

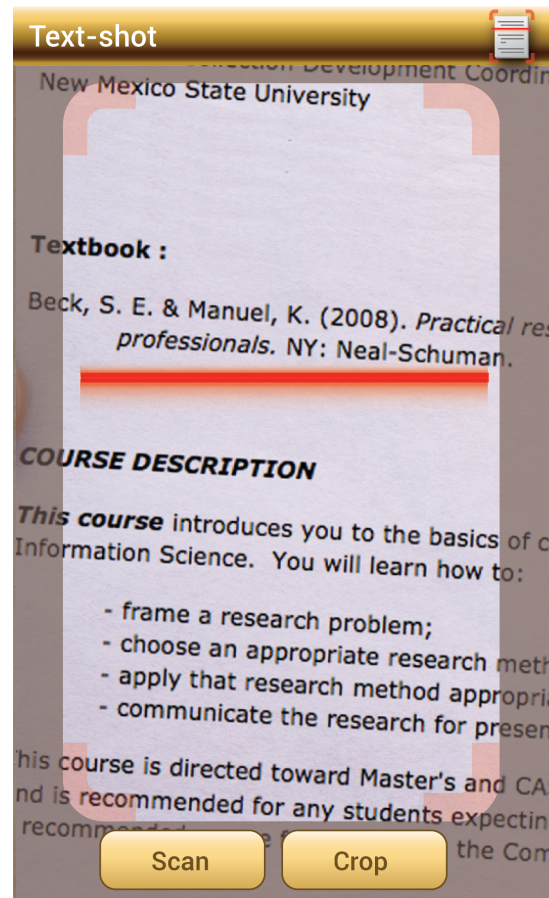
Research support with optical character recognition apps

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Text-shot prototype



Introduction

- Uses for OCR in library settings
 - The prototype Text-shot module uses OCR software and a backend search system for subject and title recommendations.
 - The choice to recommend library content to users from the app stems from the objective to connect students with library resources, and to help students integrate library resources into their work.

Optical Character Recognition Apps

- **Wordlens app:** can translate words from different languages using a digital camera feed
- **Google Goggles app:** take a picture of a book cover (or painting) to run a google search on the topic
- **Camscanner app:** digitize print documents with camera on app and store/share documents with others

Literature Review

- Optical Character Recognition APIs
 - **Evernote API:** dev.evernote.com/doc
 - **Google Drive API:** support.google.com/drive
 - **VuForia SDK:** developer.vuforia.com/resources/sdk/android

Methodology

- **Formative evaluation**
 - Small set of test participants to gather feedback early in the design phase so that the software development process can progress in a direction that will support user requirements for the software

Methodology

- **Test Participants**

- Students were recruited from the General Studies 101 course. They are in their first year of study at the university and have not yet chosen a major.
- There were a total of five test participants in the first round of study.

Methodology

- **Study Process**

- Students were given an Android phone with the Text-shot app loaded. Investigators observed the students as they used the OCR mobile software to obtain suggested library resources. Investigators collected two sources of data: observation of how students interact with the software and a debriefing interview.

Functionality Tests

- Researchers tested the two main functions for the software.
 - Recognizing a string of text by taking a picture of the words in a student assignment sheet and;
 - suggesting subjects and titles based on the scanned text.

