INTRODUCTION

The conception of computer games in education dates back to the 1950s with the integration of wargaming and computer science research, coupled with the emergence of educational theories that emphasise active learning. The first computer games were developed in the 1960s and soon after they were being used and developed for educational purposes (Wolfe & Crookall, 1998). Educational games and simulations have been used for many years in business, training staff in financial and economic skills, and in the military for combat and strategy training. Americas Army, published in 2002, is arguably the most successful serious game produced, and the health sector
From the Games Industry has used simulation and visualisation techniques for many years, for example through the use of virtual patients. However, rigorous academic study of digital games, from a variety of perspectives and disciplines, is still very much in its infancy.

The development of appropriate games for learning, in which the gaming and learning outcomes are closely aligned and are fit-for-purpose for specific teaching situations, is difficult. Commercial off-the-shelf (COTS) games often have too much irrelevant content and a steep learning curve while, at the other end of the spectrum, the creation of new games specifically for learning requires expertise and expense. There are problems also in the attitudes of institutions, parents and professional bodies towards the use of games for learning as they can be seen as trivialising the curriculum in an increasingly target-driven and scrutinised environment. If games are to be taken seriously as an educational tool it is essential that development models emerge that enable high-quality games to be produced—in terms of educational value, game play design and appropriateness for the target audience.

Educational games are commonly produced by specialist game-based learning and e-learning development companies, or by enthusiastic teams (or even individuals) based in educational institutions. Entertainment games companies rarely venture into the field of educational games because the potential markets are smaller than for entertainment games but many of the lessons learned from the industry could be equally applied to the processes by which games for learning are developed.

This paper aims to highlight some of these lessons. It is aimed at those interested or involved in the creation of games for learning as well as those developing policy in the field and commissioning educational games. It considers what might be learned from the entertainment games industry in terms of the development of educational games, focussing on the process of game creation, and specifically not on the design elements. A great deal has already been written on ways in which to harness the motivational and engagement factors of entertainment games to enhance learning (Malone & Lepper, 1987; Garris et al., 2002; Dickie, 2007) so that will not be dwelt on here; this paper will focus on the development process rather than the product. Also, while the authors recognise the rich history of paper-based games, the scope of this paper is limited to digital games. The points that are made in the following sections do not purport to be unique to the entertainment games industry, but they are simply areas in which the authors feel that those creating and commissioning games, might learn valuable lessons from a related industry.

BACKGROUND

Games consoles, personal computers and other games devices are becoming ubiquitous items within most homes in western society. Over 65% of US Households play video games, globally over 138 million Playstation 2 consoles have been sold and over 155 million console games are sold each year (Online Education, 2009). The video games market in the UK now outsells the film industry (Wallop, 2009). Commercial games designers have the ability to create highly engaging, immersive experiences where players keep coming back for more (something that is sadly rarely the case in formal education). What constitutes a “good” computer game is arguable; (Koster, 2004) suggests that “fun” is an essential criteria (Prensky, 2007) talks about engagement and immersion, indeed it could be argued (sic) that sales volume measurement is a useful indicator of a good game. Suffice as to say the question of “goodness” is outside the scope of this paper.

In much of the academic literature on games-based learning one of the key reasons given for using games to teach is their motivational qualities (Oblinger, 2004; Prensky, 2007). However, this assumption that digital games are inherently
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