

Digital Representations of Performing Arts

AHDS Performing Arts / e-Science Institute Summer School,¹

July 2007

This report will describe the Digital Representations of Performing Arts Summer School, discussing the themes of presentations and discussions, and picking out research strands which could be developed in the future. The report will identify the tangible and intangible outputs from the event in order that they may be fully exploited by research and performing arts communities. It will also consider the network of people that was brought together and propose ways in which the knowledge and expertise shared at the event can be maximised and continued.

The summer school was arranged around three major themes:

1. Framing our understanding of representations of performance.
2. Identifying significant properties and methods of documenting them.
3. Proposing e-Science solutions for research into representation of performance.

These themes were designed to create intellectual debate across different subjects, methodologies, and theoretical perspectives, with a focus on introducing existing research in digital representation and offering potential solutions for performers, researchers, and technicians working in this area.

To set the scene for the conference, Daisy Abbott (AHDS Performing Arts² and HATII, University of Glasgow)³ introduced the primary challenge of representing performing arts; performance events are both temporal and ephemeral meaning that there is no 'object' to capture and preserve. She categorised theoretical approaches to the study of performing arts and identified stages at which representations of the performance event could be created, proposing a framework through which to understand current digital resource provision for Higher Education in the UK. She demonstrated that whilst users want access to rich multimedia representations of performances and the creative processes of producing them, existing digital resources in general provide only contextual information about Performing Arts. Representations of this talk include Powerpoint slides with notes: **Digital Representations of Performing Arts – Overview and Objectives.**⁴

A major goal of the summer school was to inspire intellectual debate on the issues surrounding digital representations of performance, and the keynote speaker, Professor Susan Melrose (Middlesex University),⁵ presented theoretical enquiries

¹ <http://www.ahds.ac.uk/performingarts/>, <http://www.nesc.ac.uk/esi/>

² <http://ahds.ac.uk/performingarts/>

³ <http://www.hatii.arts.gla.ac.uk/>

⁴ <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/abbott-talk.ppt>

⁵ <http://www.mdx.ac.uk/rescen/>

based on a practical example of ongoing digital archiving of the work of a practising artist, dancer/choreographer Rosemary Butcher. She distinguished models of documenting expert performance-making practices from documentation models based on expert spectating (which have historically dominated the study of performance) and discussed previous academic engagement with disciplinary-specific creative practices. Melrose emphasised that the digital archivist is an expert just as arts practitioners and performance researchers are and drew attention to the role of ‘expert intuition’ in making decisions about how to document, yet questioned whether digital archives of performance have contributed to the dominance of the spectatorial rather than performance-making approach.

The full text of the paper is available online as a PDF file: **Still Harping On (About Expert Practitioner-Centred Modes of Knowledge and Models of Intelligibility)**.⁶ There is also a **video clip** of Professor Melrose delivering the paper.

Complementing the theoretical enquiries already set up, Professor Lizbeth Goodman presented her work as Director of the SMARTlab Digital Media Institute at the University of East London⁷ with a multimedia lecture which included live performances from dancer/choreographer Bobby Byrne and musician/composer Colm O’Snodaigh of KILA.⁸ Goodman discussed both the technologies used to create performing practices which are inclusive of people with mixed physical abilities and the process of applying these practices to the theory of an emerging scholarly field surrounding the informatics of bodies in space and time, in particular in attempting to document the ‘invisible’ aspects of performance. As elements of live performance were shown alongside recorded music, animations, and video representations of previous works, the presentation inherently drew attention to the ways in which performances can be documented and the differences in audience experience when confronted with liveness as opposed to recordings.

A **short clip of the live dance** portion of the lecture is available online. The recorded portion of the multimedia lecture **Bridging the Digital Divide: Dancing with Hands, Legs, and Wheels** can be requested on DVD.

In the next presentation, Dr. Paul Stapleton summarised his 10-month research project *Dialogic Evidence: Documentation of Ephemeral Events* which ran from September 2006 to July 2007. He emphasised an earlier point by noting that in the context of academic research, documentation is often considered to be more important than performance due to its more immediately tangible and reproducible nature.

