Digital Records: Synchronizing Visual Data with Diverse Resources

Andy Crabtree, Andy French, Chris Greenhalgh, Tom Rodden, Steve Benford

School of Computer Science & IT
University of Nottingham
Jubilee Campus
Wollaton Road
Nottingham NG8 1BB
United Kingdom
axc@cs.nott.ac.uk

Stream: Technologies and IT for the analysis of visual data

Abstract. The National Centre for e-Social Science Research Node DReSS - www.ncess.ac.uk/research/nodes/DigitalRecord/ - is exploring the development of *digital records* to support qualitative study of life in the digital age. Digital records consist of 2 core components: 1) resources gathered by a field worker (video and audio recordings, photographs, field notes, etc.), and 2) resources internal to computational environments (such as text messages, voicemail, email, etc.). Digital records therefore enable qualitative researchers to combine visual data – especially video – with diverse resources to support qualitative study of life in the digital age.

The combination of visual data with diverse resources is supported through a suite of software tools called the Digital Replay System (DRS). The DRS enables researchers to synchronize visual data with diverse resources and *replay* them side-by-side. Thus, and for example, a video recording detailing someone's computer-mediated interactions may be combined with a system-based recording that makes the digital medium (e.g., instant messaging) and content of interaction (e.g., text) available for inspection too. The different recordings may then be synchronized and replayed side-

by-side to provide a comprehensive view of social interaction across physical and digital environments.

The DRS enables researchers to record resources from multiple digital media, including mobile location-based applications (e.g., GPS–enabled phones equipped with location services and audio, visual, and textual resources) and supports the study of asymmetrical forms of communication and interaction where, for example, people interact via audio messaging on the one hand and text messaging on the other. Uniquely, it enables the researcher to bring such resources together for the first time.

The DRS also supports analysis of the diverse contents of digital records. It enables the researcher to assemble and structure the contents of digital records to develop their analysis of social interaction in the digital age. Annotations may be added and the digital record may be coded to support the production of distinct analytic insights. Exploiting semantic web ontologies, the DRS enables the qualitative researcher to exploit pre-existing coding schemes or to develop completely new ones from the ground up.

The emergence of digital records and the DRS takes qualitative research beyond the possibilities of 'hypermedia',[1] to capture and present resources never available before and combine them with visual data. Together digital records and the DRS provide unprecedented access to interaction in the digital age and open up the possibility for qualitative researchers to develop new insights into the nature of social interaction in contemporary society.

---

[1] Dicks, B., Mason, B., Coffey, A. and Atkinson, P. (2005) *Qualitative Research and Hypermedia Ethnography for the Digital Age*, London: Sage.