ABSTRACT
This paper describes a ‘cultural probe’ study underpinning a user-centered re-design of the Greenstone digital library system’s collection creation sub-system (the Greenstone 'Librarian'), with a focus on assisting seniors in developing Greenstone collections representing their personal history. The results of this investigation include a customized metadata set for these users’ collections, and a ‘personal timeline’ browsing structure.

Keywords
Senior users, personal history, personal archiving.

INTRODUCTION
Greenstone is a widely used, Open Source digital library suite. Its ‘Librarian’ module supports digital library developers through all stages of collection management (Witten et al, 2010). Both the Librarian module and the end-user searching/browsing standard interfaces were designed for users without special needs—and seniors have been identified as a (large) group with specific interaction and interface design requirements (Hawthorn, 1998, Hawthorn, 2000). This paper reports on a user study that underpins a re-design effort for the Greenstone Librarian and search interfaces, with the intention of providing a ‘senior mode’ version of Greenstone that would be suitable for use by seniors wishing to create, serve, and maintain personal document collections.

We informed our re-design through a literature review of interfaces and aging and two user studies; we report here on the initial user study, which focuses on eliciting the types of personal history documents that the target group would like to preserve and present in a personal life history digital library, and their metadata preferences.

USER STUDY: DOCUMENT TYPES AND METADATA FOR A PERSONAL LIFE HISTORY COLLECTION
We adopted a cultural probe approach to eliciting an understanding of the facets of a life history collection of a senior (Gaver et al, 1999). This style of information gathering study engages the participant in carrying out a loosely defined task, using physical / virtual material in their ‘native’ environment. Such a study is intended to engage and make explicit the participants’ impressions, emotions, cultural beliefs and preferences, and desires—to draw out possibilities, rather than to objectively characterize a target group.

Five participants were recruited for this study—three male, two female—over the age of 65. The participants were instructed to collect around six items every few days over a period of two weeks. For each of the six items they were to write a description of the item on a sticky note and attach the sticky note to the item. The user was to then place the item in a Keepsake box, if possible (some items were too large or awkward, or the participant did not wish to move it from its usual position). The purpose of the Keepsake box is similar to that of the ‘Magic Box’ in an earlier cultural probe study (Vetere et al, 2006)—to provide an engaging focus for activity, and to highlight the emotional and personal connotations of the documents as keepsakes.

After two weeks, the participant and researcher discussed each document and its description, and collaboratively constructed a diagram describing how the participant viewed the collection’s intellectual organization (Figure 1b). The intention was to uncover the common document types, metadata, and browsing structures that could be supported as a default in the revised Librarian interface.

The formats of the documents are summarized in Table 1. An item in the Keepsake box can be simple, single document (e.g., a single photograph) or itself a set of documents (e.g., a photo album). Further, a set might be ordered (e.g., a wedding album ordered by the day’s events) or unordered (a shoebox of photos). Some documents are self-created (e.g., photos), while others are not (e.g., published books). The ‘other’ category included trophies, medals, and other physical treasures and
mementos—including a pet cat and dog. Obviously some documents will be easier to digitize than others!

Fig. 1a. Examples of documents to include in a life history collection.

Fig. 1b. One participant’s view of her collection’s structure.

The discussion of the Keepsake Box contents elicited the following set of metadata elements, matched as closely as possible to the Dublin Core (http://dublincore.org/):

**Title:** either a formal title already associated with the item (e.g., a book’s title), or a brief descriptive title created by the collection owner

**Description:** a brief overview of how the item fits into the personal life history, possibly including details such as the individual’s emotional attachment to the item, anecdotes surrounding its use or significance, an event involving the item, etc.

**Date:** this may be a specific date (e.g., the date a photo was taken, a wedding date), or may refer to a period of time (e.g., the 1940’s, ‘my youth’).

**Location:** a place associated with or depicted in the item.

**People in the Document:** a list of individuals associated with a document (e.g., people in a photo, people mentioned in a journal)

**Author:** the creator of the document (e.g., the person who took a photo, the author of a letter)

Discussion with the participants also suggested a new browsing structure for Greenstone, specific to the personal life history: a timeline that could be labeled idiosyncratically. Greenstone supports browsing by Dates, with the resulting timeline labeled by specific years and/or dates within those years. By contrast, a life history may have wide swathes of time rather than specific dates (e.g., ‘The 1960’s’), or it may make more sense to label points on the timeline as events (e.g., ‘our wedding day’) or periods more descriptively (e.g., ‘my youth’).

**REFERENCES**


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Table 1. Types of documents put forward for inclusion in a life history collection.