Pervasive Games

E. Pasher[1], G. Bendersky[1], H. Raz[1] and S. Gabrielli[2,*]

[1]Edna Pasher Ph.D & Associates, Israel
[2]CREATE-NET, Italy

Abstract

Quickly emerging from the fast-paced growth of mobile communications and wireless technologies, pervasive games take gaming away from the computer screen and back to the three-dimensional world. Nowadays games are designed to be played in public spaces like hospitals and rehabilitation centers, shopping malls, conferences, museums and other non-traditional game venues. The increasing deployments of Internet of Thing (IoT) technologies are opening up new avenues of research and deployment opportunities towards that future of pervasive games design. Game designers need to understand how to use the world as a game space, and both the challenges and advantages of doing so.

In this edition of the EAI Endorsed Transactions on Serious Games, we present a special selection of high-quality papers presented at PERGAMES 2014, the First International Conference on Pervasive Games, held at LUISS Enlabs, Rome, on October 27th, 2014 as a co-located event with the IoT360 Summit of EAI. The articles are extended versions of the papers presented there and address topics related to the design and deployment of pervasive games for Ambient Assisted Living and post-stroke Rehabilitation scenarios.

1. Pervasive Games

Nowadays games are designed to be played in public spaces like hospitals and rehabilitation centres, shopping malls, conferences, museums and other non-traditional game venues. The increasing deployments of Internet of Thing (IoT) technologies are opening up new avenues of research and deployment opportunities towards that future of pervasive games design. Game designers need to understand how to use the world as a game space, and both the challenges and advantages of doing so.

PERGAMES 2014, the First International Conference on Pervasive Games, was held at LUISS Enlabs, Rome, on October 27th, 2014 as a co-located event with the IoT360 Summit of EAI. The conference focus was on understanding how to best design and deploy Pervasive Games for various sectors, such as Health-Wellbeing, Ambient Assisted Living, Smart Cities-Societies, Education, Cultural Heritage, Tourism and more.

It aimed at bringing together international researchers, IoT and game developers, as well as industry delegates to address issues and trends, research and technological advances in the world of Pervasive Games for different application fields.

The conference was structured as a single-track, multi-session event. Also, two interactive and gamified sessions were carried out during the conference day, one focusing on group brainstorming for the design of innovative game solutions and another one focusing on discussing their deployment and exploitation challenges.

Contributions to the conference were solicited in the form of full and short research papers. This section presents an extended and updated version of two among the nine high-quality papers presented at the conference.

The paper by Philipp Brauner, Andreas Holzinger, and Martina Ziefle presents the design of a prototypic game for Ambient Assisted Living environments, which was tested with two samples of older and young adults. Factors influencing games acceptance and usage are discussed and guidelines provided for a future deployment

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*Corresponding author. Email: silvia.gabrielli@create-net.org

of serious games in healthcare and social inclusion environments.

The paper by Pyae, Luimula and Smed investigates the motivational requirements and factors for designing rehabilitation games for stroke patients, which could inform future research in that field. The paper also introduces the Virtual Nursing Home (VNH) concept and a series of games that the research group has been developing, testing and refining for that purpose.

We are happy to present this special section, and hope readers will enjoy it as much as we enjoyed participating and discussing with authors during the PERGAMES Conference in Rome.

We wish to thank all the speakers and participants to the conference. Special thanks also to all reviewers, who provided a fundamental support to the realization and publishing of this special section.

2. Other contributions

In this edition of the Journal we can also enjoy the normal stream of articles. Wendel et al talk about the adaptation of game-based learning environments towards the needs of players with heterogeneous player and learner traits. They contribute with a mechanism to recognize high-level situations in a multiplayer Serious Game using criteria and situations based on the game-state, player actions and events.

Imbellone et al present the empirical results obtained from a study conducted on a game-based online course that evidenced the benefits of the learning games mechanics on the learners' willingness to continue the course. They show how this willingness can be significantly enhanced by the presence of both ludic and narrative game-based elements.

Finally, Andrade presents a strategy to animate virtual communities of practice through the use of gamification techniques. He presents the results of the use of this techniques in a community dedicated to the discussion of Serious Games.