

## Booklet with abstracts of presentations from the SGEED-2010



Project acronym: LUDUS  
 Project name: European network for the sharing and dissemination of technologies and knowledge in the innovative field of games based learning  
 Project code: SEE Eol/A/490/1.1/X

### Document Information:

Document title: Booklet with abstracts of presentations from the SGEED-2010  
 Date of Delivery: 21/9/2010  
 Author: BSC  
 Work package: WP4  
 Work package title: Networking  
 Work package leader: ARIES

### History Chart

Date	Changes	Cause of change	Implemented by
21/9/2010	First version	N/A	BSC

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# **Booklet with abstracts of presentations**

**Serious Games, Education  
and Economic Development  
(SGEED-2010)**

**July, 7-9**

**Ioannina, Greece**

**Hosted by BIC of Epirus**

**Conference Chair: Mrs. Katerina Filippou-Keramida**



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## **Introduction**

This booklet represents the work and the presentations of researchers and developers participating in the 1<sup>st</sup> Serious Games, Education and Economic Development (SGEED-2010), which was hosted by the Business Innovation Center of Epirus (BIC) on 7-9 July 2010 in Ioannina, Greece. The Conference Chair was Mrs. Katerina Filippou-Keramida, managing director of the BIC.

The SGEED-2010 provided a forum for the exchange of ideas and best practices among developers, experts, innovative companies, policy makers, publishers and practitioners, educators, researchers and teachers. The many discussions revolved around how video games, digital and social media are having a positive impact on learning while developing essential skills that learners and the industry require to compete in the 21st century.

Serious games comprise an innovative field of research and economic activity, which attracts diverse stakeholders. Serious games have significant potential to generate growth and innovation in South East Europe. In particular serious games development offer the potential for technology catch up and capability build up.



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# Welcoming address

**Title:**

1<sup>st</sup> European Conference “Serious Games, Education & Economic Development”

**Author / Presenter and affiliation:**

Mrs. Katerina Filippou-Keramida,  
BIC of EPIRUS, Greece

**Abstract of presentation:**

A quick flashback on the main points of the LUDUS project since its start until the first Conference; a reminder to the idea of Serious Gaming and the LUDUS project role in promoting their use. The author stresses on the main aspects of the LUDUS project and summarizes the objectives, the purpose and the overall appeal of Serious Games. Economic development, business benefit, technological advances are the pivotal issues of the presentation along with the use of Serious Games for educational purposes. On top, the author explains the importance of public events such as conferences in the promotion of serious gaming and also includes a brief reference to the Best Learning Game Competition.

# **Theme A: Societal and business issues of serious games**

**Title:**

Can serious games promote innovation and regional development?

**Author / Presenter and affiliation:**

Mr. Anestis Filopoulos,  
PROMEA, Greece

**Abstract of presentation:**

The use of Serious Games as a factor of regional economic growth and a means to battle the economic crisis. The presentation is an argument in favor of the beneficial role of serious games touching upon the engagement of technology with economic growth. The author poses questions deriving from the introduction of the serious gaming concept, focusing on their multiply profitable role for the regional economies. He also addresses the challenges and constraints in the adoption of serious games and attributes the obstacles rather to mentalities than to pragmatic difficulties. The author concludes with the LUDUS Project contribution to the regional development attempts.

**Title:**

Serious Games showcase

**Author / Presenter and affiliation:**

Dr. Yiannis Pappas,  
PROMEA, Greece

**Abstract of presentation:**

Detailed and in depth approach of the possible uses of serious games and the benefit from their deployment in small scale business, big companies and corporations or regional organisations. Starting with a long list of serious games potential use for corporate training, education, healthcare, public administration, simulation and military training, the author goes on citing examples of serious games in big industries and how serious games can be used to maximize performance and results in companies, corporations and agencies.

