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## RIDERS HAVE SPOKEN: REPLAYING AND ARCHIVING PERVASIVE PERFORMANCES

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### Abstract

In this paper we present a practical study that formed part of the larger Creator project [1]. Data, such as GPS trails, video and audio files from a pervasive-performance were used to explore multidisciplinary understandings of such 'ephemeral' pieces. Video and audio content tagging was also explored as a device to aid in developing the archive for replay. It is recommended that projects involving artistic practice should make documentation and subsequent archiving part of their overall research strategy.

The relationship between liveness and recording is critical to many creative industries and their research communities including performance, music, live art, dance, theatre, new media, photography and animation. Live experiences can be recorded through a variety of media and recordings, and are often embedded into live experiences through a variety of well-established techniques and technologies. However, the move towards more distributed, mobile, mixed reality, intermedial, interactive, and social ex-

periences challenges the nature of recording and replaying due to:

- the highly dispersed nature of participants, being distributed across a mixture of real and virtual spaces;
- the integration of multiple media with physical places, artifacts and actors;
- the involvement of the public as active participants who contribute to the content of the experience;
- the interleaving of different modes of time so that recordings are replayed as part of the experience.

Here we discuss recordings of live performance for the purpose of the generation of an archive. Recording these new experiences in a way that captures their 'liveness' is extremely difficult. The most common approach in Performance Studies and HCI is to produce a video documentary. However, such documentaries typically only focus on one or two participants and present a linear and often much shortened account of their experiences. Newer ways of recording and replaying complex, non-linear, multi-participant experiences need to be developed to allow for new forms of performance documentation and archiving to emerge.

In order to explore our ideas we used *Rider Spoke* (2007) [2], a mobile interactive performance work for cyclists developed by Blast Theory in collaboration with the Mixed Reality Laboratory at Nottingham University. Participants explored a city on cycles and engaged in a game of hide and seek in which they recorded and hid personal stories at cho-

sen locations while also finding and listening to others' stories in turn. This piece was chosen as more than 700 participants had already performed it in a variety of locations. All related audio files and associated interactions were captured at the times of the original performances. A set of video recordings of participants taking part and an initial project documentary video was also available. Thus, *Rider Spoke* provides a relatively rich set of existing materials to explore the use of replay tools and the archiving of live new media artwork both from a practical and a theoretical point of view.

As the most likely users of an archive of new media work are academics in the arts and humanities, the HCI sector, artists, students, festival organisers and museum curators, we developed a list of metadata that would potentially benefit distinct and multidisciplinary research communities. As well as data concerning the title, name of artist(s), description, programme, venue, type of work, we found that new media work archives would benefit from linking artist-generated materials (video, photographs, publicity as well as generative materials) with examples of user interaction, ethnographic materials and research frameworks developed over time (including reviews and academic papers). This juxtaposition of materials generated by different communities over time would allow for new and unexpected discoveries as the work could be viewed through growing numbers of disciplinary lenses. Crucially, no one view of the work should prevail over others as no technology or analytical method should claim a comprehensive understanding, capturing or structuring of the work. Rather, the archive, as well as its users, should declare their aims so that each perspective of analysis and viewing could be positioned and traced back to a methodological and ideological viewpoint. In this way the liveness of a given work would not so much be located in any one 'original' documentation but rather in its replay.

### The Digital Replay System

A prototype synchronised replay viewer has been implemented using the Open Source Digital Replay System (DRS) a next generation Computer Aided Qualitative Data Analysis (CAQDAS) tool developed at the University of Nottingham [3] seen in Fig 1. The prototype is of a low fidelity type (meaning in this case that although most proposed inter-

Fig 1. The Digital Replay System (DRS) exploring the *Rider Spoke* data. Video, GPS, Timeline and Tag windows are open. (© Alan Chamberlain)



