AHRC ICT Methods Network Workshop

DREAM MACHINES: THE INTERSECTION OF LIVE ARTS PRACTICES AND GAME ENGINE TECHNOLOGIES

WATERSHED MEDIA CENTRE AND UNIVERSITY OF BRISTOL, 21- 22 JANUARY 2008

Report by Jonathan Dovey, University of the West of England Faculty of Creative Arts, Ale Fernandez, ILRT, University of Bristol, Barry Parsons, Department of Drama: Film, Theatre and Television, University of Bristol.

'My life is a vast ghetto littered with neotolkien elves, eight-barrel rocket launchers, endless hordes of faceless muscle-bound goons, armor-cum-lingerie, the seven artifacts of the evil overlord, a billion overacted cut scenes, terrorists-du-jour, neogeiger aliens, hovertanks, troglodytes, vampires, and +7 potions of healing; all set in a neo-post-industrial steam-cyberpunk castle with teleportals and elevators and platform puzzles in every room. '

Game Artist Brody Condon (http://www.newmuseum.org/killerinstinct/#)

Dream Machines was a two-day workshop exploring machinima, avatars, performance and liveness. The original research questions addressed by the AHRC bid were:

- What is the process of making Machinima ?

- What is the process of involved in making live in-game theatre using avatar puppetry?

- What is the process involved in doing distributed performance using multiple participants?

- How does game experience relate to a live experience in an art space or event space – what opportunities and constraints are presented by their combination?

- How easy is it to adapt a game engine for live performance?

- How do game based themes adapt themselves to related thematics such as identity, isolation, intimacy or inadequacy in the face of technology?

- What is the potential for user generated participation in game engine-based online performance events?

The Workshop

The workshop took place at the Watershed Media Centre under the auspices of Bristol University Department of Drama: Film, Theatre and Television. The workshops were programmed by Professor Jonathan Dovey of the University of the West of England and Ale Fernandez of the Institute for Learning and Research Technology (ILRT), and managed by Dr Barry Parsons, Research Associate in the University of Bristol.

The workshop was attended by:

Mat Dalgleish, University of Wolverhampton
Teresa Dillon, Polar Produce
Steve Dixon, Brunel University
Jonathan Dovey, University of the West of England
Ale Fernandez, Institute of Learning and Research Technology
Simon Johnson, Games programmer
Rik Lander, Television director
Mel McCree, Workshop facilitator
Kyra Norman, Dancer, University of Bristol PhD student
Barry Parsons, University of Bristol
Sita Popat, University of Leeds
Clare Reddington, Watershed
Martin Reiser, De Montfort University
Amir Taaki, CrystalSpace developer
Sy Taffel, University of Bristol PhD student

The workshop was structured through the following sessions:

Day 1

10.00 Introduction to the workshop
10.30 Group discussion of themes
11.00 Introduction to in-game maps (Unreal) and theme generation led by Mel McCree
14.00 Bluescreen workshop
16.30 Archive/blogging time

Day 2

10.00 Steve Dixon: 'Fusing Theatre, Telematics, Digital Doubles and Videogames'
11.30 Avatar puppetry session; ideas for avatar puppetry, character development workshop.
12.30 Wii Remote as avatar interface presentation.
14.00 Introduction to Sound objects in game environments.
15.00 Preparation for Dorkbot show (includes Wii Remote led puppetry/dubbing)
16.30 Archive/blogging time with tea and coffee
19.00 Dorkbot Presentation – Dorkbot is a national network of digital media technology developers.
 21.00 Close

Summary of Research Issues: Day 1

The major task of Day 1 was to explore what happens when representations of 'live bodies' are composited into the game engine environment via, in this case, bluescreen (also known as chroma key) video technologies. Bluescreen was chosen because it afforded a live reactive mode of exploration rather than alternative methods which would have required a lot of render time.

In preparation for the bluescreen workshop we explored the Unreal engine environment by playing Unreal Tournament and followed this up with a theme discussion.

