Editorial

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Welcome to SGAMES 2015, the 5th International Conference on Serious Games, Interaction and Simulation. This conference is a multidisciplinary approach to the presentation of research, theory, application, practice and validation in the fields of Serious Games, Interaction and Simulation. As such it covers areas like cognition, psychology, technology-enhanced education, evaluation and assessment, multimedia and information technology. It is the place to show and to see new scientific approaches and results from experiments and real-life applications.

1 SGAMES and SEGAN

SGAMES 2015 also marks the beginning of a new era for this conference series. The first four editions of the conference were organized solely under the scope of SEGAN – the Serious Games European Association. This association aims at studying, analyzing and disseminating information about serious games, systematizing the research and application processes, exchanging knowledge, experience and know-how between the different countries, institutions and individuals. SEGAN also aims at identifying and disseminating the best practices in this field, as well as encouraging new actors to participate and use serious games. SEGAN defines future research and development lines, and expects to promote Europe as a center for the development of projects.

The SEGAN association is an already quite large community of practice with more than 1000 participants who regularly contribute with information, news, reviews and opinions. The community is based on social networks and online tools to improve its visibility, to generalize the knowledge and impact about serious games as well as to contribute for their adoption and efficient use. The network has created an online social portal organized in groups of interest that produces annual reports on the design, development and assessment of serious games, and on their use in specific contexts. Furthermore, a repository of products, papers and projects related to serious games has been developed, and reference documents related to the design, development and assessment of serious games are also produced. The social portal, which includes the repository is available at http://seriousgamesnet.eu/community.

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Other available web tools are:

- The network's website at http://seriousgamesnet.eu
- A Facebook group, available at http://www.facebook.com/groups/segan

The network also holds local events on the development of serious games and, as previously mentioned, organized a series of annual conferences and summer schools in Zaragoza (2012), Tallin (2013), Cork (2014), and Tenerife (2015). SGAMES 2015 marks the beginning of a partnership between SEGAN and EAI in the joint organization of the conference. The main subject of the conference is still "serious games," which may be defined as games used for purposes other than mere entertainment.

2 Serious Games

Serious games may be applicable in a wide range of areas such as education, health, training implying dangerous environments or situations, etc. Serious games are particularly useful for education and training purposes. Instead of offering only the traditional paper or online static courses, integrating serious games in the classroom, and their corresponding educational activities at home, may offer immersive and attractive environments in which the users "learn by doing." The users act and learn from their own mistakes in a controlled environment. This method based on attempt and error is a good support for learning, and it is also capable of improving team work, social leadership skills and collaboration.

3 The Conference

The program of SGAMES 2015 is focused on distinct areas from tools and applications to the advancements in core issues of serious games design and development. In the core issues of serious games design and development the contributions range from dynamic serious games balancing to a preliminary version of a serious game quality model. Vaz de Carvalho presents Dynamic Serious Games Balancing a way to raise and keep the user's interest in a game through specific, user-adapted mechanisms that are necessary to keep his/her interest and motivation. Dynamic game balancing (DGB) is the process of changing game parameters in real-time, according to the users' detected ability, in order to provide him/her with a tight fit challenge (neither too easy nor too difficult).

García-Mundo et al. introduce a preliminary version of a Serious Game Quality Model (QSGame-Model), present an example of the application of this model and outline the future empirical studies necessary to refine and validate the model.

But, like previously mentioned, one of the major applications areas is Education: several contributions range from gamified approaches towards preventing school leaving, a virtual city model to foster Mathematics and Science in Secondary education students, an exploratory study on the role of chess playing in the teaching of mathematics, another study that investigates to what extent the use of sensitizing techniques can help children design a serious game, the analysis of the relation between game genres

and competence development and the knowledge Improvement of dental students through an online serious game.

Sim et al. describe a study to investigate to what extent the use of sensitizing techniques can help children design a serious game for a surrogate population and understand what children can contribute to the general development of serious games and to the specifics of thinking about other populations.

Heidmann et al. address the issue of secondary education students often struggling with Mathematics and Sciences and presents a game-based Problem-Based Learning approach. This work, named eCity, aims at creating a Virtual Learning Environment platform in the form of a city building simulator, in which students, often digital native, will feel at ease and encouraged to solve the practical engineering scenarios they will face.