**Title:**

Hellenic Game Developers Association

**Author / Presenter and affiliation:**

Dr. Kostas Anagnostou,  
Ionian University, Greece

**Abstract of presentation:**

Short introduction to the Hellenic Game Developers Association, a major initiative for an organized games developers community in Greece. The author briefly outlines the profile of the members, the goals and the purpose of the Association.

**Title:**

Serious games in education

**Author / Presenter and affiliation:**

Dr. Kostas Anagnostou,  
Ionian University, Greece

**Abstract of presentation:**

The presentation reviews the educational value of videogames, highlights the differences between serious games and edutainment, examines educational applications of serious games and discusses barriers and opportunities in developing and using serious games in educational environments.

**Title:**

Emotions and learning: Their interplay within serious games

**Author / Presenter and affiliation:**

Dr. Antonio Ascolese,  
University of Milan-Bicocca, Italy

**Abstract of presentation:**

Serious Games represent a global revolution that promises to develop intuitive, affordable, accessible and familiar training environments for a wide range of educational and training applications. Serious Games are computer or video games in which education is the primary goal, rather than entertainment. Serious Game offer different benefits due to the match of simulation aspects, game aspects and pedagogical elements at the same time. Among different benefits will we focus on the Serious Games ability to leverage the synergy between emotional and learning processes. In the first part the focus will be on the type of learning offered by Serious Games and on the role played by emotions in learning processes. Then we will deepen two specific aspects of Serious Games: pleasure dimension and the state of flow. And finally, we'll try to explain how it is possible to analyse the emotional Serious Games aspects and to explore a new component that concerns the use of the Affective Computing in Serious Games.

**Title:**

How we got here: Introductory speech about the 1<sup>st</sup> European Best Learning Game Competition (EBLGC-2010)

**Author / Presenter and affiliation:**

Mr. Jens Koslowsky,  
LUDUS project, Greece

**Abstract of presentation:**

The presentation explains briefly the decision for and the purpose of conducting the 1<sup>st</sup> European Best Learning Game Competition within the LUDUS project. The goals and objectives of the competition are made clear. Furthermore, the rules and the criteria are being introduced, and the evaluation and selection process are outlined and explained.

# **Theme B: Design, technologies and methodologies for serious games**

**Title:**

Learning through games in the physical context: mobile and virtual world applications

**Author / Presenter and affiliation:**

Mr. Pavlos Koulouris ,  
Ellinogermaniki Agogi S.A., Greece

**Abstract of presentation:**

The presentation is about the COLLAGE (Collaborative Learning Platform Using Game-like Enhancements) project, which will be discussed as a good practice example of mobile and game-based learning that aims to integrate formal and informal learning settings through an innovative pedagogical approach. In this learning environment, students learn in context while participating in ready-made game activities or creating their own games: they gather data from their environments (at school, during visits to museums and science centres, on field trips, at home) and interpret it as information useful for learning, either on their own or through platform-mediated peer collaboration. Discussion of current explorations in the field of virtual worlds as new contexts for such activities will conclude the presentation.

**Title:**

Experience-driven Procedural Content Generation

**Author / Presenter and affiliation:**

Prof. Georgios Yiannakakis,  
IT University of Copenhagen, Denmark

**Abstract of presentation:**

Procedural content generation (PCG) is an increasingly important area of technology within modern commercial game development. Current research on game AI identifies the personalization of gaming experience via player profiling/modeling, and the real-time adaptation of the game according to player needs as important steps towards meaningful PCG. This talk will provide a taxonomy of PCG algorithms and introduce a PCG framework, named *Experience-Driven Procedural Content Generation* (EDPCG), which is driven by computational models of player experience. The presentation includes a discussion over the main components of the approach and frames ongoing research at the Center for Computer Games Research, ITU Copenhagen, under EDPCG.

