Social interaction in 'There'

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ABSTRACT

Persistent online environments, such as multi-player games, exhibit a complex social organisation. These environments often feature large social groupings and elaborate cooperative behaviours. This paper discusses 'There', one such environment, focusing on how users interact online. Resources such as overlapping chat and emotional gestures create a compelling social experience, although not one without its problems. We draw three lessons from There for the design of games and virtual environments: that text chat can be better integrated into the virtual environment, that gestures are valuable as communication topics as well as resources, and that social interactions can improve the social presence felt in virtual environments.

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INTRODUCTION

Online social environments have developed into complex social organisations. Everquest, for example, has over 500 thousand subscribers, and the Korean game 'Ragnarok Online' over 2.5 million [17]. These games often feature complex social relationships – such as the development of identity, social bonds between players (in particular 'clans' of players) and economic transactions of significant value [1, 10]. As Castronova points out, the economic transactions that take place in these environments even have many of the features of conventional economic exchanges – he estimated in 2001 that Everquest has an in-game GNP of $135 million, and Everquest has recently suffered from an inflation problem.

In a number of new online environments there has been a move away from the format of a game, to more open *social* environments that retain a playful form. In this paper we look at users involvement in one such environment – a system called 'There' – drawing implications for the design of other online environments. We focus not on the technical features of this system, but rather how There has been adopted for

interaction by its users. Three aspects of this adoption are of particular interest: user interaction around objects, the use of overlapping text chat, and how the system itself is used as a flexible conversation topic.

ONLINE VIRTUAL ENVIRONMENTS

While collaborative virtual environments (CVEs) present opportunities for online interaction, both for work and entertainment, research has documented the many barriers to smooth interaction in these environments. In particular, CVEs often suffer from a problems with the 'reciprocity of perspectives' between users [8]. Users often find it difficult to predict what other users can see, and therefore have difficulty in reliably referring to objects, and even to other users (see also the problems discussed in [3]). Alternatively, research which has looked specifically at online games environments (such as MUDs) has covered topics such as identity [11] and how these environments are threaded with real world interactions and work [2]. Recent work on persistent CVE-like games, such as Everquest, has also discussed the economics of online games [1] and how groups form online [10].

'There': a persistent online environment

'There' (www.there.com) has been open to the public since October 2003, although it has been in beta testing for over a year, and development for over six. There shares many of the features of other online virtual environments, such as 'active worlds' (www.activeworlds.com), and online persistent role-playing games, such as Everquest. Yet There is marketed as a 'virtual getaway' – a non-competitive virtual world, where social interaction and exploration are the main activities. Unlike online games there is no overall goal to 'There'. Its environment supports activities such as buggy races, paintball, flying jetpacks, treasure hunts, and even playing with virtual pets. Moreover, as with the real world, much attention is given to personal appearance, and one of the main activities in There is designing virtual clothes and selling them through in-game auctions.

There's virtual world is augmented with support for instant messaging (both text and audio), forums, tools for organizing virtual 'events', and forming groups. Specific attention has also been given to supporting social interactions in There. Avatars can make emotional gestures, and chat is displayed in speech bubbles, within the game world, word by word, rather than in the complete lines of text displayed in instant messaging. Considerable attention has also been given to

how avatars interact around objects. For example, unlike most games, the most commonly used camera angle is above the head and some distance back. This increases the field of view allowing easier interaction with objects that are close to the avatar. This view can also be turned with the mouse, an operation that is visible to others by the avatar turning its head.

THE STUDY

As part of a broader investigation into online games [5], we studied There for six months, joining There during its beta program. Our analysis has been informed by an emerging approach to studying online activity characterized as 'virtual ethnography' [9]. This approach involves participant observation with a significant time spent online in the research setting, observing, participating and taking field notes. As with all ethnographic work, the researchers' own experiences are taken as key data, yet due to the persistent nature of online data, virtual ethnography also makes extensive use of textual materials such as webpages.

Figure 1: A group of players conversing in There

For this study we collected videos of our experiences inside There, along with extensive fieldnotes. In analysing the video data we broadly followed an interaction analysis approach [7]. Combining our participation with video analysis in this way allowed us to both study There ethnographically, and with special attention to how users adopted the system for interaction.

