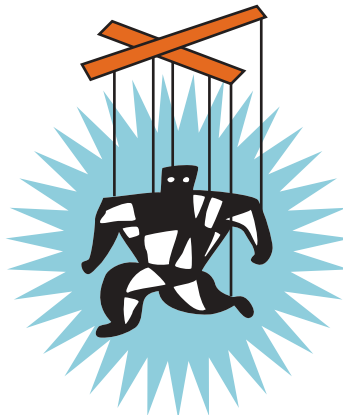
### DISTINGUISHING CHARACTERISTICS OF ARGs

- ▶ Puppet masters author and manipulate game from “behind the curtain,” carefully controlling the timing and placement of clues.
- ▶ Clues are communicated through multiple real-life media channels including Web sites, postal mail, fax, telephone, advertisements, newspapers, and radio.
- ▶ Players are constantly interacting with in-game and out-of-game people and objects.
- ▶ Puzzle solving, code cracking, group collaboration.

### ALTERNATE REALITY GAMES: INNOVATING INTENSIVE COLLECTIVE PRACTICES

Alternate reality games (ARGs, also known as beasting, unfiction, or immersive fiction) mix interactive fiction writing, team-building, puzzle-solving, and adventure-seeking in an online/offline experience characterized by the ambiguity of what lies in the game and what lies outside. Games are goal-oriented (the objective is to solve mysteries or puzzles) and highly structured (designers write complex storylines, develop numerous characters and create thousands of media objects to populate the game), yet support spontaneous play for participants and the creation of drama. ARGs are giant puzzles spread across the Internet, physical space, and sometimes both. They are generally designed to be won only by well-coordinated and often self-organizing teams. One such team, Collective Detective ([www.collectivedetective.org](http://www.collectivedetective.org)), calls itself a “grid problem-solving method” or a “human information-filtering system.”

The genre became popular with the iterative Web game, *The Beast*, that promoted the 2001 Steven Spielberg film *A.I.* A group calling itself the Cloudmakers ([www.cloudmakers.org](http://www.cloudmakers.org)) quickly and spontaneously formed online and leveraged the encryption and puzzle solving skills of over 7,000 players from around the world, “winning” the game in a matter of months. Games currently being played include *Alias*, which ties in with the ABC television show of the same name, *Search4e*, and *Planetarium*, a single player game in which the player has to solve 12-weeks worth of “fiendish” puzzles. Some games come with financial rewards, such as a BMW game where the winning player took home a 2003 BMW Z4.



The ARG play experience is defined by navigating and competing within possibly inconsistent “realities.” Today’s pervasive media support a multiple reality model in which fictive messages, interactions, and objects are layered on top of players’ daily reality. For example, *The Beast’s* clues were delivered in Web sites, newspaper want ads, TV ads, through the post, in faxes, and in

# 1

## Four Key Entertainment Media

simultaneous live events in multiple U.S. cities, to name just a few channels. To make the game even more devilish, designers refused to acknowledge the game's existence, publicly insisting "this is not a game." By using the tools and channels of everyday life, the "curtain" that separates players from designers (known as "puppet masters") becomes a thin and almost invisible line. The game is in figuring out the parameters of the game and deciding which pieces of data are relevant—as one Web site puts it, "understanding what the hell this is all about."

In *The Go Game*, a city or neighborhood-based ARG run by a group in San Francisco, players hit the streets in search of agents who will deliver clues to them or who might even "attack" them; they are also required to enlist members of the non-game playing public in order to complete various missions. In this way the game's puppet masters provide a safe structure in which random encounters can generate unknown outcomes; the most successful players are those who can improvise with the opportunities for play that the real world places in front of them. In addition, each team member is called upon to contribute skills that might otherwise remain hidden and untapped.

### Enabling Technologies

ARGs are driven more by innovations in the use of existing technologies than by special-purpose technologies. ARG designers use multiple media—Web sites, cell phones, fax machines, and so forth—but do not develop their own new media. Indeed, the appeal of ARGs resides precisely in the degree to which they effectively blur the boundaries between "the game" and "the world" and not the technology needed to play.



Source: [www.search4e.org](http://www.search4e.org)



Source: [www.thegogame.com](http://www.thegogame.com)

## Endnotes

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<sup>2</sup> International Monetary Fund; Institute for the Future.

<sup>3</sup> Yankee Group; Pew Internet & American Life Project; Institute for the Future.

<sup>4</sup> For in-depth analysis of the emerging wireless landscape, watch for IFTF's Fall 2003 Technology Horizons research, which explores the diffusion of wireless Internet in the United States, Northern Europe, and Japan.

<sup>5</sup> Here we use MMP, following the naming convention of the International Game Developers Association (IGDA). See the IGDA Online Games White Paper, 2nd edition. March 2003. [http://www.igda.org/online/online\\_whitepaper.php](http://www.igda.org/online/online_whitepaper.php).

# Technology Trends Shaping the Evolution of New Media 2



Blogging, digital music, MMPs, and ARGs all rest on technological foundations, but they are defined less by specialized software or hardware than by innovative practices and communities of users. Consequently, their futures may depend less on obvious technological improvements—for example of faster processors—than on technologies that change the contexts in which people can create new ways to blog, listen to music, or play games. This suggests that the workplace, with much of the same media deployed, will become a dynamic place of innovation in ways of using new media for work activities.



## Mobile Internet

Moving Internet access off of desktops and cyber-café's and into the wider world—that is, creating an always-on, everywhere-on Internet—will profoundly change the contexts in which digital data and media are used. Foremost among the technologies that will enable widespread mobile Internet access are long-lasting portable energy sources (e.g., micro fuel cells, flexible titanium oxide [TiO<sub>2</sub>] cells); low-power, flexible displays (e.g. organic light emitting diodes [OLEDs] and electronic inks); Wi-Fi and Bluetooth wireless communications; and global positioning systems (GPS) location-sensing technologies. A mobile Internet will enable several new ways to access new entertainment media.

- **Mobile Blogging** The growing accessibility of location information will allow blogs to contain entry-level metadata that links content to places. This in turn will allow readers to easily gather blog entries that talk about particular places, or (by cross-referencing date and location information) specific events. For example, apartment-hunters could get a sense of a neighborhood by reading blogs written by people who live there, a journalist could gather all first-hand accounts of a demonstration, or a new customer account manager could read all the blog posts referring to the particular customer and the series of products regularly shipped to this customer. The growth of pervasive, mobile Internet access will



allow readers to access place-specific information in those places: diners could read blog entries about a restaurant they're standing in front of, and shoppers could check blogs for reports of bad service in a store before making a purchase.

- **Mobile MMPs** Some MMPs will exploit mobile Internet access to give players the ability to stay connected to their virtual characters and worlds while on the go and play while commuting on the train, for example.  

- **Mobile ARGs** Mobile Internet access will increase the richness of physical-digital interactions in ARGs, and allow for the creation of more sophisticated and complex clues and resources for players. Just as important, it will let players communicate and collaborate even more effectively. The growth of RFID tags could also allow ARG puppet masters to turn public spaces into game levels, by seeding spaces with digital cues and clues, furthering extending the game space into the physical surroundings and filling moments of time on the go.  


