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**The Threshold of the real: A Site for Participatory Resistance in Blast Theory's *Uncle Roy All Around You* (2003)**

**Abstract**

This article examines the collision of virtual and real spaces through simultaneous live and online play in *Uncle Roy All Around You*, and how this disruption of immersion is used to expose the habitual engagements associated with the digital interface. The nature of the participants' immersion and the subsequent reintegration into the real will be explored, before attempting to articulate what defines this piece as politically resistant, through discussion of a self reflexive participation, which undermines what Baudrillard terms the 'simulated response' (Baudrillard 1985/1988 p.216)

**Introduction**

Having relinquished my mobile phone, my wallet and all its contents at the Institute of Contemporary Arts, I faced the outside world with only the handheld computer Blast Theory had provided. My search for Uncle Roy had begun. What followed was an exciting but disorientating journey through the surrounding streets following clues provided by both the illusive Uncle Roy and the online players. Where it seemed that Uncle Roy could be trusted, it quickly became evident that some of them could not. Instructions such as 'follow the man in the t-shirt at the traffic lights' for example, were clearly given for their amusement, at the expense of the live player. Negotiating this relationship with the online players could generate moments of insecurity or vulnerability, but also as I worked out who could be trusted; it began to create a sense of community around the experience. After entering the office and answering the question 'When can you begin to trust a stranger?' the link to those playing online was disconnected. The online players likewise, entered a virtual office and answered the same question.

The final adventure on the streets was the telephone box. I stood waiting by the designated phone feeling a little uncertain after leaving the office. After a few minutes, it rang and I found myself feeling rather like the protagonist in a film. The instruction to get into a white limousine down the road opposite the telephone box was unnerving and I sought reassurance from the voice on the phone line checking once more that I had the right street. What if there are two white limousines? How do I know this isn't a real kidnap planned with the knowledge that vulnerable Blast Theory participants would be easy prey? Slightly paranoid, I got in the car.

At this point, I was asked a series of questions about how far I would be willing to assist a stranger in need; how easily I would trust someone; and finally, whether I would be willing to make a commitment to a stranger for a year to support and help them if I was needed. I said no. I couldn't know what they might need. How could I promise to be a support to someone if I didn't know what they might need? I regretted my answer later, when I realised the question was not a theoretical one. Had I responded yes, I would have been paired up with an online player to that purpose.

The realisation that these questions are real and that the participant is expected to act in accordance with what they have said comes at a different point for each player, but if the answer to the final question is yes, then the quasi-virtual existence in the first part of the game is transposed into the real by the continued interaction in the real between participants. There is a moment for each of the participants in which they comprehend that

the way they have projected themselves in interaction with each other and with the company's performers will have real consequences outside the game.

This blurring of fictional and real experience is central to the relationship the piece creates with its participants and will be discussed in terms of how it is manifested through the layering of virtual and real city spaces. It is through this layered space that Blast Theory draw attention to the relationships usually generated in 'real' world interactions by the technologies and engagements they make use of themselves. They address the increasing significance of computer gaming, internet, and mobile phone technology to the structuring of communities, shifting the emphasis away from live presence and the habitation of mutual space in constituting communities and relationships. Blast Theory attempt to expose the tendency in today's society to lose the reality of the real.

Uncle Roy All Around You is structured around many of the rules of engagement of a computer game but is projected into a real environment instead of virtual for the live players. This engagement however, begins to mirror that of the virtual reality game as the participant engages the whole of the body in the game rather than working through a handheld controller. In mirroring the participatory relationships set up by developing games technology, Blast Theory, though complicit with those relations in the process of setting them up, also undermine and critique them by breaking into the immersive fictional engagement with the real.

This experience: the mixing of game like participation and engagement with the 'real' will be discussed with reference to immersion, the model for narrative engagement and the players' emergence into the real. In particular, the construction of a potentially resistant experience through this participatory engagement and the relationship between the politicised and commercialised cultural expectations of the live art and gaming experience will be addressed.