Interacting around objects in there

While collaboration around objects is often problematic in CVEs [8], There supports surprisingly smooth and complex interactions around objects. This is in part due to how There displays avatar's orientation in the world. Figure 2 shows a short example of this: a relatively simple interaction around a hoverboat (a flying vehicle in There). The first author (Bo) is giving a tour to a new player (BD). Earlier the users landed a hoverboat to look round a forest and after deciding to get back in the boat the users search around for the boat. After a minute of searching, Bo resorts to 'retrieving' the boat – an in-game function that retrieves objects to where the player is.

When he sees that BD has noticed the retrieved boat he climbs onboard, followed by BD, and they take off. The users in this example co-ordinate their activities (search, retrieval and discovery) without having to explicitly describe to each other what they are doing– both users search the local area, and are seen by each other to be searching. At the end of the clip, after beckoning BD, Bo sees BD walking towards the boat – he does not need further confirmation to jump on the boat. The orientation of each avatar allows what each user sees to be predictable. The narrow field of view, such a problem in other CVEs, does not cause a problem here, in part because of the large size of the objects being interacted around.
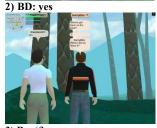

1)Bo:Wana get back on the boat?

2) BD: yes

3) Bo: '?
Bo: Where did we leave it?

4) BD: I don t know
  <<Retrieves boat>>

5) B: Hey BD!

6) *<<B gets on boat, then BD gets on boat and B takes off>>*

Figure 2: Looking for a hoverboat

Bo 'retrieving' the boat also displays how the There environment can be more 'game like' than online games. Sacks [15, p475] remarks that in children games mistakes are seldom serious, since the games are short and imaginary. Yet due to the persistent and competitive nature of online games mistakes, such as loosing objects, often have serious consequences. In There, however, the consequences of losing objects are minor, since missing objects can be 'retrieved'. Features like this ironically make There more playful than online games.

Text chat: conversation through bubbles

While audio conferencing features are available in There, text chat is by far the most common form which conversation takes. While previous research has uncovered problems with text chat, such as the out of turn sequencing of turns [13], less

attention has been given to the temporal aspects of text chat. That is, the timing of text chat as it is typed. These aspects are particularly important in There since, unlike IRC or IM, text is displayed in speech bubbles which rise above users as they type each word [4].

Since sentences are shown as they are typed, chat can take on dynamic features, with overlapping typing visible on screen as turns unfolding simultaneously. This allows users to adjust their own chat as they type. For example, in this extract a group of users are arranging where to meet up in the UK (the square brackets show overlapping typing, the numbers in brackets are notable pauses):

```
Jim:   We have arranged internet meets not
       for this program but for IRC and
       worlds.com the best place to (.5s)
       hold a (1s) meet is (9s)[Birmingham]
Sam:                            [Holland?]
```

One player suggests meeting in Birmingham, but his pause allows a second player to heckle him, completing the sentence with a joke destination. Along with jokes, chat can also overlaps to hasten conversation. In this extract a user types while the previous turn is still unfolding:

```
Jo:   Something as simple as town hall
      meetings should be a
      [requirement of each subcommittee thing]
Sue: [I agree or more vocal] webpage at there
```

The slow movement of the speech bubbles up the screen can also works as a resource when entering a new conversation or walking past a groups conversing – the bubbles allow users to 'overhear', seeing on their screen the previous conversation turns. The arrangement of text into columns on the screen also means that user's chat has a stable horizontal position on the screen. This supports sub-conversations - the column of bubbles above each player allows who said what to be seen quickly. For example, in figure 1 the left two avatars are having a separate conversation from the right three avatars – their conversations are distinct not only in topic, but in their position on the screen.

However, the use of speech bubbles does not come without cost. Speech bubbles occlude the environment since speech is not separate but is visible in the environment. To prevent overlapping speech bubbles, 'There' also needs to puts users into a specific 'conversation' mode when it detects a stable conversation, moving users into positions where their speech bubbles will not overlap (as in figure one). In this mode users need to issue an explicit command to leave the conversation. There are also limits on the number of conversational participants who can be arranged on screen, with large groups leading to overlapping speech bubbles.