Kakoma and Apostolos undertook a study into the role that chess plays in the learning of Mathematics. The study offers some new insights into the role that chess plays in the teaching and learning of mathematics. Preliminary results show that there is a correlation between playing chess and the learning of Mathematics.

Baptista et al. addresses the issue of in-game certification of skills and competences considering that the effectiveness of game-based training is directly related to the success on how the challenges promote the acquisition of skills. In the article a study is presented identifying the most appropriate game genres to develop specific skills and competences.

Sipiyaruk et al. present a serious game for Dental Public Health (DPH), developed to support students in designing health promotion programmes. Based on the evaluation data from an initial pilot study there was evidence that this game had the potential to be a global learning tool.

Rugelj presents a study on the use of serious computer games design for active learning in teacher education. Active learning is a pedagogical method that focuses the responsibility of learning on learners. They engage in activities, such as reading, writing, discussion, or problem solving that promote analysis, synthesis, and evaluation of class content. There is a convergence between the core elements of good serious game design and the characteristics of productive learning. Another link between games and learning is formative feedback as a critical part of any learning effort and a key component in game design that adjusts challenges.

Another area focused is accessibility, both for disabled people and elderly peoples. From a game that aims to make the process of learning sign language easier and enjoyable, or a method for applying the effort of university students to the benefit of Down's syndrome children, to serious games for attention training and cognitive stimulation of the older adults.

Cardoso et al. propose a method for applying the effort and enthusiasm of final year students from technology universities in existing social needs like the care for children with Down syndrome, Deafness or Autism Spectrum Disorders through games' development.

Escudeiro et al. present a game developed within the Virtual sign project that aims to make the process of learning sign language easier and enjoyable. In the game the player can control an avatar and interact with several objects and non-player characters in order to obtain signs. The player then has to perform the gesture himself/herself. This improves the interactivity and makes the game more interesting and motivating.

Alves et al. present a proposal to stimulate cognitively adults through Serious Games, helping them to develop strategies and maintaining independency in their daily life activities.

Ku et al. present the design and study of a Serious Game for attention training of the older adults. They designed a parameterizable serious game on tablet computer to study how such a system can improve the attention of the older adults. The experimental results show that some cognitive abilities of the participants can be significantly improved, and most of the subjects are willing to continue to play the game after the experiments.

Another paper proposes new ways of guiding players' actions towards image and video crowdsourcing. Simões et al. outline some basic mechanics in serious games that can be explored for the purpose of data collection and they describe new ways of guiding players' actions towards the purpose of image and video crowdsourcing. This way the access to large-scale imagery datasets can be significantly improved namely for applications in 3D modelling, augmented reality, infrastructure inspection, urban planning, etc.

Regarding tools, a model-driven authoring framework is proposed as high-level authoring environments for non-technical domain. Van Hoecke et al. present a model-driven authoring framework for high-level authoring environments and support for non-technical domain experts to create custom serious games. Through model-driven authoring, non-technical people can manipulate the 3D visuals of their serious game, model the scenarios of the game, and even easily add non-linear narrative to the game.

Besides Serious Games, Gamification is also approached in several papers, from fostering learning engagement towards preventing early school leaving to the integration of Building Information Modeling (BIM) together with the emergent Internet of Things (IoT). Tsalapatas et al. present a gamified community for fostering learning engagement and preventing early school leaving. Their work aims at strengthening the ties of school networks aiming at preventing ESL risk factors to set root in a learner's life through early interventions that start in primary school. This is pursued through a gamified school community and supporting gamified complementary to school curricula learning activities that aim at fostering engagement of parents, teachers, and learners.

Steven Rowland then explores how gamification can provide the platform for this purpose fostering the creation of a testable and persistent virtual building via gaming technology that combines both BIM and IoT. The author discusses the features of each subject area in brief, and points towards the advantages and challenges of integration via gaming technology.

4 Closing

SGAMES 2015 was an excellent opportunity to be in contact with the most recent research and developments in the Serious Games domain. The quality of the contributions and of the discussions clearly showed tremendous potential for collaboration and evolution which we expect will continue in the next years. SGAMES 2016 will definitely confirm this trend and, besides the strengthening of the current research, we will be able to see new areas of application of Serious Games.

Co-locating SGAMES with e-LEOT also made all the sense and allowed for a very profitable synergy and gathering of expertise between the participants in both events. Therefore next year we will continue this partnership.

So you have reasons to meet us and we look forward to seeing you in Dublin, next year.