

Creative Learning with Serious Games

A hands-on workshop merging methodological considerations with showcasing and playing!

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ABSTRACT

In this paper, we describe the structure and content of a proposed workshop to discuss innovative methodological approaches to Serious Games for creative learning. A special emphasis is given to state-of-the-art research work and cross-discipline approaches (e.g. the mix of Storytelling and Serious Games). In addition, different case studies coming from very different European (research) projects will be presented and discussed with the audience. Participants who wish to join the workshop presenting their work should provide also a link to a demonstration and be prepared to showcase their applications during the second part of the workshop.

Categories and Subject Descriptors

J 4 [Computer Applications]: Social and Behavioural Sciences

General Terms

Experimentation, Human Factors, Languages, Theory.

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Keywords

Serious Games, experiential learning, Storytelling, creative learning

1. INTRODUCTION:

Creative Learning with Serious Games

Serious Games (SG) are entering more and more the educational world. Games in education make it possible to overcome practical constraints of real-world settings and explore the far greater boundaries of virtual spaces. Modern Game-Based Learning (GBL) approaches are commonly build on applications that have defined learning outcomes and are designed to promote active participation and interaction, balancing the learning objective with the game play, in order to enhance the ability of the learner to retain and apply the knowledge gained to the real world while being completely involved and thus more receptive. SGs often exploit narratives, storylines, visual elements and other features common to entertainment games, such as scoring and social networking in order to motivate and engage players in a learning activity. Educational games have learning goals and structure, but in addition are adaptive and interactive and most importantly they provide enjoyment, pleasure, motivation, gratification and emotion, in order to achieve learner engagement and involvement. Games create simulated environments that facilitate immersion, allowing learners to explore alternative approaches to situations virtually, in order to directly experience practical and emotional consequences of their actions. Through these approaches, GBL allows learners to directly though virtually experience the real-

world by developing their awareness of consequentiality through doing and experiencing. For example, SGs can combine a wide range of different kinds of inputs and outputs for understanding complex social issues like poverty or immigration. This requires adopting multiple viewpoints and scenarios to analyse cause and effect. SGs provide an environment for active, critical learning, allowing users to explore skills, methods, and concepts rapidly within a safe experiential environment designed with behavioural learning components. The potential learning outcomes include changes in participants' behaviour, knowledge, skills, attitudes, and/or levels of functioning.

2. WORKSHOP STRUCTURE

Investigating creative learning with SGs, the proposed workshop will bring together innovative methodologies to SGs and case studies of real-life applications of GBL, which, after being briefly introduced, will be intensively discussed with the audience.

The workshop will be structured in two parts: the first part will feature relevant paper presentations and the second short demonstrations of innovative GBL solutions (Interactive Exhibition).

Overall six paper presentations are foreseen (of 10 min each), addressing the following generic topics:

- Pedagogical approaches for Serious Games
- Development of Serious Games Storyboards
- Case studies of creative learning with SGs

For each topic a brief introductory presentation is planned, evolving around state-of-the-art research work in the respective area.

The workshop will last for 3,5 hours. The organisers will hold the introductory presentations, which will last 10 minutes each (total 40 minutes). Six more presentations by participants will take 10 minutes each (total 60 minutes).

The duration of the Interactive exhibition and overall discussion session will be 110 minutes.

2.1 FIRST PART (Presentations):

Methodologies behind Serious Games and Case Studies

2.1.1 Pedagogical approaches for Serious Games

The topic shall be introduced by Dr Aristidis Protopsaltis, who will shortly present the pedagogical approaches applied in the framework of the **e-VITA** project for intergenerational learning.

Title of introductory presentation: What is behind a Serious Game? (10 min)

Under the e-VITA project, a set of games has been developed to promote European cultural awareness by conveying cross-border

and inter-generational experiences based on four different pedagogical approaches, exploratory, experiential, narrative and problem-based. This workshop will focus on these pedagogical approaches and will explore and scrutinise their benefits and shortcomings in relation to serious games development.



<http://www.seriousgamesinstitute.co.uk>

Dr **Aristidis Protopsaltis** is a researcher at the Serious Games Institute at Coventry University. His research interests lie in the area of Information Processing, Human Computer Interaction, and Serious Games. He holds a PhD and an MSc in Cognitive Science from the University of Westminster, where he studied with a scholarship from the Greek Foundation of Scholarships, and a BSc in Primary Education from the University of Crete. Aristidis has spent several years as a visiting lecturer and researcher at various universities in the UK. He has published a number of peer-reviewed conference and journal papers, and served as a program and general co-chair at ACM SIGDOC conferences.