### **Immersion and the Re-emergence of the Real**

Brown and Cairns (2004) make a useful distinction between the different levels of immersion that are possible in computer gaming using the words engagement, engrossment and immersion to describe three different stages it is possible to pass through. Engagement requires that the player engages their attention; that the game is interesting to them and that it is accessible. This definition could easily be applied to a variety of activities, including reading, writing, conversation, or watching a documentary. Engrossment requires that the game itself is constructed in such a way that the emotions of the player are engaged. They then become less aware of their surroundings and themselves in the way that a spectator might in watching some types of theatre performance or film. What they describe as total immersion must involve presence: the feeling that you are there, completely unaware of your physical surroundings through the empathy created by engagement with the characters and the strength of the atmosphere and verisimilitude generated in the game.

This greater level of immersion, separating a player more and more from the world that physically surrounds them in the real, is considered a desirable quality in the computer game and signals the quality of the game particularly in relation to more recent 3D games. Designers of Nautilus, a collaborative game played in virtual space comment, 'the designers of new games... aim to strengthen the feeling of immersion by, for example, creating realistic characters, immersive playspaces and impressive scenes.' (Strömberg et al., 2002: 56) The emergence of elements of virtual reality technology into the mainstream now adds to this drive towards immersion as devices like the EyeToy which recognises gesture and voice as part of the human computer interaction mean that the whole of the body can now be engaged in the game play. 'Don't Just play a game, live the game with EyeToy' says the

EyeToy website. The experience of presence: the tricking of a person's cognitive and perceptual systems...into believing they are somewhere other than their physical location' is extended significantly by this kind of technology (Patrick et al., quoted by Brown and Cairns, 2004: 2)

Multiplayer mobile phone gaming which now possible through blue tooth technology, also provides a wireless link to other gamers wanting to engage in digital game play on the move. Fluid and anonymous communities can thus form and disperse in the few minutes passed on a short train journey. This kind of link and the digital communities and relationships already made possible through the now ubiquitous internet and e-mail communications is one where the presence of others in a community is replaced by a digital signal. Though this does imply a sense of community that might be positive in itself, as it can connect people across international or ideological borders the connection is limited by the medium in which it is made. As Blast Theory's Uncle Roy All Around You makes evident the product of an interaction is experienced separately and probably perceived very differently by each person involved. The experience or emotions of the other can only be imagined. Where this separates the user from the individuals with whom they interact, the other kind of engagement addressed above: that of immersion into a game world constructed by graphics, separates the user from their own real circumstances.

In their own ways, both these digital engagements are an attempt to experience something heightened, an escape from a devalued real. Douglas Kellner suggests that in our postmodern world "individuals flee from the "desert of the real" for the ecstasies of hyperreality and the new realm of computer, media and technological experience." (Kellner, 1994, p.8/9) This opposition between the "desert" and the "ecstasies" of our experiences of the real and hyperreal is interesting because it denies the ecstatic pleasures of the real. The digital in a sense creates a safe space, not only in terms of enacting fictional violence or adventure but also in terms of create relationships. Greater risks can be taken because in both cases though in different ways the consequences are removed. What Blast Theory do to both these kinds of digital engagement is put the consequences back after the action has been taken and thus reclaim some of the excitement that has been denied the real. For the online player this becomes about the construction of a digital community, whereas for the live player elements of the first person perspective game experience is re-enacted in the real.

For the online player that has not played live, there may be little reminder in the first half of the game of the real effects of their clues on people on the street, with the exception of when the player talks back. Even then this response will not necessarily interrupt their engagement with what appears to them as a digital space. Research shows in fact that even where the behaviours of objects in a computer game suddenly change, the majority of players do not even notice: 'once immersion has been achieved coherence is not necessary' (Cheng and Cairns, 2005: 4). Nevertheless, the immersion within this online interaction is not supported by a sense of strong narrative development or realistic graphics. It is not immersion as described by Brown and Cairns but rather engagement, which while holding attention and interest, does not engross or immerse the participant in the digital world through empathy and atmosphere.

The most significant aspect of this engagement is therefore, as suggested, not the online player's lack of awareness of the real around themselves, but through lack of empathy and the habitual engagements of the digital interface, a lack of awareness of the real out on the streets. It is this for the online player that will be interrupted most significantly by the pairing with another player at the end. The naturalising of the power relations between online players and avatar-like street players within the game is undercut by the interruption of the real into it and the transformation of the world the players inhabited exposes levels of

distrust and alienation from others generated through the postmodern dispersal of communities.

It is worth noting that the way the players are put in contact is through the exchange of home address, not by e-mail. This is an exchange of real locations which again reinforces the presence in a real place of each of the players. It shifts communications out of the digital.