# 2

## Technology Trends Shaping the Evolution of New Media





Source: [www.nokia.com](http://www.nokia.com)

### Multi-Function Cell Phones

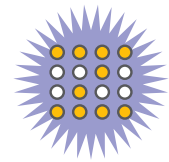
The evolution of cell phones will affect all four media. Camera-enabled cell phones are likely to increase the popularity of photologs, the sophistication of clues and cooperation in ARGs, and potentially serve as another platform for MMPs. The growth of Web-enabled and Bluetooth cell phones will provide another route to mobile Internet access, and (depending on transfer speeds) facilitate music downloading.

### Collaborative Filtering

Another important cluster of emerging technologies is collaborative filtering and recommendation software. Collaborative filtering tools record the practices of large numbers of users, analyze them for patterns or preferences, and then use those patterns to deliver recommendations back to users. Amazon.com's recommendation system, for example, uses purchasing patterns to identify links between items. Collaborative filtering will improve the experience of users in some new media arenas.

- **Music Sharing** Today, large music labels are “filtering” new artists for the public by awarding contracts only to the best. In the future, if collaborative filtering software is added to file-sharing systems, the public will have a stronger voice in the discovery and promotion of new artists.  

- **Alternative Reality Games** Collaborative filtering could be used in solving puzzles, allowing players to evaluate large numbers of possible solutions better and faster.  
 It is also a key tool for creating online reputations, which could shape new forms of distributed leadership and emergent roles in ad hoc player groups. In essence this would give “smart mobs” an emergent and temporary structure or basis for relationships.





## Memory

In the recent past, portable MP3 players were basically the equivalent of “digital Walkmans,” designed to carry just a few hours’ worth of music. However, the success of Apple’s iPod has created a new, rapidly growing category of hard-drive MP3 players designed to hold entire personal music collections. (As of summer 2003, the most powerful had a 40 GB hard drive.) Given this much memory to store digital music, the central challenges for listeners become file management, sorting, and filtering. Users now have some tools available to help. For example, the latest version Apple’s iTunes software has simple preference and listener tracking features, and assembles playlists based on that data; it also gives users the ability to construct automated playlists based on genre or other criteria. However, the metadata for songs is relatively poor: One cannot choose songs featuring a favorite session musician, or songs by female singers, or songs with guitar solos, for example, because that information has yet to be attached to the digital files.

As hard drive MP3 players gain in popularity, they will also help establish a precedent for portable devices that provide comprehensive rather than selective access to media. If hard disk size continues to double every year, portable devices with 1 TB (terabyte) memories will be available in 2008. Such a device could hold about 200,000 songs, 250 movies, or millions of documents. Carrying movie collections, electronic libraries, years’ worth of e-mail, caches of every Web page you’ve ever viewed, or every digital picture you’ve taken or received, will not be a problem. However, finding a specific file will be.

## Intellectual Property

Intellectual property (IP) law and programming strategies can also influence the evolutionary path of new media practices. While not a specific technology or application, trends in IP law will be an important driver that will determine the extent to which the Internet and Web-enabled devices remain part of an open innovations commons.

The Internet’s fundamental design, in which devices communicate using open, standard protocols, makes it an environment—a “commons,” as Stanford University law professor Lawrence Lessig<sup>6</sup> put it—that allowed tremendous innovation. Anyone who obeys the technical rules can develop services that run on it; no application can be excluded for political reasons or protectionism; and success is a product of market forces, not government policy or corporate patronage. Cable companies are not bound by the same openness rules as telecoms. Cable broadband services could be designed to work best with parent company allies, to deny access to competitors or break software from other companies—all legally. Regulation and legislation surrounding the Internet and digital content will shape the boundaries of creativity for these four new media.

- **Massively Multiplayer Online Games**



Today’s multiplayer worlds are like zoos: entertaining, exotic, carefully managed, and most important, *closed*. For example, Sony and Microsoft claim ownership of the characters and virtual property that *players create*. Therefore, the enormous underground economy in virtual goods is actually, according to the corporate giants, traffic in stolen property. MMPs will evolve, but there is a question as to whether it will be according to company policy or through the “creative destruction” of markets and innovators.

# 2

## Technology Trends Shaping the Evolution of New Media

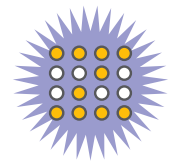
Today's multiplayer worlds are like zoos: entertaining, exotic, carefully managed, and most important, closed.



Source: www.ebay.com

In an open system with less strict IP laws, players could create new ways to play. Indeed, an open-platform multiplayer world would allow tremendous creativity on the part of players. In particular, it would lead to some interesting experiments in which players move back and forth between the real and digital worlds, and real and virtual economies. This already happens to a limited degree: the MMP *There* saw the opening of the first virtual bank earlier this year; clan members in the popular South Korean MMP, *Lineage*, take over their local cybercafés for campaigns, playing together in virtual and physical space; and *EverQuest* goods are available for sale on online auction sites like eBay.

With the growth of location awareness and cheap radio frequency identification (RFID) tags, players could program smart tags with rules for a mission in *EverQuest*, then put those tags in subway stations, or buildings on a campus, or in a park, creating missions that combine movement in a place, with movement in a virtual space. Companies could connect real and virtual services and economies: for example, your health club awards character strength and agility points as members reach their fitness goals—and takes them away if they start hitting the Krispy Kremes again. Ultimately the growth of the wireless Web, mobile Internet devices, and pervasive spread of RFID and GPS could yield a convergence of MMPs and ARGs.



- **Digital Music** Music companies have resisted giving up control over distribution or reproduction of digital music; pushing instead for digital rights management systems that restrict file sharing, offering subscription services in which listeners rent rather than own music files (they become unplayable if a listener's subscription lapses), and hardware that short-circuits copying. Apple's online music service, which sells songs and allows fair use copying, shows that a more open system is possible, but to date the industry has backed more restrictive copy-right and patent laws.



However, listeners have strongly resisted restrictions, partly out of economic self-interest, but also because the culture of pop music has encouraged fans to see themselves as helping to create and sustain the music they listen to. This fight is far from over. But, as groups such as the Electronic Frontier Foundation (see [www.eff.org](http://www.eff.org) and [www.boingboing.net](http://www.boingboing.net)) and other concerned Netizens provide online tools and information for fighting the Recording Industry Association of America (RIAA), the battle may become another demonstration of the powerful organizing and cooperative capabilities enabled by an open Internet. One Web site, Magnetbox, (<http://www.magnetbox.com/riaa/search.asp>) offers RIAA Radar that lets visitors search to see if an album they want to buy is RIAA affiliated.



Source: [www.eff.org](http://www.eff.org)



Source: [www.apple.com](http://www.apple.com)

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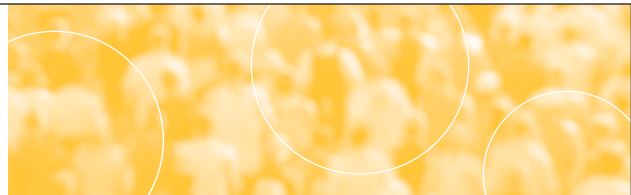
## Endnotes

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<sup>6</sup> Founder of the Center for Internet and Society at Stanford University. See Code, and Other Laws of Cyberspace, keynote speech at OpenSource Convention, July 24, 2002 for more on IP and the Internet as an innovation commons, at [www.oreillynet.com/pub/a/policy](http://www.oreillynet.com/pub/a/policy).