face components are visible - giving the appearance of functionality - the actual implementation lacks depth so that it cannot actually be used for study since data only exists for a few users). Rather, our purpose was to investigate what components of a data replay and interrogation system would be useful (and tractable to develop) in order to better guide data capture requirements for subsequent events. During our discussions it became clear that "raw data" could never be viewed directly, rather it will always be seen through the lens of a re-player mechanism. The choice of this mechanism is often bound to the ideology of the person creating the device. For this reason, all windows were labeled with the name of the person who either created the data, or created a particular view of the data. For example, the video footage was created by an ethnographer following a participant on a bike with an accompanying audio track recorded by a device attached to the rider's chest. In the interface, this combined view was labeled "Peter's Ethnography". Two investigators, coming from different disciplinary backgrounds and with differing research agendas, independently tagged the ethnographic recording of three riders' experiences using a coding of their own devising "Gabriella's Tags" and "Jonathan's Tags". The map view shows the GPS data collected by a mobile phone worn by the rider - however, the GPS data cannot be considered a "true" representation of a rider's situation any more than a text file of tagged activities can reveal what a rider actually did in the original performance - since it is prone to all manner of distortions and interpretations. Indeed, since all data has been synchronised, it is often clear how far the GPS position has wavered from the rider's actual location when compared to the Video view. From the perspective of an interface designer, it is difficult to know how best to devise a replay system when that system will depend on the unpredictable future agenda of the person viewing the archive. If the goal is to record the experience itself, then none of the recordings we had available offered a first person perspective. All were either representations of logged data (e.g. video, audio, log data), or re-interpretation of the same. The "many windowed" approach we offer here shows only a small number of the many differing views there can be of an experience and could be potentially used to juxtapose first and third person observations, as

well as documents created at different points in time. It may be possible to fuse these into a coherent whole, but it is likely that the best way to do this will be on a project-by-project basis as local requirements dictate.

Gabriella Giannachi and Jonathan Foster tagged a documentation video generated by an ethnographer, Peter Tolmie from Mixed Reality Laboratory. This was to show two different approaches to the 'interpretation' of the visual content of the original video: the Information Studies Perspective which can be seen in the figure above bottom right and the Performance Studies Perspective which can be seen top right.

The tags identified through the Performance Studies perspective focussed on visible actions. From the Information Studies perspective interest was focused on developing a generic tagging scheme. In order to introduce some control into the scheme, the initial tags drew on the game designers' vocabulary with tags selected from the *Rider Spoke* design documentation e.g. the game's question structure and content. These initial terms were considered flexible enough to be meaningful to a range of anticipated users of the archive (e.g. academic researchers), without discounting the possibility that these terms can in turn be extended by these same users. An effort was made to preserve the theatrical metaphor by keying scenes to locations (e.g. Location 13 Scene 13; Location 14 Scene 14; Location 14 Scene 15 etc). Once implemented this generic tagging scheme could then form part of a navigable meta-structure that would enable a user of the archive to navigate not only within one layer of the archive, e.g. the video layer, but would also enable the user to navigate between layers of the archive e.g. between the video layer and the audio layer. For example a user clicking on 'Brighton Seaford' could click through to all the examples of the use of this location within the three documentation videos. At the same time, clicking on a question tag such as 'awake', or 'promise' for example would also take the user not only to other uses of 'awake' or 'promise' within the video layer but also to the associated tagged audio file within the audio layer. As mentioned, users would potentially be able to add their own tags to the initial tagging scheme and thereby extend its vocabulary.

A further example of developing the archive for replay relates to the development of a DRS file containing the

following searchable attributes of a sample of 20 transcribed and tagged audio files: Location, Date, Time, Fingerprint, Duration, Content Ranking, Rider Question No., Rider Question Text, Rider Response, Content Tags. These sample files were drawn from a broader selection of files that the game's designers had ranked as being "I would love to listen to this: exceptional, hilarious, moving, surprising, unique". This definition, along with the previous tags developed on the basis of the vocabulary contained in the design document, acted as the criteria for the development of the audio tags. As such this example also serves to illustrate how a user of the archive could navigate within the audio layer and between the audio layer and the video layer. Once again, users would also be able to add their own tags to the initial audio tags thereby extending the vocabulary.

We had insufficient data to link the ethnographic video to further documents (such as an interview to the participant, a running commentary by the ethnographer, etc) and the replay tool would need additional development to allow for accompanying links with the above-listed metadata for the video and audio content. A further iteration of this project would have looked at the integration of the website and the replay archive materials.

## Conclusion & Recommendation

The recommendation is that projects involving artistic practice should make their documentation (and subsequent archiving) part of the overall research strategy. This would allow for the generation of important and project-specific methodologies for the documentation of practice-research and lead to the production of materials documenting all relevant phases of the process, which would then form the archive. It is crucial that these materials are developed in consultation with the artists and researchers involved in the process.

## References and Notes

1. The Creator Project - <http://www.creatorproject.org/>
2. Rider Spoke (2007) - [http://www.blasttheory.co.uk/bt/work\\_rider\\_spoke.html](http://www.blasttheory.co.uk/bt/work_rider_spoke.html)
3. The Digital Replay System - [http://web.mac.com/andy.crabtree/NCeSS\\_Digital\\_Records\\_Node/Welcome.html](http://web.mac.com/andy.crabtree/NCeSS_Digital_Records_Node/Welcome.html)