2.1.2 Development of Serious Games Storyboards

The topic shall be introduced by Ms Sonia Hetzner, who will highlight issues concerning Storyboard development and will discuss the benefits of and feasible methods for using Storytelling for the development of Serious Games Storyboards.

Title of introductory presentation: How to match Storytelling with Serious Games? (10 min)

Storytelling fulfils important criteria of innovative pedagogical and didactical approaches: It is learner-oriented, motivating, creative and free of structure. Moreover, Storytelling can be a very adequate means for transporting and sharing information. In the scope of the workshop an innovative approach to transpose told stories into storyboards to develop Serious Games for Game-Based-Learning will be presented and discussed.

Sonia Hetzner, Institute for Innovation in Learning (FIM NewLearning), University of Erlangen-Nuremberg, Germany, Coordinator of the Project. Sonia Hetzner studied politics, sociology, and biology and graduated in Geography. She is senior researcher and project manager. She is responsible for conceptualisation, development, management and evaluation of e-learning course environments for different target groups. She is author of self-learning materials for different target groups. She is an experienced manager of European projects and has participated in several regional, national and European projects.

2.1.3 Case studies of creative learning with SGs

The topic shall be introduced by Ms Dimitra Pappa and Ms Lucia Pannese, who will discuss real-life applications of GBL. The

introduction will include a brief presentation of two examples of SGs designed and developed within European projects.

Example 1: Serious Games for European awareness (10 min)

Presentation of the e-VITA project, which aims at promoting intercultural comprehension and an increased understanding of the European integration process, by means of intergenerational learning, enabled through the combined use of Serious Games and Storytelling. The four designed SGs will be thoroughly described.



www.evitaproject.eu

Dimitra Pappa, National Centre for Scientific Research “Demokritos”, holds a degree in Electrical Engineering from the National Technical University of Athens Greece (NTUA), specialising in telecommunication technologies. She has taken part in a number of national and European research and development projects in the fields of telemedicine (GALENOS, MEDASHIP, EMISPHER), eLearning (PROLIX, PROLEARN, e-VITA, TEN-A, LIVIUS, ADAPT), eGovernment (eGOV), and eCommerce (PRAXIS), as project manager and/or as member of the research team. She has published several papers in journals and international conferences.

Example 2 : A Serious Game for political transparency (10 min)

Presentation, of an innovative and creative Serious Games approach to eParticipation of European Citizens interested to learn about the legislation process in the European Parliament. The work has been carried out in the scope of the EU-Project VOICES, with several European partners from different countries. The game will be released in English, German and Spanish.



www.give-your-voice.eu

www.seriousgames.it/VOICES

Presenter: **Lucia Pannese**, imaginary srl, graduated in Mathematics, has managing experience in (research) projects with special attention to technology enhanced learning solutions. In Feb 2004 founding partner of imaginary s.r.l. a company designing and developing Serious Games and simulation systems; at present covering the position of CEO and project manager for international (research) activities. In Oct 2008 she founds Games2Growth Ltd based at the Serious Games Institute, Coventry University Technology Park.

Space for 6 further presentations of 10 min each.

2.2 SECOND PART: (exhibition)

To better illustrate the concepts and methods discussed in the workshop, during the second part all selected presenters are invited to make a demonstration of the real-life applications of their respective work.

These interactive, hands-on demos: these will be playable after the presentations and will be discussed in an informal atmosphere.

Interactive exhibition and Discussion time: 110 minutes

3. PARTICIPATION PROCEDURE

Participants will submit their proposals to the organizing committee and the best six will be chosen and presented by their authors. In addition to theoretical research work participants will be able to submit, judged and present, if selected, practical work (demo) which will initiate discussion and interaction among participants.

At the final stage of the workshop all participants will have some hands on experience on the games that have been created within the eVITA context. The participants will have the opportunity to play the games and discuss the different methodological and pedagogical approaches that drove its development.

4. TARGET

Producers of Serious Games or Researchers and academics in the field, who can explain their methodological approaches to learning as well as their applications and showcase some results.

Given the fact that Serious Games are a very promising upcoming area in Technology Enhanced Learning and that there is little evidence of their effectiveness as well as given the paucity of existing research linking pedagogic elements to both learning requirements and technical features, this “hands on workshop” should be of extreme interest to all working in this field.

5. ORGANIZING COMMITTEE:

Lucia Pannese, Aristidis Protopsaltis
(aprotopsaltis@cad.coventry.ac.uk), **Sonia Hetzner, Dimitra Pappa** (.

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