

Mobile Applications Coursework Report

- 1 My coursework is an app that focuses on creating a marketplace for university students (primarily focused at students in the US) to buy/sell their old textbooks. It is very common for students in the United States to want to buy a used textbook instead of a new one, especially when new textbooks run for hundreds of dollars. However, unless you know someone who has taken the class before there is no well-known way to connect students together so they can buy/sell other students old textbooks. The only way for a student to make some money off their old textbook is usually to sell it back to the bookstore, which buys the textbook back only for a fraction of the cost that the student bought it for. They then resell that textbook to other students for a price that usually is 75-80% of its original retail value, making huge profits off the textbook. Over winter break I told a friend of mine I was taking a class in developing applications for android and he pitched to me the idea about creating this app. I thought it was a good idea so I kept it in mind and decided that if I learned enough to create an app I thought would be functional I would try to make it. After getting through chapter 5 in the workbook I had felt like there was enough I had learned to make an app that could function in the way I envisioned so I decided to go for it.
- 2 The design for this app was something that I had my friend from home help me create. He was the one who initially thought up the idea, so I thought it would be fun to try to make the app a reality through this coursework. When I asked him about the design of the app, he sent me these messages on Facebook (Figure 1) describing how he thought it could work.

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I was thinking it would be an app where you needed to sign up with your college email account and then that would localize you to others from the same college

Then it would be pretty simple

It would just be basic account sign up kind of stuff

And then a series of options

First you would pick what subject you were looking for, which would sub divide into further details, eventually to specific classes

And you could post textbooks for sale there, and go look there for textbooks to buy

And then you can decide how you would connect to the people if you wanted to buy
I was thinking either there could be a messaging service in the app, you could just do straight email, or could connect through Facebook or something

Figure 1: Messages from Connor Smith that describe the initial idea of the app

I wanted to use a database for the app so I decided to stick to just storing text for all the information about the book such as the Title, Author, Edition and price. Since the app only needed to be buttons, text fields and a way to display information from the database I didn't create a "prototype" for the app, but rather based the design off many of the practicals from the workbook. I found it was very easy to create the ideas from my friend's design by simply recreating the things we did in class and changing it a little to fit the design that my friend wanted. The layout changed a few times during the development of the app, but that was mostly revolved around what I felt needed to be added or taken away as the database was being made and exposing flaws in the thought process I had as I initially set up the buttons and fields that the user saw in each activity.

- 3 The "final" design of the app revolves around a registered user being able to search for a textbook, post a textbook, and delete a textbook that the user has posted (Figure 2). In order to register, the first page of the application allows the users to navigate to a registration page instead of logging in(Figure 3). From there, they have to fill out all of the text fields, including having an email that matches the chosen

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university's email as well as having a password that is longer than 6 characters. If anything is not inputted or is inputted incorrectly, an error will appear next to the text field that this happened in and tell the user that something needs to be changed.

