

## **eIUS: e-Dance Experience Report 2**

*In the text: Some barriers etc. in '{{{...}}}' to provide more contextual information.*

### **Interviewee profile**

Head/Principal Lecturer, Division of Performing Arts & English, University of Bedfordshire; Dance artist, Choreographer and Artistic Director for dance; Principal Investigator of e-Dance

### **Time spent in research**

“Probably at least 50% of my time”

### **Research area**

e-science/e-infrastructure and its development and application in and for performing arts: in the project the interviewee is an active user of such tools in being an active dancer and choreographer

e-Dance website: “Two intersecting research questions are central to the project:

What unique opportunities does the distributed Access Grid environment provide for developing new approaches to choreographic composition and process and within this context how can we find new, appropriate and meaningful methodologies for capturing and modelling practice-led research?

How can choreographic knowledge and sensibility help to shape e-Science practice to make its applications more usable within the field of performance arts practice-led research as well as the broader Arts and Humanities context?

We will be extending our Memetic toolkit for recording, replaying and annotating sessions in the Access Grid, to create tools for choreographers to rehearse and perform distributed compositions.”

The e-Dance project is a two year project and ends mid-2009. It is a collaboration between the Universities of Leeds (Co-PI, at the same time dance art practitioner, i.e. user), Bedfordshire (PI, at the same time dance art practitioner, i.e. user), Manchester (2 co-PIs plus 2 developers) and the Open University (co-PI plus one developer).

### **Research question(s)**

“My subject area is dance and my research is particularly focussed on the relationship of dance to various technologies and how that can enhance both the creative process and performance context, but also developing tools and methodologies for research, so it's both the outputs creatively and the research processes methods”.

The interest in “integrating technology into the performance environment and primarily video, both pre-recorded and live video as a mediating context for live performance” led to collaboration with various people from computer science and e-Science, especially with one of the e-Dance Co-PIs in Manchester. This resulted into expanding the research process and looking at VRE (Virtual Research Environments)

as creative environments, using “networked contexts and Access Grid and various technologies that can contribute”.

“I think I've become interested in these collaborative relationships to look at the two way traffic in terms of real knowledge exchange, so it's not just about e-Science facilitating or expanding or challenging my discipline but also saying how can my discipline begin to inform what e-Science does”.

e-Dance (**more details see experience report 1**): The project is using Access Grid looking specifically at it as a performance environment and trying to find out “how can we develop the video conferencing aspects of Access Grid to become more sympathetic to performance, so there's that kind of design imperative from the e-Science point of view but for our point of view in terms of the disciplinary interest”.

“The second part that we're working on (..) connected to that is something called Compendium which is a concept mapping, dialogue mapping tool”.

## **Research Lifecycle**

### **Literature Review – Start of the research process**

“We do do literature searches as well; we do do things like that but I think probably the difference with practice-lead research which is what we engage in is that you would probably say that it's the merging of the relationship between fairly traditional academic research and arts practice; so as a sort of arts practitioner you tend to have ongoing probably philosophical preoccupations that are more or less conscious that drive your enquiry (..); it has more of a kind of intuitive or subconscious activity that's around recurring kinds of themes, so for instance something like presence is a recurring theme for me and so a particular research question might be prompted by seeing another artist work or it might be by reading something, so the literature review is still apparent but it's probably not only about reading what's been published in the most recent journals, it's about looking at the community of practice.”

The research process might be sometimes driven by the technology, like AG: “I can see the possibilities for this and the kinds of questions that might arise out of the environment, [in] that it sets a series of problems that you then start to think about creatively but the manifestation of the problem solving is through creative practice”.

“What we think of as our texts are multidisciplinary or multimedia, they come from all sorts of disciplinary or media contexts and they're not necessarily purely researched in the narrow sense so it could be about other sorts of arts practice”.

### **Data collection process**

Primary data is more “your own body so it's your own embodied memory and experience of those things and so in a sense you're a kind of repository because you have that information so you have a way of remembering movement of the dances so there's that, but then probably the next closest is video for data collection for us and then a secondary response is reflection, notes and that kind of thing”.

Computerised tools provide “you with a more visual means of building the set of connections and I think a lot of creative arts practice is around finding the multiple connections that you're looking for, and so the ability to visualise that and visualise

complex structure compositionally is really useful through these non-textual forms like Compendium, and other things like the DigiPad that I was mentioning”.

Motion-capture is another tool mentioned by the interviewee.

