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Virtual Worlds for Serious Applications (VS-GAMES'12)

Multi user virtual environments and serious games for team building

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Abstract

In this study, a team building Multi User Virtual Environment (MUVE) is designed specifically for professional teams to practice and improve communication and collaboration skills in a relaxed, non-task related, game like environment. Web.alive platform is used as MUVE. The game "Zoom", by Istvan Banyai, that is used for improving team building skills in real life is adapted into this environment. The game is applied to a pilot group. The results are promising, implying that MUVEs can be substituted for face-to-face played serious games and organizations can benefit from these environments.

Keywords: serious game; multi user virtual environment; team building

1. Introduction

Teams are the key resources for learning and accomplishing work in organizations [1]. These teams can be designated as face-to-face or virtual, depending on their communication types. Virtual teams consist of people who are locally dispersed and use information technologies in order to communicate. According to Martins et al, virtual teams are common in organizations and given their ability to transcend the traditional constraints of time, location, social networks, and organizational boundaries; they can enhance the competitive flexibility of organizations [2].

Effective team building is a critical aspect for organizations [3]. Serious games can be used for team building [4-5]. There are many face-to-face team building games that are found to be successful [6-7]. "Zoom" is one of those games that helps developing communication and problem solving skills, and is therefore selected for this study. The main problem for virtual team building is to get the team to a specific location. This study aims to solve this problem using Multi User Virtual Environments (MUVEs) [8] and investigate the potential of MUVEs in cooperation with serious games for virtual team building.

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2. Methodology

In this study, a team building MUVE is designed, using the web.alive 3D platform, specifically for professional teams to practice and improve communication and collaboration skills in a relaxed, non-task related, game like environment. A camping area is added onto the virtual world consisting of 10 chairs placed in a circle. Group members attempt to create a story out of random pictures during the "zoom" game. At the meeting, each team member receives a picture at random. The group then attempts to place the pictures in the correct sequence [6]. The pilot study is performed with 1 facilitator and 9 project members consisting of 5 men and 4 women. The participants were from 3 different countries. The facilitator who managed the session had previous experiences with "zoom" in face-to-face environments. At the very beginning, participants are engaged in gesture and navigation exercises as well as a session for finding the numbered black cubes dispersed randomly on the environment. Then, after feeling comfortable with the environment, the game is played. After the game, participants answered 4 open ended questions by e-mail.

3. Results and Conclusion

Qualitative analysis is performed for the open-ended questions in 4 categories:

- Previous team building experience: Out of 9 participants only 2 had attended a face-to-face team building activity. None of the participants were engaged in a virtual activity. The participants with previous team building activity agreed that the virtual experience felt much different than the physical one, but they felt more at ease in the virtual environment with new people.
- Advantages and disadvantages: Participants listed location independence, worldwide communication, game-like environment, and document sharing as the advantages of this environment. The main disadvantage was noted as real life stimuli and concentration problem. Lack of physical expressions was indicated as a major disadvantage for weakening the communication.
- Likes and dislikes: All participants felt comfortable within the environment and liked having an avatar. They stated that orientation may be more fun with a partner so that the feeling of isolation may not occur. Participants did not like the distraction from the continuous cricket sound in the camp, sense of nausea because of looking carefully at the screen for a long time, and difficulty of trying to listen to every detail from the headset
- Comments: The participants suggested that the ice breaking orientation session could be longer, and having breaks could be given so people could go around and talk. The facilitator stated that "Many of the exact behaviors, actions, and solutions that teams use and discover in face to face quickly became apparent and used in the virtual world".

It can be concluded that MUVEs can be substituted for face-to-face played serious games and can be used for building of virtual teams. Therefore, virtual teams can benefit from these environments as well as organizations.

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