Performance documentation has academic authority and too frequently is used to replace experience of performance itself, despite its direct referent being something that is ‘not performance’. He discussed documentation as both a process (recording/archiving) and a product (documentary objects) and emphasised that documentation itself has performative possibilities. This idea was echoed in several later discussions and presentations. Stapleton concluded with a discussion of how, in recent years, performance documentation has moved from being thought of as an unfaithful representation of the ephemeral art experience into a more conciliatory, dialogic model, and demonstrated the Live Archives⁹ pilot wiki, which supports open contribution, comments, tag clouds, and folksonomies to document ephemeral events

⁶ <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/MELROSE-AHDS.pdf>

⁷ <http://www.smartlab.uk.com/>

⁸ <http://www.kila.ie/>

⁹ <http://www.livearchives.org>

which took place as part of the *Dialogic Evidence* project, such as the Convivencia symposium and Live Archives Workshops.

The full text of this paper is available as a PDF file: **Dialogic Evidence: Documentation of Ephemeral Events**¹⁰ and there are also some **images of binaural recordings** being made, and a **video clip of a performance by *theybreakinpieces***,¹¹ both referred to in the paper.

Issues surrounding dialogic representation strategies and the challenges of representing experience were developed by Dr. Sita Popat in her paper *Embodied Interfaces: Experiencing the digital in performance* (co-written by Scott Palmer). She demonstrated through practical examples from the *Projecting Performance* project¹² firstly how embodied knowledge (generally thought of as unscientifically intangible and subjective) can bring together performers and technologists in collaborative research, and secondly, how these traditionally separated roles can be concatenated into performer-operators whose embodied experience includes the digital interface. The nature of interaction between performer and technology changes the relationships between onstage performer, onstage projection, and technology operator, and these relationships can be blurred both in performance and the creative process. Popat discussed the various challenges of attempting to document personal experience and feelings, pointing out that the photographs, videos, and even subjective descriptions by workshop participants cannot adequately capture either the emotional or physical embodied knowledge developed during the project.

Digital representations of this paper include a **video clip**.

To develop strands for further discussion from this group of papers, themed around framing our understanding of digital representations of performance, the event participants split into three groups to discuss different aspects of performance representation. Each group was offered a framework in which to categorise different types of performance documentation and asked to discuss issues surrounding: the creation of digital representations; the ways in which digital resources can be used; and the role of interpretation in both the creation and use of these representations of performance.

The sheets provided to inspire discussion are available online: **Group 1 (Creating representations); Group 2 (Using representations); Group 3 (Interpreting representations)**.¹³ In order to discover more about what was debated, please consult the video clips of each group's rapporteur summing up the discussions: **Group 1 (Barbara Bell); Group 2 (Geoff Willcox); Group 3 (Richard Lewis)**.

Several common themes and research strands emerged from the day's papers and discussions. Firstly, a question arose about to what extent it is useful to think of performances as ephemeral. This avenue of discussion was initially seen as quite surprising to a group of people familiar to performance (and documentation) theory which accepts as inevitable the notion of disappearance. However, when one considers the continuation of embodied knowledge and performers' signature practices, each enactment can itself be thought of as simply one part of an ongoing

¹⁰ <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/stapleton-Dialogic%20Evidence.pdf>

¹¹ <http://www.livearchives.org/theybreakinpieces>

¹² <http://www.leeds.ac.uk/paci/projectingperformance/home.html>

¹³ All available from online version of this report at

<http://www.ahds.ac.uk/performingarts/pubs/summerschool07/summer-school-07.htm>

creative process and experience. This idea tied in with a discussion about the practicality of separating an individual instantiation of a performance from the process of its creation; treating it as a discrete performance ‘text’. It was pointed out that textuality can be a useful model for rationalising work that is primarily emotional or abstract, however there is a danger of enforcing a dominant literary model on work to which it has little relevance.

Inspired by the papers which had considered how to document the invisible or intangible, a strong discussion strand focussed on the practicalities of defining boundaries for creating representations of performance. It is widely accepted that “you can’t capture everything” and yet participants felt that it is crucially important to multiply rather than close down the points of access to performances and creative processes. Suggestions for practical methods of creating meaningful representations included providing multiple points of access but making explicit the choices of the documenter and of what s/he is trying to achieve, and a concentration more on methodologies (“How do you work?”) instead of the potentially infinite abstractions of the creative process (“Where do you get your ideas from?”). Dancer/choreographer Bobby Byrne described performances as ‘irreducible complexities’ that is, the shortest way of describing something is itself.

