Serious Games Network

Progress Report

Public Part
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Executive Summary

Games have wide acceptance due to their challenging and motivating design and the social interactions they generate. Research showed that games develop mental abilities and skills such as strategy and decision making. They also promote digital competence and other key transversal competences for life and employability. Serious Games use the motivational and even addictive aspects of games for other purposes than entertainment. They are specifically designed to change behaviours and impart knowledge and are widely used in training situations, such as emergency preparedness, training for leadership and even citizenship.

In the scope of the LLP programme and other preceding programmes, there have been several projects addressing this issue with good results. Looking at the ADAM, EVE and EST portals we can see that there are about 65 projects in total under this thematic. The SEGAN (Serious Games Network) proposal addresses the need to disseminate and share all the experience acquired in the recent years, getting together coordinators of those projects, experts and practitioners, promoting a Community of Practice under this subject. The main objective is thus to create a stable consortium to exchange ideas and experiences related to Serious Games.

The network is supported by virtual tools and face to face events, in order to increase the visibility and awareness of the benefits and impacts of Serious Games for learning, and contribute to its uptake and efficient use. The Community produces annual publications on the design, development, delivery and evaluation of serious games and organizes an annual conference and summer school. It has been also involved in several other local and European events focused on Serious Games and Game-Based Learning.

At the midpoint of the funding period SEGAN has managed to surpass the original expectations in terms of impact. Through direct actions or dissemination activities a large number of researcher and practitioners have been involved. SEGAN is already a major player in the Serious Games scene. The second half of the funding period will be dedicated to systematize and solidify this presence, towards the planned goal of a European association.
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1. Project Objectives

Serious Games focus on the design of the learning process with the support of interactive and immersive environments (2D/3D graphics, sound, and animation) structured as games. Serious Games are especially useful for education and training. Rather than offering traditional paper-based or online static courses, games can offer an incredibly immersive and engaging environment where users ‘learn by doing’. Users make and learn from their own mistakes in a controlled environment. This trial and error based approach supports well learning and is able also to improve teamwork, social skills, leadership and collaboration.

![Serious Games](image1.png)

**Fig. 1** Serious Games developed by SEGAN members: e-Adventure (Univ. Complutense de Madrid) and envKids (Univ. Thessaly)

The main objective of the SEGAN (Serious Games Network) is to create and maintain a Community of Practice on the Serious Games subject. That way it will promote a stable (but expanding) consortium to exchange ideas and experiences related to Serious Games.

![Serious Games](image2.png)

**Fig. 2** Serious Games developed by SEGAN members: Khrivel (Tallinn University) and Timemesh (ISEP)
This network is supported by virtual tools and face to face events, in order to increase the visibility and awareness of the benefits and impacts of Serious Games for learning, and contribute to its uptake and efficient use.

This way it will be possible to:

- Systematize processes of research and application of Serious Games in education and training
- Exchange knowledge, experience and know-how between different countries, different educational areas, different institutions
- Identify and disseminate best-practice on the field
- Motivate new actors to be involved and to use Serious Games
- Define future paths of research and development
- Ultimately, promote Europe as a centre of research and application of Serious Games
2. Network Approach

The network approach is mostly based on the design and development of the tools that support the Community of Practice (CoP) and on the development of the network itself into a full grown European Association. Therefore tasks relate, on one side, on the development of the Community (research, design and develop) and, on the other side, focus on the dissemination of the network and getting new interested individuals and organizations. In parallel there will be the project management and quality assurance.

The main work packages related to the setting up of the CoP and its tools are:

WP3 – Specification, Design and Development: This WP handled the specification and design of the Community of Practice. It was implemented through collaborative work between project members but also other participants that have joined the work in the meantime. Activities included brainstorming, discussion, etc. using electronic mail and discussion forums. Face to face events were also used to discuss the organization and structure of the CoP.

WP4 – Community of Practice: This WP corresponds to the implementation and animation of the Community with all the online tools. It is an ongoing WP until the end of the network.

Fig. 4 The original SEGAN social network tool was based on a social communication paradigm.
WP6 – Annual Conference and Summer School: These events are scientific and technical but also dissemination oriented. One event already took place in Zaragoza, in September 2012. The next edition will take place in Tallinn, Estonia in July 2013. The third edition will take place in Cork, Ireland in September, 2014. The network (in the form of an Association) will keep organizing these events with own funding.
Included in this work package are a set of local workshops, organized by the partners for local audiences. To date, SEGAN partners have organized about 20 of these events.
Two other work packages support the effort of promoting and enlarging the network.