**Title:**

The challenge of developing digital game-based learning products for “small markets”

**Author / Presenter and affiliation:**

Dr. Maria Roussou,  
Make Believe Ltd., Greece

**Abstract of presentation:**

Unlike computer and video games made purely for entertainment, serious games –be it for industrial training, medical and health simulations, education, etc.- are intended for particular educational outcomes, targeting very specific and, in most cases, limited-sized audiences. Profit in the case of serious games cannot be measured solely in economic terms; on the contrary, it is almost never measured in a commercial sense, since the idea of ‘profiting’ from a serious game encompasses a multitude of gains on a number of dimensions and mostly on a longitudinal basis.

This presentation will pinpoint the issues, challenges, and the very real practical constraints that small businesses –the only ones usually interested in creating serious games- face, from the viewpoint of the designer and developer of bespoke digitally-based learning games for informal educational purposes.

# **Theme C: Presentations of serious games application, projects and ventures**

**Title:**

Building Conceptually Rich VR Gaming Environments: The  
'SimSafety' Case Study

**Author / Presenter and affiliation:**

Mr. Kalaitzis, Mr. E. Valeontis,  
Research & Academic Computing Technologies Institute, Greece

**Abstract of presentation:**

This work presents the authors' experience in implementing an online VR platform targeted to young pupils with the aim to achieve an in-depth understanding regarding Internet safety risks, protective measures and actions, primarily within the school and family environment. Our main goal is to provide conceptually rich scenarios of simulated Internet-related activities, as well as risks and pitfalls, under a "safe" entertaining environment: In this paper we a) present on-going progress regarding the development of the SimSafety environment b) summarise our approach on building rich and intuitive avatar-avatar and avatar-artifact interactions, utilising advanced scripting and (ro)bot handling techniques that hopefully address the afore-mentioned shortcomings in an effective manner.

**Title:**

Using a management serious game within an entrepreneurship training project for the students of an informatics and telecommunications degree

**Author / Presenter and affiliation:**

Dr. Marios Mantakas,  
Technological Educational Institution of Epirus, Greece

**Abstract of presentation:**

The experience of the Dept. of Informatics and Telecommunications Technology, Technological Educational Institution of Epirus, in using a serious game, within the framework of a student training project in entrepreneurship, is reported. MAGEUR software-based management game was used. It involved competing teams of students that represented competing companies and was played in several rounds under the guidance and coordination of an instructor. The game simulated decisions by company directors and their market results. The background and content of the entrepreneurship training project, the selection, planning and execution of the game are described. Results and perspectives for a future organization of the entrepreneurship training and game are discussed.

**Title:**

The Magic Potion - An Adventure Game for Learning for Students with Mild Intellectual Disability

**Author / Presenter and affiliation:**

Mr. Panagiotis Tragazikis,  
New Technologies Laboratory for Communication, Education and  
the Mass Media, University of Athens, Greece

**Abstract of presentation:**

The presentation refers to the “Epinosis” R&D Project which is related to Specialized Formation of General and Special Education Teachers and Production of Educational Material for Mild Intellectual Disability (MID). More specifically, the “The Magic Potion” - An Adventure Game for Learning for Students with MID is presented.

**Title:**

Game-Based Learning for Knowledge Sharing and Transfer: The e-VITA project

**Author / Presenter and affiliation:**

Mrs. Dimitra Pappa,  
Demokritos, National Center of Scientific Research / project Evita,  
Greece

**Abstract of presentation:**

The increasing pervasiveness of digital technology is having a profound effect on how younger generations interact, play, and learn. The use of electronic games for education (game-based learning) promotes an agile, immersive and stimulating form of learning that fosters learner engagement and motivation. This work focuses on GBL for knowledge sharing and transfer for the purposes of intergenerational learning. In addition to the challenge of building intellectually appropriate and challenging games, the informal and incidental nature of intergenerational learning introduces another key requirement, namely that of effectively capturing and re-proposing the informal knowledge of seniors. For this reason, an innovative approach that builds on the combined use of serious games and storytelling is proposed. The application of this methodology in the context of the research project e-VITA will be presented, including the implications of pedagogy upon game design.