# Social Innovations That Will Shape New Work Practices

# 3



The following seven social innovations are guideposts to the new kinds of social and collaborative practices that will likely migrate to the workplace. They originate from our analysis of interviews across the four media areas. Each social innovation is a source of current experimentation in new forms of interaction, sharing digital content, and self-expression. For each innovation, we offer a forecast of possible workplace practices that may emerge in the future. Businesses should explore possible impacts on their organizations now and watch for signs of these new practices emerging.

## PLAYING WITH IDENTITY AND PRESENCE



The Internet has provided a new environment in which we can display various aspects of ourselves: professional, playful, spiritual, and so on. In using each of the four media here, people take great pleasure in the ability to creatively express themselves in new ways in new virtual environments. Indeed, for many it is the thrill of discovering a new format for self-expression that drives the countless hours invested in building a personal voice through a blog, leading a band of outlaws in a far-away galaxy, or scouring vast collections of music files to create the perfect compilation CD. Some of the most significant emerging online practices today have to do with using new presence markers to build online identities or “personal brands” across multiple virtual environments such as IM, e-mail, game worlds, and blogs.

Consider the MMP *The Sims Online* (*TSO*). Here players can develop new avatars that live in cities like “Mount Fuji” and “Blazing Falls,” start their own Avon businesses, sell their services as interior designers, or join the Mafia. *TSO* maker Electronic Arts sponsors text-based in-game discussion forums and live chat, using in-game names and e-mail addresses, and helps players organize real-world get-

togethers. But the *TSO* context goes far beyond the world as designed by Electronic Arts, and avatars are only one way to express identity in the larger, distributed online environment. In fact, out of the game, players act as live-DJs on *TSO*-themed Web radio stations, and players have generated hundreds of Web sites and blogs that include links to real-world digital photos, bios, and real-time “Sim cams,” screenshots and bios of their Sims, out-of-game e-mail addresses, and various “handles” on MSN, Yahoo!, and AOL instant messaging clients. Some players also design highly personalized logos for themselves and others, which they add to online posts. This exuberant tangle of methods for the creative expression of online identity suggests that some users want to extend themselves into lots of different virtual places and will create their own informal forums for display and interaction.



Source: simzunderground.com

# 3 Social Innovations That Will Shape New Work Practices

Personal logos and gaming handles can be seen as creative tools for publishing online presence. By presence, we mean a set of attributes that characterize an individual's physical or virtual location, work status, time frame of reference, mental mood, and even goals.<sup>7</sup> Simple examples include things like automatic e-mail responses that let people know you're on vacation, or "online/offline" markers for instant messaging buddy lists. However, new kinds of presence markers in today's entertainment media show blog readers the author's online status (and offer a link to instant message him or her), the tune the author is listening to at the moment, or which other readers and bloggers live in one's zip code.

In its prototype, *Game Neverending* brought together the world of blogs and gamers by placing an icon on players' blogs that indicated whether they were currently playing *GNE* or not, and allowed readers to contact them from the "other" world.<sup>8</sup> These new ways of communicating identity and presence give users unprecedented flexibility to overlap virtual and physical identities in real time and space. They allow people to create tight links between virtual and real worlds, to stay behind the curtain, or to reveal bits and pieces of themselves. Gamers, for instance, can create a completely anonymous avatar in a persistent online world, or they can give the avatar their real name and include links to personal blogs. They can throw their professional skills (translating, programming, writing, research, hacking, cryptography, and so forth) into an alternate reality collective, or they can sit back and watch others do it. Companies should watch for the proliferation of new forms of presence markers as clues to new forms of complex identity and knowledge management.

## Forecast of Future Workplace Practices

- **Workers will come on board with multiple online identities.** Membership in various virtual communities, or being the author of a well-known blog, could be a boon to network building, viral marketing, and public relations. Alternatively, it could be a source of tension between employer and employee. One CNN reporter was asked to shut down his personal photo-blog, for instance, during his coverage of the recent war in Iraq. Companies should start thinking now about how to both leverage and manage workers' real world and virtual world relationships.
- **Workers will want to develop alternative professional identities and extend them across multiple corporate environments.** Our research suggests that, given the opportunity and the forum, people will spend a good deal of time and energy developing alternative expressions of their "personal brand" that reflect their interests and build their reputations. Companies should assess the range of virtual environments in the workplace (Intranet, discussion boards, Web sites, and so forth) and explore options that enable workers to develop multiple professional identities. These might be focused on domain expertise (for example, "Maternity Benefits Gal"), strategic positioning (for example, "Offshoring Advocate"), or personal passion (for example, "Digital Photography Nut"). The time invested in such personal brands may be a worthwhile investment as it helps to improve informal skill sharing, cooperative support, and can increase morale and buy-in to company processes.



- **Workers familiar with new entertainment media will be better at building trust and evaluating dishonesty in virtual settings.** Building credibility online and a legacy of trustworthiness is an important part of maintaining an online reputation. Distributed team-based work processes will benefit from increased sophistication in both of these areas brought to the table by people with lots of virtual experience in the entertainment space. Watch for significant differences in generational communication styles.
- **New media will spawn a new form of visual literacy for reading virtual presence markers.** The signs and symbols of the new entertainment media—the various “handles,” logos, and so on—will slowly enter the workplace via communication channels. (Many people already design their own logo for their instant messaging presence, for example.) Workers will develop a new language for communicating presence and availability, combined with a new visual literacy in reading the digital expressions of others. Workers will develop better visual awareness of their physical and digital workplace as presence markers become commonplace in the physical and digital environment. This will shape the design of work environments, making them more open slates for expression as opposed to fixed or pre-designed environments.

## THE AUDIENCE POWERS UP AND TALKS BACK

New entertainment forms are characterized by an ongoing shift in the balance of power between users and designers. Since its popularization in the 1990s, the decentralized, P2P nature of the Internet has helped erode the hierarchy between authors and audiences in the traditional, broadcast, mass-media model. Traditionally, television, radio, music, print, or film content has been created by an author, disseminated by an owner, and received by an audience. In contrast, each of the forms of entertainment media we explore here is organized around new relationships between players and designers (of games), and producers and consumers (of blogs and music). Self-generated content and audience interaction lie at the very heart of much of today’s entertainment experience. For designers, authors, and producers this means making a strategic choice about the scope of control and creativity that will be given over to audience members.

Traditional broadcast media have, of course, always relied on their audiences to succeed. What is different about blogging, music sharing, and online and immersive gaming, however, is what is asked of the audience for the media to succeed: namely, interaction and participation as opposed to mere consumption.<sup>9</sup> The most successful blogs, for example, have readers who interact with the content by commenting in the blog or linking it to their own blog. Music file sharers need peers with whom to trade, and gamers need team members to join them in collaboration, no less to talk trash and compete against. Rather than spectatorship, then, it is the creativity of the audience that defines the experience and is rewarded, embraced, and facilitated. This difference has a significant impact on the expectations and perceived “rights” of authors/creators and the audience.