There as an 'inexhaustible topic'

> The social interaction in chat rooms often disintegrates into 'trivial, useless, sex-oriented' babble. (Esther Dyson, quoted in the New York Times [12])

Much of the conversation in There concerns There itself. For example, avatar gestures in There provide a communication

resource for users in that they can use dashed words (such as typing `confused or `frown) to trigger corresponding actions in their avatar (implementing work such as [6]). Yet along with their use in interaction to show emotion these gestures have also became a topic of conversation in themselves. What was a 'resource' has become a 'topic' for users in that they discuss the different gestures, and tutor each other in using them effectively. The support for gestures has even led to 'dancing competitions' where users compete to chain different gestures together to produce different avatar 'dances'.

Glitches (bugs or mistakes in the system) are also common topics of conversation with users manipulating the glitches to produce bizarre actions that are otherwise impossible, such as overlapping avatars. As with gestures, glitches have become 'conversationable objects', topics for discussion in their own right as much as they are problems or bugs in the system.

Indeed, much of the chat in There is actually *about* There – such as its economy or development. As Sacks remarks, in some cultures there are topics that are inexhaustible as topics: they are "intrinsically rich, in the sense that whatever it is that members of that culture tend to talk about […] they can talk about via that thing." [15, p178] In American youth culture, Sacks observes that topics such as 'respect' can be discussed - often at great length - by talking instead about cars. This can also be seen in There:

```
Jo:   The advisory board seem really closed
      [off to the untrained eye.]
Gail: [Well if you have any time Jo get on
      the IM with them let em] know
Jo:   I'm not sure my little voice would
      make a difference=
Gail:                 =oh please woman [you
      are public beta 1 you people get mad
      respect from there]
Sue:  [every little bit helps  I don't think
      it is due to a lack of listening] more
      a slow development turn around
```

While the topic here is ostensively the system itself, matters such as showing each other respect, and organisational politics are covered through a conversation about the system. So while chat in There often concerns There itself, like with any group of enthusiasts, other topics are addressed through that topic.

IMPLICATIONS FOR GAME AND CVE DESIGN

Here we have focused on users successes in adopting There to support their interaction. This is not to say that There is without its problems – in particular There suffers from the same triviality in chat which, as Dyson's quote above shows, plagues online chat more generally. An open problem for online environments such as There which have no overall level system, is how to encourage and support new users, while also rewarding the commitment which leads to deeper social relationships within the game. This adoption of There by its users however does shows how online environments can be adopted by users to support interaction. In designing games and CVEs a number of lessons can be drawn from There:

Text chat

The interactions we have shown in There demonstrate the value in displaying text chat in the virtual environment. While there are disadvantages to the speech bubbles used in There, they do offer a more versatile resource for chat than text in a separate window. In particular, the ability to see turns as they are composed allows for overlapping turns– a resource that can be used to hasten conversation, or even for jokes. Displaying text as it is typed could be applied to other chat systems, such as instant messaging. Chat bubbles also offer possibilities to be used as game objects in themselves. For example, players could use telepointers to gesture at parts of their chat, or use chat as a way to interact with objects.

Emotional communication

Research on avatar gesture has discussed at length how emotional communication enhances communication. However, as discussed above, avatars' bodies and gestures are topics for conversation in themselves. This should not be seen as a negative feature, or of only novelty value. Gestures and other communicate resources in CVEs should be designed with a view not only to how they assist communication, but how they can be used as topics for conversation in their own right. Game features such as gestures are not only of value for what they enable, but as seeds for conversation in themselves.

Social Presence

There is an engaging environment in which its users spend many hours. While the definition of 'presence' is a contested one, research on presence has tended to focus on the improved realism of virtual environments. There, however, demonstrates some of the value of 'social presence' [16] the feeling that one is interacting with other human beings. This suggests that social presence in CVEs may be as important a goal as conventional presence. In particular, There offers support for organising social interactions through tools for event scheduling, and group formation. These tools, by supporting the organisation of complex social interactions (such as the dancing competitions mentioned earlier), help support the 'social presence' felt in an online environment.

CONCLUSION

This paper has surveyed social interaction in the There virtual environment and drawn implications for the design of CVEs and online games. While interaction in There is not without its flaws, lessons can be drawn from its adoption, in particular concerning the display of text chat, emotional gestures and social organisation. In our future work we are exploring further how the persistent nature of 'there' supports longer term relationships and the ownership and sharing of user designed virtual objects.

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