Chapter 23

Serious Games for Reflective Learning:
Experiences from the MIRROR Project

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EXECUTIVE SUMMARY

This chapter describes some of the work carried out in the MIRROR project, which focuses on reflective learning where adults' motivation to learn and reflect through games is being researched. It briefly introduces the project and the theoretical framework, and then describes the serious game that was created for research in detail. The last part of this chapter focuses on users' evaluations and describes some lessons learned about the importance of guidance and of a de-briefing session, thus highlighting the potential of serious games for collaborative knowledge construction.

1. THE MIRROR PROJECT: SCENARIO AND THEORETICAL FRAMEWORK

Reflecting on our personal experiences and emotions can be a great mechanism for learning how to behave and react in certain specific situations. Unfortunately there are many such situations that people either never encounter or avoid in their daily lives. This limits the opportunity to learn through such personal experiences but with new tools like serious games it is now possible to create 'real new learning experiences' in a safe virtual environment. In this way, serious games can provide these missing learning opportunities because they allow people to access a potentially unlimited pool of environments through which they can experience those situations in a risk-free way and thereby enlarge the spectrum of their knowledge. Furthermore, well developed serious games have the potential to induce in players a state of flow in which they are so involved in the game activity that nothing else seems to matter (Csikszentmihalyi, 1990). When players reach this state they are more motivated to learn and, by reflecting on their actions and consequences within the serious game, players can translate the knowledge acquired in this virtual environment into the real world.

'MIRROR-Reflective learning at work' (http://www.mirror-project.eu/) is a Seventh Framework Programme project with the aim of encouraging human resources to reflect on previous experiences at the workplace and learn from them. The focus of MIRROR is the creation of a set of applications ('Mirror apps') that enable employees to learn lessons from their own experiences (as well as experiences of others) and thereby improve their future performance. One kind of apps envisioned in this context is serious games. A prerequisite for exploring innovative solutions in this context is the reliance on our ability to efficiently and effectively learn directly from tacit knowledge, without the need for making it explicit.

Among all the techniques explored by MIRROR, serious games have a special role as they provide virtual experiences to reflect upon. One of the main objectives of this project is to investigate how serious games can contribute to triggering reflection on one's own experiences as well as supporting a willingness to share these experiences of reflection within a team.

Before describing the serious game that is being developed in this context, it is important to underline what serious games are and why they can be considered a great tool for triggering reflection. It is also important to describe in depth the meaning of the term 'reflection' and more specifically the concept of 'reflection at work' in the context of the MIRROR project.

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