

## “Wii ... I can fly mum!”

When you're disabled, as I am, often the last place you want to be is stuck right here, in your body, in the same place, (and yeah, there's many readers agreeing whole-heartedly with me, and they're perfectly fit.) But what if you didn't have to be? We're witnessing the advent of some cool and quite sophisticated technology that has the potential to transform the confined corridors of disability into a 'wormhole' of potentially creative ability.

I'd like to briefly talk about just two of these products: *Nintendo's Wii* and in a subsequent paper, the '*Second Life*' 3D virtual world application. In this article I will briefly discuss how *Wii* can potentially augment the psychological and physiological well-being of participants. I'll initially cite some research and together with my own experience, attempt to evaluate *Wii's* supportive role for disabled persons.

### Research

Over the past few years research has been conducted into *Wii's* therapeutic and motivational value for ABI patients. In a study undertaken by Dr G Goldberg and colleagues,<sup>1</sup> published in *The Journal of Head Trauma Rehabilitation*, 2008<sup>2</sup> they reported improvements in the subjects' motor-coordination. The research involved approximately eight patients over a series of hourly game sessions focusing on *Bowling*, (the most benign in the *Wii Sports* bundle I think). They concluded:

*Our experience with this program indicates that this activity [Wii] can provide benefit for the acquired brain injury patient population in a number of ways, including improved hand-eye coordination, improved social participation, and reducing feelings of "helplessness." (p 351; 2008)*

Building on some positive research into interactive games with autistic children by Pearson and Bailey, (ascilite, 2007)<sup>3</sup>, Dr JE Deutsch and associates<sup>4</sup> assessed an adolescent with cerebral palsy, this time using a broader range of

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<sup>1</sup> Gary Goldberg, Hillel Rubinsky, Erin Irvin, Emily Linneman, Jennifer Knapke, Manijeh Ryan; UPMC Mercy Hospital, United States

<sup>2</sup> p 351, Vol 23, no.5, September/October, 2008; Wolters Kluwer Health | Lippincott Williams & Wilkins

<sup>3</sup> Elaine Pearson and Chris Bailey; Accessibility Research Centre, School of Computing University of Teessid  
[www.ascilite.org.au/conferences/singapore07/procs/pearson-poster.pdf](http://www.ascilite.org.au/conferences/singapore07/procs/pearson-poster.pdf)

<sup>4</sup> Deutsch JE, Borbely M, Filler J, Huhn K, Guarrera-Bowlby P.; University of Medicine and Dentistry of New Jersey, United States

the *Wii Sports* games. Published in the *Physical Therapy*, October 2008,<sup>5</sup> the authors concluded that there were 'measurable improvements in visual-perceptual processing, postural control, and functional mobility' (*this link provides more information*<sup>6</sup>). Both teams stated that further research on this subject was planned in the future.

## A Wii overview

The *Wii* game console features a wireless handheld **Remote controller** that is used to interact with a game program (i.e. a **DVD** slotted into the console), which is viewed across a TV monitor. The Remote is a rugged but sensitive device that helps facilitate a 3D interactive experience between a player and a virtual world – for most people it's quite simple to use either seated or standing.

"OK let's fly!" ... (while we're initially taxiing up the strip, I should reassure you that I don't work for Nintendo – and I'd be holidaying overseas with a gorgeous carer right now if I had shares in their company too!). One of the recent and most popular games (and there are hundreds)<sup>7</sup> is *Wii Sports Resort*, which includes a dozen fun resort-themed activities. It offers colourful graphics and a light-hearted experience that is surprisingly engaging. A new user first creates their own unique identity or avatar, which in turn, interacts with avatars created by friends and/or with *Wii* generated characters or themes.

At the start of the game a player skydives onto 'Wuhu Island' (a kind of Disney-world fun resort), and on landing the player is presented with a selection of activities which include Archery, Frisbee, Basketball, Cycling, Canoeing, Power Cruising, Table Tennis, Air Sports, Bowling, Swordplay, Golf and Wakeboarding. There are different skill levels to choose from in each of these activities and they can be played solo or with up to three others. Interestingly under the guise of having fun in these simple virtual worlds, I found myself actively refining motor-coordination skills and gaining some new skills and confidence. Undoubtedly all the endorphins<sup>8</sup> that I'd been generating had also contributed to my 'shift' in temperament.