## 3 Social Innovations That Will Shape New Work Practices

There are two important things that happen when audience participation is required. First, individuals start to create or co-create content. Customization (of avatars, music playlists, or blog design, for example) is a way to display craftsmanship and experience, gain recognition and build a reputation. In online gaming, for instance, highly skilled players create new content that can become as popular as the original game.

Second, as a result of becoming part of the creative process, audience members interact directly with the underlying structures of the product or experience as it was originally designed. They “customize,” or extend, both the design and the rules of the game (or product) from the inside and the outside. For instance, the file-sharing service Napster was shutdown but music lovers used the concept to create a new and better P2P architecture for file sharing. And ARG “rules” include trying to figure out just what rules will advance the game objective. One game designer told us about the ingenuity of a group of players who had botched their mission to find the combination to a lock on a box that contained instructions for their next mission. The team thought of another way to succeed that worked just as well: breaking the box open by brute force. Customizing content, design, and rules is a way for individuals to “play” through cleverness and creativity, often winning them the admiration of designers. The author or designer’s job, then, becomes one of creating context rather than content.<sup>10</sup>

The growing role of audience participation has both positive and negative aspects. The RIAA, for instance, views P2P file sharing as a threat. And rightly so; full-length CD sales have declined by 13% in Q4 2002 compared to Q4 2001 according to NPD research. On the other hand, the game industry is giving public awards to player-generated content, MMPs like *Game Neverending* let players run wild

with the tools to create their own religious and political affiliations, and ARG players have become developers in their own right.

But whether it is viewed positively or negatively, increased audience participation leads to increased expectations on the part of individuals about where, when, and how they should be allowed to play. It is still unclear what kind of balance between control and creativity will gain market share within different entertainment and media formats. Some viewers will want to remain just that, while others are already forging ahead to more intense and time-consuming relationships with those who produce games, blogs, and music.

### Forecast of Future Workplace Practices

- **Workers will be proactive about managing information and knowledge in the workplace.** When people as audience members get used to talking back to content creators, their role in other forms of knowledge and information sharing is likely to change as well. This will spill over into the workplace and lead to more workers with advanced skills and clear preferences in personal knowledge management.
- **Corporate-organized structures may be challenged by self-organized groups.** Some workers will come to work with stronger expectations about when, where, and how they should be involved in work processes and decision making. They may be more proactive about creating their own teams across organizational lines to solve problems, analyze, debate, propose alternatives (authorized or unauthorized), and express opinions. And much of it may be done outside of the corporate technology infrastructure.





- **IT and communications systems will need to allow more room for employee customization and creative control.** Workers will want more say in designing and personalizing corporate communications and information systems. Companies will need to provide a basic platform of tools and media upon which individuals and teams can build their own best systems.
- **Consumer-facing workers will engage consumers in designer–player relationships.** Workers with experiences in new media will be more likely to engage consumers in flexible interactions across media that allow consumers to push back and put their stamp on brands, products, services, and processes that affect them. Virtual gaming environments could create open and playful environments for co-creating new solutions and offerings.

As part of a player's character development in MMPs such as *The Sims Online*, *EverQuest*, or *Game Neverending*, individuals develop skills and create objects to trade with other players for survival and to help build their reputation.

### A COMPLEX PUBLIC–PRIVATE INTERFACE

Traversing the complex border between public and private spheres is a key feature of new entertainment media. A constant toggling back and forth between the public commons and the private domain marks the experiences of blogging, gaming, and downloading and sharing digital music. This happens in several ways and for various reasons. For example, users create private goods and want to make them public (such as blog posts, game clues, songs, or game objects). Users interact with each other in public and private spaces, each with its own social protocol for appropriate expression.

New entertainment media users also develop ways to create personal interfaces with public spaces, in effect customizing a public resource. At their core, new entertainment media engender new strategies and processes for negotiating the boundary between public and private. Users develop skills in understanding the extent to which this line can blur and how to play it for a satisfying experience.



Source: [www.gameneverending.com](http://www.gameneverending.com)

# 3 Social Innovations That Will Shape New Work Practices

In ARGs, the goal of the game is to “play” the border zone between public and private. Players are frequently unsure whether a public space, a Web site, or a message is in fact a part of their personal game space. They have to determine the boundaries for themselves. As critics and users of ARGs explain, “finding a game” in the broader public sphere (like the Web or a physical setting) is often the first thrill of the game experience. Players of *The Go Game*, for example, may enlist the help of strangers to perform team missions (they may have to sing a song or help solve a riddle). Other times, players mistakenly identify members of the public for *Go Game* “plants” who are placed in the game setting to provide clues, answers, or other resources. When mistakes occur, players pass out cards to confused public spectators that state “You have just played the *Go Game*” to clarify the interaction and delineate the boundary between public space and private game.



Source: Go Game

As part of a player’s character development in MMPs such as *The Sims Online*, *EverQuest*, or *Game Neverending*, individuals develop skills and create objects to trade with other players for survival and to help build their reputation. These private objects become publicly traded goods as they get exchanged between players.

Bloggers trade ideas and links, by putting an individual point of view or personal opinion into the public space. What is distinctive about this media form, however, is that posts aren’t public and ephemeral, like speaking out loud in a public park or bar. Blog entries are *public*, *persistent* and *searchable*. Recognizing these qualities, and out of a sense of public responsibility, many bloggers post, on their private blog space, original creations or items that they believe ought to be a part of the digital public record. However, bloggers “own” their space. Nobody can tell them what to post. One blogger stated that he did not allow comments on his site because he didn’t want the responsibility of suppressing any distracting flame wars that could erupt. Others use filtering tools that make troublesome commentators, or “trolls” who say nasty things on the blog, invisible to the blog host but still remain in the public view. This tactic does not censor free speech, but it creates a personal view of a public space and eliminates distractions.



## Forecast of Future Workplace Practices

- **Workers will seek out a dynamic commons.** Workers with experience with new entertainment media will look for and create their own public commons that serve their play, work, or personal needs. Blogging, gaming, and digital music provide many lessons about issues related to personal spaces and resources that are made public, and can inform businesses about how to catalyze more direct peer exchanges of work resources.
- **New media will drive viral marketing and consumer-to-consumer communication practices.** Some small companies, particularly those that depend on close relationships with clients or repeat customers, already use blogs to communicate with current and potential customers. A growing number of consultants see blogs as a tool for generating interest in their services. Blogs are a natural vehicle for viral and word-of-mouth marketing, though a recent attempt by soft-drink maker Dr. Pepper to pay teenagers to blog about their product was quickly exposed and ridiculed. Blogs will also represent a threat for large companies in the next decade, since they provide a powerful platform for activists to publicize their criticisms or grievances.

## CONTENT DISAGGREGATION AND NEW CREATIVE GENRES

Consumer innovation and creation is a primary aspect of the four new entertainment media and each offers new ways for users to engage with content that encourages new creative genres. The new modes of creativity emphasize interactions at modular levels of content that are highly fungible in the “game” or media context. Their value is reflected not only in their exchangeability, but also over time, as they become a part of distinctive personal collections, portfolios, and compilations. New creative genres such as playlists, blog links, and online game tools and resources leverage the breakdown of content into smaller pieces and are not limited by how the producer intended them to be used.

