iDesign Going Mobile Competition Entry – MLibrary to Go

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Problem Selection

The library system at the University of Michigan is one of the largest university library systems in the United States. There are more than 20 libraries across 12 different locations just for the main library system alone. Additionally, there are a number of departmental libraries and resource centers with more specialized foci. They maintain more limited hours and policies but their resources are generally open to the campus community.

While the library is a huge infrastructure with vast resources, there are some problems that have surfaced through conversations I've had over the past few semesters. Since the library seems so large and spread out, some people feel intimidated by it. Some would rather go online or forget about it when they think about the effort necessary to find a resource's location and then retrieve it. There is a lack of motivation due to difficulty in wayfinding and perceived levels of necessary effort.

Target User Group

Students who want to save money by using the university library, but lack the motivation and/or know-how to navigate the MLibrary system.

Design Goal

Incentivize use of MLibrary by showing money saved by using the library and making wayfinding simpler and therefore less daunting. Wayfinding has two components; finding the material's location and availability, and physically navigating to it.

User and Needs Research

In the Mobile Survey conducted by MLibrary in 2012, 46% of respondents reported using at least one MLibrary service on their mobile device. 32% (673) of respondents searched for library hours and locations, closely followed by 28% (585) who searched the catalog. This meant it was important for a mobile app to still support both of these functions.

In the survey, users were able to indicate what additional services they might be interested in. The top three desired features were texting to renew (64% or 1387 respondents), due date reminders via text (63% or 1374 respondents), and bar code scanning (59% or 1156 respondents).

At the time of the survey, 70% of respondents owned a mobile phone with internet (e.g. iPhone, Blackberry, Droid, etc.). This number can only be expected to increase as time progresses.

Existing Mobile System - Mirlyn Mobile

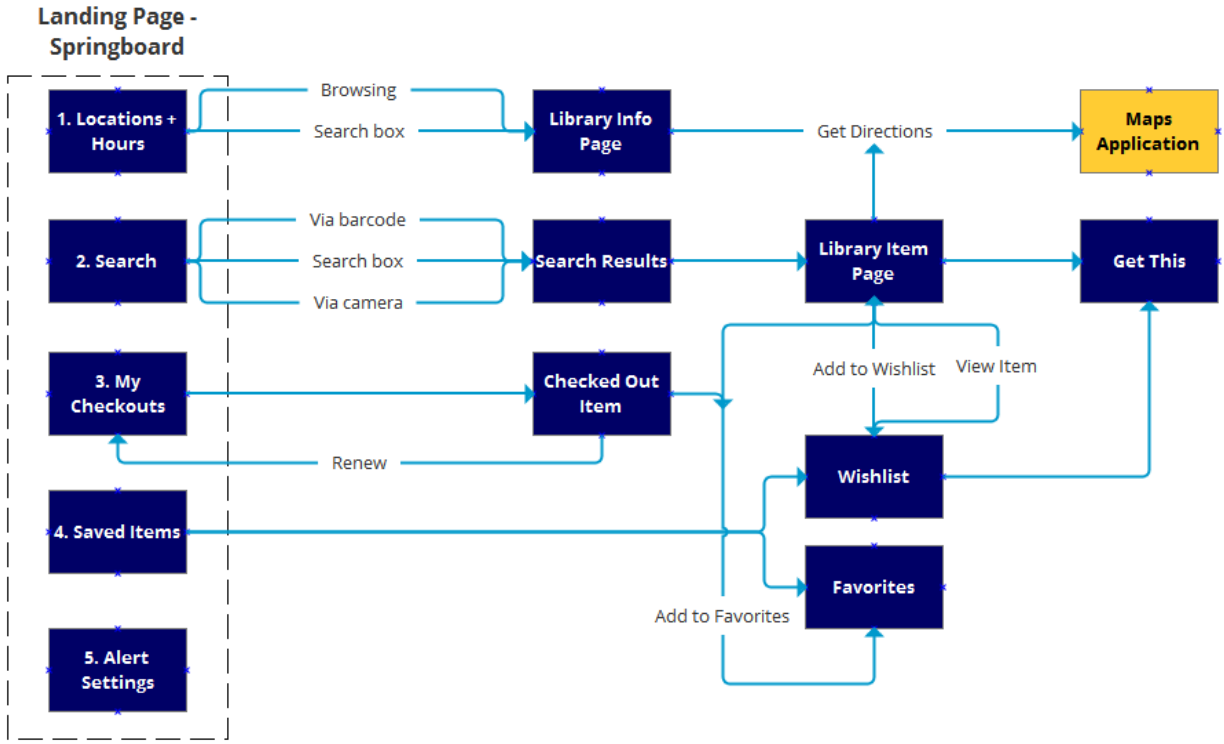
Mirlyn Mobile allows users to search the catalog from a mobile web version of Mirlyn. However, logging into one's account takes the user to a desktop version of lib.umich.edu, making the browsing experience inconsistent. The mobile website simplifies searching the catalog but does not provide any additional features.

