Essay on

Virtual Reality Online Communities

CA1030A: Virtual Web Worlds

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Abstract

Online communities play an important part in most internet user's life. This paper will summarise the most relevant key features of online communities and outline their strengths and limitations. The last part of this paper will demonstrate how the theory can be applied to a practical project.

keywords

Virtual Reality, Computer-mediated Community, Virtual Community, Online Community, 3D Buildings, Navigation

1 INTRODUCTION

With currently over 700 million people connected to the internet, this medium has evolved from a single user environment to a community environment. The internet and its technologies made it possible for a significant number of individuals to meet in virtual space and be part of a so-called *online community* where they can meet and share interests.

With online communities strongly growing in popularity, it is worth analysing which features make them so attractive and what limitations they might have.

2 TYPES OF ONLINE COMMUNITIES AND THEIR KEY FEATURES

Online communities can be divided into different categories listed below:

Online Games

There exist various types of games that can be played online with multiple users. Some require only a web browser and can be played from anywhere in the world. Others must be bought and installed on the computer.

There already exists a large variety of simple 2 dimensional browser games, such as *Live on Bankiz*[1], a French website to grow your own penguin which can create a family with another penguin from another user; *Galaxy Wars*[2], a German website where it is possible to create space fleets and attack galaxies owned by other players; or *My eFarm*[3], a French farm simulation enabling users to sell and buy their goods on a common marketplace. There are also more sophisticated browser games in 3 dimensions, which in some cases require an installation of proprietary software. Noteworthy examples are *Active Worlds*[4] or *Second Life*[5] in which the user can move in a 3 dimensional environment and interact in many ways with other players or objects.

Right now the most successful and complex type of games are without doubt MMOG's (Massively Multiplayer Online Games) like *World of Worldcraft* with 7.5 million subscriptions (Spong, 2006, as at Nov. 6th, 2006).

Online games are generally more realistic in terms that the user can easily immerse themselves into the virtual world. In such environments, the possibilities

[1] http://www.liveonbankiz.org
[2] http://www.galaxywars.de
[3] http://www.myefarm.com
[4] http://www.activeworlds.com
[5] http://www.secondlife.com

are usually set with no boundaries. As mentioned by Dickie and Waters in the Financial Times, 'The medium does not simply act as an alternative distribution channel, it creates the experience itself' (Dickie and Waters, 2004, p. 1). It is an ideal playground for communities to be created, as we can see from the successful implemented games mentioned above.

Discussion Boards

A totally different form of online community can be obtained by bulletin boards. The boards allows users to share interests on the same topic. Most clans and guild groups, for instance, have their own bulletin board to organise their next multiplayer game or simply exchange experience and opinions. There are also specialised boards, i.e. for hardware and software discussions such as *hardware.fr*, one of the largest boards in the world with approximately half a million registered members and over 37 million messages posted. These boards create a community of users which can contribute their experience or find solutions to problems one could not solve alone.

Chat

A very old but still active form of online community is the one created through chat. A protocol called IRC (Internal Relay Chat) has been developed late August 1988 for this purpose. Users can join specific chat rooms to get in touch with like-minded people. It is also possible exchange files (i.e. pictures).

Voice Chat

Some software allows people to speak in a group. *Teamspeak*[6] is one of these programs. It connects people with same interests, usually gamers taking part in the same multiplayer game.

A very new online community was created with the coming of *SkypeCast*, a feature introduced with the Skype[7] software (as of version 2.7 beta). Participants can speak in groups about specific topics or simply listen to discussions.

[6] http://www.goteamspeak.com
[7] http://www.skype.com

Social Networks and Entertainment Websites

A large number of online communities can also be found on dating platforms which connect people in search of new relationships or entertainment. In addition, some individuals who already know each other can stay in touch through platforms made exactly for this purpose. They can then share their personal information, blog or videos with friends and relatives. Famous platforms are for instance *MySpace*[8] (international) with over 4 million accounts created, *Studi Verzeichnis*[9] (German) or *Copain d'avant*[10] (French). Some platforms of this type are also made for business purposes, for instance *Xing openBC*[11] (Xing Open Business Club), which was developed in order to find new business partners and to be found by employers.

Another type of community exists through blogging. As of February 2005 video blogs were introduced with *YouTube*[12], a website to share video clips, worth $1.65 billion US dollars and storing 45 terabytes of videos (Gomes, 2006; Liedtke, 2006, as at Oct. 10th & Aug. 30th, 2006). With 58% of user created videos it became a community platform for users to share their video blogs (Green, 2006, as at July 18th, 2006).