Looking more closely at the experience of the live players, from the beginning, the actions of the live participant are given a quasi-fictional and indeed performative status because of how the piece is framed. Having left all their possessions at the ICA they exist as would an avatar, solely to reach the end of the game. The game style engagement is then reinforced by the hand held global positioning device and the knowledge of the simultaneous virtual play on the internet. It is these elements combined with the participatory engagement with the narrative described in the introduction to this article which make up the fictional or virtual elements of the identity of the participant, who thus begins to objectify the real world as if it is a computer game. They see strangers on the street, for example, as potential allies or enemies, when in fact they're simply tourists, and the streets become unknown because the participant is looking for different kinds of signifiers and is no longer sure for what or whose purpose they are moving in a particular direction. These signifiers are of the spy film or the computer game and therefore also generate a sense of the acting subject as an object to be looked at, and draw attention to the subject's fictionality. The live participants are watched by others but also watched by themselves as they move through the game and thus become both performer and spectator. There is a sense of theatricality here in the reflexivity of their performance.

David Saltz in an article on participatory interaction with computers distinguishes performance as requiring the perception of the event on the audience's part "as an aesthetic object in its own right." (Saltz, 1997: 119) He questions, "In participatory interactions, do the interactors perceive their own actions to be aesthetically significant? Does the audience actually become part of the work of art?" (Saltz, 1997: 120) This suggests that the self reflexivity described above is a feature of the experience that separates it from the immersive quality of the game. It allows resistance.

This self-reflexivity emerges on the line between the real and the fictional or quasi virtual space that the live participant inhabits. In the interruptions to complete immersion that this creates, it is a distinguishing feature of virtual or mixed reality performance as opposed to the game. The game like approach to the experience described above is incongruous, when set against the normal passing of everyday life in the real space in which it takes place. This prevents immersion within an entirely fictional conceptual space. In this sense it is mixed reality: the fictional and the real as identities existing in the same human body that inhabits the city as performance space. There are two realities projected conceptually into one space, through the interactions of a live participant who is to a large extent being guided by virtual clues through a physical space with a fictional overlay. That fictional overlay is partly set up through the expectation that the experience will be art/theatre-like due to its context - it is presented at the ICA - and partly through this avatar like status of the live participant in the first part of their experience.

This performance space is liminal, in the sense that the experience is set up as a simulation of computer game immersion, where despite the disruption to immersion, the expectation is that the consequences of behaviour within that liminal space will not spill into the real. To reinforce this, the piece replicates the narrative model and mode of engagement of the computer game. There is a participatory narrativisation which moves through a linear progression towards conclusion which theorists of virtual reality experiences term the 'storification process' noting that a participant 'does not contemplate or watch a narrative

display as a spectator does' (Aylett and Louchart 2003 p. 3). They are active in the unfolding of the narrative. Aylett and Louchart propose 'Contingency, Presence, Interactivity and Narrative Representation' (Aylett and Louchart 2003 p. 3) as variables in constructing a notion of engagements with narrative in comparing different media - cinema, theatre, the novel and VR. As in Virtual Reality, in Uncle Roy All Around You the time and space of the narrative is dependent on real time and space; the spectator is present, sharing that space with the developing narrative; the engagement is interactive; and the narrative representation is visual and well as audio. In theatre the first and third of the conditions described above are not usually true. Uncle Roy is not a Virtual Reality Game, yet it recreates its conditions of engagement for the live participant and uses those players as avatars for the virtual players.

It is interesting that Blast Theory should choose to work in such a way, knowing well from previous work the mechanisms of the virtual reality engagement [1]. The virtual reality experience is potentially the most powerful extension of the highest levels of immersion as a feeling of actual presence in the virtual space is already generated by the technology before considerations of atmosphere, empathy and verisimilitude even come into play. As virtual reality systems become more widely available in the market over the next few years, it is here that the greatest level of separation from the real is possible. While earlier in the article, the problems with breaking into that immersion were mentioned in reference to playing with inconsistencies within a game, Blast Theory succeed from the beginning by constructing a simulation of immersion which can be disrupted to comment on that immersive quality.