High-Level Solution

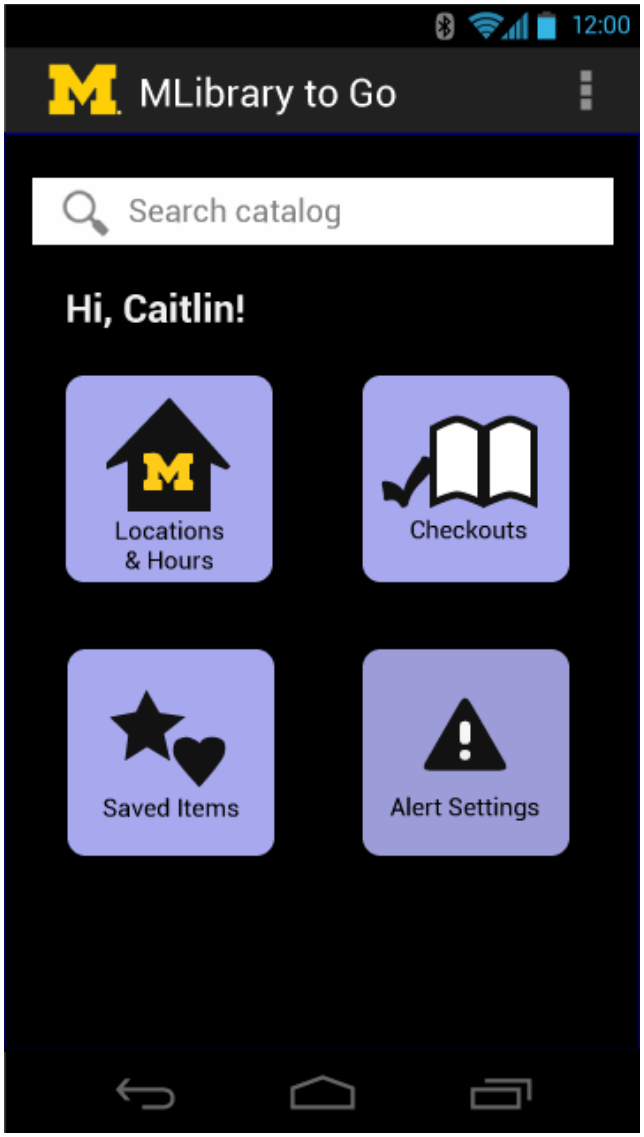
Incentivize using the library by making a mobile app that makes wayfinding easy and surprises users by showing how much money they saved by checking out at the library! The mobile app can take advantage of smartphone (and tablet) capabilities, including camera, bar code scanning, GPS and push notifications.

MLibrary to Go Design

Flow of the Mobile App

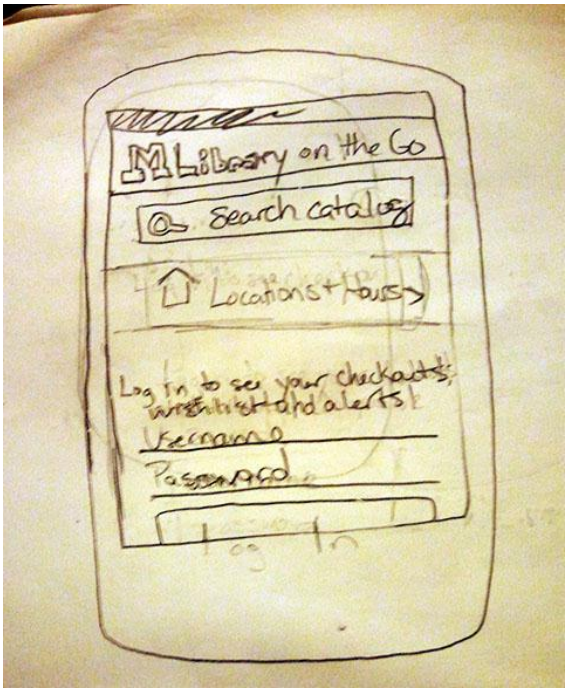


Launchpad



Landing Page while logged in (Android)