*Wii Resort* would probably not be the entry game for the novice with a disability, with the exception of 'Air Sports'. This activity requires little more than a seat and the ability to hold and rotate a plastic wheel (the size of a saucer) to pilot your single engine plane. You can fly around Wuhu and get up to all sorts of mischief – the sense of freedom and flying experience can be quite breathtaking and fun!

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<sup>5</sup> *Physical Therapy* Vol. 88, No. 10, October 2008, pp. 1196-1207; Journal of the American Physical Therapy Association

<sup>6</sup>[http://www.ncbi.nlm.nih.gov/pubmed/18689607?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_DefaultReportPanel.Pubmed\\_RVDocSum](http://www.ncbi.nlm.nih.gov/pubmed/18689607?ordinalpos=8&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum)

<sup>7</sup> catalogue @ <http://www.nintendo.com/games>

<sup>8</sup> Endorphins work as "natural pain relievers."

A *Wii* package typically comes with the Consol Box and the *Wii Sports* or *Resort* bundle and costs around \$360.00. For those who wish to refine their balance and coordination or improve their stamina and strength, *Wii Fit* or *Active* will offer a considerable challenge!

## Basic accessibility

The ease-difficulty of using *Wii* will naturally vary from person to person, Game to Game, and while I've previously alluded to this product being quite user-friendly, there'll inevitably be some challenges along the way. Perhaps the first will be in the psyche of the user as he/she contemplates personally engaging with it.

When I first saw *Wii Sport* played by a friend, I was overwhelmed. It was an average day; feeling the customary pronounced fatigued, tinnitus blaring away, dizziness and nystagmus animating my living room and feeling a touch nauseous. When I saw her playing tennis (an adolescent favourite), and later hitting a home-run 'midst a cheering stadium, followed by hurtling a bowling ball down the alley for a strike and, to top it off, box 'someone out' in a Ring I sunk further back into my seat with a dichotomy of emotions.

"Wow, that was extraordinary!" I thought, (but) I'm not going to be able to do that – my head noises are louder than a MCG grand-final crowd, besides I'm exhausted just watching it – I don't have the stamina, I don't have the balance, I don't have the reflex speed and coordination ...". You know how these voices of doubt carry on ... but, as if by stealth, a challenge had been served. The fact that this challenge had not been made by someone else but came from within was, in retrospect, very enabling.

But it was when my friend pulled out a 'Wood Driver' and smacked that little white ball 255 meters down the golf course (narrowly missing some Pines and a shimmering lake) that I jerked to the front of my chair and declared: – I HAD TO GIVE THIS A GO; it was just too much fun to resist – damn how I was feeling, frankly!

In my case, I needed my friend's enthusiasm to ignite my own, i.e. to inspire and muster-up the necessary self-belief. A word of caution here: My excitement while playing tennis did cost me a smashed glass light fitting, which after all only added that extra touch of realism to the game.

## Benefits

These are some of the personal benefits I've observed:

- Improves hand-eye coordination – sharpened my driving anticipation/skills for instance

- Trains balance-gait stance – because you're moving and twisting around, activating often different intrinsic stabilizing muscles
- Stamina improved – and you're burning calories too!
- Stimulates emotion access – sometimes I'd be thrilled with a win, other times frustrated and angry by a defeat! Adding a bit of colour to the sometimes bland emotional wardrobe can be welcomed
- *Wii* is therefore a potential boredom buster
- Independence giving – empowering for the participant and in some incidences, also for a Carer
- The *Wii* games are typically light-hearted, good-spirited and graphically engaging
- *Wii* can mentally and emotionally absorb a user into a virtual world and ease the sense of limitation and encumbrance of disability
- *Wii* challenges a player to do better, and many programmes are inherently shaped to encourage this
- There are numerous and varied DVD *Wii* games easily interchangeable
- Can promote social interaction – play at home or with others interstate or overseas via the internet ... or
- Play solo with *Wii* computer characters with variable levels of difficulty

## To summarize

Research into the practical benefits of *Wii* is still in its infancy, but has already noted tangible and practical benefits for ABI participants. *Wii* provides accessibility, motivational and developmental potential. It provides a relatively new interactive medium that can stimulate social and personal development. My personal experience validates this also. Research benefits aside, many games are fun and provide a healthy diversion from the often burdensome self-perception of disability. While interactive virtual games and worlds can substitute one illusion (albeit, reality) for another, they can also provide a conduit for inner discovery, expression and adventure.

*David McAloney*