2nd annual *Games for Health Europe* conference: let's start playing!

The 2nd annual *Games for Health Europe* conference promised to bring together,

"medical professionals, game designers, business executives, angels, visionaries and dreamers under one roof" (www.gamesforhealtheurope.org, 2012).

Although I am not sure I met any angels there, it was certainly an inspirational melting pot with a strong focus on therapy and rehabilitation running through the two-day event, held in the impressive Muziekgebouw aan 't IJ concert hall, in Amsterdam, on 5–6 November 2012.

The term 'serious games' signifies any game produced where the main purpose is not pure entertainment. It is a growing field that has been adopted by many industries, such as education, defence, emergency management, engineering and of course healthcare; to better engage with their audience and to find new ways to train, educate or indeed care for people.

Games for health: a diverse, emerging field

The first of the conference's plenary presentations, given by Bill Crounse MD, Microsoft's worldwide health senior director, highlighted the immensity and potential impact of games for healthcare; what was a 1 billion dollar market in 2010 is set to grow to 10 billion by 2015. Dr. Crounse drew attention to some existing games for health that use Microsoft's Kinect motion sensor device. One such game is *Jintronix*, designed for physical and cognitive rehabilitation, with the capability for the clinician to monitor and adapt the rehabilitation programme remotely, offering wider possibilities for the success of home-based rehabilitation. Another 'game' currently being trialled allows surgeons to use simple hand gestures to zoom in on, manipulate or move CT scans, MRIs, and other medical images while in theatre, without having to touch unsanitised surfaces, allowing for faster and more accurate surgeries. Given that Kinect was initially launched in 2010 as a pure entertainment add-on to the Xbox 360 games console, it is remarkable that in only two years the healthcare applications are so abundant and developed.

René Lutgies

This development of the field of games for health was charted by Jacqueline Cawston, Programmes Director at The Serious Games Institute, Coventry University, in her presentation; a look at the past, present and future of games for health. What quickly became very evident from this session, and echoed throughout the event, was that this technology is relevant to almost every branch of healthcare, with games for training first responders, apps for student midwives, voice recognition games for speech and language therapists and their patients, games for compliance aimed at diabetic children, physical rehabilitation for military amputees and balance practice and training for the elderly to name a few.

Rehabilitation applications

The interdisciplinary nature of most of the teams working on these games was reminiscent of *IJTR*'s values and ethos, with an exciting mix of game designers, developers, healthcare professionals, and in many cases patients and service users had been directly involved in the design and development process.

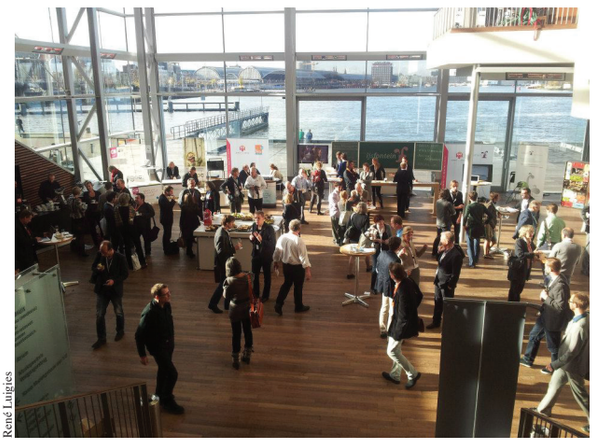
The session of talks on rehabilitation and exergaming was of particular interest to me and where I hoped to see this interdisciplinary spirit in action. I was ready to be impressed. One talk which really reflected this idea was a project presented by Mike van Diest, a PhD student at INCAS[3] and University Medical Center Groningen looking at 'Exergaming for balance training in elderly: user requirements'. The focus of the project was predominantly on what the user could do and would want rather than the capabilities of any particular game. Mr van Diest's team had carried out two small scale studies to ascertain user requirements for a balance training game, and 'test' to a certain extent, existing Kinect games and elderly users' reactions to them. Some observations from the participants using the Kinect games were:

- In-game instructions were too fast and the instructions created some confusion as they were in English, the study participants were predominantly Dutch
- Games were appealing and fun, but also quite difficult and distracting
- The system is difficult to operate.

Controls and navigation were important factors for the participants and

equally became major concerns for the researchers, who ultimately are looking to create an exergame specifically for the elderly. As a group which is not known for its interaction with gaming this project seems incredibly timely, given the ageing population and the cost and prevalence of falls among those over 65, both in the Netherlands and the UK.

Rehabilitation in a military setting was also covered by two of the speakers; Richard Smithies, Chief Operating Officer at Blitz Games Studios and Colonel Agali Mert who both respectively delivered presentations on games developed specifically for rehabilitating service personnel. Smithies was quick to clarify the importance of the physical therapist in the development of the game and stressed the importance of trialling the game extensively before rolling it out.



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Indeed, delegates were asked to try the game for themselves after the presentation which offered a unique opportunity for those present to give genuine user feedback on the game in its, then, current form. Colonel Mert was able to show delegates different versions of the game *Body Posture,* (created for amputee and stroke patients) illustrating some of the problems the initial version had, how this affected users of the game and the outcomes expected of them, and how these problems were subsequently overcome.

Possible roadblocks

What set van Diest et al's study apart was, just that, the study, the research. Many of the projects presented were driven by games designers and developers, for whom creating a new game is their area of expertise, their comfort zone. When this is immersed into a healthcare setting others factors come into play, such as testing, validation, patient-centred outcomes and ultimately evidence-based practice; but how well equipped are the gaming and healthcare professionals to recognise the underlying nature of each other's fields? It is this juxtaposition which I believe creates an uneasy grey area in this otherwise dynamic market.

The traditional practice in healthcare of carrying out pilot studies, conducting trials, research and evaluating results for clinical and/or statistical significance is time consuming and grossly at odds with the fast-paced environment of gaming and games technology, a field which is forever developing, streamlining and ulitimately culling dead technology and redundant systems. One should remember that in a pure entertainment context game designers need only be concerned with whether people will enjoy the game yet a 'serious' game, or in this case a game for health has many more requirements. I think we are yet to reach the happy medium where these two fields are able to really react to the demands, needs and modi operandi of both markets, however, we can fuel this process forward by engaging with this technology and ultimately starting to 'play' our way to better health. IJTR

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