**Title:**

Cognitive and Physical Training for Senior Citizens

**Author / Presenter and affiliation:**

Mrs. Eleni L. Vlahou,  
Institute of Language and Speech Processing and University of  
Crete, Greece

**Abstract of presentation:**

Long Lasting Memories (LLM) is a European project that aims to provide a unified solution for mental and physical health to elderly individuals with (or at risk for) cognitive impairment through adaptive cognitive and physical exercises in the context of game environments:

(a) Cognitive Training is performed through the Brain Fitness Program, a scientifically-based cognitive intervention program designed to speed up auditory processing, improve working memory, improve the accuracy and the speed with which the brain processes speech information and reengage the neuromodulatory systems that gate learning and memory. (b) Physical Training is performed through FitForAll, a modular, fully parameterized and easily accessible game platform that helps elderly people to exercise and maintain their physical status and well being through an innovative, low-cost ICT platform, such as Nintendo Wii® peripheral devices.

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## **Short biographies from the contributing authors**

(in alphabetic order)

### **Dr. Antonio Ascolese**

is a post-doc researcher at the Centre for Studies in Communication Sciences of the University of Milan-Bicocca, Italy. He graduated in Psychological Sciences and Techniques (Bachelor degree) and in Developmental and Communication Psychology (Master degree) at the Catholic University of Milan. He received his PhD in General Psychology from the University of Milan-Bicocca. His research interests include positive psychology, nonverbal communication, psychology of emotion, as well as the cognitive and affective processes involved in the use of Serious Games.

### **Dr. Kostas Anagnostou**

has a PhD in Computer Graphics (University of Warwick) and has worked in the videogames industry (Microsoft Game Studios) for several years, taking part in the development of 1 Xbox and 3 Xbox360 games. He is currently an adjunct Lecturer at the Department of Informatics, Ionian University, teaching courses on Videogame Development, Virtual Reality and Computer Graphics at undergraduate and postgraduate level. His research interests include videogame and virtual world technologies and their applications in Education. He has written a book on the Videogame Industry and Development, in Greek, and runs 2 blogs on those subjects.

### **Mrs. Katerina Filippou- Keramida**

is an economist. She is the Managing Director of the Business Innovation Centre of Epirus (BIC of Epirus) and the coordinator of the LUDUS Project.

### **Mr. Anestis Filopoulos**

is an economist and training specialist, with international studies. Since 2006 he has been running the Exelia Learning/PROMEIA Company providing innovative training solutions to corporate clients. He has been involved in project management consultancy on the IT Research and Development area since 2001. He has training experience as an adult trainer in Economics, Communication Skills, Quantitative Skills, PC Operating Systems. His research interests are game based learning, new technologies in training, e-learning.

### **Mr. Dimitrios Kalaitzis**

earned his degree from Computer Engineering and Informatics Department at the University of Patras (2007). He has been employed at the RACTI since 2008 and worked on several ICT projects, including “SimSafety: The Flight Simulator for Internet Safety” and “Regional Innovation Pole of Western Greece” . His main research interests are Virtual Environments, Computer Network Security and Approximation Algorithms (ongoing M.SC. thesis).

### **Mr. Jens Koslowsky**

is working since several years as a consultant with considerable experience in European funded projects. He holds a Magister degree in History and Geography from the Freie Universität (FU) in Berlin, Germany and a Master’s degree in European Studies from the Center of European Integration Studies at Rheinische Friedrich-Wilhelms-Universität in Bonn, Germany.

He has been involved in the field of international R&D management ever since his engagement at the International Bureau of the German Federal Ministry for Research and Education, where he has gathered significant experience in conducting studies and managing projects related to Information and communication technologies (ICT).

