Authoring of Adaptive Serious Games

Maurice Hendrix[1], Evgeny Knutov[2], Laurent Auneau[3], Aristidis Protopsaltis[1], Sylvester Arnab[1], Ian Dunwell[1], Panagiotis Petridis[1], Sara De Freitas[1]

[1]Serious Games Institute, Coventry University, Coventry, UK
{MHendrix, AProtopsaltis, SArnab, IDunwell, PPetridis, SFreitas}@cad.coventry.ac.uk
[2]Department of Computer Science, Eindhoven University of Technology, NL
e.knutov@tue.nl
[3]Succubus Interactive, Nantes, France
laurent.auneau@succubus.fr

Abstract. Game-based approaches to learning are increasingly being recognized as having the potential to stimulate intrinsic motivation amongst learners. Whilst a range of examples of effective serious games exist, creating the high-fidelity content with which to populate a serious game is resource-intensive task. To reduce this resource requirement, research is increasingly exploring means to reuse and repurpose existing games and relevant sources of content. Education has proven a popular application area for Adaptive Hypermedia, as adaptation can offer enriched learning experiences to students. Whilst content to-date has mainly been in the form of rich text, various efforts have been made to integrate Serious Games into Adaptive Hypermedia via run-time adaptation engines. However, there is little in the way of effective integrated authoring and user modeling support for these efforts. This paper explores avenues for effectively integrating serious games into adaptive hypermedia. In particular, we consider authoring and user modeling aspects in addition to integration into run-time adaptation engines, thereby enabling authors to create Adaptive Hypermedia that includes an adaptive game, thus going beyond mere selection of a suitable game and towards an approach with the capability to adapt and respond to the needs of learners and educators.

Keywords: Adaptive Hypermedia; Adaptation; Serious Games; Educational Games; Education; Personalization.

Acknowledgements