Another theme arising from the day’s presentations was that of power over the creation, use, and interpretation of representations. Common questions were: who gets to decide which (and how) representations of performances are created? What are the different roles and responsibilities of the archivist and the artist (as well as the user of digital representations)? How can they work together? These questions can not be answered in a generic way without being reductionist, however it is important to emphasise that, just like the creative process, the documentation process is subjective. Methodologies will differ across different partnerships and domains (for example, academic and professional practice) and there is no ‘right’ way to approach the representation of performance.

The second day of the workshop was themed around identifying significant properties of performance, documentation methods, and notation. The morning’s discussions were based around a trip to see a live performance the night before, *Disney’s Beauty and the Beast*.¹⁴ Participants were given a **documentation project scenario based on the performance** and asked to identify the areas on which they would concentrate their documentations efforts. In general, the conference was far more interested in significant properties surrounding the cultural, community, and situational context rather than the performance event itself. Suggested strategies for capturing a sense of the event were concentrated largely around interviewing cast, crew and audience members, although the venue itself was also considered to be a significant property of the event. Emphasis was placed in particular on documenting audience reactions and expectations, and the ongoing performance processes of the cast. Where the event was directly considered it was its positioning as a truly multimedia performance, constructed from the interplay of animated film, theatre, television, and computer games that was defined as most significant. It was pointed out that a Walt Disney archive already exists but it is limited public access and that any digital documentation of *Beauty and the Beast* would fit into an overall global network of

¹⁴ Edinburgh Playhouse, 18th July 2007.

archives surrounding Disney's work. Participants were keen to emphasise that representations of performance are of most use when they are widely available and complement existing collections, rather than existing as individual 'silos' of content. A **summary of the discussion of significant properties of Beauty and the Beast** is available online.¹⁵

In the first presentation of the day, Richard Rinehart developed the challenges pertaining to defining significant properties and documentation methods in his paper on *The Media Art Notation System*. Rinehart is a practising new media artist and Digital Media Director at the UC Berkeley Art Museum/Pacific Film Archive.¹⁶ He began with a comparison of digital art with performance, noting that the same challenges of capturing the ephemeral and preserving the invisible often apply. He then elaborated the similar relationships between the art itself and the tangible means of its transmission. He proposed a new theoretical approach to conceptualizing digital and media art forms and described a formal declarative notation system for media art, which, whilst explicitly a curatorial tool, draws upon a performing arts approach rather than traditional museological preservation methods.

Two video clips cover almost all of Rinehart's presentation: **Clip 1 (first half)**, **Clip 2 (second half)**. The full text of his paper **The Media Art Notation System: Documenting and Preserving Digital / Media Art** is also available as a PDF file.

Dr. Sophia Lycouris (Nottingham Trent University)¹⁷ expanded on previous discussion about the documentation of creative process from the perspective of an artist seeking to become more self-aware of her own practices. She introduced the notion of documentation acting as a bridge between practical and theoretical aspects of the research process within an academic context, and added to the ideas raised on Day 1 and by Richard Rinehart regarding the different possible models of the curator-artist relationship. Lycouris's presentation drew on examples from her current research activities such as the use of interactive technologies in interdisciplinary choreographic projects and the role of choreographic approaches in interdisciplinary projects which address movement in the social and public space in relation to issues of architecture, urban planning and social exclusion.

A video clip of the presentation **The Documentation of Process as Conceptual Tool** is available.

Dr. Paul Clarke took the discussion in a different direction in his presentation, an introduction to his upcoming Great Western Research Fellowship, *Performing the Archive: the Future of the Past* at the universities of Exeter, Bristol, and the Arnolfini galleries.¹⁸ He speculated on possible models for performance archives and, continuing the theme of Paul Stapleton's Day 1 paper, proposed a type of archive that is 'post-modern': reflective; open to multiplicity; and supporting content which is ephemeral and indiscrete. He suggested the roles that re-enactments and re-performances, as acts of remaining and means of reappearance might play within the culture of memory and questioned the value of authenticity when all performances are self-documenting recreations. Reflecting the discussion on interpretation the day before, Clarke also considered how documentary objects relating to performance can

¹⁵ <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/Discussion-Report-day2.doc>

¹⁶ <http://www.bampfa.berkeley.edu/>

¹⁷ http://www.ntu.ac.uk/research/school_research/art_and_design/index.html

¹⁸ <http://www.spa.ex.ac.uk/drama/>, <http://www.bristol.ac.uk/drama/>, <http://www.arnolfini.org.uk/>

themselves perform, or be reinvented as new performance events, and how shifting knowledges and perceptions can find their places within archival strategies. These issues had already become recurring themes in the presentations, questions, and informal discussions throughout the workshop. By illustrating them through the context of the *Performing the Archive: the Future of the Past* project and the work of his company, Uninvited Guests,¹⁹ Clarke demonstrated how the questions surrounding the futures of performance archives deserve more debate. Representations of this presentation include a **video clip**.