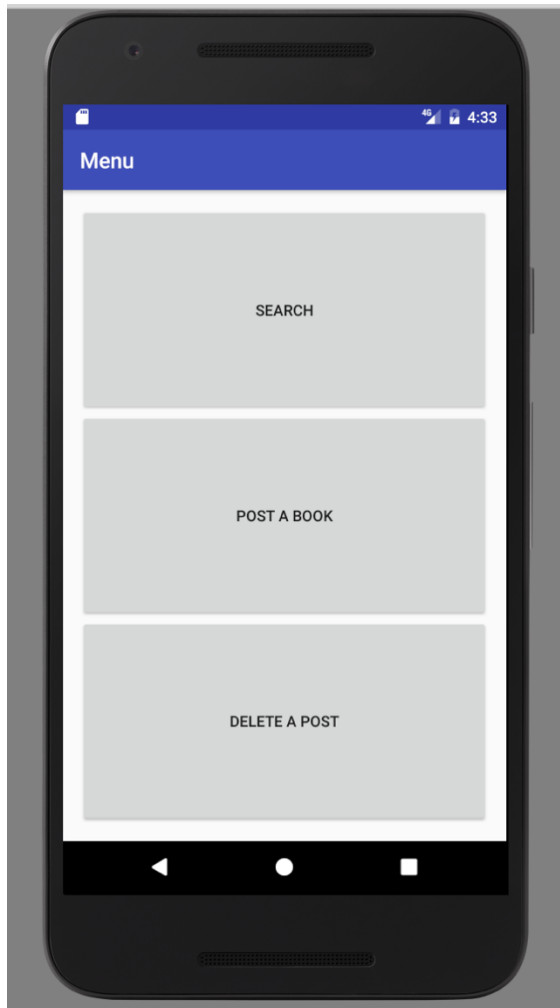


Figure 2: Menu page of the Application

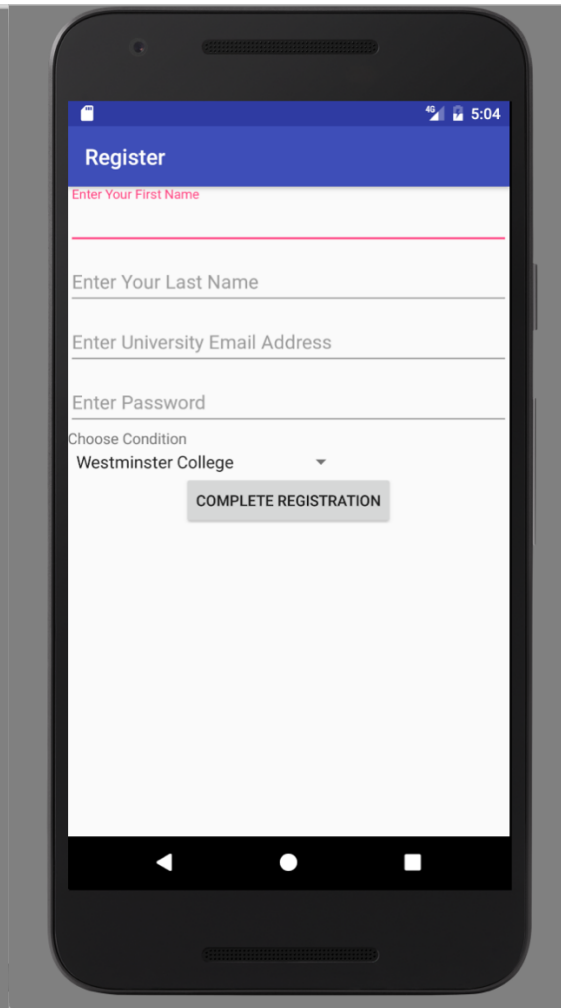


Figure 3: Registration page

If the user wants to search for a textbook, I thought it would be simplest for them to narrow the search down by either looking up the course ID associated with the book or the book's title. Most students will know the course number for the textbook, so that would allow students to search for all the textbooks at once if a course requires more than 1 rather than looking each book up individually. Of course, this isn't the perfect way for someone to find the textbook since the student might mess up the course ID or put it for a different class that it was required for so the title search allows users to see any textbook that

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contains the inputted search by the user (Figure 4). If the user wishes see all the information about the post, all they have to do is click on the posting and an alert dialog will display everything the post contains (Figure 5). From that dialog, they can either go back to the search by dismissing the box or continue to a page that allows them to send an email to the seller (Figure 6).