According to the survey, the most often used function on mobiles was searching for **Locations & Hours**, which is why it's featured in the first row. **Search** is provided at the top of the page via search box so users can directly begin searching from the Landing Page. Checkouts lets you see what books you have checked out, how much money you're saving compared to Amazon or list price, and lets you renew. **Saved Items** takes you to your **Favorites** and **Wishlist**, a new area where you can save items that you want to check out in the future. Lastly, **Alert Settings** is where you adjust your notifications. For example, you can set an alert or push notification to remind you a book is due 7 days prior to its due date, or when you have items overdue. You can turn these on and off and adjust how often you wish to receive them.

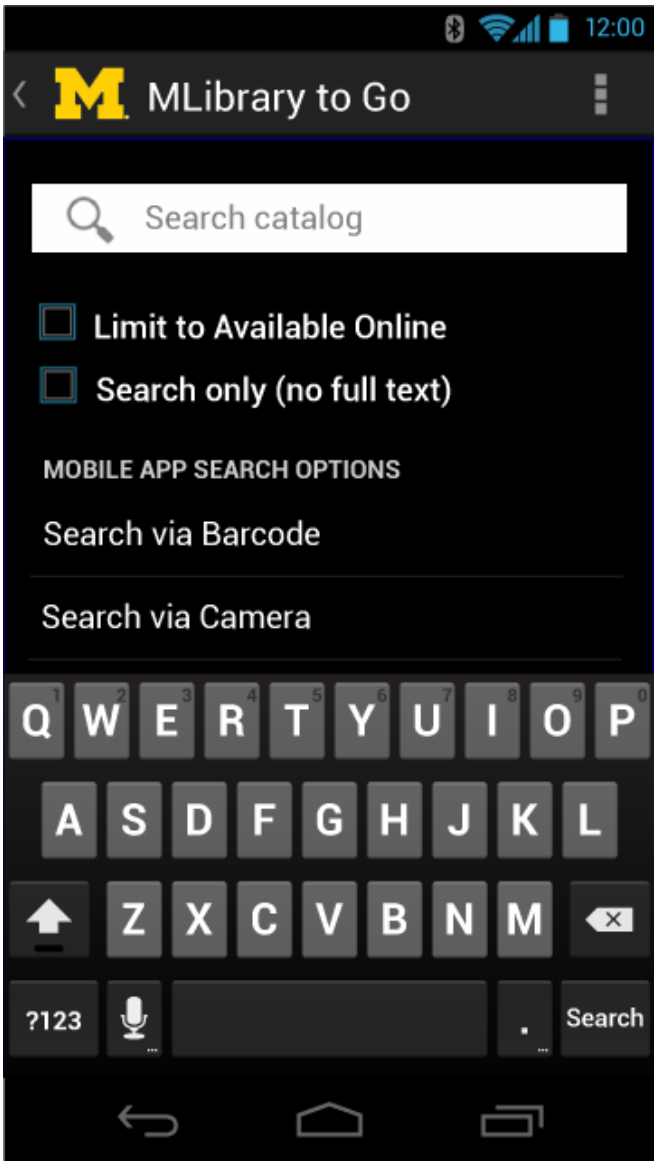


Sketch of Landing Page while logged out; Locations & Hours and Search still available

1. Locations & Hours

The main new feature of the **Locations & Hours** is mapping. While no mockup is available, it is similar to the **Library Item Page** featured later. As shown in the flow diagram, users can search via textbox or browse for locations; library are grouped by their location, e.g. Central Campus. On any library's Info page, users can immediately access a campus map with the building highlighted, or **Get Directions**, which is a button they can press to open their phone's Maps application. The address of the library location will be automatically placed in the destination, with the starting point as "Current Location", a common practice used by apps such as Yelp that is now possible due to GPS capabilities. The campus map is already a familiar resource to most students and will help them identify where a building is relative to buildings they are already familiar with. The only addition necessary is that a custom campus map must be created for each library location, with the library building highlighted.

