

Social Network Analysis and Social Simulation of Online Computer Game Communities

Panayiotis Zaphiris (Cyprus University of Technology, Cyprus), Chee Siang Ang (Kent University, UK)

Abstract:

Online computer games provide a virtual setting with rich social interactions among their players. Such 3D virtual environments expand the horizon of Computer-Mediated Communication as they enhance the social presence and user embodiment through the use of 3D visualisation. In recent years, we have witnessed the emergence of online community and social networks around these 3D virtual worlds, some of which focus not only on play itself but also other more serious activities such as education and training, business, research etc. Therefore, understanding both the user behaviours when interacting with such systems and the entire social dynamics of the networks is critical to the success of utilising this technology in various domains.

Our interest has been to use qualitative and quantitative techniques to study such phenomena. In this paper we describe our project where we used virtual ethnography to study in detail the interactions that take place in the game among an online community of World of Warcraft (a Massively Multi-Player Online Role Playing Game (MMORPG)). We then used the qualitative and quantitative data from those observations to analyze the social networks that emerged from those interactions. The detailed analysis and modeling of the social network will be presented. We also transformed those models into a social simulation using a computer program. The simulation and examples of how it could be used to explore and find answers to research questions will be presented. Finally, examples will be demonstrated where such approaches could be used for practical computer game design and development.