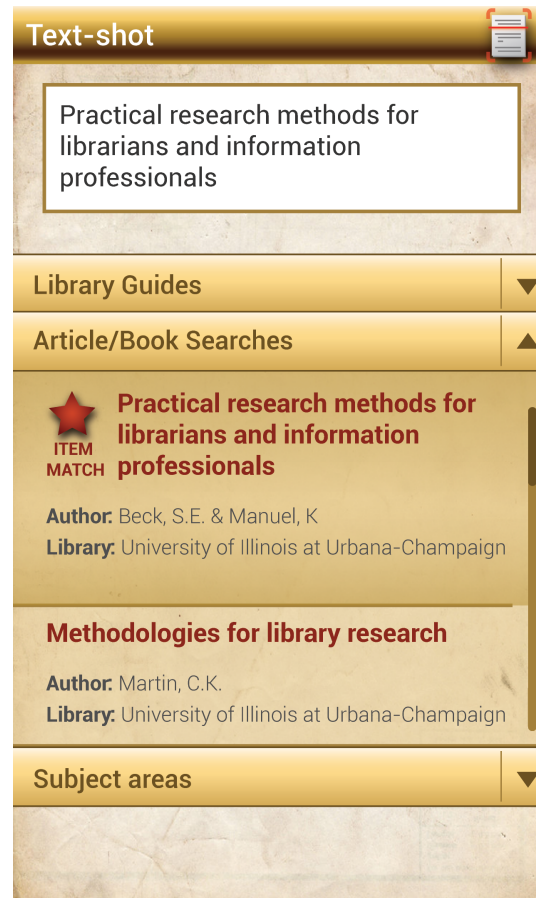
Results

- Themes related to the improvement of suggestions:
 - Show broad subjects first
 - Then expand to details subjects
 - Prominently display title suggestions

Results

- **Feature Requests:**
 - Include articles as well as book titles in recommendations
 - Use article APIs
 - LibGuides-like help guides

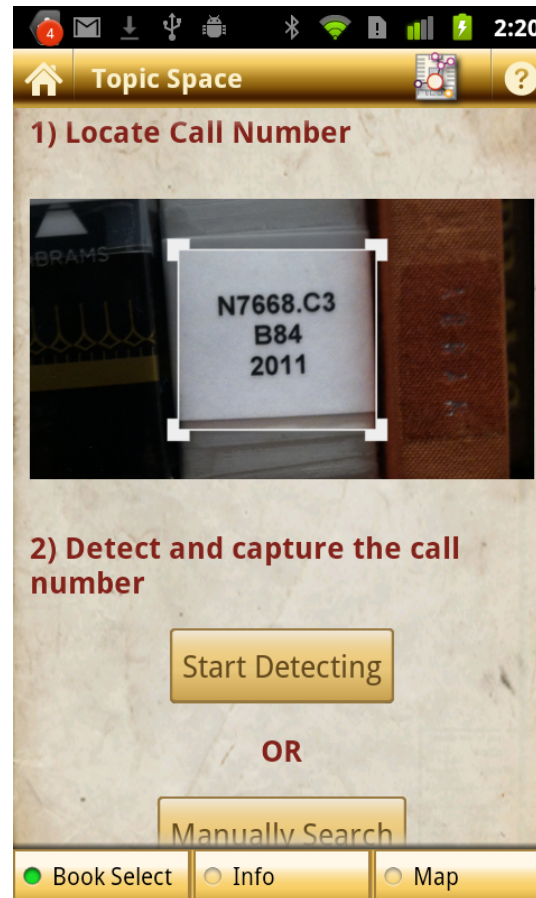
Text-shot prototype



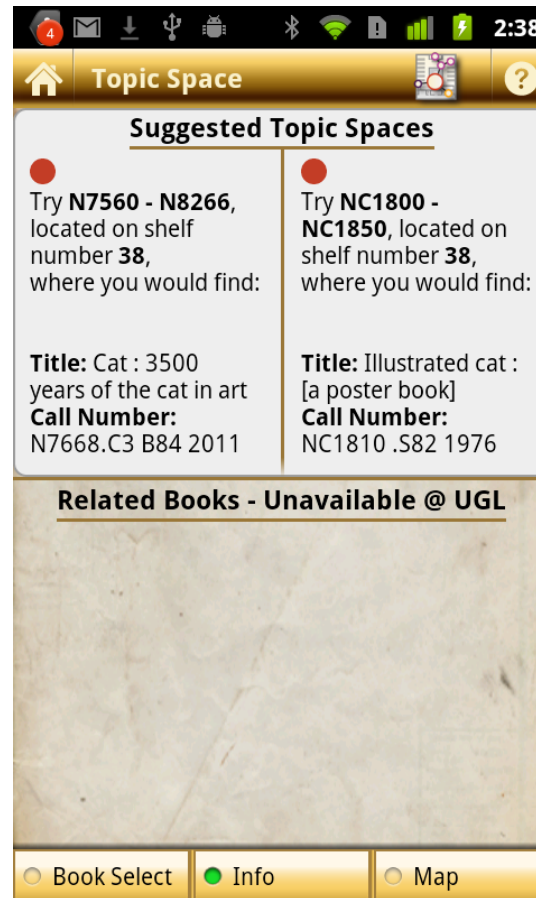
Next steps in OCR

- **Topic Space app:** Scanning call numbers in the library
 - If you scan a call number on a book, you can get recommendations of other, related books in the library, and other related digital content in the library.