Digital music, blogging, ARGs, and MMPs all reside in the larger world of the Internet and thus leverage to some degree the capabilities of that environment such as searching, linking, XML data tagging, and a variety of communications methods like IM, e-mail, and chat. Given these tools and capabilities, the typical unit of content that gets created and exchanged is getting smaller. For example, users work at the level of song lyrics rather than an entire album, an avatar’s invisibility cloak rather than the whole character, an individual blog post rather than the entire blog, or one clue rather than the entire maze of clues in a puzzle. Each of these bits of content becomes an active object around which players can interact, debate, exchange, and create.

What we see is that a new creative genre—one emphasizing a type of bricolage using searching, disaggregation, re-aggregation, and creation—is emerging at this smaller content scale. Indeed, for these entertainment media, this detailed level of exchange and interaction is often the meat of the experience.



## 3 Social Innovations That Will Shape New Work Practices

While it is time consuming to deal with content at this level, individual passion motivates many new media users to invest time and energy into this creative process.

Music downloading provides a good example of the shrinking unit of content. In fact, many in the music industry proclaim with fear the end of the album. The activities surrounding music downloading reveal that artistic creativity around music now can be expressed through content disaggregation and re-integration according to the user's discretion. Users of Apple's iTunes and other free downloading software can download single songs from a variety of artists, songs by a particular artist, or a specific genre (say Christmas songs). In the near future they may even be able to search and download music by such detailed information as a guitar riff (say, all of Eric Clapton's blues riffs). Add to this the commentary by other music aficionados and experts, and newly created packages of a music experience are created. Apple has seen the significance of user disaggregation and bricolage of discrete music content, and therefore allows users of iTunes to purchase CDs of other users' playlists. Here, the selection and arrangement of songs and related material are valuable, even commercialized, creative assets.

Blogging reflects similar creative values and practices. Using mechanisms such as links to other blog entries, other Web-based content, and other people, bloggers often re-use, re-purpose, and re-interpret content to create something new. As conversation and debate develop, discrete ideas, extracts from a post, new terms, and other granular pieces of content are shared and exchanged and put into new contexts and interpretations across the broader "blogosphere." No single entry, idea, or blog is really a

complete entity on its own; indeed each is shaped and given various meanings in the various contexts that they appear.

MMPs and ARGs have their own mechanisms and practices of content disaggregation and bricolage. In MMPs like *The Sims Online*, various hacks and cheats of the system become pieces of knowledge and tools that get shared, passed on, and highly valued (indeed traded and sold in other game contexts like *EverQuest*). Similarly, in ARGs like *The Go Game* or even more elaborate ones like *The Beast*, discrete missions and clues become the point of orientation and interaction. How individuals perform on a particular mission often becomes a platform for in-depth discussions with other players.

### Forecast of Future Workplace Practices

- **Workers will create and exchange knowledge in smaller units.** New entertainment media move the focus to smaller content units—individual blog entries, avatar skills or possessions, a clue, or a song title. One of the liberating aspects of this trend is that knowledge workers can begin to engage with each other more readily without having large, completed works. Interacting at this more granular content level means more opportunities for feedback and input along the way. It also provides a finer level of data for searching and re-use. Workers may begin to develop new databases of corporate content, broken down into searchable pieces. Examples might include content that stresses certain product features, blog entries that discuss clients who were interested in a particular service, consumer comments that complained about return policies,



customer inquires for supplies you don't offer yet, or product design specs for a particular component.

- **Workers will gain reputations by the collection of resources they make available.** Look for workers to begin sharing files of content and resources related to professional matters or even personal issues—anything from successful workshop processes to personally rated vacation spots or home repair services. Employees with a passion about certain issues or topics are important resources for each other. They will share that knowledge when it is easy to do so, and when rewarded by improved status and reputation.
- **New kinds of corporate knowledge categories will emerge.** New entertainment media provide new ways to recognize patterns about people's interests, social networks, and ideas. Metadata about previously untrackable indicators such as knowledge sharing, idea flows, knowledge givers and receivers, and hot topics will be important sources of strategic information for corporate management as well as business units.

Look for workers to begin sharing files of content and resources related to professional matters or even personal issues—anything from successful workshop processes to personally rated vacation spots or home repair services.



Source: [www.personal.psu.edu/users/m/l/mly112/FavoriteVacation.html](http://www.personal.psu.edu/users/m/l/mly112/FavoriteVacation.html)

## DYNAMICS OF DISTRIBUTED AND COLLECTIVE INTELLIGENCE

All four entertainment media presented here are inherently social. Individuals would not be able to solve complex riddles, obtain rare music selections, expand understanding of a topic, or interact in an online world without the voluntary participation of others. It is possible to act individually without interacting with others (buying songs from iTunes without any communication with others, solving ARG puzzles individually) but that is not the essence of these media. The random or uncertain consequences of interacting with others are a key motivator for attracting and retaining users. An important dimension of these new media is individual empowerment through remote interaction with others, which creates a distinct form of social or collective agency. Blogging, ARGs, MMPs, and music downloading depend and thrive upon unintentional collaboration and a form of cooperation that is ad hoc and emergent.



## 3 Social Innovations That Will Shape New Work Practices

Collections of linked blogs and the larger blogosphere act as a distributed conversation space. As one expert respondent noted, blogs are a way of “putting your thoughts in the public eye that is readily discoverable by anyone interested in the kind of thing that you’re interested in, and to have them participate in your thought process.” It is a form of collective intelligence spread across various blog sites and across readers who participate by posting comments or suggesting items for the blog host to post. Through links to other blog entries and other Web-based materials, bloggers create a web of ideas and a distributed narrative, without any intentional collaboration. MMPs work in a similar way as a form of collaborative programming. Game designers provide a basic shell and framework for players to collectively build virtual worlds. The outcome is unknown until players react to each other and contribute to the game process.

The story of the Cloudmakers described earlier is one of the most promising stories of distributed collective intelligence in action. A programmer in Oregon started the online group when he noticed a series of digitally distributed clues and narratives that seemed to be a game. The rules, rewards, and objectives, however, were not clear. After 48 hours the group had 153 new members who had stumbled on similar clues and were looking for solutions. When the game was finally solved three months later, the group numbered 7,480 members. Given the complexity of the game (three core plots, dozens of subplots, 150 characters, 4,000 digital texts, and other images and video files), only a cooperative group could have unraveled the mystery—and the group effort turned out to be much more effective than either the designers or players could have imagined. The Cloudmakers solved in one day a set of puzzles that the game designers had intended for months of play. By using a common set of communications tools, phone,

PDA downloads, e-mails, faxes, even postal mail, the Cloudmakers’ activities became a reality that appeared simultaneously layered over daily reality. And, more importantly, their cooperative practices migrated across these layers of reality as well.