To summarise, we can say that there are many different forms of communities implemented by different technologies and unsheathing different community characteristics. Nevertheless they all have in common a social aspect.

In the following section we will examine the strengths and benefits resulting out of these online communities.

3 STRENGHTS OF ONLINE COMMUNITIES

There are many considerable benefits of online communities. On a more abstract level, online communities are nothing less then communities as we know them in the real world, assuming that communities are defined by simple boundaries between their members. In this case they all have the positive aspects as we know them already such as being part of a group sharing the

[8] http://www.myspace.com
[9] http://www.studivz.net
[10] http://copainsdavant.linternaute.com
[11] http://www.xing.com
[12] http://www.youtube.com

same interests. Apart from that, online communities can offer much more.

In the first instance they are a chance to form friendships. Even though they might appear virtual, people can 'form webs of personal relationships' when 'carrying on public discussions long enough, with sufficient human feeling' (Rheingold, 1995). This will most likely apply to *Instant Messaging* (IM) communities, or communities of meeting and entertainment websites, as people will spend a lot of time on social aspects. Compared to real life communities, the barriers to participate in an online community are much smaller, as 'age, location, gender' or 'race' play a less important role (Zorn, 2005, p. 9).

Another point to mention is the organisation and rules regulation of online communities. Whereas the internet seems to be an uncontrollable medium, online communities tend to self-control themselves. In discussion boards or on the IRC for instance, there is a hierarchy of users with different rights. The users can therefore be moderated by more trustworthy users, forcing them to abide by the community rules.

In most communities, the members are actively participating. The reason for this behaviour is what Smith and Kollock (1999, introduction) understand as *sense of efficacy*: The acting of each individual actually influences the community environment in a positive way, giving in return the feeling of belonging to a group. Online communities are therefore, like any other community, consisting of dedicated members.

Furthermore online communities overcome obstacles such as geographical distances. This is a real advantage for so-called *development communities*, as known from open source development. Every user who wants to contribute can participate, independent from his or her location.

Online communities also made it possible to centrally bundle knowledge available for a large public. All bulletin boards or *Wikis* belong into that category. *Wikipedia* certainly demonstrate the best, how much potential a well working and useful online community can have: As of Nov. 22th, 2006, Wikipedia has approximately 1.5 million articles, edited by over 2.8 million registered users (Wikipedia, 2006).

Additionally, online communities are an interesting area for business opportunities, especially in the gaming market. There are certainly difficulties to cope with in order to turn online play into cash: The exportation of game ideas into other cultures is very difficult, and it might be necessary to try out different online game types, before one could hit a successful online game as was the case for the company *NCsoft* with its hit *Ultima Online* (Dickie and Waters, 2004; Berger, 1999). On the other hand there are plenty of profitable games as we could see in section 2. World of Warcraft is worth over £1.35 billion per annum and another well-known online game *Habbo Hotel* $23 million US dollars (Spong, 2006; Braithwaite, 2006). Revenue can be made by subscription fees varying from $5 to $15 US dollars a month or alternatively by selling game add-ons, new features or objects in the virtual world (Braithwaite, 2006; Dickie and Waters, 2004; Aihoshi, 2004). Profit can also be made by advertising on the website or in the game. Benchmark's Habbo Hotel for instance earns 30-40 % of its revenue from advertisement (Braithwaite, 2006).

Last but not least, online communities can also improve education by using spcial online learning environments. This can be realised with what Schwier calls 'interplay among learners' (Schwier, 2002, p. 1). Online learning communities concentrate on collective learning, where the learners study more effectively, since they can help each other in many efficient ways.

As we can see, online communities have numerous beneficial points. As good as they might be, they also entail some limitations.

4 LIMITITATIONS OF ONLINE COMMUNITIES

In the first place there are technical limitations on what can be done in online communities, in particular for gaming communities. Network issues such as latency and download times can deteriorate the gaming experience, especially for real-time games involving a lot of players. Not to mention computer limitations in terms of graphic and CPU performance for 3D games. To play a two year old game, World of Warcraft for instance, a fast computer system is required (Marcone,

2005), narrowing down the numbers of players able to play fluently with acceptable graphics.

The players will furthermore always be limited by what the programmer of a game decided to be possible in a virtual world. Whereas the players have the illusion of beeing completely free in some games, they will never be able to do more than the game was intended to offer.