The afternoon discussion sessions were organised around some of the issues inherent in re-performing representations of performing arts. Groups were asked to discuss the role of performance documentation as authentic evidence, how it can prescript or inspire recreations of performances and what the ethical considerations may be, and the tools and expertise that participants felt were required to best exploit digital representations of performance.

The three discussion sheets can be downloaded: **Group1 (Authenticity of records); Group 2 (Recreating performances); Group 3 (Technology and training).**²⁰

The first group noted the difference between the concepts of authenticity and reliability for archivists – reliability being about the ‘truthfulness’ of the content and authenticity being a measure of whether the record remains the same since deposit into the archive – and also pointed out that terms can vary in meaning between communities. Referring back to Rinehart’s paper, the discussion coalesced around how to capture the ‘essence’ of a record and how it is defined. For example, does the opinion of the creator of a work have more validity than the opinion of the documenter or curator? This applies not only to existing records but in choosing what is documented at all. Like the previous day’s talks, participants agreed that making the subjectivity of curatorial decision-making explicit and ensuring that methodologies are transparent is important. Performances and processes are continually evolving, which challenges the applicability of traditional models of archival authenticity and the group suggested a model of minimal intervention to allow organic development of performance archives. In terms of the re-use of performance documentation, it was noted that deconstructing performances in order to define significant properties can be troubling to some scholars. There was a general acceptance amongst the group for the desire to make documentation itself performative (cf. *Siobhan Davies digital dance archive* and the *Performing the Archive: the Future of the Past* fellowship)²¹ and it was noted that documentation increases the performative nature of some art forms. Re-enacting performances challenges the notion of an authentic representation of the work, as every interpretation can be considered to be equally valid.

Group 2 was largely composed of practitioners within the creative arts and inevitably approached the issues from the perspective of practice. The role of the archivist and curator were discussed in terms of the effect these roles can have on the production and presentation of creative work. One example of a representation model with a very

¹⁹ <http://www.uninvited-guests.net/>

²⁰ All available from online version of this report at <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/summer-school-07.htm>

²¹ <http://www.siobhandavies.com/index.php/parent/67/item/481>,
<http://foresight.stanford.edu:3455/3/143>

strong influence on live performances of material is the collection of materials by Samuel Beckett, managed by Beckett Estate who are notorious for their rigorous approach to ensuring any production of Beckett's work incorporates the text and stage directions exactly as written.²² The group discussed in what ways, given these tight restrictions, productions of Beckett's plays could differ. Not having immediate access to the stage directions, the group could not ascertain exactly which details were specified although the legal issues surrounding the proposed all-female versions of *Waiting for Godot* were discussed, as was a version using black actors, staged whilst Beckett was still alive and apparently enthusiastically received by the author.²³ The ethical issues surrounding the rights of artists whose work has been archived and the rights of artists wishing to use these materials for further creative expression are complex; the group discussed how such imposed criteria can betray a creator's interests or prejudices (as well as those of the people entrusted with representing the estate and those of the era in which the original work was created) yet have no guarantee of accurately representing the wishes of the creator. It was also pointed out that tight restrictions on the creative or performance process do not always result in stifling original output, but can produce innovative interpretations within the existing limitations. The group acknowledged that defining rights over the use of representations of artistic material will always be a difficult task.

Group 3 firstly acknowledged that technology is not simply reflexive but can play a part in driving new research. However, whilst Humanities Computing is a well-established discipline, Arts Computing/Informatics is less comprehensively supported. The group identified a significant need to collaborate between different communities in order to provide researchers with the expertise they need but also noted that it is often not known what is needed until there has been time for an awareness of the opportunities offered by new technologies to develop. The group pointed out that cross-domain collaboration is mutually beneficial for those with technical expertise as well as artists, and suggested that small-scale interdisciplinary collaborations offer an engaging and efficient way to share knowledge and can build up networks of expertise to be drawn on in the future. Participants were universally in favour of developing a network of expertise on the use of digital representations and technologies to support performance and the study of performance and it was suggested that future funding is sought to achieve this goal.²⁴ In terms of existing technologies, there was the general feeling that there are already enough tools, what is needed is the knowledge of how to fully exploit them. It was noted that there is a lack of documentation and dissemination about the ways in which technologies are currently being utilised by early-adopters for artistic experimentation and research and a consequent lack of awareness about how they can be used amongst the wider community. Finally, members of the group offered solutions for researchers wishing to engage more closely with technology, including describing the facilities available to researchers through organisations such as the National Grid Service and JANET²⁵