WP5 – Project Dissemination: This WP aims to spread out information on the project and its results, in particular for the target audience. As stated before this is one of the main concerns of the network which explains the very high number (over 100) of visibility actions that already took place. These actions cover all the possible spectrum of activities, from the participation in conferences and events, to news in public media (newspapers, radio and tv), internet presence, production of material and other merchandising, etc.

![Fig. 9 SEGAN presentation at EDUTOPIA conference](image)

WP7 – Exploitation: This WP will start in the next few months and consists of the determination of processes of multiplication and generalization of the results achieved in the project. This will be achieved by creating academic and training programmes but, above all, by creating a European Association.

In parallel, two other work packages organize, monitor and keep the network on the correct path:

WP1 – Project Management: This WP integrates project planning and monitoring. It is lead by the coordinator with the help of the Steering Committee that includes a representative of each partner.

WP2 – Quality Assurance and Monitoring: This WP is dedicated to the process of quality assurance of the approach and results of the project. It is accomplished through a continuous process of monitoring, internal and external evaluation.
3. Project Outcomes & Results

The network outcomes are:

- The creation of an online social portal that establishes and supports the Community of Practice on Serious Games. The portal is organized in Special Interest Groups that produce annual reports on the design, development, delivery and evaluation of Serious Games and their use in specific contexts. The online portal is currently on the second version, following comments from users and extends the scope of a Facebook group that functions as an attractor for interested individuals. (Available at [http://seriousgamesnet.eu](http://seriousgamesnet.eu). The Facebook group is available at [http://www.facebook.com/groups/segan](http://www.facebook.com/groups/segan);

![Fig. 10 The new network portal](image)

- The development of a repository with products and projects related to Serious games. This repository is integrated with the portal and provides refereed information to facilitate reusing of those resources;

- The production of reference documents concerning the design, development and evaluation of Serious games. These documents will start to be produced next October.
- The setting up of small-scale, local events on the design and development of Serious Games. Currently the network has organized about 20 events which was almost the target for the whole three-year period;

![Fig. 11 SEGAN local workshop about Serious Games in Porto](image1)


![Fig. 12 Summer School in Tallinn](image2)
• As a result of the Tallinn Summer School and Conference, partners will use the produced contents to start a SEGAN MOOC - Massive Open Online Course, on Serious Games Design.

• The preparation of an academic programme on Serious Games and a set of training modules derived from that programme

• Finally, create a European association that, through fees, will ensure the continuation and expanding of the network after the support from the EC is finished.
4. Partnerships

The initial partnership itself was already established respecting some fundamental criteria:

- The inclusion of partners with a strong involvement in the academic world and/or with the industry to ensure the involvement of researchers, academics, practitioners and developers that have worked in the field of Serious Games. Most partners have experience in the development and use of Serious Games;

- An adequate number of initial partners that creates a strong kernel for the Community of Practice and provides the basis for growth;

- A large coverage of European countries and cultures, for increased diversity of views and different approaches to the subject. Accordingly, all the partners have dissemination roles based on their geographical location.

As such, the partnership includes different types of partners: There are several Higher Education Institutions with involvement in research and educational application of Serious Games in different levels (basic, secondary and higher education). ISEP has lead projects on Serious Games for basic education and has
extended experience in Learning Technologies for Higher Education. The education faculties of the University of Ljubljana (Slovenia) and ChiCI-UCLAN (UK) have great experience in the development and implementation of pedagogical methodologies. They also have expertise in the design of educational games. That experience is also present in the Universidad de Zaragoza, University of Thessaly, Tallinn University, Cork Institute of Technology, Katholieke Hogeschool St. Lieven and Universidad Complutense de Madrid. Each of these Universities participates in the project with a research group related to Learning Technologies. They also add specific skills like Computer Graphics and Virtual Reality (UNIZAR) and Artificial Intelligence (UCM) which are relevant to support Serious Games development.

The consortium includes a private company, Virtual Campus Lda, that is specialized in the development of educational games and learning contents. Three other companies ANDAMIO, ACCORD and CORDIA have extended experience in the use of Serious Games for training and personal development.

