

# Chapter 5

## Knowledge Recovery: Applications of Technology and Memory

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### ABSTRACT

*The ability to “write” data to the Internet via tags and barcodes offers a context in which objects will increasingly become a natural extension of the Web, and as ready as the public was to adopt cloud-based services to store address books, documents, photos, and videos, it is likely that we will begin associating data with objects. Leaving messages for loved ones on a tea cup, listening to a story left on a family heirloom, or associating a message with an object to be passed on to a stranger. Using objects as tangible links to data and content on the Internet is predicted to become a significant means of how we interact with the interface of things, places, and people. This chapter explores this potential and focuses upon three contexts in which the technology is already operating in order to reflect upon the impact that the technology process may have upon social processes. These social processes are knowledge browsing, knowledge recovery, and knowledge sharing.*

### INTRODUCTION

This chapter is concerned with the implications upon the processes of storing, recalling and passing on memories as emerging digital technologies offer people the ability to associate data with physical artefacts. The network society has grown up using screens as the familiar interface with which they

are able to access digital networks. Televisions, computer screens and mobile phones have all manifested digital data behind a glass screen. As the reach of ubiquitous computing extends from urban contexts into the rural we are beginning to experience places which are always in reach of the internet, this coupled with the ever increasing range of devices that are able to access it, offers a

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context in which we may no longer need screens to interact with the internet. Described as an Internet of Things (coined by Kevin Ashton at the Auto-ID research group at MIT in 1999 (Ashton 2009)), many new manufactured objects have barcodes or Radio Frequency Identifying (RFID) tags attached to them to allow them to be scanned and identified. In range of an RFID reader, these artefacts become part of the internet and access points to data that is associated with the object.

The emerging tendency to tag objects with RFID and barcodes that can also link to data, is accompanied with a proliferation of tag readers that are appearing as hardware and software applications on smart phones. In the hands of the public who can read these tags, objects are beginning to become interfaces to the internet.

We are interested in exploring a technology that for many years has been in the hands of check out staff of supermarkets, but one that is now available to anyone with a smart phone. Used generally to recall logistical information on a read only basis, the public have rarely understood how artefacts with barcodes were part of the internet because until now they didn't have the technology to connect their packet of breakfast cereals to the web. In addition the public presume that the only data that would be available from a barcode is likely to be logistical: name, price and weight. However, recently a series of web technologies have become available that link logistical data to identify an object with social data. Since each barcode is a signature for a product in an internationally available database, entries can also be associated with other media such as advertising media or special offers. Whilst this extends the potential for using barcodes and tags to "read" media from the internet, what is of special interest to the authors is the introduction of some systems that allow the public to "write" information themselves to a particular tag.

The ability to "write" data to the internet via tags and barcodes offers a context in which objects

will increasingly become a natural extension of the web. And as easy as the public was to adopt cloud based services to store address books, documents, photos and videos, it is likely that we will begin associating data with objects. Leaving messages for loved ones on a tea cup, listening to a story left on a family heirloom, or associating a message with an object to be passed on to a stranger. Using objects as tangible links to data and content on the internet is predicted to become a significant means of how we interact with the interface of things, places and people.

This chapter aims to introduce the varied applications and relationships of technology and memory, where knowledge is the key which links the two areas.

This is achieved in three ways. First by the introduction of the different aspects of knowledge management – that of knowledge browsing; knowledge recovery and knowledge sharing; second by a discussion of the research project "Tales of Things Electronic Memory" (TOTeM); and third to present findings of relevant case studies.

## KNOWLEDGE

In its simplest form, knowledge can be categorised as explicit or tacit knowledge. Explicit knowledge can be defined as documented knowledge whilst tacit knowledge in general is that which has not been recorded. (Ali & Ahmad, 2006; Brooking, 1996; Jain et al., 2007; Selamat & Choudrie, 2007; Zheng, 2005; Song, 2002; Kim & Lee, 2006; Brent & Vittal, 2007).

Knowledge is produced from raw information by members of a society. Society in general is organized into many different systems, (organisations), which are often controlled by technology. Within organizations knowledge systems utilize the available technology in order to undertake particular parts of the information management process – including careful planning of the way

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