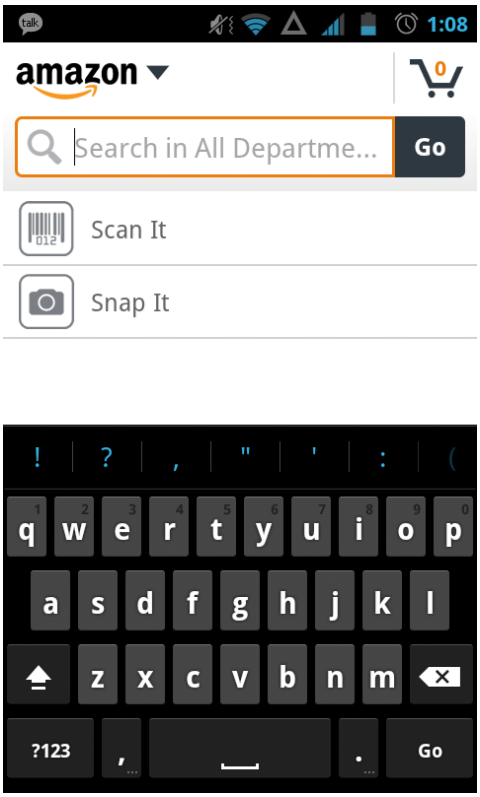
2. Search



Search Page

Users can search for materials via three methods: textbox, barcode, or camera. Using the textbox is like a standard search. Using the barcode opens up a barcode scanner, which will directly take you to its MLibrary page if it exists within the library. Similarly, the camera allows you to take a picture of the cover of an item; this functionality requires that the library have an image of the item on file, which if not possible now, hopefully will be in the future. Checkboxes used by Mirlyn Mobile were carried over for consistency and ensure the same functionality was provided on both apps.

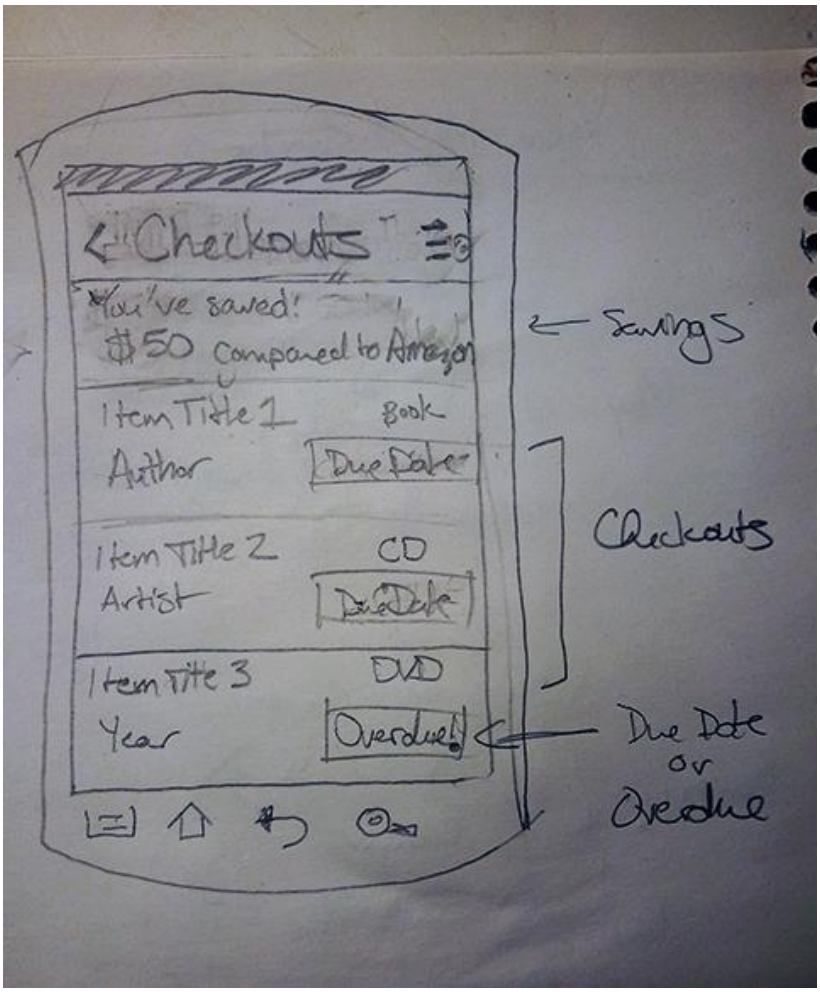
Inspiration for this page was derived from Amazon's Android app, shown below.



