

Guest Editorial: Selected Papers from the 13th Brazilian Symposium on Games and Digital Entertainment (SBGames 2014)

I. INTRODUCTION

Since the first version of *SBGames*, a huge amount of academic publications related to games and digital entertainment became available. Today *SBGames* represent an important platform for research in the field. It is an important step for the conference to have a special issue at the Journal on Interactive Systems (JIS).

Selected authors of best papers of the *SBGames 2014 Computing Track* were invited to submit extended versions of their papers for possible publication, after new rounds of reviews and revisions, at the Journal on Interactive Systems (JIS). As a result, this Special Issue of JIS features five best papers, which were revised and expanded from the conference versions, and underwent a second round of reviews by members of the program committee and additional, outside expert reviewers.

II. THE ARTICLES

The first paper, “*Combining genetic algorithm and swarm intelligence for task allocation in a real time strategy game*”, by Anderson R. Tavares, Gianluca Lodron Zuin, Hector Azpurua, Luiz Chaimowicz, proposes a coordination of multiple agents within a game environment, using a task allocation algorithm based on swarm intelligence and adjust its parameters using a genetic algorithm. The authors implement their solution using a popular game (StarCraft: BroodWar). The second paper, “*Real-Time Screen Space Cartoon Water Rendering with the Iterative Separated Bilateral Filter*”, by Liordino dos S. Rocha Neto, Antonio L. Apolinario Jr, presents techniques for rendering particle-based liquid simulations that runs in real-time and includes an adjustable performance/quality trade-off. The achieved visual art and style is impressive and can give new visual patterns for modern video-games. The third paper, “*Experimental Approach of the Asymptotic Computational Complexity of Shaders for Mobile Devices with OpenGL ES*”, by Alex S. C. Lima, Edson A. C. Junior, proposes an experimental approximation of the asymptotic computational complexity of miscellaneous vertex and fragment shaders for Android and iOS platforms. The fourth paper, “*BioPlan: Classical Planning with Crowd simulation*”, by Maurício C. Magnaguagno and Felipe Meneguzzi, describes a crowd simulation experiment that uses classical AI planning to enrich the behavior of agents in the scenario. Using this approach, the authors can express not only the target destination of agents, but also

(sub)goals and path preferences. Finally, the fifth paper, “*Concept, development and evaluation of a mind action game with the electro-encephalograms as an auxiliary input*”, by Mark Joselli, Fabio Binder, Esteban Clua and Eduardo Soluri, presents a novel architecture and framework that can help the development of games with both BCI (Brain Computer Interface) and traditional interfaces. As a proof of concept, the paper shows the experience in designing and developing a game prototype using the framework and EEG brainwaves as one of the players input.

We hope you enjoy the selection of papers in this special issue and that they encourage you to address computing issues on digital games in your own work.

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