### Forecast of Future Workplace Practices

- **Informal, ad hoc collectives will challenge formal work teams.** Watch for pockets of cooperation that gain a sense of collective agency. These groups will take on work-related issues that matter to them and direct their collective force toward solutions. Formal teams will feel rigid and slow-moving compared to such emergent collectives. However, both forms must be considered to determine where they are most appropriately deployed.
- **New roles and specialists will emerge around meme tracking and idea propagation.** New media tools are visual and reflect the links inside social networks. Metadata tools for blogs reveal patterns of idea dispersion and aggregations of people around particular ideas at a particular moment in time or duration of time. Likewise in digital music, MMPs and ARGs, there are insights to be gained from understanding who and what people are linking to, what resources are being developed and traded, and so on. Mining the archived data of the Cloudmakers, for example, to determine how they organized themselves and shared the intellectual work on various puzzles would be a source of great insight on distributed collaborative practices. Developing new roles and competencies for analyzing the patterns of the media space could provide insights into new opportunities for business.



## SIMULTANEOUS CHANNELS CREATE LAYERS OF CONTEXT

A basic characteristic of the new entertainment media we examined is the use of multiple communications channels, often used simultaneously. Asynchronous, synchronous, one-to-one, one-to-many, and many-to-many, text, graphic, and voice options are all being utilized. Instant messaging dialog boxes are frequently open as MMP or ARG players are in the game, as a way of getting additional help to solve a riddle or joke with another player. Many bloggers maintain separate e-mail conversations with other bloggers to follow up with points or side issues that aren't deemed relevant for the blog space.

The effect of the use of multiple and simultaneous communications channels is a layering of contexts, or spaces for interaction, which can serve many purposes. Multiple channels can serve as important back channels to help users participate in more robust interactions. Diverse channels can complement each other and further a single purpose (an IM dialog, phone conference, or e-mail in an ARG may be a way to get help with a clue), or they can provide divergent spaces for completely separate interactions (an MMP player may open up multiple chat spaces to "play" multiple avatars). Separate channels can help make or break distinctions between in-game and out-of-game spaces. Part of the craft and skill of new media is deciding how to manage identities across these various contexts, as mentioned in the earlier theme on persistent and fluid identities.

The real-time interactions can be extremely complex. One gamer told us about her experiences as a roommate in a *Sims Online*'s top money-making house. When hosting a house full of Sims party guests, she had two Sims simultaneously handling up to three different in-game instant messaging conversations, and would also have Yahoo! instant messaging for Sims friends who couldn't get through because the in-game IM queue was too long. Other asynchronous formats—e-mail, blogs, discussion boards—formed an additional dense thicket of communication. In another example, some bloggers participate in multi-modal group events called "happenings." These are interactive sessions that involve telephone conference calls, a wiki (which is a way to collaboratively write a Web page and share information), and chat. The "happenings" are experiments in how to leverage the strengths of multiple channels to support group collaborations and discussions.

### IM: THE GROWING BACK CHANNEL

59 million consumer IM users

23 million business IM users

Source: Ferris Research, 2002.

72 million home and  
work IM users

Source: Media Matrix April, 2002.



Source: www.aol.com



# 3 Social Innovations That Will Shape New Work Practices

## Forecast of Future Workspace Practices

- **Informal adoption of communication tools will highlight unmet workplace communication needs.** Work and play are happening in the same media spaces and with the same tools, and “play” practices will enter the workplace through informal word-of-mouth processes. Rather than close down emergent blogging, IM, or other communications media that spring up, companies should assess them and support them in ways that are a winning proposition for everyone. Employees will have imported them to address some underlying need or desire; understand the gap they are trying to fill and capitalize on it.
- **Media experimentation will become more commonplace.** As workers gain more confidence playing with media in non-work settings, their sense of play and experimentation is likely to carry into the workplace. No study or report can provide the true experience of what new entertainment media can offer. First hand observations and use are the best way to understand the impact and value of these media on your company. Leverage your employees’ personal pilot testing of these new media, even by supporting playful experimentation.

- **Attention *range* will become as important as attention *span*.** Workers who cannot simultaneously work in multiple communications channels will be less nimble than their colleagues. Those who can monitor, process, and respond quickly, in multiple media formats at the same time, will have the advantage in real-time problem solving and resource locating. Young people accustomed to working with multiple screens open on their computer and with IM, e-mail, cell phone, and SMS communication channels open will lead in developing new practices here.

## THE DARK SIDE: THE CHALLENGE OF DIGITAL REPUTATION MANAGEMENT

Playing with identity and presence through performances in new kinds of public and private spaces lies at the heart of the new entertainment media. The highly social and collaborative nature of these media means that users are building a rich set of skills that will serve them as they work in teams and solve problems elsewhere in life. Yet there is a dark side worth exploring too. With the proliferation of methods for persistent online self-expression comes the tools to search out, identify, and re-package individuals’ words or actions in ways that might not be of their choosing. For example, screenshots and a searchable permanent record put virtual actions such as blog posts, in-game interactions, and online chats, at risk of exposure and manipulation in ways that don’t generally apply to private or leisure spaces in the physical world.

Indeed, we are entering a world in which what we do for “fun” or “in secret” can have increasingly significant consequences for professional and personal relationships. In the next decade, watch for the emergence of skills that have to do with reputation man-





agement in virtual environments. The ability to maintain persistence will only grow, with MMPs like *Game Neverending* deliberately trying to blur the boundaries between the game world and players' other activities out in the rest of the Web such as blogs; or Xbox Live online console players who can develop a global gaming "handle" across multiple game environments. More persistence is likely to lead to even more interaction in online and real-world relationships, too: sites like meetup.com are already helping gamers, bloggers, and others organize get-togethers in towns and cities around the world. The only drawback arises when the things we do for fun or pleasure—outside of work and real-world social networks—start showing up in places we didn't expect, beyond our ability to control them.

Building reputations, creating visibility, and acting in ways you can't in the real world are also a big part of the new entertainment media experience; personal exposure is therefore especially difficult to control. Bloggers want readers, music buffs gain reputation through their extensive collections, while online gamers are rewarded when they attract other players to their cause. For some, this brings out extreme or exhibitionist behavior such as blogging intimate details or attacking other MMP characters. Others end up learning too late that what they do could have consequences beyond the virtual spaces in which they play.

Ultimately, obscurity is less and less possible in a virtual world. One blogger was unpleasantly surprised when her brother stumbled on her personal blog just in time to read her harsh condemnation of their Mormon upbringing, and passed it on to their parents. Another blogger got in a battle of words and found that his opponent had retaliated by his posting personal information on a message board frequented by their online community: every address he lived at

in the last 18 years, his phone number, even the value of his home. And take a brief glance at teen blogsites, where you'll find teens discussing friends and enemies using what appear to be real names, and posting graphic descriptions of drugs and sex—all of which are becoming part of the searchable public record. The challenge of digital reputation management could eventually change the privacy and relative anonymity that many of us take for granted in certain spheres of our lives. When everyone's blogging, friends become like reporters—and the professional ramifications of words and photos might not be felt for years.

#### Forecast of Future Workplace Practices

- **Legal issues around virtual actions and interactions will grow.** Expect growth in legal actions that take companies and their representatives to task for things that happen in virtual environments where identity or authority is unclear. Companies will have to develop explicit policies about online identities that overlap with online and real-world professional identities. Are separate personal and professional blogs enough, for instance, when an author is clearly identified by name?
- **Workers will develop firewalls around their personal online identities.** Understanding who your employees are and what they are doing in different virtual environments—in other words, what hazards or benefits you could be liable for—may become increasingly difficult. With more energy and time invested in online identities, workers may be loath to share them or give them up for professional reasons.