Amazon Mobile App for Android

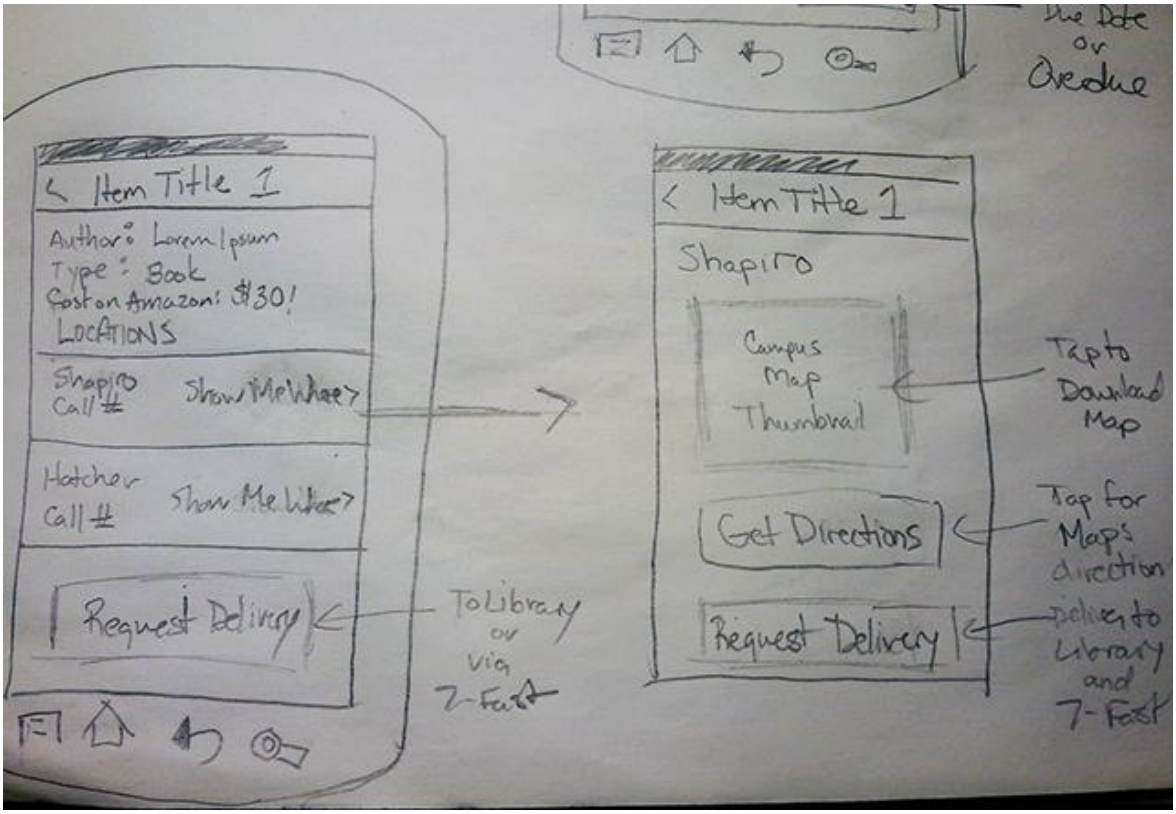
If there is a listing found for that item, it will include a button called "Add to **Wishlist**" so that users can save it as a reminder that they wanted to check it out later. This is especially helpful for people who come upon something of interest randomly, such as at a friend's house or at the store. This is an easy way for them to look the item back up later when they're ready to check it out.

3. Checkouts



Checkouts Page

Checkouts shows you all the materials you have checked out, their due dates (or how overdue they are), as well as a notice at the top of how much money you've saved by checking out at the library. Users can renew books by accessing the submenu and clicking "Renew Items". This will display checkboxes which the user can select and a Renew button which will renew whichever items they selected. Selecting an item takes you to its dedicated page, where you can see details and where it is held.