In previous activities (**example, quite complex, also includes kind of data analysis in the second half**) the interviewee was “using motion capture, so extracting the motion from the dancer’s body to create a virtual sculpture of the spatial pathways that a dance creates, so extracting time and then creating a sculpture of this object that functioned as a score for the dance, so it created a kind of map of the spatial trajectories and the ephemeral pathways of the dancer”. I.e. the dancers visualised the music and the created digital object of the dancers’ movements could be animated and replayed and projected into a live performance again for the dancers to interact with those shapes. Displaying all this data at once creates a visual map: “So if you mine down vertically at these points at which there are intersections you start to see temporally non-linear spatial relationships so you can begin to inhabit in your body those moments that occur at different points in time but in the same place and space, so it gives you very complex understandings of space and time in terms of movement that you couldn’t necessarily have understood without having this visualisation that allows you to map those things”. At this point the interviewee could apply coordinates and subsequently an archaeological frame to this – which became quite interesting to archaeologists: “My thoughts on how it applies is that I’m interested in the archaeological site and the way that the archaeologists move in the site, and as they bring the past into the present, literally in the space, how they inhabit that space differently and so I’m interested in using this technique to create a spatiotemporal map about their embodied experience of the site as they reveal the actual archaeology”. Currently the interviewee is working with archaeologists at Silchester at the University of Reading (currently working in the JISC VRE2 project VERA: <http://vera.rdg.ac.uk/>) on a bid, combining the two domains.

**Example relevance for e-Dance:** The use of electronic tablets/DigiPads in the VERA project inspired the interviewee to also include this technology in e-Dance (**also see experience report 1**): “They’re very useful technology for us in terms of an embodied interface, the fact that you can draw and we worked out how to project it directly and we were using it as a way of directly mapping where the dancers were in space, live, while they were doing it, so one performer would be on the stage doing that whilst the others were performing so it was all part of the performance”.

“The e-Dance project is about taking that set of relationships between Memetic and Compendium and developing them for our purposes, so the Compendium part of it is being developed as a tool for mapping, visualising, documenting the creative thinking process as you work within this fairly challenging environment, or not; you can use it as an offline thing as well so it could just be used by a choreographer in a studio to help them enhance their reflective capacities or their thinking processes, but you can also use it in the distributed Access Grid context; but what we’re doing specifically that’s different and that’s a development from the previous work in this (.) to really integrate it into video.”

### **Data analysis**

“We’re mapping or mining video, that’s the idea, and then this is the idea of being able to make comparative analysis which is extremely difficult for dance people or

anybody I think who relies on video; if you imagine in dance terms it's similar to something like musicology where you might want to do a detailed compositional analysis where you say okay, this particular motif of movement like in sound; this particular phrase; reoccurs at bar one, at bar twenty and, you know, that's the standard analysis; in dance terms there's no visual score that you can look to, to see those comparisons, so traditionally what dance scholars will do is to watch a video and go okay, I think I've got that bit, remember it, fast forward, look; so it relies on quite a lot of cognitive activity, whereas this you can directly draw across and connect across and say yes, we can see it happening here and then we can move it; so I think it could really speed up and make more effective the research process in terms of analysis." This is not only useful for the creative process in developing choreographies but also for learning in the wider sense.

"We've used Access Grid quite effectively as a reflective environment as well as a creative environment in the sense that you can bring up lots of things, you can trace through, you can share stuff, you can make comparisons; so all of those processes that we would use creatively we also use analytically and reflectively".

Video and word files are also exchanged, discussed and analyses as well as the "e-Dance Screen Editor" is used to manipulate video streams of pre-recorded content.

**Example** (more performance than analysis, but with reflective elements): "The way we've developed the software now, we've created the possibility of having transparent live video so you can layer two windows directly on to one another so you literally share the same space". "In a standard Access Grid context you have a first person, second person relationship (..) but in this setup where you can literally overlay two images, and we did this and we worked in a white space and myself [in Milton Keynes] and [interviewee 1 in Manchester] were life sized; so literally we appeared to be next to each other and I was here and my virtual other was there, exactly the same scale, and I was looking at myself but my virtual self was looking directly into [interviewee 1's] eyes and talking and she was talking back to me and she was doing the same thing here".

