

Report of Cyberworlds 2007

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Over the last decade, many shared virtual communities have been created in cyberspace such as *Second Life*, *There*, *Virtual Laguna Beach*, *Croquet*, *World of Warcraft*, and *Entropia Universe*. The reported millions of registered virtual residents of these places constitute a huge community compared to just a few thousand when it all started in the late 80s and early 90s as *Habitat*, *Cybertown* and *Active Worlds*. However, these millions of users are still merely a few per cent of the more than a billion people using the web worldwide. This is because the existing shared virtual spaces require from the participants special technical skills and a strong 3D perception while the available modeling concepts, communication platforms, user interfaces and hardware still pose a significant challenge to an average user. Nevertheless, there is a strong trend towards the development of interoperable 3D Internet, virtualization of life, and new paradigms of shared data representation, which were among the subjects of the International Conference on Cyberworlds'2007. CW'07 was held in Hannover 24-26 October 2007 (Fig. 1). It was organized by the Division of Computer Graphics, the "Welfenlab" of the Gottfried Wilhelm Leibniz Universität Hannover, in cooperation with EuroGraphics (EG), Association for Computing Machinery (ACM), ACM SIGWEB and ACM SIGART. This was the second European university to host the conference after Lausanne in 2006.

Cyberworlds are information worlds created on cyberspaces either intentionally or spontaneously, with or without visual design. As information worlds, they can be virtual or real, as well as mixed reality. Cyberworlds are closely related to the real world and have a serious impact on it. In terms of information modeling, the theoretical ground for the Cyberworlds is far above the level of integrating spatial and temporal database models. Cyberworlds have been created and applied in such areas as e-business, e-commerce, e-manufacturing, e-learning, and cultural heritage. The international conferences on Cyberworlds deal with distributed information worlds created on networks as well as methods and tools used for making such worlds. The first workshop on cyberworlds was held as the International Workshop on Synthetic Worlds (University of Aizu, Japan, 1993) to explore the meaning, philosophy and the potential of the worlds synthesized on the web as well as in computational spaces in general. The proceedings were published as a book entitled "Cyberworlds" [1]. Since 2002, the conferences are organized yearly and its proceedings are published by IEEE Computer Society with special issues published by The Visual Computer.



Fig. 1. Conference venue: Leibnizhaus, home of the famous scientist and philosopher Gottfried Wilhelm Leibniz.

CW'07 received papers from 26 countries. For the main program 35 papers were accepted. There were also 2 co-located workshops—HAPTEX and NASAGEM—with 10 and 13 accepted papers, respectively. Each conference day there were invited talks. Extended versions of the best papers have been selected for the special issues of *The Visual Computer* and the *CAD Journal*.



Fig. 1. A sophisticated VR device for touching virtual textile.

The conference started on the 24th of October as HAPTEX workshop which is short for “HAPtic sensing of virtual TEXTiles”—a European research project on multimodal perception of textiles in the virtual environment. The main goal of this project is to develop a Virtual Reality System (including both software and hardware) for visuo-haptic interaction with virtual textiles (Fig. 1). The administrative and scientific coordinator of HAPTEX is the MIRALab, University of Geneva (Switzerland), headed by Professor Nadia Magnenat-Thalmann (Fig. 2).



Fig. 2. A minute before the conference had started. General Chair of CW'07 Professor Franz-Erich Wolter and Chair of HAPTEX Workshop Professor Nadia Magnenat-Thalmann.

The main conference program continued on the 25th and 26th of October. There were sessions on Cyber Engineering, Management and Artificial Intelligence, Cyber Ethics, Cyber Security, Cyber Information Systems, Virtual Humans, Distributed Virtual Environments, Human Interaction in Virtual Reality and Visualization. As a special event for the conference participants, there was a visit to the “New Town Hall” of Hannover. A highlight of this tour was a wonderful view from the roof which could be reached by the Europe's only diagonal dome lift. It followed by a lavish conference banquette at the “Restaurant am Leineschloss” (Fig. 3).



Fig. 3. Conference banquette. General Co-Chair Dr. Alexei Sourin explains student delegates the importance of cyberworlds.

During the main conference days, Bitmanagement Software demonstrated their new product BS Collaborate which attracted attention of many delegates. The second very fruitful day of the conference was completed by a site tour to the research labs of the Leibniz University. At the evening, the research discussions smoothly shifted to the famous Ernst August Brauhaus where the delegates learnt what Lütje Lage is (Fig. 4).



Fig. 4. Cultural event. Lütje-Lage: a local drink involving a glass of beer and a small glass of schnapps, which requires a tricky drinking technique.

Finally, on the 27th of October the NASAGEM workshop concluded the conference. It was co-chaired by Franz-Erich Wolter from Leibniz Universität Hannover, Nicholas M. Patrikalakis from MIT USA and Bernd Hamann from the University of California USA. The workshop addressed issues related to characterizing and representing of complex geometrical data and shapes by using concepts from computational and differential geometry, differential equations and computational topology. After that, the delegates went home (Fig. 5) with a hope to meet again in September 2008 at CW'08 in Hangzhou, China.



Fig. 5. Farewell. In the center, Honorary Chair of the Conference Professor Tosiyasu L. Kunii and the key conference organizer Mr. Karl-Ingo Frieze

REFERENCES

- [1] Cyberworlds. /ed T.L.Kunii and A.Luciani, Springer Verlag, 1998, 354 pages, ISBN: 4431702075