Checked out item page, leading to Shapiro page with campus map, Get Directions, and Request Delivery buttons

Selecting a holdings location takes you to a page showing that library's name, a campus map, a Get Directions button, and a Request Delivery button. This page is designed to make it clearer where the item is located and how to get there. Again, the campus map lets them see the building on a map they are already familiar with; or, they can choose "Get Directions" to open their mobile device's Maps application and get directions directly. Alternatively, they can request delivery via the "Get It" functionality already offered on the MLibrary website. Selecting "Request Delivery" allows them to either have the book held at a library of their choosing, or have the materials sent electronically via 7-Fast if they are a grad student or staff member.

4. Saved Items

Saved Items includes tabs to one's **Favorites** and to their **Wishlist** of items they want to check out in the future.

5. Alert Settings

Alert Settings is where users can specify whether they wish to be alerted when a due date is approaching or has passed. They can alter how long in advance they wish to be alerted, such as 3 days or 7 days. One of the desired features mentioned in the survey was reminders of due dates via mobile, which this feature achieves by sending push notifications to the mobile device reminding that they have a material due. They can also choose to send themselves an email notification.

Technical Implementation

Since the library has limited resources to implement mobile applications, I propose building what's known as a hybrid mobile app. Native apps often have to be written in a language specific to that platform (e.g. Android), which makes releasing the app on multiple platforms a time-intensive task. Frameworks such as PhoneGap and MoSync can be explored, which allow a mixture of HTML, CSS, Javascript, and native code to be used together. These frameworks are advancing at a rapid rate, making them a more feasible option as their speeds and the tools they include increase.

An excellent introductory article explains the advantages and disadvantages of cross-platform design: http://mashable.com/2012/02/16/cross-platform-app-design-pros-cons/ It is important to note that some of the user interface elements would still need to change depending on which platform the app is meant for. For example, the location of tabs in the iPhone is at the bottom of the screen, while on Android, they are near the top. It is important that UI conventions be followed based on platform, both for acceptance to their respective stores and for the end users.