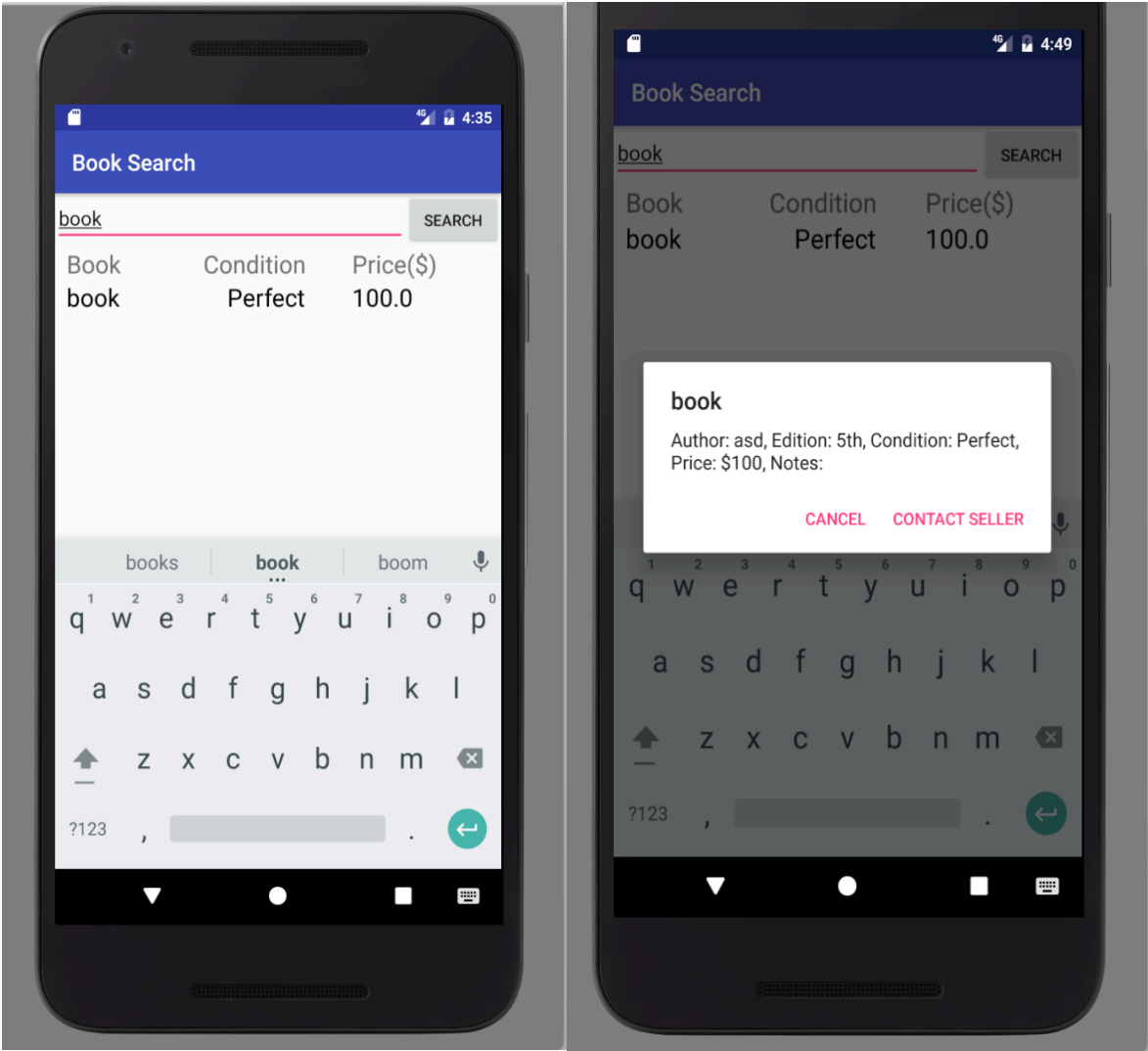


Figure 4: Search page of the app (by book name) Figure 5: Alert dialog to contact the seller