## Endnotes

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<sup>7</sup> See the U.K. Open University's Knowledge Media Institute <http://kmi.open.ac.uk/projects/buddyspace/> for an excellent short discussion of presence management.

<sup>8</sup> According to Stewart Butterfield of *GNE*, the "mail" was actually called a "note" which was a distinct game object (i.e., could be picked up, dropped, given, etc., as well as further annotated by the receiver). In-game mail in the final version of *GNE* will be distinct from this.

<sup>9</sup> There have been plenty of experiments with audience participation and interaction in the traditional media, with such phenomenon as "fan fiction," where viewers re-write scripts for their favorite television programs. And the move to audience participation is clearly shaping traditional media with the rise of audience voting in the reality television program *American Idol*. But in general, audiences are not required to actively participate, or "talk back," in traditional media channels.

<sup>10</sup> See the work of game designer and author Celia Pearce on this point, at <http://www.cpandfriends.com/writing/computers-graphics.html> and <http://www.cpandfriends.com/writing/first-person.html>.



New entertainment media will drive several social innovations related to presence, collaboration, identity, and the interface between public and private resources. As workers are exposed to these social innovations in their entertainment and play experiences, they will develop new practices in their work context. These innovations and transformative work practices will present businesses with several challenges and strategic opportunities in the future.

**New entertainment media support emergent learning, teaching, and new performance measures.**

Departments responsible for learning, leadership, and performance should pay close attention to how people are learning and teaching others to use new entertainment media. “Emergent learning” happens when groups are able to coalesce quickly around common interests (think about virtual gaming worlds or gaming collectives) and pre-determined structure is minimal. Companies may want to develop new measures of employee performance that include the kind of audience participation found in new media. Blogging and blog links are concrete measures of networking and content creation. Avatar reputation, possessions, and traits are signs of collaborative, social, and problem-solving skills.

**New media practices may trigger generational conflicts at work.**

There will likely be issues of “propriety” between older, traditional workers who don’t have experience with the new entertainment media, and those who have either grown up with them or been early experimenters. Negotiating these issues creatively will be an important part of creating new corporate cultures (that is, not a single corporate culture, but multiple cultures that work for the same company) as people build their multiple identities within the context of one company.

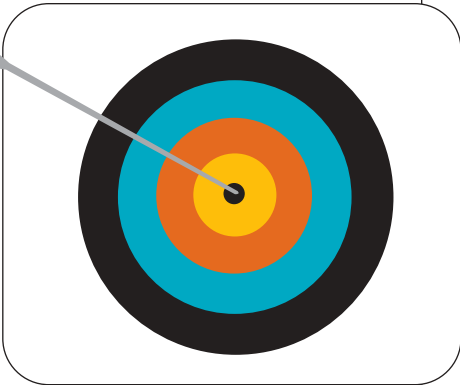
**New media provide businesses opportunities to engage young workers and revitalize career paths.**

Companies today are worried about workers’ lack of engagement, especially young workers. The exuberance of personal presence and identity strategies in the out-of-work area suggests the need for broader role definitions, perhaps even multiple role definitions. New entertainment media may present a way to replace or enrich existing dry job descriptions with the kind of exuberant multimedia “identity descriptions” we see online today. The current lack of exuberance may have to do with the limited means of expressing identity and job roles in the workplace today. Companies could do experiments with some of these tools (blogs, avatars, and so forth) to create new multimedia job descriptions, online resumes, and the like within the company.



# 4 Business Implications and Opportunities

New entertainment media offer many possibilities for companies to develop a public commons that provides a place for consumers to co-create meaning and relevance of corporate brands.



## The new media space provides a new platform for mining innovations.

New media have the potential to help create platforms for innovation and help identify innovative solutions and ideas that may have fallen through the cracks of traditional organizations. Harnessing the power and flexibility of “collective agency” could really stimulate innovation efforts. ARG designers might get involved in framing business “problems,” invoking group “plays” to find innovative solutions that otherwise would have gone undetected and undeveloped. Rewards could go to ad hoc groups rather than specific teams of individuals, which would encourage broad collegiality and cooperation. This would encourage the evolution of ad hoc learning and teaming appropriate for solving complex problems. Businesses will also want to actively track the blog space within their companies, and outside, to watch for new ideas that propagate and aggregate attention and discussion.

## New media gaming can revitalize strategy and policy development.

New media gaming and collective practices have the potential to transform organizational structures and processes. In the same way that war games test different strategies, companies could use gaming to test the strengths and weaknesses of cross-divisional or cross-organizational collaboration and policies. Of particular interest is whether policies of an organization interfere with rapid mobilization and execution of responses to market opportunities. Gaming could be a way to test this and revise strategies appropriately. Companies may also want to identify and test the differences between top-down and bottom-up strategic planning and understand where each works best. Businesses should identify the corporate obstacles to cooperative gaming of workplace issues, problems, and objectives.



**New media decentralize and customize tool choice.**

New entertainment media are providing examples of self-standardization around technology platforms that offer tremendous manipulation of content and transparency. Bloggers have adopted a standard suite of programs to create and maintain their sites. Unlike with word processors or IM programs, there are no competing standards between blogging tools, even as interface design and use models become more diverse. If this consistency of standards continues, it may mean that companies will need to let users choose the systems that best suit their needs and capabilities. Doing so would give users (particularly early adopters) a greater degree of personal investment in blogging, making blogging experiments less like top-down corporate mandates, and encourage users to experiment with the medium.

**Personal and corporate transparency is a long term challenge.**

New media forms of entertainment and personal expression are really just labs for experimenting with the coming world of transparency, in which people will be less and less able to hide certain aspects of their lives. Early analysis of personal transparency issues will help companies anticipate behaviors and tools that people may adopt in this environment to protect what they perceive to be their “private” space or to redefine private space. For example, can companies create the equivalent of a company human rights agency to prevent violations of human dignity? How will companies define online cruelty and how should it be handled? This will be a long term issue that merits ongoing examination to fully understand its implications. Businesses also will need to consider the implications of corporate transparency and their ability to handle a new relationship with workers who demand to know things that corporate officers think are private issues.

**Businesses will benefit by defining the levels of participation in the public corporate commons.**

Businesses are always seeking new ways to enable consumers to relate to their brands, products, and services. New entertainment media offer many possibilities for companies to develop a public commons that provides a place for consumers to co-create meaning and relevance of corporate brands. This may require the company to give up some corporate control over the brand and to gain loyal customers. As lessons from MMPs show, investments in time and development of identity (in developing avatars and their accoutrement) develop loyalty to the game franchise. Companies should decide how much they are willing to put into their company’s public commons and let consumers appropriate and create from their brand.

**Businesses need to identify barriers that prevent the development of collective agency among the workforce.**

In order to take advantage of the new social practices of entertainment media, businesses need to understand the barriers that may get in the way of innovative practices. It will be important to understand how information is currently aggregated, controlled, and disseminated so that newer more flexible access to and use of corporate information won’t be crushed by old patterns. Recall the introduction of the spreadsheet, which dramatically changed corporate organization by distributing portions of budgets and then re-aggregated them at a high level, essentially decentralizing budgeting and accounting practices. New media practices of collaborative and collective problem solving could transform the knowledge management function the way spreadsheets transformed the accounting and budgeting function.



