Guest Editorial

Jannicke Baalsrud Hauge[1, 2]
[1]*Bremer Institut für Produktion und Logistik an der Universität Bremen, Germany, baa@biba.uni-bremen.de*
[2]*Kungliga Tekniska Högskolan, Sweden, jmbh@kth.se*

This special issue presents five papers bringing new insights into the field of accessibility and serious games. This is a special issue from the workshops and the doctorial consortium from the 15th International Conference on Entertainment Computing 2016 hosted by professor Helmut Hlavacs at the University in Vienna, Austria (https://icec2016.cs.univie.ac.at/index.php?item=home).

The first two articles concern provision of an attractive and engaging environment for serious games. "Procedural Attack! Procedural Generation for Populated Virtual Cities: A Survey" by Geisbauer, W. and Hlavacs, H. [1] describes how extensive Virtual Worlds (VW) can currently be built by small teams within a very short time. It explains the current state-of-the-art for populated virtual cities with buildings, streets, parks, vegetation, humans, and vehicles, only using procedural content generation (PCG) assets. Each PCG asset that is envisioned to bring the city to life is grouped and discussed in detail and the latest research trends in PCG are presented together with open questions. Beside the advantage of the reduced time to market for developing these virtual worlds, the article also shows how the usage of PCG allows the constructions of VW with only little experience in designing 3D assets. The usage is flexible and paves the way for new attractive gaming environments.

The second article in this issue analyzes another relevant aspect of how to make attractive and engaging pervasive games. "Prime Example Ingress - Reframing the Pervasive Game Design Framework (PGDF)" by Söbke et al. [2] starts out with analyzing the success of Ingress which made pervasive gaming a viable option for transforming learning. The paper uses the categories of the Pervasive Game Design Framework (PGDF) to identify the factors that contributes to the long-term engagement and motivation of players. It is based on the results of a survey among long-term Ingress players (N=133) identifying three key factors and extending the PGDF framework with these factors to enable the construction of enriched pervasive learning experiences.

Whereas [2] extends a framework for pervasive gaming with new factors for long-term engagement, Peters et al [3] suggest a new framework for data collection in health related applications. The proposed framework proposal will support the interpretation of data of various health- and game-sources and create recommendations to users (patients and physicians). The core of the framework is a ubiquitous data model for SGFH, which will be validated in the near future. The interpretation of the data is only one part of the requirements for ensuring that health games will contribute to the best of the patients, thus the paper also outlines a corresponding decisions support system consisting of two sub-DSSs, a clinical DSS and a serious game DSS that will ensure the usefulness.

Chan et al [4] present a Hybrid-Streaming System. By utilizing the available graphics processing power on the client device, as well as by distributing the rendering tasks, this allows enhancement of the graphics quality delivered in Cloud Gaming. To construct the proposed system, we integrated the mechanism of the Instruction-based streaming with the more prevalent structure of Image-based streaming. The evaluation carried also shows that even though the workload on the client devices increased, it remained on a reasonable level, which implies Cloud Gaming's high accessibility and gives opportunities for being able to provide highly attractive games requiring significant computational efforts on standard devices.

Finally, Politis et al. [5] deal with the topic of VW as well. However, instead of analyzing how to produce them at low cost as in [1], this paper discusses potential benefits for people with intellectual disabilities (ID) and autism spectrum disorder (ASD) in terms of training, education, and rehabilitation. The paper shows how the involvement of individuals with ID and ASD in the design phase can contribute to better understanding and consideration of the individual specific needs of this inhomogeneous user group. The article discusses three specific examples of the design of games and virtual worlds for people with ID/ASD and illustrates how they attempt to meet their needs.

These topics will surely also be further developed in future ICEC conferences, and I am therefore glad to recall that the 16. ICEC conference (http://icec2017.net/) will be held in Tsukuba, Japan

on September 18.-21, under the lead of the general chair- Junichi Hoshino from University of Tsukuba. ICEC2017 is organized just before the Tokyo Game Show (http://expo.nikkeibp.co.jp/tgs/2017/exhibition/english/), which is one of the largest game shows in the world.

References

[1] Gaisbauer, W., Hlavacs, H. (2017) Procedural Attack! Procedural Generation for Populated Virtual Cities: A Survey; The Int.l Journal of Serious Games, Vol. 4, Nr. 2, Jun. 2017; http://dx.doi.org/10.17083/ijsg.v4i2.161

[2] Söbke, H. , Baalsrud Hauge, J.M.; Stefan, I.A.(2017) Procedural Attack! Procedural Generation for Populated Virtual Cities: A Survey The Int.l Journal of Serious Games Vol. 4, Nr. 2, Jun. 2017; http://dx.doi.org/10.17083/ijsg.v4i2.182

[3] Peters, K., Kayali, F., Silbernagl, M., Lawitschka, A., Hlavacs, H., (2017) A proposed framework for the collection of health-related data from Serious Games and Apps The Int.l Journal of Serious Games, Vol. 4, Nr. 2, Jun. 2017; http://dx.doi.org/10.17083/ijsg.v4i2.162

[4] Chan, K-L. Ichikawa, K., Watashiba, Y., Putchong, U., and Iida, H., (2017) A Hybrid-Streaming Method for Cloud Gaming: To Improve the Graphics Quality delivered on Highly Accessible Game Contents; The Int.l Journal of Serious Games, Vol. 4, Nr. 2, Jun. 2017; http://dx.doi.org/10.17083/ijsg.v4i2.163

[5] Politis,Y.. Robb,N., Yakkundi, A., Dillenburger, K., Herbertson, N., Charlesworth, B., Goodman, L. (2017) People with Disabilities Leading the Design of Serious Games and Virtual Worlds; The Int.l Journal of Serious Games, Vol. 4, Nr. 2, Jun. 2017; http://dx.doi.org/10.17083/ijsg.v4i2.160