### **Collaboration**

Discussing something in the studio, i.e. in the performing practice consists of swapping between verbal (spoken) and non-verbal (movement) forms of communication, sometimes something "relies on highly codified vocabulary", at other times it can better or only be expressed in dance movement. This process also becomes more interesting due to the interdisciplinary relationship between e-Science and Dance ("one of the reviewers described our project as extreme interdisciplinarity"). E.g. to achieve a common understanding of the meaning of the term 'presence' can be challenging: Understanding is "so massively differently inflected according to our disciplinary understandings and so a lot of the process of discussing is iterative while we cycle around something and keep cycling around it in order to really pin down the meanings and that can happen in any kind of context and sometimes we do that through visual means, sometimes we do it in virtual context and sometimes we do it face to face."

**Use of tools: (Also see e-Dance experience report 1)**

Word-documents are shared regularly (by email).

**‘Research intensives’:** The project team is doing “a series of what we call ‘research intensives’ which are our studio-based laboratories where we get all the researchers together so it’s an interdisciplinary [activity]; they’re usually between three days and a week and we work from nine until five with dancers with the e-Scientists together and we usually work towards creating a product, a piece of performance that we then spend quite a lot of time on picking and that has several functions (..); often it’s about testing where the software’s up to at that point, but it’s not just testing it in terms of you saying ‘oh, it can do this, this, this and this’, it’s testing it in the real context of creative practice.”

**Use of AG in creating different spaces:** AG is used for the actual performance and also the testing work, but also for meetings – it’s original purpose – that means “we have to reconstruct a more generic meeting space” from one mode to the other, sometimes within one meeting.

**Mobile phones:** “It’s quite interesting again because of the way we disrupt the generic Access Grid setup; (..) we often rely on being on mobiles while we’re in the Access Grid, so if we’ve got it setup for creative use where literally you’ve got to be on your hands and knees to talk to somebody or whatever, then what we’ll do is actually revert to mobiles to say right, okay, you know how you framed that shot; could you move that camera”.

**Mini DV cameras** are sometimes used as well to record the whole thing from another meta-level, to get further metadata.

## **Dissemination**

“We also produce traditional papers and make articles and stuff”, for various journals and conferences, e.g. a recently completed journal article presented in Edinburgh at the 2008 e-Science All Hands Meeting:

“I just think it’s really funny because it’s a journal for Physicists and Mathematicians so it’s great to have this article in that’s about dance, so that’s about as hard science as you can get really, so yes, it’s a combination of science publications and arts publications and we try to write as a team so all of our outputs are co-authored (..) and also we try to make sure that it makes sense to all of us and that we are happy to receive feedback across the disciplines so it’s not compartmentalised and I think that makes it easier for readership.”

**Blog:** “Our blog is our main process dissemination, so we try to document everything that we do [“we use a lot of imagery”], not just outputs but all the kinds of;”

**Videos:** “So yes, we do use video in presentations and as a dissemination tool but we haven’t yet edited anything together that we’ve put on the website, we use it in the context of presentations”.

## **Other important elements about/in the research:**

**Using AG:** “When we go into an Access Grid node essentially what we tend to do is dismantle it, so the setup that’s generic absolutely doesn’t work for us so we want cameras that can move as opposed to be fixed, we want to be able to play around with scale and distance and what’s in shot, what’s out of shot”

**Example of a actual performance using the AG environment:** “So we’ve got two dancers in one space, one camera’s on the lower half of their body and the other camera’s on their upper half, then two dancers in another space and you replicate that. You put the live streams together into a grid and you create two composite bodies that are made up of the four halves of the four people but you just create two virtual beings, and we were working with two man and two women so we created these kind of cross gendered beings where they had top half of a man and bottom half of a woman, and so they were literally physically on the projection, connected at the waist and so we made sure that they were the same scale and we connected them up at their torso and then we set improvisations where, to begin with what they had to do was to create a coherent moving being, but of course the bottom half of this being that you now are in your tele-present sense is elsewhere, you can't speak to them; so through your movement you’ve got to try and negotiate this torso connection and when I move here are they going to move with me and are we going to stay connected and now we’ve separated, we’ve got to try and find our way back together; so it’s in the kind of failure to do it that you see that it’s live, and so the improvisation went from trying to make a coherent virtual composite to move into the idea of saying well how do we radically fragment them so that they’re only connected by a centimetre or they’re not connected at all and then we started to say well that’s this vertical relationship, can we now build a duet between these two composites, and so we made this whole piece that was about this set of relationships, so whichever physical location you were in as an audience, you couldn't see all of the live work but you understood, because you could see two halves of the two bodies, that this was happening live and that they were negotiating it.”