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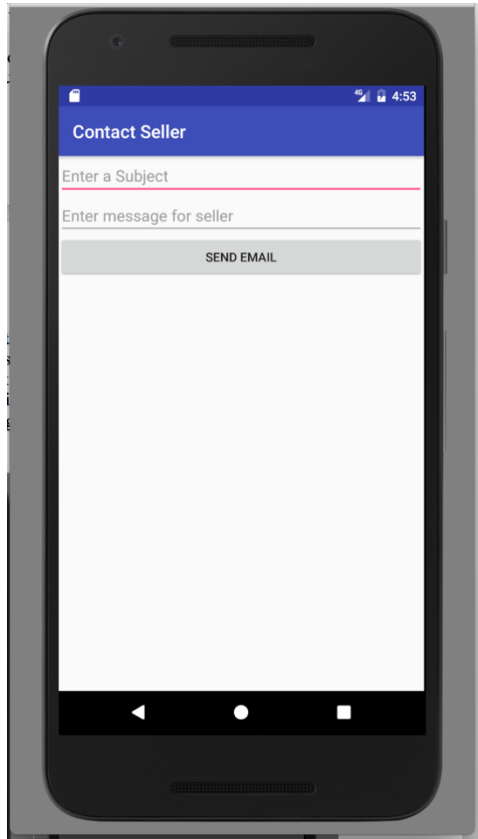


Figure 6: Email the seller page

The post page (Figure 7) for the application requires users to input something into every field except for the notes column. The Condition field is limited to 4 choices: Perfect, Good, Ok and Poor. This would allow for a quick way for someone searching for a textbook to tell if the book was of the quality they wanted and could allow for the seller to justify why their books price might be slightly higher than someone else's if it was in better condition.

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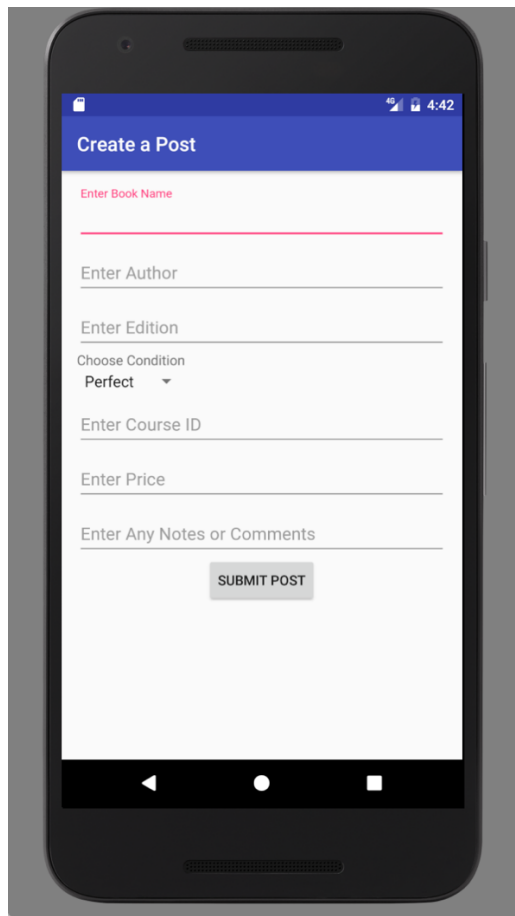


Figure 7: Create a new book post

The last important feature of the app was to allow for users to take their post off the market, in the case that it was either sold or they no longer wish to sell it (Figure 8). This page displays every post that a user has made and allows the user to click on the post to view all the details about it (looks much like the alert dialog from figure 5). If they wish to delete the post, they confirm it by pressing the delete button and if they decide to leave it they just have to dismiss the dialog box and continue with what they want to do next.

