CENG 491 Proposal:
A Mobile Application for Book Collectors

October 23, 2012

kodisnowhere

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1 Motivation

Almost every person in the world who has the ability to read, has a collection of books. It may be a little one for a housewife or a bigger one for a lecturer who teaches literature in a college. As the collection gets bigger, keeping track of books gets harder and harder. One needs a database of books recording owned books, lend books or the ones that are in the wishlist.

There are several mobile applications keeping track of book collections. This is a convenient way of handling collections as they are portable and do not require tons of paper. They keep a database of owned books and find the desired books using ISBN number. Moreover, most of them get the price of a specific book on the internet or show similar ones. However, all of those applications have some shortcomings:

- Keeping track of locations of owned items. Recording locations of the books. Which book is on which shelf.
- Image based search. Scanning the cover, barcode or ISBN number of the book and searching it.
- Tracking borrowed/lend items. Registers of which books are borrowed and which are lend to others.

- Recommendations. Suggesting other books which are similar to the ones the user has/likes/searches.
- Wishlist. Keeping a list of desired books.
- Accessibility concerns. Managing the database via both mobile and web applications.

In this project, an easy to use mobile and a web application for tracking book collections covering these features and the basic ones are to be implemented.

2 Background

Book cataloging software is used to keep track of growing libraries, missing items, wanted items, borrowed items and track reading habits. Such software should manage the data about owned items, track the location information, provide a service to search through collection, keep track of borrows and wish lists. Most such software is a desktop application [1] which is not very user friendly considering accessibility concerns.

Some applications are developed for mobile platforms, specifically for iOS [2, 3] providing handy solutions such as barcode scanning. Mobile applications have advantage over desktop applications thanks to easy management and ease of access.

In addition to mobility, storing collection data on cloud to provide a web interface and synchronization between all user devices makes everything more accessible. Cloud storages are controlled with the help of user accounts.

For keeping the book data well organized and implementing web shopping interfaces as well as recommendation services, it is convenient to use International Standard Book Number (ISBN) which is a unique numeric commercial book identifier. There are services which provide massive ISBN databases [4] and many mobile applications are implemented using those services.

Scanning the cover of the book or getting ISBN number via barcode keeps things clean and simple. For such purposes, we need image processing tools that will process barcodes or covers to get book data. There are free barcode scanning SDKs developed on iOS. [5, 6]

It is essential for a book cataloging application to provide more than standard information. To attract user's attention, reviews and ratings need to be fetched. Goodreads [7], the world's largest site for readers and book recommendations, is a great place for such a feature.

To serve everything in one place, web shopping interfaces are fundamental. There are free APIs to connect users' book databases and wish lists directly to a place where s/he can order online. [8]

3 Proposal

Current book collection applications have some features like searching books, recording owned ones, connecting to websites where the user can shop and displaying reviews and ratings. In addition to these essential features, this project has some extra attributes making it a must-have for book collectors.

Rather than recording the data of owned items using virtual shelves, this application keeps record of the physical places of them. Making it possible for the user to go and pick the real book and prevents forgetting where he/she put it the last time. This makes organizing the collection very straightforward. Application also keeps track of the borrowed/lend items. Moreover, the user can simply scan the cover or the barcode of a book to find the information about it. While browsing data of a book, the application suggests similar books based on their content or other preferences of the readers liking it. Furthermore, the application keeps a wishlist so that the user can note the books that he/she plans to buy. All those features will be implemented on a mobile application for iOS and a web application. Whether she/he wants to use their mobile phone or the internet, the user can easily access the database and manage it with ease.

References

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