On the basis of human computer interaction, online communities encounter additional problems. Cultural or technological differences for instance, represent barriers online communities might face: The internet infrastructure in some countries is not as developed as in other countries. In the majority of cases, the language used in online communities is English. Some communities require to get acquainted with new communication methods, such as new programs or new ways of communicating, i.e. with abbreviated writing. (Zorn, 2005, p. 9 et seqq)

Another problem that each individual might face is to find the right balance between his online community life and his real life. The game title 'Second life' says it all: The online community within the game is like a second life. It might become an escape from the real world, because everything is easier and more entertaining in the virtual world. A recent government survey in China showed that approximately 15% of the nation's adolescents are at high risk or face potential dangers, because of their addiction to the internet or the online games (Ihlwan, 2006). This is a global problem resulting in loss of friends, the neglect of study, work and health (Becker, 2002) or even death (Ihlwan, 2006; Miller, 2002).

Apart from the risk of addiction, some online communities also represent a danger, in particular for children. Reporting to a Pew study in JAMA (2001), one in five children (ages 10 to 17 years) are sexually solicited online. Interpol[13] states that one in 1000 men is sexually interested in children. With the internet offering anonymity, it is an ideal medium for these sexual predators. If children are not aware or insufficiently informed, they might get in touch with the wrong persons. There are countless websites dealing with that topic, such as protectkids.com, getsafeonline.org or chatdanger.com, which shows how serious this issue is.

In terms of learning environments, online communities might not cope as well with serious learning, as is the case in the real world. The problem with everything virtual is that it is unconsciously associated to entertainment. To make learning in virtual environments appealing, it should include some fun. At the same time however, it should be as what Roussou refers to as *hard fun*, where the participants have to learn in an active way (Roussou, 2004, p. 6), which in turn makes the realisation of these environments much more complicated. It is therefore difficult to make communities of learning environments as appealing as the other online communities, where fun is in most case the principal success factor.

Finally there are also online communities used for illegal activities. P2P[14] networks for instance are larges communities of individuals participating in the proliferation of copyrighted material or child pornography. According to *BigChampagne*[15], leader in p2p community statistics, nearly 10 million users utilised file sharing programs in December 2005. There is currently no way to stop these networks, since most of the file sharing programs are distributed.

5 DISCUSSION

Relation of VR aspects to an own project

Within the module *Virtual Web World* there will be realised a 3D model of Abertay Dundee's university library. It could serve the purpose of a first visualisation of the building before actually seeing or getting into the building. A much more interesting use however, is the implementation of virtual tours or navigation help which highlights all important areas of the building.

For this purpose, Vinson presents some useful guidelines taken from empirical literature on how to use landmarks in order to facilitate navigation in virtual environment (Vinson, 1999, p. 278 et seq). On what he refers to as *landmarks* are in fact simple reference points, which one could easily recognize or remember. In our library example, this could be the

[13] The international police organisation http://www.interpol.int

[14] Peer-to-peer File sharing

[15] http://www.bigchampagne.com

enquiry desk for instance. Van Ballegooij and Eliëns take this further by adding the idea of a *query*. Possible queries should be available for viewpoints, areas of interest, objects, persons and text (van Ballegooij and Eliëns, 2001, p. 78). The word 'printer room' for instance, is a query for an area of interest. Not only the query will return the exact location in the virtual environment, but it can also inform the user which is the quickest way to get to the target. This could be easily realised through a graph representation (van Ballegooij and Eliëns, 2001, p. 80). This way, the library users could look up their destination and would be told which path to take, and even which *landmarks* they will come past on their way.

To increase the usability, a virtual guide could be implemented, for instance as a *H-Anim*, a humanoid animated character (Chittaro, Ranon and Ieronutti, 2003, p. 27). That way it would be possible to propose a guided tour of the library. For this tour can be defined some *checkpoints*, important places where the H-Anim character should pause and explain something. Chittaro, Ranon and Ieronutti also propose a simple prototype tour module which makes it possible to integrate such a tour into WRML[16], a language supported by conventional web browser (Chittaro, Ranon and Ieronutti, 2003, p. 34 et seqq).

6 CONCLUSION

In conclusion, we could see that there are many different online communities, differing in the technology used or interest topic. In addition to conventional communities, they have many considerable benefits, as well as limitations or even dangers. In a further step, it would now be interesting to hypothesise how the online communities will evolve in the future.

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[16] Virtual Reality Modelling Language

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