We had thought of Unreal Engine 2 early in workshop planning. It is widely used both by game developers and by many undergraduate courses that touch on games or 3D engines, and in the past few years has been taken up as a tool for using computer games as an artistic medium. Game maps were designed, giving a choice of urban and natural environments and avatars/characters were downloaded from freely available fan sites.

Later we realized that Second Life's in-game character editing allowed much more ease and freedom of use and again, live exploration rather than one that requires time to compile and load the game for each editing iteration. Similarly, when planning the bluescreen workshop, we realised that an in-game instant editing environment capable of producing non-playing characters, props and simple interaction would provide a lot more possibilities than Unreal – leading to the increased use of Garry's Mod 10 – an experimental sandbox modification of the Half Life 2 game engine that allows quick creation of objects and characters within pre-built game maps. For an example of this see: http://www.nothing.org/blackbox/index.htm

The starting choice of a "first-person shooter" (FPS) as a kind of default game environment became *by accident* very influential. As a participant commented: 'My own experience of gaming is with MMORPGs [massively multiplayer online role-playing games], so I was a little surprised to see an overt focus on first-person 'shoot em ups'. Some more experienced gamers amongst the workshop participants immediately started playing as they would normally, contributing further to this perceived focus.

The theme discussion threw up issues round the non-logic of the game, with no rationale for its violence, its lack of other modes of relating to character was seen as an existential limitation. This led to some constructive discussion of 'the Sisyphean repetitiveness of games environments and the aesthetic limitations of most game designs-a kind of 'huis clos' or 'Groundhog Day' hell. This idea of meaningless repetition and precisely *lack* of freedom became a strong underpinning theme of the work of Day 1 (see as an example the physical reproduction of avatar behaviour in video documentation of the event). It also strongly influenced the choice of a text by Samuel Beckett for the Day 2 Second Life live experiment.

Restriction was also a major emergent theme in relation to performers' reactions to Blue Screen. The game engine world was usefully constructed as a performance site 'working with the game landscape like any 'site' brings its challenges and in this case a very particular aesthetic (old style computer games; 80s children TV; pop-video montage).'

Other rapporteurs also stressed issues of control and perspective from a performers point of view, for example:

- Camera position vs performers positions vs game perspective (avatar and landscape);
- Field of vision of the performer in relation to game landscape, avatar and objects;
- 'Who-sees-who' and 'how'.

The visual *affect* of compositing the camera-generated performer into the game engine environment was amusing, entertaining, and exciting. The process created some high impact images – the best technique on the day emerged from designing particular tableaux that worked with the design affordances of the environment but also emphasized simplicity. As one participant noted: 'the two things I liked most about of the chromakey work were a scene where we integrated a set of performers into a scene with a set of avatars. the scene was reminiscent of a battlefield with the dead left to be picked over by looters; another was the insertion of a person on their knees into a first person shooter this turned the normal consequence free super violence into an execution scene'.

A major conclusion from Day 1 was that the 'live body in game' has two distinct methods for development. The first is the reproduction of tried and tested screen media production techniques widely deployed by film and TV in which performance and narrative are very highly controlled, structured and storyboarded in order to produce illusion. The potential for this kind of work in a live performance context therefore is analogous to the cut scene in the game, for instance pre-prepared projection sequences that relate to the onstage action but don't *react* to it. The second direction is further work in telematics in which the cinematic illusion is very deliberately not achieved but the focus is on the improvisational and aleatory sharing of virtual

environments. Again it was argued that this might have limited application without a lot more engagement with questions about what kind of intimacies and scenarios this scenography might engender.

The blue screen workshop was originally intended to include a live video projection into the game world, so as to give yet more dimensions to this 'live body in game' idea, and a natural extension of that would have been a further level of interaction with the projection screen. Another way of extending this would have been to actually do chromakey capture of avatars, or other elements from the game itself – so as to then be able to work with mixed or augmented reality rather than simply using the game as a backdrop. This would be good material to use in a longer workshop setting. We discovered subsequently that researchers at Georgia Tech have made this breakthrough. For more information see:
http://gtmachinimablog.lcc.gatech.edu/?p=66.

