Applying digital storytelling technology

to community radio in India

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ABSTRACT

The **StoryBank** project in the UK has recently started to explore the application of digital storytelling technology to information sharing in the developing world. A multidisciplinary team of interaction designers, ethnographers and computer scientists are adopting a user-centered approach to the design of a system which should be useful to a specific rural community in South India. This involves a number of challenges both for the technology being developed and for the methods of developing it.

BACKGROUND

The UK Engineering and Physical Sciences Research Council in the UK recently funded four ICT-for-development research projects. All these projects are multidisciplinary with partners in some of the poorest parts of the world. They are strongly committed to a participative design process which leads to a sustainable technology intervention of real value to end users. In this note I outline one of these projects, **StoryBank**, and describe some of the technical and methodological challenges we have encountered in our first few months. Further details can be found at: http://www.cs.swan.ac.uk/storybank/index.php

STORYBANK CONCEPT

StoryBank is inspired by the digital storytelling movement which has demonstrated the power of short two-minute audiovisual stories for compelling communication and empowerment within local communities in the west [1]. This audiovisual format seemed to us to be ideal for giving a voice to those in the developing world who are disenfranchised from self-expression, internet use and other forms of written information sharing because they cannot read or write.

Hence one aim of the project is to make audiovisual story creation and sharing accessible to a poor rural community, and to test its value for empowerment and information sharing. What we have in mind is a kind of YouTube system for development, which extends initiatives that already provide local internet information in a village ICT centre [2].

TECHNICAL CHALLENGES

As with YouTube we want to make it easy for people to upload and share video content recorded on mobile phones. This will be done in a story repository or 'story-bank', represented in a Greenstone digital library [3,4]. However unlike YouTube, the indexing and retrieval of stories cannot be based on text annotation, nor indeed any graphical user interface techniques that assume familiarity with a PC. Furthermore, any mobile phone interface will need to be redesigned so as not to involve text-based menus. We would also like to support more flexible forms of story than video, such as are used in digital storytelling initiatives like BBC Capture Wales [5, 6]. These include audiophotograph sequences of still images with spoken narratives [7] and cannot easily be created on commercial cameraphones.

This leads to a number of technical challenges and research questions, including:

- How can we make a small number of simple story forms easy to create, edit and share?
- How can audiovisual media content be indexed and retrieved without reliance on text annotation?
- How can our selected story forms be captured and shared across a range of phones and other devices?

A number of other challenges arose in planning the system architecture. If we based the repository in a village ICT centre, would it have internet connectivity for uploading content to a remote server? Could we assume phone coverage for mobile internet access, or sending stories between phones? Would there be sufficient electricity to power the repository and recharge the phones? And what could the role of television and radio be for playing back stories on a wider basis?

Many of our initial hypothesis about these things were wrong, as shown by the initial architecture for the StoryBank system (Figure 1). This was drafted before finding our local partner and identifying the research location, although always with the intention of revision.

The initial architecture was internet-centric, and assumed good phone coverage in the local area.
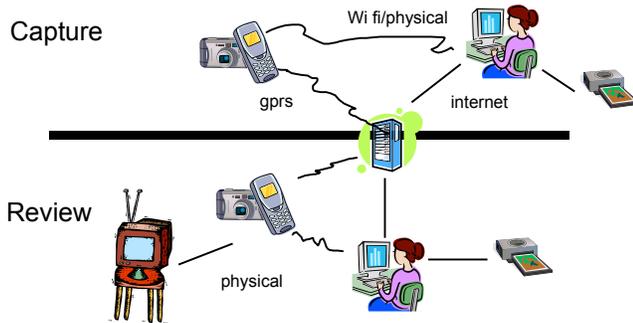

Figure 1. Initial StoryBank architecture

We have now partnered with a local NGO in the Banaglore area called VOICES, who provide media infrastructure to facilitate communication within local communities [8]. VOICES run a community radio station in a village called Budikote, and already broadcast radio programs with pictures to local television sets over a cable network. On our first visit to the village we discovered that there is no reliable internet connection from any of the PCs at the ICT Centre where the radio station is based. Mobile phone coverage is patchy in the countryside and happens to be poor in parts of the village in a geographic dip. This led us to revise the architecture around a stand-alone repository machine we aim to install in the ICT centre, with a situated touch screen display and wi fi connectivity to nearby phones. We also plan to use the cable network, and a series of self-help groups to distribute content stored on removable media (Figure 2).
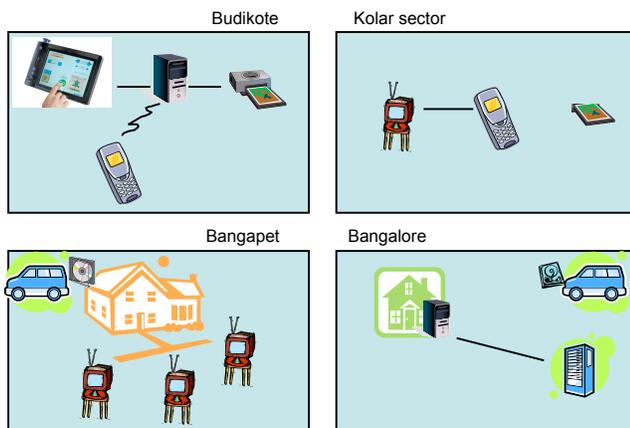

Figure 2 Revised Storybank architecture

Another important lesson we learned on-site was about the relative popularity of existing ICT technologies for information sharing. Radio and TV use outweigh PC and mobile use by an enormous factor in rural areas, and provide the greatest springboard for any new technology intervention. This has resulted in a shift of emphasis in the project towards the development of short illustrated story

formats that could fit into existing programming practices and procedures.

METHODOLOGICAL CHALLENGES

In addition to the technical challenges above, we have encountered a variety of methodological challenges in carrying out user-centered design in this context. These are listed below and can be discussed selectively at the workshop:

- *Language barriers* – none of our end users speak English so we have employed a native speaking local ethnographer

- *Remote collaboration* – project members are geographically separated and must work with collaboration tools to sustain progress between trips and meetings

- *Cultural differences* – understanding user needs and perspectives is more difficult in a foreign culture where mindsets and values are different

- *Over-positive reactions* – any new technology presented is likely to result in positive reaction by those who have so little support

- *Development versus research* – development goals may conflict with research goals

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