The consortium also represents a good combination of public and private entities. It combines profit and not-for-profit organizations which facilitates the sustainability of results. It is geographically and culturally representative of Europe but keeps a dimension that is manageable and effective.

Since its creation the network has grown to over 350 individuals. Several other institutions and organizations have been in close contact with SEGAN to organize common events and to setup joint activities. Examples of these partnerships are:

- ACE, Academic Conferences and ECGBL, the European Conference on Game-Based Learning. The 2013 edition will be hosted by ISEP and there is a strong relation between ECGBL and SEGAN (http://academic-conferences.org/ecgbl/ecgbl2013/ecgbl13-home.htm) which ensures a large dissemination potential for the network.

- GALA FP7 network. Several contacts have been established through members of both networks. GALA has a different target (researchers and research) which allows complementing activities, a goal for the near future.

- Universidad de Zaragoza and University of Tallinn are examples of potential integration of SEGAN activities in academic practice. The inclusion of the
Summer Schools in the formal list of activities of these Universities shows potential for future collaboration with other universities.

- European projects like Great, Play4Interculturality, GABALL, ICTWays and CHERMUG. Cooperation with these projects clearly shows the potential for further collaboration in this domain.
5. Plans for the Future

In the near future the main activities are centred in fostering the development and enlargement of the CoP. The main work packages continue the work developed in the first half of the funding period:

WP4 – Community of Practice: This WP corresponds to the implementation of the Community with all the online tools. It is an ongoing WP until the end of the network.

WP6 – Annual Conference and Summer School: The third edition will take place in Cork, Ireland in September, 2014. From then on, the network (in the form of an Association) will keep organizing these events with own funding.

WP5 – Project Dissemination: the strong effort towards visibility of the network will continue. Direct actions will now be targeting secondary and basic education teachers to promote their awareness of the use games for learning.

WP7 – Exploitation: This WP will start in the next few months and consists of the determination of processes of multiplication and generalization of the results achieved in the project. This will be achieved by creating academic and training programmes but, above all, by creating a European Association. It must be said that this process will be conducted with a great concern for the sustainability of the network and the efficiency of resource usage. We have been in contact with many organizations involved in the same domain, notably the FP7 network GALA, and whenever there are common objectives conjoint activities will be promoted.

In parallel, two other work packages organize, monitor and keep the network on the correct path:

WP1 – Project Management: This WP integrates project planning and monitoring. It will be lead by the coordinator with the help of the Steering Committee that includes a representative of each partner.

WP2 – Quality Assurance and Monitoring: This WP is dedicated to the process of quality assurance of the approach and results of the project. It will be accomplished through a continuous process of monitoring, internal and external evaluation.
6. Contribution to EU policies

The SEGAN network is clearly in scope with the European framework for education and training until 2020. Serious Games use the motivational and even addictive aspects of games for other purposes than entertainment. They are specifically designed to change behaviours and impart knowledge and are widely used in training situations, such as emergency preparedness, training for leadership and even citizenship. Serious Games focus on the design of the learning process with the support of interactive and immersive environments structured as games. They are especially useful for education and training because rather than offering traditional paper-based or online static courses, games can offer an incredibly immersive and engaging environment where users ‘learn by doing’. Users make and learn from their own mistakes in a controlled environment. This trial and error based approach supports well learning and is able also to improve teamwork, social skills, leadership and collaboration.

As such, by promoting Serious Games, SEGAN addresses the main ideas of the European 2020 education framework: “Technology offers unprecedented
opportunities to improve quality, access and equity in education and training. It is a key lever for more effective learning and to reducing barriers to education, in particular social barriers. Individuals can learn anywhere, at any time, following flexible and individualised pathways.”. The same report states “New ways of learning, characterised by personalisation, engagement, use of digital media, collaboration, bottom-up practices and where the learner or teacher is a creator of learning content are emerging.”. All these aspects are addressed by SEGAN through the involvement of stakeholders in education.

“Turning research into educational practice is even more necessary in a fast changing environment. Communities of practices and hubs of ICT-based excellence should be further developed, as should faster transfer of innovation research into educational practice.”. Again, by getting together researchers and practitioners brings this goal into practice. Finally, by directly targeting teachers and providing training opportunities to acquire further ICT knowledge, we address the following concern: “Teachers tend to acquire ICT teaching skills through initial education rather than through professional development; it is essential that they are well equipped to embrace the potential of the new technologies in the way they teach, in order to stimulate and engage learners.”