²² Samuel Beckett Collection: <http://www.reading.ac.uk/library/colls/special/beckett.html>

²³ <http://arts.guardian.co.uk/beckett/story/0,,1751546,00.html>, "Beckett positively glowed with pleasure when he received news that an all-black production of *Godot* had materialised." Knowlson, J., *Damned to Fame: The Life of Samuel Beckett* (London: Bloomsbury, 1996), p 432

²⁴ For example, from the AHRC's Research Networks and Workshops Scheme

http://www.ahrc.ac.uk/apply/research/research_networks_workshops.asp

²⁵ <http://www.grid-support.ac.uk/>, <http://www.ja.net/>

and reiterated that whilst it has a lot to gain, the performing arts discipline also has a great deal to offer these technical communities.

The third day of the Digital Representations of Performing Arts workshop was themed around e-Science with three presentations demonstrating how e-Science technologies can support performing arts research, and one which tracked the development of e-Science and offered practical suggestions for incorporating different technologies into creative practice and research.

Dr. Sally Jane Norman began by reflecting on some of the challenges that had been raised during the event regarding documenting and preserving representations of performance. In particular, she discussed the anxieties attached to situations where academic study is defined by the very existence of documentation. Naturally, the types of representations of an ephemeral event affect how future scholars can engage with the material but Norman raised the question: “What do we do when there is no documentation?” and discussed the ways that the quantity and quality of documentary evidence can shape our decisions about not only how, but what, to study. A **video clip** examining this issue is available. Norman then spoke about her work as Director of Culture Lab²⁶ and described how it fit into her overall research agenda, leading up to the *Associated Motion capture User Categories (AMUC) e-Science demonstrator* project.²⁷ AMUC demonstrates how performing artists, biomechanics, and computer scientists can collaborate on practice-based research, using e-Science to support a unique graphical information retrieval system for motion-capture data. Norman demonstrated the AMUC tool and elucidated on some of the issues and questions, both technical and theoretical, that have been raised so far by this research on human motion and its representations.

Digital representations of the paper include a second **video clip**.

The second paper was entitled *e-Dancing: embodied practice in the virtual research environment* and presented by Helen Bailey (University of Bedfordshire)²⁸ who described the incorporation of virtual reality, stereoscopic video, and the Access Grid technologies into performance research. Her work in virtual research environments during the *DIRAViS Dancing in Real and Virtual Spaces* (2004) and *A Part/In Parts* (2006) projects enabled new forms of practice to emerge, evolving the use of technology in live dance performance, and contributing to the ongoing understanding of virtual embodiment in dance and the ways in which creative process can be represented into the future. This work exploring the interactions between the virtual and the live was developed in *Stereobodies*, part of the *Collaborative Stereoscopic Access Grid Environment (CSAGE)* project. Bailey examined the questions raised about virtual presence using a pre-recorded dancer then described how she had used the Access Grid to explore how the interactions changed between two live, remote dancers (i.e. performers who are temporally aligned but spatially dislocated) and how this affected compositional approaches and the physical environment of the Access Grid. Bailey proposed that using choreographic knowledge to build a firmer understanding of this virtual space can inform and 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.

²⁶ <http://www.ncl.ac.uk/culturelab/>

²⁷ <http://www.ncl.ac.uk/culturelab/research/amuc.htm>

²⁸ <http://www.beds.ac.uk/departments/pae/>

Representations of this presentation include a **video clip** and Powerpoint slides: **e-Dancing: embodied practice in the virtual research environment.**²⁹

The next presentation was delivered via the Access Grid and was received simultaneously by the Digital Representations of Performance workshop in Edinburgh, the University of Manchester, and a live audience at the Visualisation Research Unit (UCE Birmingham).³⁰ Dr. Gregory Sporton, Director of the VRU, described his current research into the role and application of e-Science technologies in visual arts and considered emerging practice in the performing arts, how this practice can engage with and assimilate digital technologies, the impact that technology can have on creative practice, and the role of theory in formulating enquiries into these hybrid practices.

