Requirements Specification

HofSwap Application

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Version 3

Table of Contents

Changelog

- Added version number (version 3).

- Removed section 8, Amazon Affiliate functions.

- Section 1- Edited wording and replaced images.

- Section 2- Rewritten to improve the description.

- Section 4- Edits to wording. Can no longer search by author as it seemed strange for the use cases of this application.

- Section 5- 5.1 removed as images are no longer included. 5.2 was rewritten to reflect the different functionality of the Detail View.

- Section 6- Rewritten to reflect the improved contact system between buyers and sellers.

- Section 7- Partially rewritten to improve clarity.

- Added Application Workflow section to outline how users will utilize the application.

- Image sizes decreased

Overall Objective of the Software

The software being developed is an application designed for the use case of creating a user base that can buy and sell textbooks to and from each other. The scope of the project's users will be limited to students who attend Hofstra University and have a valid Hofstra ID number, which they can use to sign up for an account. The application will be targeted at mobile devices, specifically those running the iOS operating system. Users of the application will be able to upload their textbooks for sale to other students, or search through the textbooks that have been uploaded by other users. The application is designed to make it simple and easy for students to regain some of their money from buying expensive textbooks that they no longer need for their courses, as well as purchase textbooks to use for their current classes. Sales will not be handled directly within the application. Instead, users interested in purchasing a book will indicate their interest in a textbook within the application, which will alert the seller and provide them with the potential buyer's email address. This facilitates the buying process without direct involvement in the handling of any money.
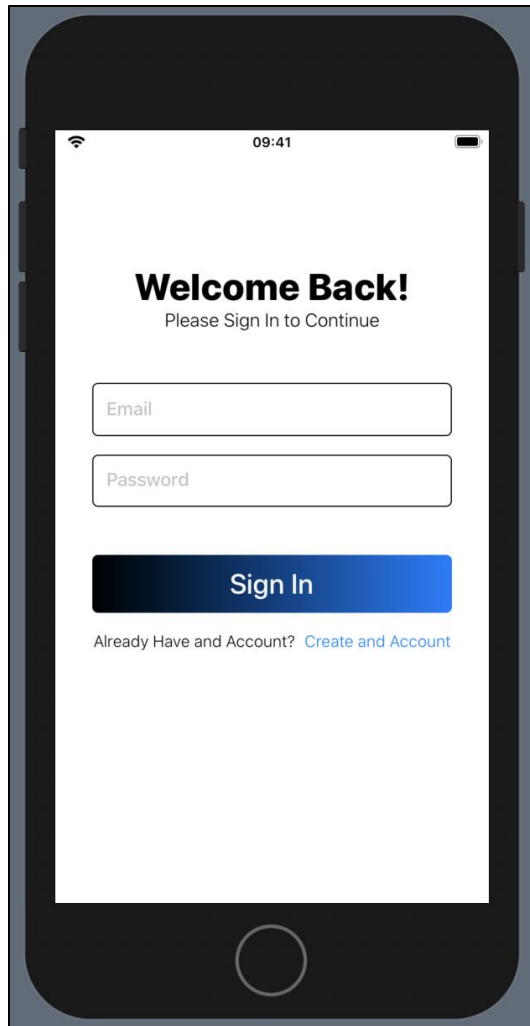
Requirements

1. Authentication Pages

This is where users will enter their credentials to either gain access to their account or create a new account. There are two pages included in the Authentication Pages, the Sign-In View and

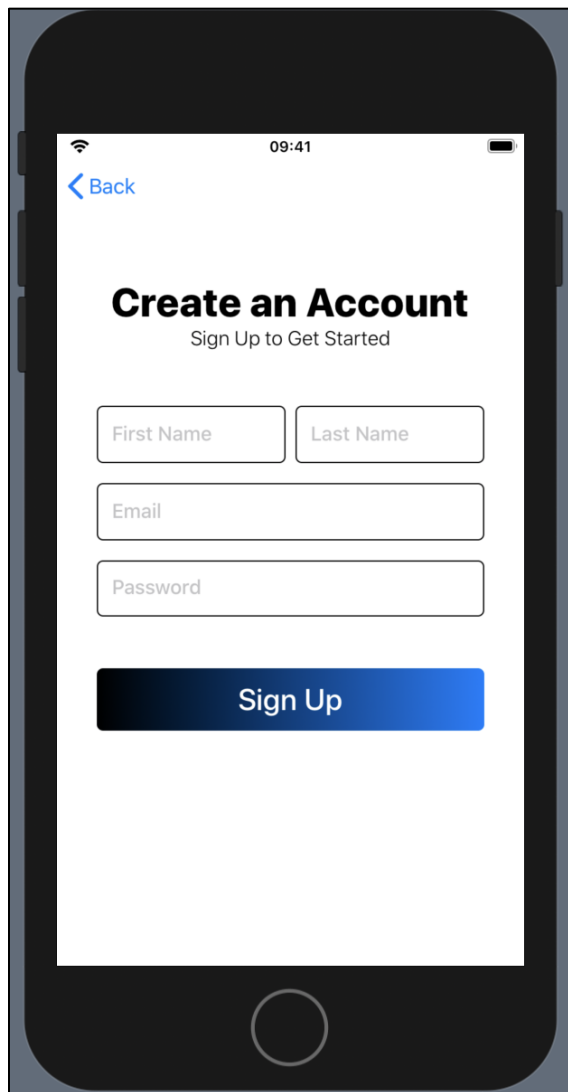the Sign-Up View. Both contain links to the Profile View, which functions as the hub of the application.