At the point where the live player disappears from the computer screens and enters Uncle Roy's office, the participatory identity of both the live and virtual players begin to shift towards the real. The connection between the two is broken and they move separately into a different stage in the game. Both remain engaged, but the experience has been compressed in a sense, because the focus shifts to individual responses to the Blast Theory performers. For the live player, the instruction to get in the limousine in itself allows the intrusion of the real in itself, because it raises questions about the players security and trust in the company. Finally the questions about trust and strangers push out past the boundaries set up by the fictional space and past the parallel expectations.

The identity of the participant as 'player' here is a temporary formation of identity which is constantly constructing and being constructed in interaction with the game or performance. It differs from 'real' subjectivity in that the ethical and emotional boundaries shift in response to the fictional framing of theatre performance or gaming that makes it safe. The distinction discussed above is a way of expressing difference between subjective formations, recognising that in the case of these participatory modes of engagement, the shift in boundaries extends to behaviours and actions. It recognises too, that in this and many other live/media representations in a postmodern society, the boundary between fiction and non-fiction is no longer clear.

In other kinds of game development in particular that distinction is being blurred. In augmented reality technology, while there is a mixing of the real and the digital in the construction of the game space, this is done in a different way because the limits of the game are clearly set out in terms of its relationship to the participants' everyday life and the spill of the fictional into the real is not necessarily marked in the same way as in Uncle Roy All Around You. It is this combination that gives Uncle Roy All Around You its strength of resistance: the marking of the relationship between virtual and real through incongruity and the spill of the consequences of quasi-fictional behaviours into the real of subsequent everyday life.

## The Right to Reply: Is Resistance Possible?

This final section asks does this kind of work move its participants towards making a meaningful reply to the mass media structures of this society? Does participation constitute reciprocation in this case? Much can be made of Baudrillard's seemingly unassailable simulacrum, but Blast Theory are creating a collision between the virtual and the real which makes impossible the complete disappearance of the real. They claim the significance of the real through the very medium that desires to banish it so absolutely. Perhaps in order to examine the media structures through which we see the world it is more useful to make an appeal to Debord's dissimulation, which assumes the real as a referential behind the systems of signs that hide it.

Debord in *Society of the Spectacle* states that the spectacle is not a collection of images, but a social relation among people, mediated by images.' (Debord quoted by Best, 1994, p.57) As Blast Theory make evident in *Uncle Roy All Around you*, the stranger on the other end of a virtual interaction is real and the people being watched or manipulated through the media are acting subjects existing in a real world. The simulation assumes that there is no way of subverting the univocal relationship between the media and the passive receiver, it assumes stupification in the face of an excess of communication. If however, with the admission that the simulation is in some places becoming more prevalent, dissimulation is assumed as a primary state, resistance becomes about pushing beyond a simulated response. Baudrillard assumes the world is experienced as simulation and so there is only simulated response possible (Baudrillard 1985/1988 p.216) but if this is not the case, then work like *Uncle Roy All Around you* becomes resistant because it exposes and undermines the habitual engagements and structures in community relations that make up that simulated response.

Part of this is the particular nature of participation in the piece: the fact that it involves exploring connections between people and the fact that Blast Theory relinquish a certain amount control over how the piece proceeds with each participant. Participatory theatre is associated with the political because of the possibility of creating a sense of community and empowerment as the audience interacts directly with the performers and chooses the way the experience develops. What is important then is not simply that the participant is active, but that they are active in constructing meaning and active in relations with others. Equally, in order to create a sense of empowerment or positive communal experience, it is necessary to create a level of trust which in turn requires the negotiation of boundaries within the relationship between performers and participants. In a dispersed society where the audience does not already form a community, a level of trust and a negotiation of boundaries must be constructed through the interactions of the performance as it cannot be assumed.

In *Uncle Roy All Around You*, this notion of trusting a stranger is central to the piece as the participant will, in the end, be confronted with the decision whether to make a commitment to a stranger for a year. In addition to creating a connection between the online and live player who remain in contact, and exploring what we experience as trust in a world where community is dispersed, participation, here, is also about a confrontation with one's own behaviours and assumptions. The participants' interactions with others within the parameters of the theatrical event have real consequences in their own life outside the performance. While there are boundaries in place (if anyone really gets lost there the company will come and find you) there is also the freedom to negotiate boundaries as well, in the misdirection possible on the part of online players. It is other players who determine how disorientating; how vulnerable the experience is for the live participants.

