

## Guest Editorial

# Foreword to the Special Issue on Digital Games

In this special issue of the JIS (SBC Journal on Interactive Systems) we present a collection of 3 papers originated in the Digital Games research forum, but with importance as well for the HCI and Virtual Reality Community. This is an important moment for the digital games community, since JIS will open a relevant dialog among gaming, HCI and Virtual Reality researchers. While these areas have many topics in common, that complement one to each other, there are different views and complementary usage of the techniques. Since the beginning, Interfaces, Rendering techniques, Interaction process, among other topics, were subjects that are completely related for the mentioned areas. It is clear for us that bringing these researchers together will create an important repository of valuable works.

We received several manuscripts and after a peer review phase, were able to select 3 papers. The reviewers were composed by researchers from all the areas, giving important and complementary comments and suggestions. The two first papers are related to Human-Interfaces devices and the third is related to Rendering and Visualization techniques.

The first paper, named “*Understanding and Proposing a Design Rationale of Digital Games based on Brain-Computer Interface: Results of the AdmiralMind Battleship Study*”, authored by Ferreira et al., presents first an interesting survey about the usage of BCIs, focused on interface features design. Then, based on their conclusions and observations, they propose a design rationale process for building games and interactive applications that makes correct usage on this interface. They finally test and comment the results, developing a battleship test game.

The second paper, named “*Applying Haptic Systems in Serious Games: a Game for Adult’s Oral Hygiene Education*”, authored by Rodrigues et al., is focused on the usage of Haptic devices for serious games. After presenting a detailed serious game development process and requirements, they present and discuss a process for applying haptic devices for this scenario. In following, the authors present a serious game, called TouchBrush, using their mentioned proposal.

The third paper, named “*A Heuristic Approach to Render Ray Tracing Effects in Real Time for First Person Games*”, authored by Andrade et al., discusses about the inclusion of Ray Tracing at Real time systems. The paper first describes different works that use hybrid (raster and ray tracing) techniques and then propose a specific technique, using the deferred shaders, for rendering the first rays using raster and then, based on proposed heuristics, choose elements and objects that will be sent for the ray tracer, including effects hard to achieve with traditional raster.

We would like to express our thanks for the editor-in-chief, Alberto Raposo, and for the Editorial Team, composed by Liliane Machado, Luciana Nedel and Fatima Nunes, for

creating this important opportunity. We also would like to thank all the reviewers, for their important contributions. Finally, we thank all the authors that submitted their work.



Veronica Teichrieb received her MSc and PhD degrees in Computer Science from the Universidade Federal de Pernambuco in 1999 and 2004, respectively. During her PhD she participated in a doctoral-sandwich program spending one year at Aero-Sensing Radarsysteme GmbH, in Germany. Nowadays she is an associate professor at the

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Esteban Walter Gonzalez Clua is graduated in Computer Science at Universidade de São Paulo and has master's and PhD degree in Computer Science. Has experience in Computer Science and has been acting in the following subjects: game engine architectures, 3D games, GPU Computing, education with games, real time computer

graphics and digital entertainment. Today Esteban is associated professor at the computer science of Universidade Federal Fluminense, in Rio de Janeiro, and director of UFF Medialab. Esteban is one of the founders of SBGames - Brazilian Symposium of Digital Entertainment and Video Games (the largest conference in the subject in South America), president of the Brazilian Computing Society Game Committee and member of program committees of many conferences in Video Games. In 2007 received the prize of the personality which most contributed for the growth of the video game industry in Brazil and in 2009 and 2013 received the prize of Young Scientist of the State of Rio de Janeiro. Esteban is the coordinator of the first Latin America Nvidia Center of Excellence, which is in UFF Medialab.

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