Notice

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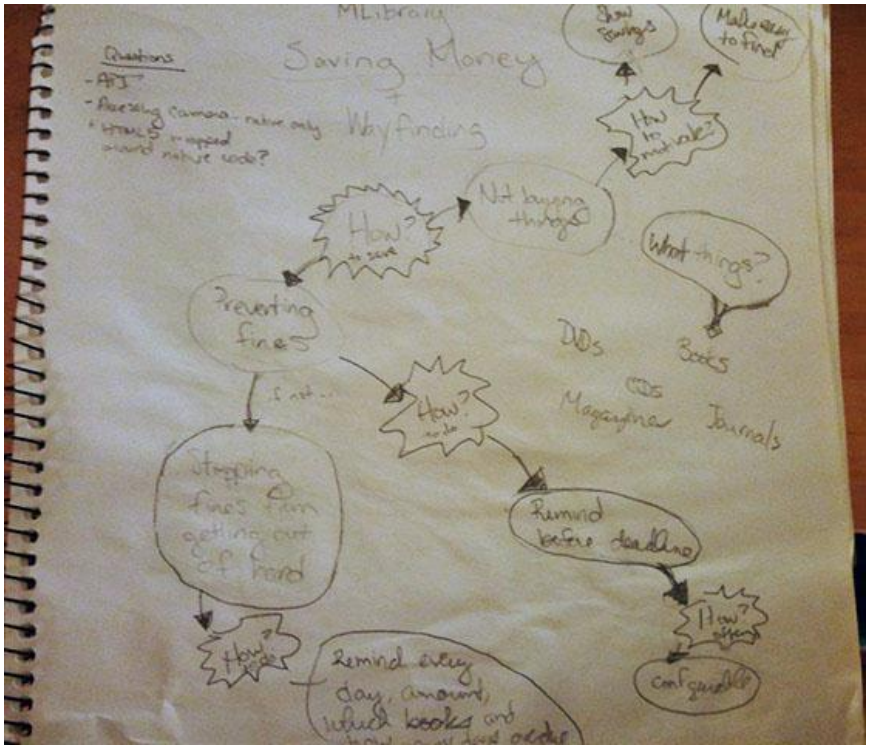
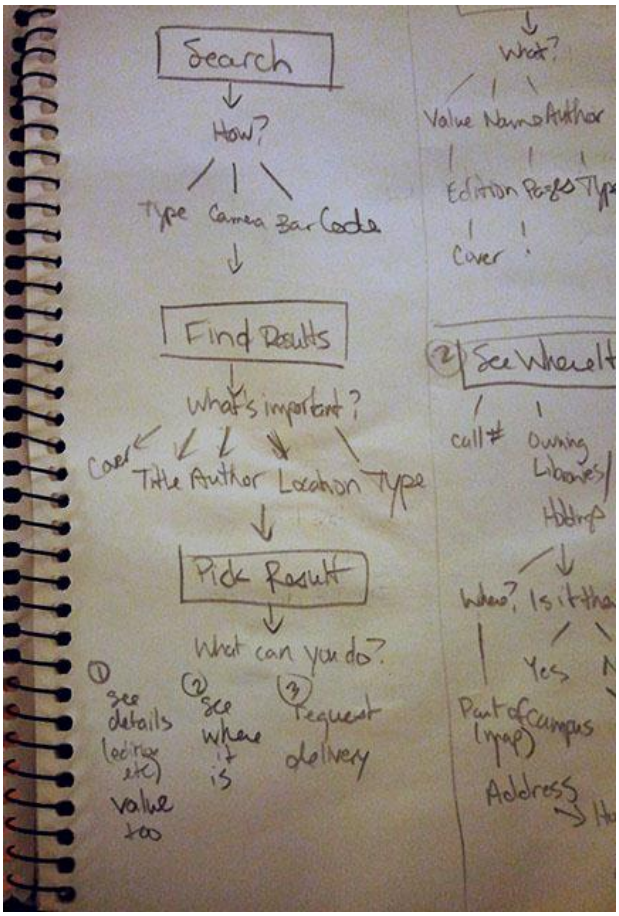
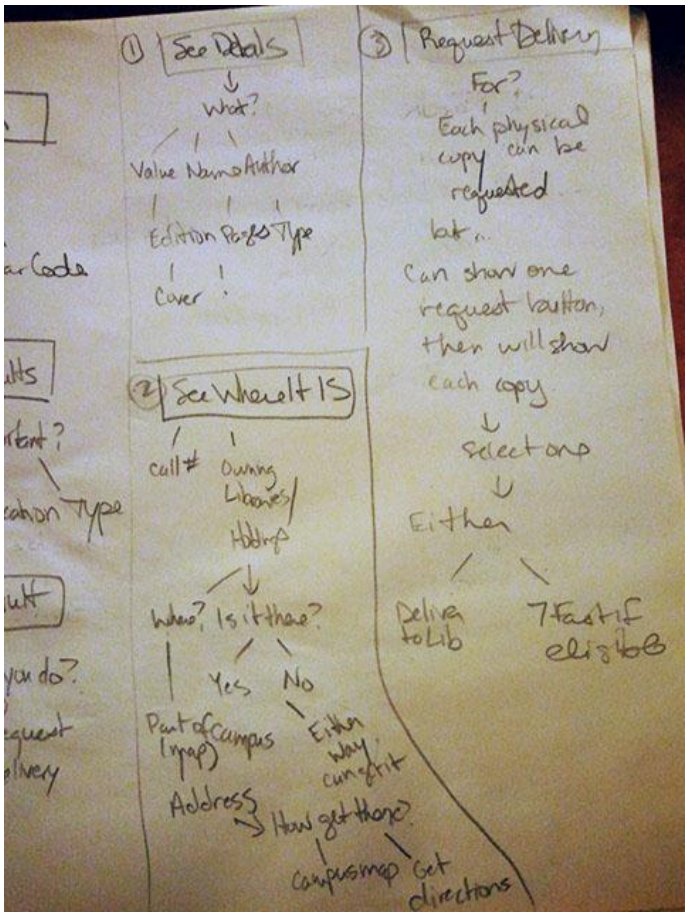
Extra Design Process Images



