Integrating E-Commerce and Games

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Abstract: This paper investigates how many users of commercial interactive systems are not properly agents within the interactive narrative, largely due to the dynamics of branding in cyberspace. Parallels are drawn between the dynamic personalization of e-CRM engines and context aware computing systems. Several seminal games are discussed as examples of systems in which very different relationships exist between users and the system. Arguments are made for designing e-commerce interactive systems that install into games, inside the game narrative.

Keywords: Agency; Brand; Context awareness; E-commerce; e-CRM; Games; Interaction design; Narrative; Simulation; User

1. Introduction: What’s Wrong with the World Wide Web?

Much of the discourse in response to this question can be viewed as traffic between modernist and post-modernist projections of what an artificial global electronic parallel dimension should be like. William Gibson’s vision of cyberspace, with its “mass hallucination” of oceans of data, cliffs of code, canyons, slate gray nether-spaces and walled cities [1,2] has contributed enormously to the collective imagination. In reality, we experience more mundane personal computing, with traditional activities of word processing and spreadsheets.

Computer games have kept more in step with Gibson’s vision. Being a form of entertainment and therefore granted a broad license for invention, narrative and technical development, games concepts, content and architecture have leaped ahead of those found in ‘serious’ personal computing applications [3].

We are currently experiencing a pause in the progress of personal computing and telecommunications as the technological weather vane swings around somewhere between interactive TV, broadband and wireless, with ubiquitous computing and augmented reality suggesting radically alternative frameworks potentially very well suited to 3G and subsequent technologies [4]. We take this opportunity to outline a new direction for electronic commerce applications, which sees them integrating into games. The principle behind this new model is to restore the user to full agency of her own interactive narrative. We examine how commercial interactive design focuses interactive narrative too narrowly on the brand, and how breaking down the barriers between entertainment and ‘serious’ contexts can lead to exciting new ways of thinking in the field.

2. Personal Computing and Gaming

The first home computers, appearing in the late 1970s and early 1980s, were not capable of connecting over networks. Networking remained limited to specialized use in industry, research centers and universities [5]. Machines like the Sinclair ZX Spectrum, the Commodore 64, and later the Atari ST and Commodore Amiga were highly idiosyncratic and mutually incompatible, thus they were sold in heterogeneous vertical markets. The incompatibility and different features of the different machines combined to produce a tribal dynamic among user communities, bonded by shared investment in the future of a particular machine. Although the marketing held out promises of ‘serious’ applications, like word processing, spreadsheet manipulation and programming, these machines were in fact bought mainly for games [3].

It is worth noting the physical form of these early computers: The Sinclair ZX Spectrum, for example, was very small, able to fit without disruption into existing living-room setups (much like the later Sony PS-1 console). It
connected entirely to already familiar machines – the television as monitor, and the audio cassette player as storage device. If it had not been such an expensive and delicate luxury, we could say that the Spectrum was an early ubiquitous computer. Pressing its keys, the user was aware of the circuit boards immediately underneath. In encounters with (often very simple) computer-generated opponents, the player was able to empathize with them as frail *dei ex machina*, conjured into life from a source (code) that lay literally under her fingertips [6].

The early personal computer was simple enough for human programmers to map its entire workings mentally, from application or game level down to the contents of registers and buffers. We can say that early games possessed a simplicity that

- allowed rapid development of diverse narrative prototypes,
- required players’ active imaginative participation in shaping game narratives, and
- located developers, players and machines in equipotential relation to each other.

### 3. On the Desktop

The original motivation of the internet’s technical platform, the TCP/IP protocol, was the provision of a homogeneous transparent layer over heterogeneous network media and diverse node machines. Different electronic actualities were linked up through the use of a common protocol. Over successive phases of evolution it logically followed that a common user interface would emerge.

The military industrial complex’s sponsorship of computing gradually gave way to that of business, signalling a tide of business terminology into everyday language. Documents, folders and trashcans were translated into simple bitmap icons on the desktop/computer screen. At the same time, the complexity of physical and virtual machinery was exploding, and technical languages lost the simplicity that had engendered their original open source democracy of narrative. Programming languages became codified into sprawling libraries and CASE tools, operable only by a highly trained elite. Although the use of metaphor is crucial to the design of usable human-computer interaction, the desktop has become a limiting factor in the development of computing concepts and interfaces.

In summary, multiplying technical complexity meant that

- production required generally applicable and reusable abstract tool kits (virtual machines),
- virtual machines separated developers from physical machines and both developers and machine from users, and
- the persistence of the desktop metaphor limits HCI development.

### 4. Broadcast and Multicast

As Internet connectivity made its way into the home, the business desktop metaphor was further reinforced through the development of the World Wide Web as a document sharing system. At the same time (mid-1980s) networked computer games were emerging from electronic bulletin boards in the form of text-based MUDs, developed by people keen to test the limits of the medium outside the constraints of business applications [10]. There are crucial differences between these two divergent strands:

<table>
<thead>
<tr>
<th>Web</th>
<th>MUD</th>
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<tr>
<td>Users view public documents</td>
<td>Users collocate in a virtual space</td>
</tr>
<tr>
<td>Users are not aware of each other</td>
<td>Users interact with each other</td>
</tr>
<tr>
<td>Users affect only their own session</td>
<td>Users make lasting changes to the virtual world</td>
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An interaction with a web page is largely a matter of receiving a broadcast message. The user may select aspects of that message, but cannot change the message itself. In contrast, interacting with the system and with other users in a MUD is more like taking part in a conference call. Quickly evolving towards more sophisticated control for users over the virtual world, MUD programmers soon developed object-oriented models and made source code freely available (the first was James Aspnes’ TINYMUD in the late 1980s). We will see below that e-commerce, with a few notable exceptions like Napster, has entirely followed the broadcast model, although it has enhanced this model by delivering customised messages to targeted groups of users.