The Documentation and Archiving of Mixed Media Experiences: the Case of *Rider Spoke*

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ABSTRACT
This paper introduces the early stages of the research conducted by an interdisciplinary team in Horizon, comprising staff from Computer Science and Performance Studies, who, in collaboration with artist company Blast Theory, Stanford Libraries, British Libraries, the San Francisco Art Institute, the Ludwig Boltzman Institute Media.Art.Research, and Sheffield University, have devised a new form of interactive archive, the CloudPad, for the documentation and archiving of mixed media experiences.

Categories and Subject Descriptors
H.5.3 [Information Systems] Group and Organization Interfaces – Collaborative Computing.

General Terms
Human Factors, Design

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Archiving, documentation, performance, cloud, trajectory

1. INTRODUCTION
Documenting and archiving productions of various kinds is important to the creative industries, both for their scholarly and wider cultural value. This is not only because such productions persist in time only as documentations, or archives, but also because it is increasingly the case that audiences want to record and even replay their experiences. But how is this to be done for emerging forms of experience that increasingly mix digital media with diverse physical locations and artifacts, for example pervasive games and performances that take place on the city streets? We report on an ongoing project to explore the practices and technologies of documenting and archiving such experiences.

The technical aim of our project is to provide a customisable web-based platform that allows the synchronised playback of cloud-based media entities (e.g. YouTube videos, audio files) together with layers of annotations by different users. Members of the team had previously collaborated on a documentation of Blast Theory's pervasive game for mobile phones *Day of the Figurines* (2006) using a wiki [1], and had developed a pilot case study of a digital archive of *Rider Spoke* as part of the EPSRC-funded Creator project using the Digital Replay System (DRS), an open source software tool developed by the Mixed Reality Lab at the

University of Nottingham used by researchers in the social sciences [2]. An evaluation of the two projects indicated that to best capture the user experience it was crucial to conduct bespoke documentations of artworks (including interviews to participants). The team also found that it was important to add further materials about the creative and research processes (including interviews to artists and technologists), as well in game data [3]. The development of the CloudPad was therefore structured in three parts: the collection of a bespoke documentation of Blast Theory's *Rider Spoke;* the creation of the CloudPad prototype; and the development and evaluation of the CloudPad archive. At this stage, the first two phases of the project have taken place, while the user-led annotations and evaluation will occur in September 2010. In this paper, we offer an early assessment of the first two stages of our work in the context of our broader research on user trajectories through a mixed reality experience [4] and consider the use and value of the contextual footprint generated by such an archive [5].

Figure 1. *Rider Spoke* **documentation.**

2. CREATING A DIGITAL ARCHIVE: THE *RIDER SPOKE* DOCUMENTATION
Content-wise, the prototype archive was built around a documentation of Blast Theory's *Rider Spoke* when it occurred in Linz (Austria) during the ars electronica festival (2009). *Rider Spoke* is a location-based game for cyclists developed by Blast Theory in collaboration with Mixed Reality Lab as part of the European research project IPerG [6]. The work encouraged participants to cycle around a city in order to record personal memories and make statements about their past, present and future that were associated with particular locations. The piece, which has so far been experienced by over 2000 participants and has toured in the UK, Europe, South America and Australia, also allowed participants to find and listen to the responses of preceding players. These were built over time, as each day's

recordings were loaded into the system overnight to appear in the performance the following day.