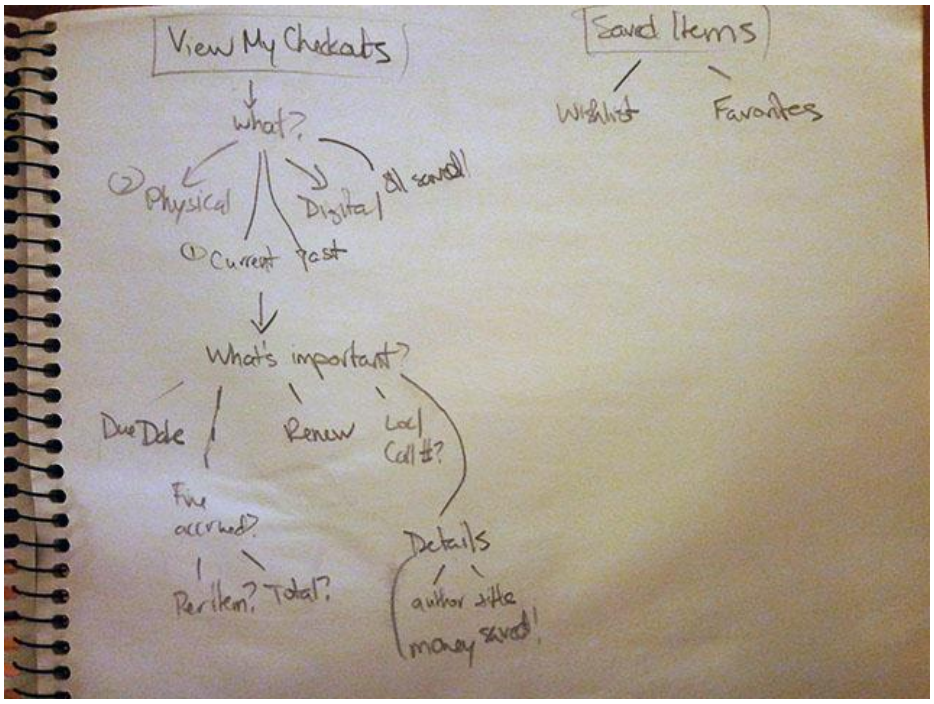
Brainstorm Map



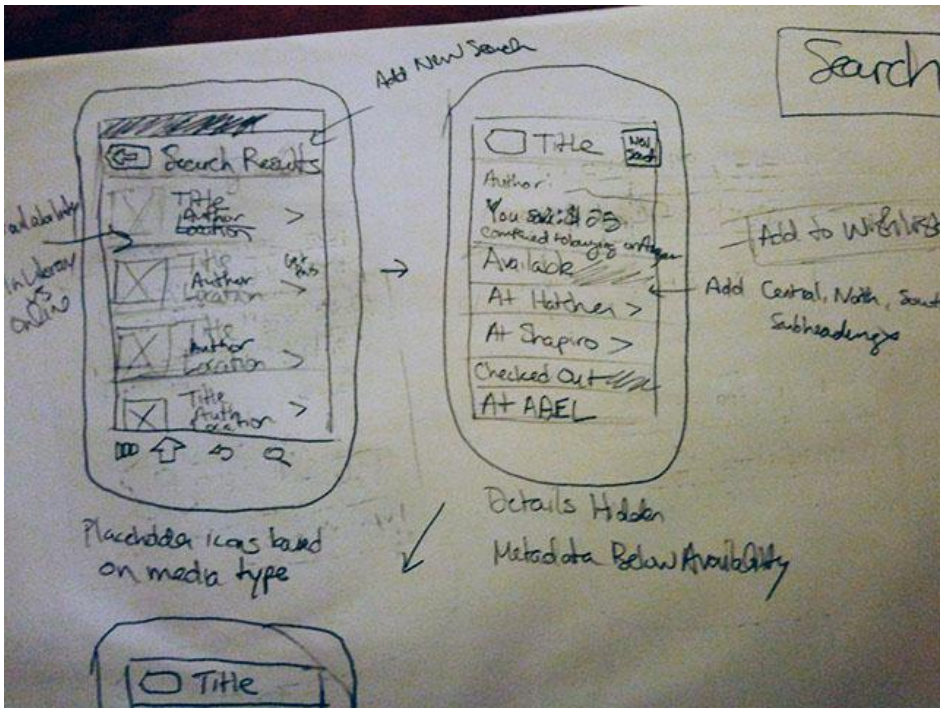
Search Flow and Important Metadata and Actions



See Details, Where Item Is, and Request Delivery Flows



View My Checkouts and Saved Items Flows



Search Results