

GUEST EDITORIAL PREFACE

Special Issue on the Fifth Annual Interactive Technology and Games: Education, Health and Disability International Conference

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The fifth annual Interactive Technology and Games: Education, Health and Disability international conference took place in Nottingham, at Nottingham Trent University, UK, on the 23rd and 24th of October, 2012. The conference has grown from a single day event in 2008, to the current two day event, which includes parallel sessions for the presentation of papers, workshops, and an exhibition space for demonstrations and posters. The aim of the conference is to bring together academics and practitioners working with interactive and games technologies to explore and innovate within the areas of Education, Health and Disability. The conference has a particular focus on the use of gaming hardware and software to implement accessible solutions, interaction design using new input/output devices and the

increasing impact of ubiquitous computing on our everyday well-being.

The conference provides the opportunity to showcase practice and to mainstream research ideas and outcomes. It introduces a wider audience to key findings and products from research and illustrates how practice feeds back into and informs research. The conference creates a forum for two-way communication between the academic and practitioner communities and particularly welcomes user led presentations and workshops.

The conference is held in partnership with GameCity – the World’s best-loved videogame festival – and encourages input from, and interaction with, the gaming community.

This year there were three keynote speakers:

Dr. Pamela Kato is an internationally recognized expert on making games for health. She was the founding President and CEO at HopeLab, and currently runs P. M. Kato consulting; she holds appointments at the University Medical Center Utrecht in the Netherlands and the Serious Games Institute in Coventry, England. Her talk “Games and Gamification in Revolutionizing Healthcare: Risks and benefits”, considered how games and gamification can be used to encourage engagement and adherence to health care regimes.

Professor Mark Griffiths is the director of the International Gaming Research Unit at Nottingham Trent University. He spoke on “The role of context in online gaming playing: Implications for education, therapeutic intervention and addiction”.

Professor Monica Whitty is Professor of Contemporary Media at the University of Leicester, and is a cyberpsychologist. Her keynote “Is all virtual play psychologically healthy?” considered the impact of play on real life, and particularly that of Symbolic Taboo Activities.

There were conference sessions on the following topics:

- Games-based learning
- Discourses of disability and social aspects
- Games for well-being
- Intellectual disability and assistive technologies
- Mobile apps and spatial mental models
- Participatory design
- Stroke rehabilitation

There were two workshops at this conference. Shaping Sounds (Guy Dartnell, Chisato Minamimura and Dirk Puschel) was concerned with making sound available for people with hearing loss, by considering that sound is visual and physical, not just aural. It explored the idea that a deaf person might be able to enhance their feeling of connection to and use of their own voice in such a way that through a synthesis of movement, voice and specialist acoustic technology they could develop a true sense of

their own musicality and realistically use it as a “soundtrack” to their own movement. The other workshop was concerned with Using Assistive Technologies to Make Music (Andy Pierson). Through both demonstrations and audience participation, music was made, sometimes in unexpected ways. Both workshops were fun and very popular.

Exhibits ranged from a demonstration of using the Kinect as an input device for virtual reality games for stroke rehabilitation (Luke Shires), through interactive urinals (Mark Melford, Captive Media) to a demonstration of the EASTIN Europe-wide web portal for assistive technology (Lindsay Evett), which is being enhanced via the ETNA project, to include ICT-based assistive technology products, accessibility solutions and related services.

Six papers were selected for this special issue of the International Journal of Game-Based Learning; papers were chosen for their relevance to games-based learning, and to give a good flavour of the range of contributions to the conference. The following papers are presented here:

1. Damian Brown “Overcoming the barriers to uptake – a study of 6 Danish health-based serious games projects”: this study considered six serious gaming projects. It investigated the barriers to adoption of such games and considered how in the future they may be designed to overcome these barriers and delivery improved, thus increasing uptake and adoption, and success in meeting healthcare aims.
2. Maria Saridaki and Constantinos Mourlas “Integrating serious games in the educational experience of students with intellectual disabilities: towards a playful and integrative model”; this study investigated observations made on the integration of serious games into the educational experience of users with intellectual disabilities (ID), in order to develop a successful model of games-based learning. It was found that games can create a safe, and personalised, educational experience in this context. In

particular, the motivational importance of playful integration towards the promotion of self-determination in students with ID is highlighted. A sketch of a model of playful games-based learning in the educational context of students with ID is presented.