It is here in the level of self determination allowed for the participant that the other variable in the participatory engagement resides. Blast Theory's construction of the event as a whole

has political implications as well. Usually participation and the active nature of a computer game does not constitute any kind of political reciprocation because of the passive acceptance of the imagery and narrative construction of the game. This is in part, mirrored in the form of Uncle Roy All Around You, but not in the content which draws these effects into question. In form and basic structure the piece is very much controlled by Blast Theory. The significant clues are given out by them and after the office the progression of the experience is clearly set out. In addition, the symbolic networks of signs: HTML and particularly VRML (Virtual Reality Modelling Language) which are generating the experience are not accessible to the majority of participants, due to the high level of expertise required to write them.

However, unlike screen based virtual environments used for computer games, here the author and means of authoring are not completely invisible. The authors are there interacting with the participants live as well. In addition, while the participant is limited to certain possibilities at times, Blast Theory relinquish much of their control over how interactions develop and how the performance space - the city - is navigated. It is true that the basic structure of the narrative and the majority of clues are provided by blast Theory, but where the participants go and what they see in under their own control. their interaction with strangers in the street or over the net as they move through the city and how they perceive those interactions again is not determined. What Blast Theory do is create a space where these experiences are put into relief. Most importantly, it is the participant who chooses how far the repercussions of the piece extend into their life afterwards.

For those of us who said no, the consequences are different. It is true, I wouldn't want to make a commitment to be a support to a stranger for a year and while I regretted my answer in the context of this situation it is still my answer. Nevertheless, if I create a piece of performance and put it in the public arena, I intend at least to communicate with strangers, to express something which generates a reaction of some kind. I am still left wondering whether I should have said no and why I did. Am I scared of their difference, or their expectations, or has the repetition of news broadcasting persuaded me that strangers are probably thieves, rapists or terrorists?

The experience of not being in contact with someone for a year when I had that opportunity exposes my habitual engagements with the real. What ever theories of the dispersal of community into estranged individuals may be evident in the academic discourses of globalisation, there is nothing like enacting it yourself to understand what it means, really. For me, I have to confront the fact that while I can recognise what I did, I did not break out of the simulated response in my own answer. This is not, however an entirely despondent ending to the article. While it is hard to break out of simulated response, it is clear that Blast Theory are very successful in exposing and bringing them into question. To finish on a positive note, the positioning of this work in an area of developing technologies adds another dimension to resistance. As augmented or mixed reality experience and pervasive gaming become more significant in the means by which we play as a society, it is to be hoped that the habits of engagement formed will be influenced by groups like Blast Theory. Mixed reality games or performance is not yet defined by an immersive quality, perhaps because it is not yet mainstream entertainment. At present, for some people it is defined by what Blast Theory are doing.

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<sup>1</sup>Blast Theory's Desert Rain (2000) presented a mixed reality experience that took the participants into a virtual space using a screen of falling water to project the 3D images. Here again the focus was on breaking into an immersive experience in order to bring the participants to a confrontation with the media being used.

<sup>2</sup> Augusto Boal's Forum theatre is a good example of the politics of participation where the spectator takes an active part in the decision making around the conclusions of a scenario.