## 4 Business Implications and Opportunities

Providing opportunities for mentoring and apprenticeship, where novices get to peer over the shoulder of more experienced gamers and collectors, will also help spread these skills more widely.



### **New media could support the multi-task, multi-focused reality of many workers.**

Workers today lead multi-dimensional lives, meaning they have significant roles, responsibilities, and interests in multiple domains (home, work, and so forth). Traditional gender roles often do not define what individual workers do at home or in the workplace, and where gender roles do hold it often means workers are doing more (gender role activities plus others). The Family and Work Institute reports that workers who are multi-focused (have families, careers, hobbies, and so forth) are more likely to be happier, healthier, and less stressed. New media could support multi-task, multi-focused employees by offering workers a broad set of media channels and modes of expression to carry out the various identities, tasks, and foci of their lives. Workplace cultures that value multi-focus and explore ways to integrate it into the identity and activities of workers will successfully attract and retain employees. Business will also need to examine conventional measures of productivity to ascertain whether they are appropriate measures for work productivity and effectiveness.

### **Understand physical-digital contexts and their relationship in the workspace.**

Physical and digital settings will allow workers to create multiple contexts for managing their presence and their interactions with other work colleagues. Just as the physical workspace has options for presenting oneself in various ways (for example, a closed door means one is not available), workspace tools should include many options for publicizing work or availability status. There may be many types of cultural rules that apply to these multiple contexts, and business and workers will need to learn how to negotiate interactions across these contexts and what kind of behaviors are appropriate. For example, is it appropriate to use a conversation overheard in the corporate cafeteria on one's work blog site? How do groups or individuals communicate that they are not "part of the game" during a corporate gaming exercise? Some people may do a better job at recognizing and articulating the cues for different contexts. Others will need to be taught how to do this. Knowing how to train people to navigate physical and digital contexts will be a strategic skill for workers.



**Businesses should train for new media gaming and collaborative practices.**

The Cloudmakers' experience provides a rich case for understanding and learning about how self-organized collectives form and operate. How did they manage and distribute information and problem solving across a distributed membership? What did leadership look like and how did it emerge in this context? What were their key decisions and milestone events? When new media social practices begin to appear in the workplace, businesses should observe them carefully to discover which are the most useful. Looking for opportunities to teach "game skills" (clue seeking and identification, building cooperative groups, and so forth) to workers will spread these skills across the company more widely. Providing opportunities for mentoring and apprenticing, where novices get to peer over the shoulder of more experienced gamers and collectivists, will also help spread these skills more widely.

# Resources for New Entertainment Media

## WEB LOGS AND BLOGGING

### Books

- ▶ Shelley Powers, ed., *Essential Blogging* (O'Reilly & Associates, 2002).  
Helps new bloggers select the right blogging software and shows how to get a blog up and running.

### Web Sites

- ▶ [blogdex.net/](http://blogdex.net/)  
Site for finding out which blogs are the most viral and which stories create the most traffic.
- ▶ [www.boingboing.net](http://www.boingboing.net)  
One of the most widely read blogs on tech culture news and politics.
- ▶ [www.corante.com/blogs/](http://www.corante.com/blogs/)  
Insights on blogging, many-to-many communications, and social software.
- ▶ [www.fotolog.net/](http://www.fotolog.net/)  
A blog index for photoblogs around the world.
- ▶ [www.instapundit.com](http://www.instapundit.com)  
Commentary on world news and politics.
- ▶ [www.pacificafund.com/blog/](http://www.pacificafund.com/blog/)  
Tim Oren's blog about Silicon Valley, venture funds, and new technology.
- ▶ [www.smartmobs.com/index.html](http://www.smartmobs.com/index.html)  
Web log on topics and issues discussed in Howard Rheingold's book, *Smart Mobs* (Perseus, 2002).
- ▶ [www.technorati.com/](http://www.technorati.com/)  
Site for finding out about blog traffic, who links to what blogs, most-blogged topics and other blog stats.
- ▶ [ross.typepad.com/](http://ross.typepad.com/)  
On technology and economics of social software, blogging.

## DIGITAL MUSIC

### Books

- ▶ Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (Random House, 2001).  
Explains the legal arguments surrounding digital music use.
- ▶ Joseph Menn, *All the Rave: The Rise and Fall of Shawn Fanning's Napster* (Crown, 2003).  
The definitive account of Napster and the music industry's reaction to it.

### Web Sites

- ▶ [www.pewinternet.org/reports/pdfs/PIP\\_Copyright\\_Memo.pdf](http://www.pewinternet.org/reports/pdfs/PIP_Copyright_Memo.pdf)  
Pew study on music downloading.
- ▶ [slashdot.org/search.pl?topic=141](http://slashdot.org/search.pl?topic=141)  
Good overview of current news related to digital music.



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## Resources for New Entertainment Media

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### MASSIVELY MULTIPLAYER ONLINE GAMES

#### Web Sites

- ▶ [www.eagames.com/official/thesimsonline/home/index.jsp](http://www.eagames.com/official/thesimsonline/home/index.jsp)  
*The Sims Online.*
- ▶ [everquestonlineadventures.station.sony.com/](http://everquestonlineadventures.station.sony.com/)  
Home page for *EverQuest* online adventures.
- ▶ [www.gameneverending.com/](http://www.gameneverending.com/)  
Homepage for *Game Neverending*.
- ▶ [www.igda.org/online/online\\_whitepaper/php](http://www.igda.org/online/online_whitepaper/php)  
A thorough white paper from the Interactive Game Developers Association on the status on online gaming.
- ▶ [www.juliandibbell.com/texts/bungle](http://www.juliandibbell.com/texts/bungle)  
Early commentary and classic article about online life and the boundaries of fiction and reality.
- ▶ [www.pewinternet.org/reports/pdfs/PIP\\_College\\_Gaming\\_Reporta.pdf](http://www.pewinternet.org/reports/pdfs/PIP_College_Gaming_Reporta.pdf)  
Pew study on gaming among college age students.

### ALTERNATE REALITY GAMES

#### Article

- ▶ Jan McGonigal, *This Is Not A Game: Immersive Aesthetics and Collective Play*. An excellent article about creating new boundaries of reality through immersive play. [hypertext.rmit.edu.au/dac/papers/McGonigal.pdf](http://hypertext.rmit.edu.au/dac/papers/McGonigal.pdf)

#### Web Sites

- ▶ [www.argn.com/](http://www.argn.com/)  
The alternate reality game network, links to several ARG sites, interviews, and commentary.
- ▶ [www.collectivedetective.org/](http://www.collectivedetective.org/)  
A collaborative network of puzzle solvers and game players.
- ▶ [www.gamegirladvance.com/archives/2002/11/01/wcg\\_bizconf\\_korean\\_game\\_industry\\_update.html](http://www.gamegirladvance.com/archives/2002/11/01/wcg_bizconf_korean_game_industry_update.html)  
Alternative perspectives to videogame culture.
- ▶ [www.thegogame.com/](http://www.thegogame.com/)  
Home page for *The Go Game*, with videos and photos of game players.