Virtual Communities

George Kontolemakis
National and Kapodistrian University of Athens, Greece

Panagiotis Kanellis
National and Kapodistrian University of Athens, Greece

Drakoulis Martakos
National and Kapodistrian University of Athens, Greece

INTRODUCTION: THE EVOLUTION OF VIRTUAL COMMUNITIES

In recent years, computer-mediated communication has been the enabling factor for connecting people to one another and establishing "virtual relationships" (Igbaria, 1999; Johnston, Raizada, & Cronin, 1996). Virtual communities evolved as users of the early networks utilized them mainly for informal rather than business-related communication. These communities were not planned development in the sphere of computer networking. As this form of interaction increased, the users began to demand better and improved technology and functionality which would assist them in their interactions. "Virtual Communities describe the union between individuals or organizations who share common values and interests using electronic media to communicate within a shared semantic space on a regular basis" (Schubert, 1999). This was one of the first definitions of Virtual Communities. Nowadays, in considering companies that are building or trying to build virtual communities, it seems that the up-to-date definition of Virtual Communities is that these "involve establishing connections on electronic networks among people with common needs so that they can engage in shared discussions that persist and accumulate over time leading to complex webs of personal relationships and an increasing sense of identification with the overall community" (Hagel, 2007).

Five major milestones have marked the development and evolution of Virtual Communities. These are: (a) 1977 - Development of ARPAnet; (b) 1978 – First Virtual Community (SF-LOVERS); (c) 1980 – USENET; (d) 1990s – America OnLine (AOL); and (e) 2000s- community-driven initiatives such as blogs, podcasting, and wikis.

The first virtual community was formed on ARPAnet as communication became easier due to the development and offering of more sophisticated functions (Cronin, 1995). Joseph C. R. Licklider and Robert Taylor, research directors for the U.S. Department of Defense, started the research which led to the development of ARPAnet, the first multisite, packet-switched network, in 1977. ARPAnet was designed to support the Advanced Research Projects Agency (ARPA) for the transferring of files and resource sharing. It was a simple services network for sharing news and for many-to-many synchronous communications. The two main features were the File Transfer Protocol (FTP) and TELNET, a remote log-in facility. E-mail was an afterthought in the development of ARPAnet, but quickly became one of the most popular features of the system. Once those were sufficiently developed, the necessary infrastructure and functionality was in place to enable the formation of a community. The first virtual community was Science Fiction Lovers (SF-LOVERS), started in 1978 (Cronin, 1995).

Many virtual communities followed. Starting in the early 1980's, a network called USENET was set up to link university computing centers that used the UNIX operating system. USENET came into being in late 1979, shortly after the release of V7 Unix with UUCP. Two Duke University graduate students in North Carolina, Tom Truscott and Jim Ellis, thought of connecting computers together to exchange information within the UNIX community. Steve Bellovin, also a graduate student at the University of North Carolina, put together the first version of the news software using shell scripts, and installed it on the first two sites: "unc" and "duke". At the beginning of 1980, the network consisted of those two sites and "phs" (another machine at Duke), and was presented at the January USENIX conference of the same year. Steve Bellovin

later rewrote the scripts into "C" programs, but those were never released beyond "unc" and "duke". Shortly thereafter, Steve Daniel did another implementation in "C" for public distribution. Tom Truscott made further modifications, and this became the "A" news release.

One function of USENET was to distribute "news" on various topics throughout the network. Participants were able to set up their own "newsgroups" on topics of shared interest. These were bulletin-board-type discussions where participants could send messages to a newsgroup on a given topic, and read the messages sent by others. Initially, all of the newsgroups focused on technical or scholarly subjects. Groups that focused on non-technical topics such as food, drugs, and music also started to appear. Before long, the number of newsgroups started to grow exponentially. From 158 newsgroups in 1984, the number grew to 1,732 groups in 1991, and to 10,696 groups in 1994. Today there are more than 25,000 different newsgroups in existence (Digital Places, 2003).