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## References

- Aylett, R. & Louchart, S. (2003) Towards a Narrative Theory of Virtual Reality. *Virtual Reality* Vol. 7, 1, pp. 2 - 9.
- Baudrillard, Jean. (1987) *The Ecstasy of Communication* trans. Bernard Schutze & Caroline Schutze. New York & Brooklyn: Semiotext(e) (1988).
- Baudrillard, Jean. (1981) Simulacra and Simulations. In Mark Poster (Ed.) *Jean Baudrillard: Selected Writings*. Oxford: Polity Press in ass. with Basil Blackwell. (1988) pp. 1 - 13 & 23 - 49.
- Baudrillard, Jean. (1995) *The Gulf War Did not Take Place*. Bloomington : Indiana University Press.
- Bayon, V., Wilson, J.R. et al., Mixed reality storytelling environments. *Virtual Reality* Vol. 7, 1, 2003. pp. 54 - 63.
- Best, Stephen. (1994) The Commodification of Reality and the Reality of Commodification: Baudrillard, Debord, and postmodern Theory. In Douglas Kellner (ed.) *Baudrillard: A Critical Reader*. Oxford: Basil Blackwell Ltd.
- BlastTheory Website <http://www.blasttheory.co.uk/> accessed 02/08/05
- Blast Theory (2003) *Uncle Roy All Around You*. Live performance at the ICA, London.
- Blast Theory (1999) *Desert Rain* [video: VHS].
- Blast Theory (1994 - 2000) *Selected Works* [video: VHS].
- Bonsor, Kevin. (2001) 'How Augmented Reality Will Work' in Howstuffworks [Online] <http://www.howstuffworks.com/augmented-reality.htm> Accessed 01/03/06.
- Brown, E. & Cairns, P. (2004) 'A grounded investigation of game immersion'. ACM Conf. on Human Factors in Computing, ACM Press, 1297-1300 [Online] <http://www.ucl.ac.uk/paul/research/Immersion.pdf> Accessed 27/03/06.
- Cheng, K. & Cairns, P. (2005) 'Behaviour, realism and immersion in games'. ACM Conf. on Human Factors in Computing Systems, ACM Press, 1272--1275 [Online] <http://www.ucl.ac.uk/paul/research/Cheng.pdf> Accessed 27/03/06
- Communications Research Group <http://www.crg.cs.nott.ac.uk> accessed 03/08/05
- Eco, Umberto. (1998) *Faith in Fakes: Travels in hyperreality*. London: Vintage
- EyeToy <http://www.eyetoy.com/index.asp?pageID=18> accessed 29/03/06 .
- Giannachi, Gabriella. (2004) *Virtual Theatres: An Introduction*. London: Routledge.
- Green, Sharon. (2001) Boal and Beyond: Strategies for Creating Community Dialogue. *Theater* 31.3, pp. 47 - 61.
- Ibanez, J. et al., (2003) Storytelling in virtual environments from a virtual guide perspective *Virtual Reality* Vol. 7, 1, pp. 30 - 42.
- IPerG [http://www.pervasive-gaming.org/index\\_swf.html](http://www.pervasive-gaming.org/index_swf.html) accessed 02/08/05
- Klesen, M. et al., (2003) Staging exhibitions: methods and tools for modelling narrative structure to produce interactive performances with virtual actors. *Virtual Reality* Vol. 7, 1, pp. 17 - 29.
- Macintyre, B. & Bolter, J. D. (2003) Single-narrative, multiple point-of-view dramatic experiences in augmented reality *Virtual Reality* Vol. 7, 1, pp. 10 - 16
- McGonigal, Jane. (2003) 'This is not a Game: Immersive Aesthetics and Collective Play.' [Online] <http://www.seanstewart.org/beast/mcgonigal/notagame/paper.pdf> accessed 02/08/05.
- Moulthrop, Stuart. (1993) Writing Cyberspace: Literacy in the Age of Simulacra. In Alan Wexelblat (Ed.) *Virtual Reality: Applications and Explorations*. Cambridge MA: Academic Press Professional.
- Packer, Randall & Ken, Jordan. (2001) *Multimedia: From Wagner to Virtual Reality*. New York: W.W. Norton & Company.

- Poster, Mark. (1994) Critical Theory and Technoculture: Habermas and Baudrillard. In Douglas Kellner (ed.) *Baudrillard: A Critical Reader*. Oxford: Basil Blackwell Ltd.
- Sandhana, Lakshmi (2005) 'Pacman comes to life virtually'. BBC News [Online] Accessed 01/03/06 <http://news.bbc.co.uk/1/hi/technology/4607449.stm>.
- Shaw Jeffrey et al. 'Staged Mixed Reality Performance 'Desert Rain' by Blast Theory.' [Online] <http://www.nada.kth.se/arena/pdf/D7b3K.pdf> accessed 03/08/05.
- Strömberg, Hanna et al. (2002) 'A group game played in interactive virtual space: design and evaluation' in the Symposium on Designing Interactive Systems [Online] <http://portal.acm.org/> Accessed 05/03/06.
- Trevisan, Daniela Gorski, et al., (2004) Conceptualising mixed spaces of interaction for designing continuous interaction. *Virtual Reality* Vol. 8, 2, pp. 83 - 95
- Twist, Jo (2005) 'Body and brain of gamers probed'. BBC News [Online] <http://news.bbc.co.uk/2/hi/technology/3618320.stm> Accessed 01/03/06
- Unfiction website <http://www.unfiction.com> accessed 02/08/05
- Vince, John. (2004) *Introduction to Virtual Reality*. London: Springer-Verlag London Ltd.