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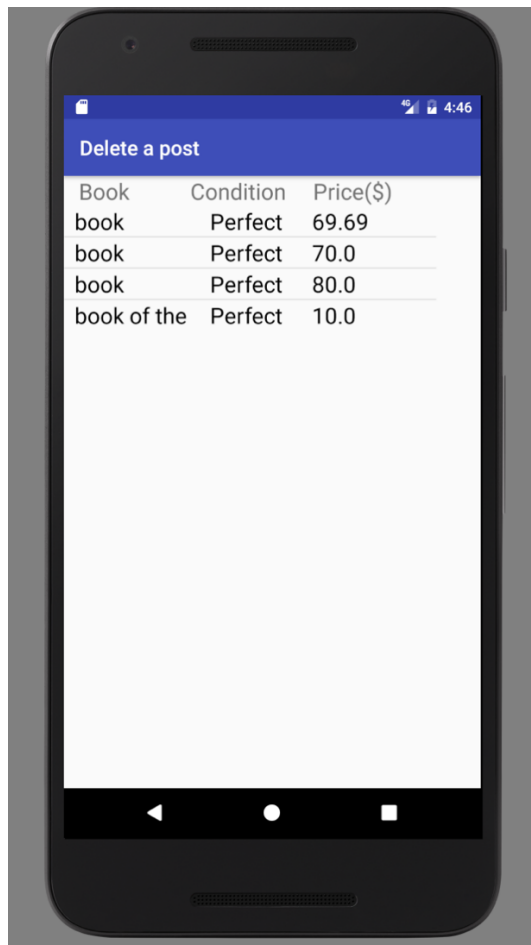


Figure 8: Delete a post page

- 4 I believe that the ending implementation holds the key ideas that were in the initial design of the app. The users must have a registered account within the database to use the app, and this account localizes the user to see only posts submitted by other students from the same university. Users can post a book and delete posts just as planned. Though the user cannot search for books by subject, I believe that being able to search by course ID is much more efficient since it will take out unnecessary steps of having to look through a search page of all the books that are related to a subject when they only need the book because of the specific class that requires it. Deciding what to do about communication between a seller and buyer was a little tricky, but I decided that email would be the best step of communication that I could implement myself with the amount of knowledge that I have. The biggest issue that arose with that was trying to test it, as this app is bound to just my computer and isn't connected to any sort of server.

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I believe the app could be a success on the google play store and even Apple's app store if it had more time to be polished. I know all my friends from my home university would use an app like this to sell their textbooks since they could make more money off it than they could by selling it to the book store and buy textbooks for cheaper than anywhere else. There is a Facebook page that connects students from my home university so they can sell anything to each other and I believe that having a dedicated app for selling textbooks in an organized way would do phenomenal since this Facebook page does so well at selling anything between students.

The biggest flaws that I currently see with this app when compared to other online marketplaces is the lack of being able to add pictures to posts, the database being contained to only 1 device and the absences of a chat that is contained within the app. I was having design issues with the database since I am still new to creating them, so I decided for a prototype's sake it would be a better idea to get the app working with just text before I decide to hold anything else within the database. I also do not want to pay for a server to be set up so all the information must be stored locally onto the device. Since it is within a database schema it could be transferred to being stored on a server instead of locally and that could theoretically make this app functional if it was put onto an app store, though there would have to be more security measures put in place such as a proper storage of user password information as well as a way for users to recover their account if they forgot what their password was. Changing the messaging system from an email based one to an in-app based one would keep everything needed to buy/sell a textbook contained within the app, which would eliminate the need for users to have an email account exposed to communicate between users. Though this would not be the biggest problem since all people that the user would be talking to would be students at their university, but I believe students would find it much more convenient and be more attracted to the app if this existed. If I was fully invested into making this app ready to launch onto the google play market, I believe that adding these changes would help make it completely ready to launch (at least to a few universities as a test drive to see if it would be successful or not). This is not an app that relies on a lot of pre-determined information to function, it

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relies on the help of the users to make it an active, but very focused, marketplace that connects users in a very similar way to how Craigslist connects its users.

- 5 I didn't use a huge variety of resources to help me create this app. All my work was based off chapters 1-5 and 8 in the workbook and using stack overflow to help me with all the various bugs I would create while trying to get the database and app to properly function the way I wanted it to. Besides those 2 resources everything that was created was all from using the knowledge I have gained from this class or stack overflow to create things that helped me make my app function the way that I wanted it to.