Various representations of *And, With & Through: The Technologies of Performance* including slides and video are available via the **Real-time Collaborative Art Making Workshop Webpage** alongside representations of other events in the workshop series.³¹

To complete the day's investigations into e-Science enabled research, Dr Rob Fletcher (University of York)³² offered a perspective on the development of the use of digital technologies in performing arts practice and research. He began by describing older technologies and previous performing arts/science collaborations before introducing other projects such as the *Panel of Experts on Arts, Culture and Humanities E-Support (PEACHES)* and *Real-time Interactive Multiple Media Content Generation (RIMM)*³³ then explained the emergence of the main components of e-Science: the access, computational, and data management Grids. The focus was practical; to demonstrate how some of the e-Science technologies can be brought into the domain of the Performing Arts and to offer ways in which researchers wishing to engage with e-Science for the first time could go about building a team, approaching the right people with the right enquiries. As well as showing video of previous projects, the presentation included live demonstrations of some of the technologies previously discussed, such as generating music from motion capture using extremely cheap hardware and free Open Source tools. A **video clip** of this demonstration is available. Another video clip shows **earlier motion-tracking research**. The full Powerpoint slides can be downloaded: **E-Science Collides with the Performing Arts** and various media from Fletcher's presentation are also available as a **zip file**.³⁴ (Please note, to play the videos through the Powerpoint slides, the files must be extracted to the same folder.)

The papers delivered throughout Day 3 all highlighted the fact that, whilst many performing arts researchers are already involved in advanced research using cutting edge technologies such as e-Science (particularly in the field of dance), there is a perceived barrier to the adoption of this technology for both research purposes and incorporation into performance practice. Sheila Anderson, Director of the Arts and

²⁹ http://www.ahds.ac.uk/performingarts/pubs/summerschool07/bailey_AHDS2007.ppt

³⁰ <http://www.biad.uce.ac.uk/vru/index.php>

³¹ <http://www.biad.uce.ac.uk/vru/collaborativeart/index.php>

³² <http://www.york.ac.uk/services/cserv/>

³³ <http://www.terena.org/activities/peaches/>, <http://music.york.ac.uk/rimm/>

³⁴ <http://www.ahds.ac.uk/performingarts/pubs/summerschool07/fletcher-AHDS.ppt>

Humanities Data Service³⁵ addressed this in her summary of the workshop when she spoke about the importance of building long-term, mutually beneficial relationships and collaborations between performing arts scholars and e-Scientists. She considered the overall themes of the conference from a wider perspective, setting the issues and emerging research strands in the context of the Arts and Humanities and ICT framework in UK Higher Education. Some of the ongoing issues raised that deserve more debate are: the formulation of archival models and practice that best represent documentary materials produced from performing arts; the notions of the ephemeral, invisible, and unknown (and how to represent them); embodiment of knowledge; the irreproducibility and multiplicity of liveness, emotion, and experience; the bringing together of the physicality of performance with the often virtual representations of it; and developing relationships between people, and between people and the technology they are using in order to enable them to make the best possible use of the opportunities available.

A short video clip of the conference summary and overview is available online.

The AHDS Performing Arts/e-Science Institute Summer School on Digital Representations of Performance took place over three days in July 2007, at the e-Science Institute at Edinburgh University. However, the outcomes of the event are not limited to that particular space and time. The spatial impact of this research agenda was widened by the presentation via Access Grid, which included the University of Central England and the University of Manchester in the network of people brought together to discuss these issues. Every participant in the workshop returned to his or her own places of work, taking their experiences and knowledge with them to share with other colleagues. Temporally, this event produced persistent traces, documentary evidence such as this report which can be used as a reference well into the future, papers and slides produced by the speakers, and the video recordings of the presentations.

There is also a more dynamic representation of the event and its outputs in the form of a Wiki hosted by the e-Science Institute to which anyone who has a contribution towards these our understanding of these topics can contribute:

http://wiki.esi.ac.uk/Digital_Representations_of_Performing_Arts. The Wiki includes a description of the event, links to projects or initiatives which may be of interest to those interested in understanding more about representations of performance, and pages for the airing of new ideas or opinions on any aspect of the event's content.

The event also produced various intangible outcomes: our increased understanding of the theoretical challenges inherent in representing performances, more knowledge about the tools and technologies we can utilise, and perhaps most importantly, the relationships that were built between participants and an intent to continue this network of different expertises into the future.

Daisy Abbott

³⁵ <http://ahds.ac.uk/>