To create an archive that could offer a variety of ways to re-play the 'original' event, a range of equipment was utilised to make the recordings of nine participants' experiences. The riders' location was recorded using a GPS device. In-game audio was recorded along with the participants' responses and any environmental sounds. Videos were also taken of the riders from two key vantage points: a 'chase cam' followed the bike, creating a third person perspective, and an upwardly mounted 'face cam' mounted on the handlebars of the participant's bike creating a first person perspective (see Figure 1). Two devices were used to record the position of the participant riders. An N95 phone from Nokia has an inbuilt GPS device and recordings were made with the SportsTracker software. The device i-gotU is designed to retrofit GPS positioning onto cameras so images can be geo-referenced at some time after they have been taken (a user presses a button on the i-gotU device around the same time an image is taken and the times used to co-reference the location image was taken from). Finally all nine participants were interviewed immediately after the end of the work and encouraged to recall their experience of it.
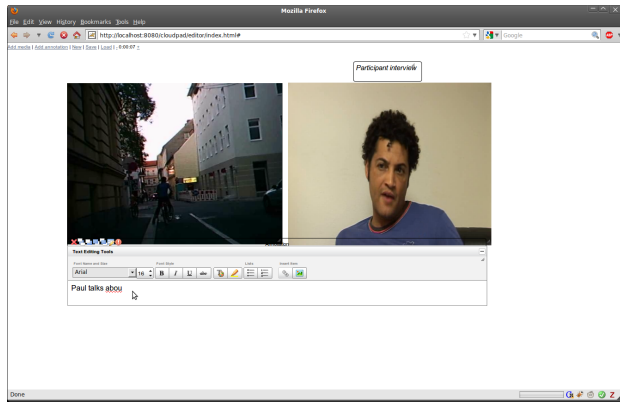

Figure 2. A CloudPad annotation.

3. THE CLOUDPAD

The second stage of our project was the design and development of the CloudPad, a tool for creating media-mashups from digital archives. The design, which was deliberately simple (see Figure 2), sought to make the process of synchronising and annotating multiple media streams as straightforward as possible. Media items (Video, Images, Audio and Textboxes) were added to the CloudPad page (via URL) together with 'On/Off' time-stamps, with each item only appearing on the page between these two markers. The 'current time' could be changed by 'playing the page' or scrubbed backwards and forwards using the timeline at the bottom of the page. Alternatively, one of the visible media items could be used as a 'master clock' so that when played, all other items would be synchronised to it. Text boxes were built to be 'temporally aware' so that they could appear and disappear along with the other media items. Similarly, edits to text were stored and time-stamped so that they could be re-performed during playback (c.f. Google Wave). Each media type (Video, Image, Audio, and Text) was encapsulated to provide a standard interface to JavaScript. This was to allow the type to be 'On/Off' (currently visible on the page or not), for it to be re-positioned and scaled and for it to act appropriately on time-change events (including user controlled changes to its own time), and to generate such events during playback. The platform was implemented so that it

would be straightforward to add further media types (for example a Google Earth or Graph window) by encapsulating and conforming the new type to the JavaScript interface. The look of the page was specified using cascading style-sheets allowing simple re-purposing of the platform.

4. (RE-)PLAYING THE ARCHIVE

The third phase of the project consists of the development of the CloudPad archive, which includes the design of an architecture and interface, the generation of metadata, and an initial annotation of the CloudPad archive. For the latter, all materials were tagged 'neutrally' (i.e. offering descriptions of what could be seen or heard in the video materials) and a number of trajectories constructed to facilitate navigation. Each of the nine participants' experiences of *Rider Spoke* constitutes a **historic trajectory** through the work. These can be accessed through a number of **canonic trajectories** through the archive, i.e, through the historic trajectories forming the archive, designed by Blast Theory and members of the team with different subject specialisms. Finally, users of the *Rider Spoke* CloudPad archive, by further annotating these materials, are expected to create sets of **participant trajectories,** which will add value to the archive over time.

5. CONCLUSION

The *Rider Spoke* CloudPad Archive not only offers an insight into *Rider Spoke* itself, with interviews to participants, artists and technologists, whilst linking to external materials, such as articles, videos, photos and GPS maps created by Blast Theory and the Mixed Reality Lab, but also allows insight into how a number of users navigated and annotated these materials, thus making it possible not only to study the 'original' *Rider Spoke* event but also to look into how it is annotated over time by others. In the future, it will be interesting to look at how the CloudPad may be used for the documentation and archiving of other kinds of experiences.

6. ACKNOWLEDGEMENTS

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