Topic Space: Book Scan

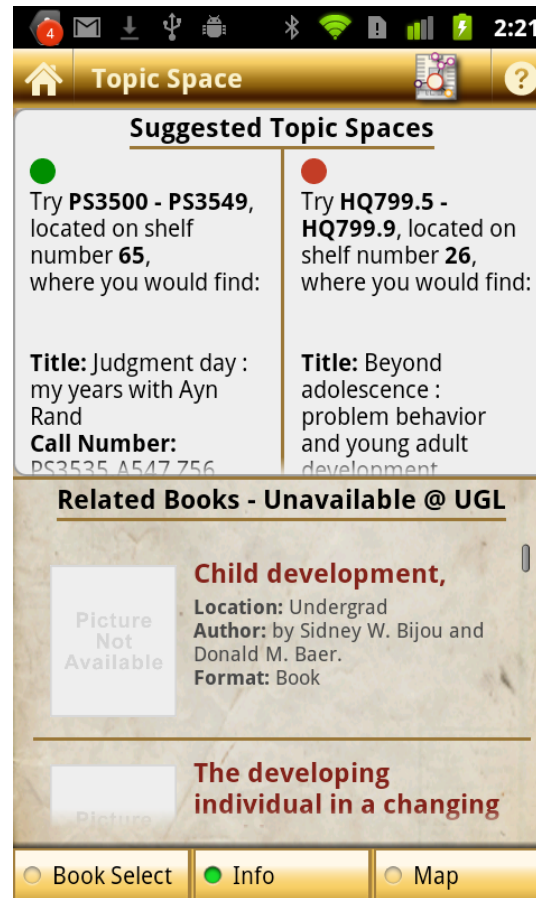


Topic Space: Suggested Topic Spaces

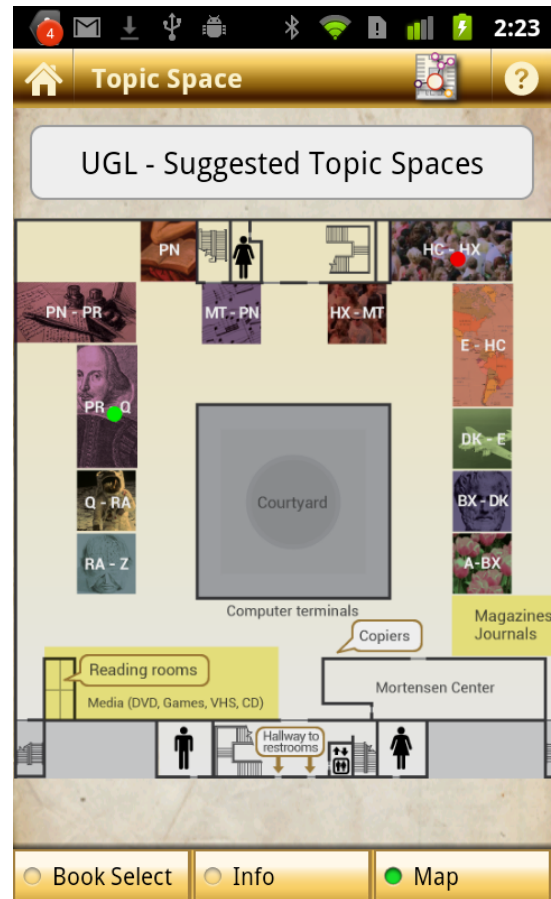


Topic Space:

Related Books that are not available



Topic Space: View Map



Future directions

- Implementing OCR modules in the Minrva app:
 - http://minrvaproject.org/modules_topicspace.php
- Open sourcing OCR technology for use in library settings:
 - <http://minrvaproject.org/source.php>

Sponsors

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