### **Mr. Pavlos Koulouris**

is a graduate of Greek Literature and Linguistics, with postgraduate studies and doctoral research in ICT in Education at the Institute of Education (UK). His work experience is diverse, ranging from teaching to research in educational innovation. Since 2004 he has been working in the Research and Development Department of Ellinogermaniki Agogi, focusing on lifelong learning as a developmental catalyst in rural areas, the use of new technologies in language learning and science learning, the organization of digital educational content, and synergies between formal and informal learning.

### **Dr. Marios Mantakas**

is an assistant professor at the Dept. of Informatics and Telecommunications Technology, Technological Educational Institution of Epirus. He was the Department Coordinator of a student training project in entrepreneurship from 2005 to 2007, and organized a management game in May 2007. His current research interests are in the area of Enterprise Systems.

### **Mrs. Dimitra Pappa**

holds a degree in Electrical Engineering from the National Technical University of Athens Greece (NTUA), specialising in telecommunication technologies.

Since the late 1990's she has taken part in a number of European and national research and development projects in the fields of eLearning, e-Health, e-Government and e-Commerce (under FP5 & FP6, eContentPlus, Lifelong Learning, eTEN, Ten-Telecom, ADAPT, ACTS, eLearning Initiative & EUMEDIS programmes), as scientific supervisor, project manager and/or member of the work team. The list of projects includes: OpenScout, PROLIX, PROLEARN, e-VITA, TEN-A, LIVIUS, ADAPT, GALENOS, MEDASHIP, EMISPHER, eGOV, PRAXIS. She has published several papers in refereed international

scientific journals and conferences. Her current research interests evolve around the various facets of technology-enhanced learning.

### **Dr. Yiannis Pappas**

is the educational content manager of PROMEA, providing innovative training solutions to corporate clients. He holds a PhD in didactics from the University of Ioannina, specialized in exact sciences tutoring through the use of new technologies. Since 1999 he has been consistently involved with the fields of research, education and development of educational applications based on new technologies. He has a long experience as a trainer in adult vocational training and he has also worked as a training consultant.

### **Dr. Maria Roussou**

is an interaction designer and Founding Director of 'makebelieve design and consulting', a small creative company involved in the conceptualisation, design and development of immersive and interactive experiences. She is also an adjunct lecturer in Human Computer Interaction (in Computer Science) and New Technologies and Museums (in Museum Studies) at the University of Athens.

### **Mr. Panagiotis Tragazikis**

is a Schoolteacher and the Director of 3d Primary School in Palaio Faliro. He had received education in a various academic fields at the same level, like education, economics, marketing and Msc in Educational Planning and Development specialized in the use of new technologies. He is Research Fellow, New Technologies Laboratory for Communication, Education and the Mass Media, University of Athens. His main scientific interest is digital games applied in educational purposes.

### **Mr. Eftychios Valeontis**

was born 1979, and received his Diploma in Computer Engineering from the University of Patras, 2001, and M.Sc. in Computer Network Intrusion Detection and Prevention from the Computer Engineering Department of the University of Patras, 2006. He has been working with RA.CTI since 1997 in several sectors and R&D projects (including the design and development of the Helpdesk system supporting all the Greek schools and teachers). His research lies mainly in the areas of Computer Network Security and Databases.

### **Mrs. Eleni Vlahou**

is currently pursuing her PhD degree at the Institute of Language and Speech Processing and University of Crete. She graduated from the Department of Psychology, Panteion University, and holds an MSc in Cognitive Science.

### **Prof. Georgios N. Yiannakakis**

is an Associate Professor at the IT University of Copenhagen. He received both the Ph.D. degree in Informatics from the University of Edinburgh in 2005.

His research interests include user modeling, neuro-evolution, computational intelligence in computer games, cognitive modeling and affective computing. He has published around 50 journal and international conference papers in the aforementioned fields. He is an Associate Editor of IEEE Transactions of Affective Computing and the chair of the IEEE CIS Task Force on Player Satisfaction Modeling.