Commercial organizations began to take note of and exploit the trend. CompuServe hosted a number of "forums" that allowed people to share professional and personal interests, and in 1980 was the first for providing real-time chat online as a service to its members. The popularity of these forums played an important role in the growth of CompuServe throughout the 1980's. In the early 1990's, AOL[1] was establishing itself as an easy-to-use service for a mass audience. While it provided news and reference information and other kinds of services, AOL emphasized the value of person-to-person communication and the benefits of participating in virtual communities. AOL was, in fact, a portal to many popular online communities. Through AOL's site, one could always find an online community that matched his/her personal interests. AOL provided communities for investors, cultures, pre-teenagers, and older adults. This was one of the factors that helped AOL become one of the largest Internet Service Providers (ISP). During the last few years, new forms of content generation and organization on the World Wide Web have emerged. Services such as blogs, wikis, and podcasting give users the opportunity to become authors and to express themselves. For the first time, even users lacking the knowledge of the underlying technologies can participate in contributing content to the Web. In a way, these new services have finally brought a form of democracy to the Internet, and the traditional distinction between content producers and consumer is blurred. With these new technologies, flow of content is no longer strictly "top-down", from classic producers to readers, but an increasing number of users become writers and contribute new content. Thus, a new "bottom-up" movement can be observed—consumers start producing information that is distributed among other users until it is picked up by mainstream media (Kolbitsch, 2006).

CHARACTERISTICS AND TYPES OF VIRTUAL COMMUNITIES

According to Roberts (1998), there are six dimensions that characterize a community. The first dimension is *Cohesion*, which is the sense of having a group identity and that an individual belongs to the group. To achieve that, virtual communities must maintain the commitment of members for continuous participation and contribution through rituals and other practices that increase the individual's identification within the group. Small groups possess a special quality that enables them to maintain themselves with greater ease than larger groups. In particular, small groups are usually able to provide high levels of communication between each member of the group. The second dimension is *Effectiveness*, which talks about the impact that the group has on the members' lives and the outside world. The community may be the primary vehicle for evolution in certain fields such as academia, because various ideas and thoughts from any part of the world can help an issue or a program to evolve rapidly. The third dimension is *Help*, which is the perceived ability of members to ask for and receive various types of assistance. The fourth dimension, *Relationship*, is the likelihood of group members interacting individually, including forming friendships. This entails the emotional and affective bonds created between co-participants in a community. Group members can gradually form friendships when the community provides them with the means to share information, give financial support, attend conferences together, and so forth. The fifth dimension is *Language*, and specifically the prevalence of a specialized language. Internet jargon and specialized language within the newsgroups are common. They are more likely on high-traffic lists, and, interestingly, on lists with large female membership. Finally, the sixth dimension, *Self-Regulation*, refers

Related Content

Construction and Application of Sentiment Lexicons in Finance
Kazuhiro Sekiand Masahiko Shibamoto (2018). *International Journal of Multimedia Data Engineering and Management (pp. 22-35).*
www.irma-international.org/article/construction-and-application-of-sentiment-lexicons-in-finance/196247

Adaptive Virtual Reality Museums on the Web
George Lepourasand Costas Vassilakis (2005). *Adaptable and Adaptive Hypermedia Systems (pp. 190-205).*
www.irma-international.org/chapter/adaptive-virtual-reality-museums-web/4185

Parallel and Distributed Multimedia Databases
S. Geislerand O. Kao (2008). *Multimedia Technologies: Concepts, Methodologies, Tools, and Applications (pp. 223-232).*
www.irma-international.org/chapter/parallel-distributed-multimedia-databases/27084

Construct a Bipartite Signed Network in YouTube
Tianyuan Yu, Liang Bai, Jinlin Guoand Zheng Yang (2015). *International Journal of Multimedia Data Engineering and Management (pp. 56-77).*
www.irma-international.org/article/construct-a-bipartite-signed-network-in-youtube/135517

A Novel Strategy for Recommending Multimedia Objects and its Application in the Cultural Heritage Domain
Massimiliano Albanese, Antonio d'Acierno, Vincenzo Moscato, Fabio Persiaand Antonio Picariello (2013). *Multimedia Data Engineering Applications and Processing (pp. 274-290).*
www.irma-international.org/chapter/novel-strategy-recommending-multimedia-objects/74950