3. Stephanie Charij and Andreas Oikonomou “Using biometric measurement in real-time as a sympathetic system in computer games”; this paper considers the increasing potential for gaming hardware and peripherals to support biometrics, and their application within the games industry. The ability to use a form of biometric measurement, heart rate, in real-time to improve the challenge and enjoyment of a game by tailoring it to individuals of varying ability is assessed. The findings of this study are valuable to game developers interested in providing additional dimensions to gameplay and testing, to produce increased and varied responsiveness, and may also be useful for those researching medical or therapeutic applications for games.
4. David Charnock and Penny J. Standen “Second-hand masculinity: do boys with intellectual disabilities use computer games as part of gender practise?”; The development of a gendered identity is a process that both boys and girls navigate to construct ideas about the men and women they will become. There is little research on this process for men with intellectual disabilities (ID). This study explored the ideas that teenage boys with ID develop while thinking about the men they will become. Boys with ID took part in a group discussion of images of men performing various activities, and were then interviewed individually about the men they wished

to become. Analysis of the considerable talk about computer games revealed two themes: Games as permissive spaces to try out ideas; Games as space to embody second hand masculinity. Involvement in gaming may offer the opportunity for these boys to question both desirable and undesirable aspects of masculine identity.

5. Lavinia McLean and Mark D. Griffiths “Female gamers: A thematic analysis of their gaming experience”; it appears that the number of females involved in video-gaming is increasing. This study explored female experiences of playing video-games. Data were collected from an online discussion forum dedicated to video-gaming. Thematic analysis of the discussions suggests that gaming is a key element of the female gamers’ identity, with females discussing the integration of gaming into their daily lives on a number of different levels. Social elements of gaming are highlighted, and the difficulties with online interaction emphasised.

Overall, the conference represented a wide range of papers, demonstrations, workshops and exhibits of relevance to Interactive Technology and Games: Education, Health and Disability. Participants came from a wide range of backgrounds. It is hoped that the papers presented here give a good flavour of the variety of contributions made, and the interest and excitement apparent at the conference.

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Lindsay Evett's research is on accessibility and assistive technology, and she is a member of Nottingham Trent University's working group on accessibility. She is a co-investigator on the Recall European project on route-learning systems and location-based services for people with cognitive and sensory disabilities, and on the AEGIS project, Open Accessibility Everywhere: Groundwork, Infrastructure, Standards. She is a member of the ETNA European thematic network on assistive information and communications technologies. Lindsay is on the International Steering Committee of Interactive Technologies and Games (ITAG), and is on the programme committee for the BCS SGAI Specialist Group on Artificial Intelligence Annual International Conference on Artificial Intelligence, and on the Editorial Board of the Journal of Assistive Technologies. She is on the National Steering Group for the ViPi project (Virtual Portal for Interaction and ICT Training for People with Disabilities). She is a lecturer in Artificial Intelligence, is a member of the Experimental Psychology Society, the Society for the Study of Artificial Intelligence and the Simulation of Behaviour (SSAISB) and is a Fellow of the Higher Education Academy.

David Brown is Professor in Interactive Systems for Social Inclusion. He is a highly experienced project manager (£2M as Principal Investigator), and has over 70 high quality journal and conference publications. He is a member of the Programme Committee for the International Conference on Disability, Virtual Reality and Associated Technology and the European Conference on Games Based Learning. He is a founding member of the International Association for the Scientific Study of Intellectual Disability Special Affinity Group on Assistive Technology, and Conference Chair for Interactive Technologies and Games: Education, Health and Disability held annually at NTU.