Summary Of Research Issues: Day 2

Day 2 began with Professor Dixon's presentation of his own performance / technology work, which mainly extended the conversations from day one on telematics. Two issues in particular came up in response to the presentation. The first was the idea that we need a much clearer 'taxonomy' of the *kinds* of intimacy produced by technologically mediated live performances using remote location – that we have enough history now for the initial experimentation to give way to a more precise construction of particular kinds of affect. The second also concerned definitions and understandings of intimacy prompted by the provocative idea that telematic environments for avatar based communications 'jump started' intimacy in a way that short circuited the effects of time in the process. This led to the formulation of the observation that 'perhaps a more useful approach would be to ask how or in what ways do users within telematic/avatar representations afford an increased level of intimacy, and in what ways do they promote a distancing from empathic connectivity.'

Following this session Day 2 moved onto working in Second Life and with Wii controllers for avatar manipulation. One group worked on character formation within the Second Life constraints and on exploring the spatial mise-en-scène possibilities for blocking character in the Second Life stage. A second group worked on using a Wii controller to manipulate the avatar in the Second Life environment finding particular use for the avatar flying control in relation to the body of the of the performer. The third group worked on rehearsing and blocking a piece of existing text from Beckett's *Endgame* for an avatar based machinima performance with live sound.

The Second Life session prompted a discussion of the ethics of online in virtual space performance as far as the other users are concerned. Should we be able to consider the spaces in Second Life as public and therefore are the ethics and techniques of performance there akin to street performance? What kinds of responses from in world audiences would we expect? This discussion of online ethics and performance overlapped with the interest of the possibilities for flash mob type dance and movement activities in Second Life where avatar gesture and movement programmes had been made commonly available to participants before hand.

As a result of researching and evaluating platforms in which this stage of the workshop could take place, we were made aware of Open Simulator (http://opensimulator.org/), an open source re-working of Second Life's server software, that can also be connected in a grid or run as standalone 'islands'. Development is still at a beta stage and the platform has some bugs, but has attracted a huge number of corporate and open source developers and users in a short time, as it can be simply accessed using Second Life's own client software. Other systems are also available and other academic uses could include architecture, geography, 3D modelling or 3D based application programming or interaction design.

The workshop also developed a focus on the 'democratic' potential for these softwares in a massively multiplayer online environment like Second Life to provide users with stages and with avatar puppets which we can use to tell stories and make performance.

This focus overlapped with the discussions about how the skills involved in the live Beckett performance were very transferable from traditional stage and screen working methods. The group first of all worked on design, on making (casting) avatars for the roles of Clov & Hamm, on finding a suitable setting in Second Life, and on blocking the character movements and the camera moves from the text before rehearsing and performing.

The day also included a session on in-game sound. Considering games as virtual soundscapes, the session explored ways of constructing game maps in which player movement triggers the operation of sound objects. In contemporary game sound design these objects are most frequently used to build atmosphere and tension through non-linear musical scores; it is also possible to create virtual interactive sound installations, in which users can 'play' the game space to create improvised performances.

Research Questions Arising from the Workshop

- What are the ethics of online performance? (Further research required on the kinds of performance work already being undertaken in Second Life);
- How to score for improvisation between technologies and bodies?;
- What is the scripting for Wii avatar control? How could this be further developed and made available to performers?;
- Further development work requires the use of Wii as interface in dance for controlling screen backgrounds and/or avatar and sprites;
- What kind of open 3D application platform is best suited as a permanent telematic arts tool for a faculty, or to be used in collaboration between faculties or universities?;
- What is a 'Taxonomy of virtual intimacy' in telepresence and avatar based communications?;
- What potential for a kind of democratic or flashmob based experience in Second Life exists? What happens if you hold a party in game?;
- What best practice protocols exist for collaboration between live artists, software artists and programmers ? How cold such protocols be developed?.

Further documentation, discussion and many links to relevant software are available on the ILRT wiki site for this project: http://wiki.ilrt.org/dreammachines.