

THE <E-GAME> PROJECT: FACILITATING THE DEVELOPMENT OF EDUCATIONAL ADVENTURE GAMES

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ABSTRACT

Game based learning can be seen as an interesting approach to learning, but the complexity of today's videogames demands from developers a robust foundation in a variety of technologies. On the other hand, the educational part of game based learning requires the active participation of field experts. The collaboration between those experts and game developers is always difficult. The <e-Game> project addresses this problem by offering an authoring environment for educational adventure games that does not demand a deep formation in Information and Communication Technologies. The author (an expert in a specific field) only needs to write documents that describe the contents of the videogame following the <e-Game> XML syntax and feed them to the engine. In turn, the engine produces a fully functional game from those documents.

KEYWORDS

e-learning, game-based learning, XML, Domain Specific Languages, e-Game.

1. INTRODUCTION

The limitations of typical web-based learning processes for exploratory or constructivist learning have caused a growing interest for alternative approaches to e-learning. Such approaches could include collaborative learning processes, blended-learning, complex AI tutors, highly interactive environment, etc. Among those approaches, we would like to point out the potential of game-based learning. Videogames and interactive simulations can provide engaging and motivational environments that, if exploited carefully, can provide grounding for alternative learning paradigms.

However, this is not an easy task. Developing such environments is a challenging endeavor, and adding valuable educational material will necessarily require the collaboration of field experts that, often, will not have a technical background. This paper presents the <e-Game> project and how it can facilitate the development of content-rich educational games by using previous experiences in developing content-rich applications using a document driven approach.

2. GAMES AND EDUCATION

Games are here; our students play them, and usually do it after spending huge amounts of money buying titles and gaming equipment. As of today, the videogame industry already generates more income than Hollywood's box office sales (Snider, 2002 and ESA, 2005) and the trend is towards further growth. This