1.1 Authentication Pages – Sign-In View

Users will be prompted to enter their email and password into two text fields. A "Sign In" button under them will attempt to sign in the user with the given credentials using the existing user account data in the user database. If this is successful, the user will be brought to their Profile View. If not, the user will be prompted to reenter their credentials with an error message and can subsequently attempt to sign in again. Underneath the sign in button is the "Create an Account"

button if they do not have a preexisting HofSwap account to sign in with. This takes the user to the Sign-Up View.

1.2 Authentication Pages – Sign-Up View

The Sign-Up page exists for users to create new accounts for HofSwap. Users will be prompted to enter their first and last name, Hofstra ID number, email address and password into five text fields. A "Sign Up" button under them will attempt to sign up the user with the given credentials.

A successful sign up will result in the new account data being stored in the user database. If this is successful, the user will be brought to their Profile View. If not, the user will be prompted to reenter their credentials and try to sign up again. A back button in the top left of the screen will return the user to the normal Sign-In page.
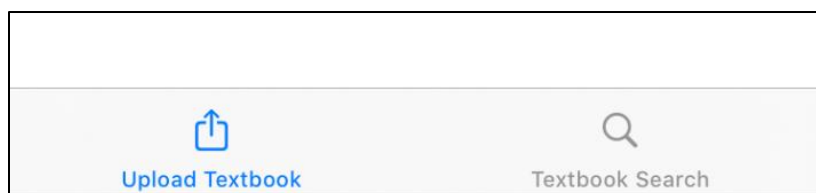
2. Profile View

After signing into an account, users will be brought to their Profile View where their information is displayed. The top of the page will display the user's name. Under the user's information is a horizontal list of all of the textbooks that the user has uploaded into the database for sale. The bottom of the page has links to the Textbook Upload View and the Textbook Search View.

2.1 List of the user's textbooks

Users will be able to see all of their textbooks on their profile page. The list will pull the user's listings from the database. Swiping left or right will scroll the list horizontally if all of their textbooks cannot be displayed on screen simultaneously. Each book will have an option for the seller to remove the listing in the event the textbook has been sold or the seller simply wants to remove the listing. This will remove it from the database and it will no longer be listed when reloaded. If the user uploads a new textbook, it will be added to the end of the list.

2.2 Interactive buttons

Buttons at the bottom of the page will be used to begin the process of uploading a textbook, as well as searching for a textbook. The search button will take the user to the Textbook Search page, where they can search for textbooks that they wish to buy. The upload button will direct users to the Textbook Upload page to upload new books to the database. At the top right of the page is another button which allows the user to sign out. This brings the application back to the initial Sign-In page.

3. Textbook Upload View

When a user has a textbook that they are ready to sell, they can upload it to the app using the Textbook Upload View. Users will enter the book's title, author, ISBN number, the price they would like to sell it for, and the condition of the book. After hitting the submit button below the text fields, the textbook listing will then be stored in the database and able to be displayed on the user's profile and through the textbook search feature.

4. Textbook Search View

The Textbook Search View allows users to look up textbooks that they want to buy and request them from the seller. A search bar will be located at the top of the search page that allows users to enter the title or ISBN number of the book they are looking for using an on-screen keyboard. This will perform a search through the database of uploaded textbooks. The database will return a list of textbooks uploaded by users matching the search, which will be displayed as a vertical list on the page. The list will be organized from lowest price to highest price and able to be scrolled through if the amount of textbooks displayed is larger than what can fit on screen.

Tapping anywhere on the each textbook listing should bring up a pop-up which allows the user to request the textbook. This sends an email to the seller.

4.1 Search bar

At the top of the page is a search bar which can be used to search for a book using its title or ISBN number. Entering text into the bar searches through the database to display results. The search bar must query the database for each search, as a copy of the textbook database cannot be maintained locally.

4.2 List view of books

After searching for a book, textbooks will be listed in order of increasing price. This list will be vertically scrollable by swiping up or down to see more textbooks. This prevents the amount of textbooks displayed from being limited by the screen size.

5. Textbook Detail View

On the Textbook Search page the list of textbooks must include information about each textbook listing returned in the list. This information will be pulled from the database, where it was stored when the seller originally uploaded the textbook listing.
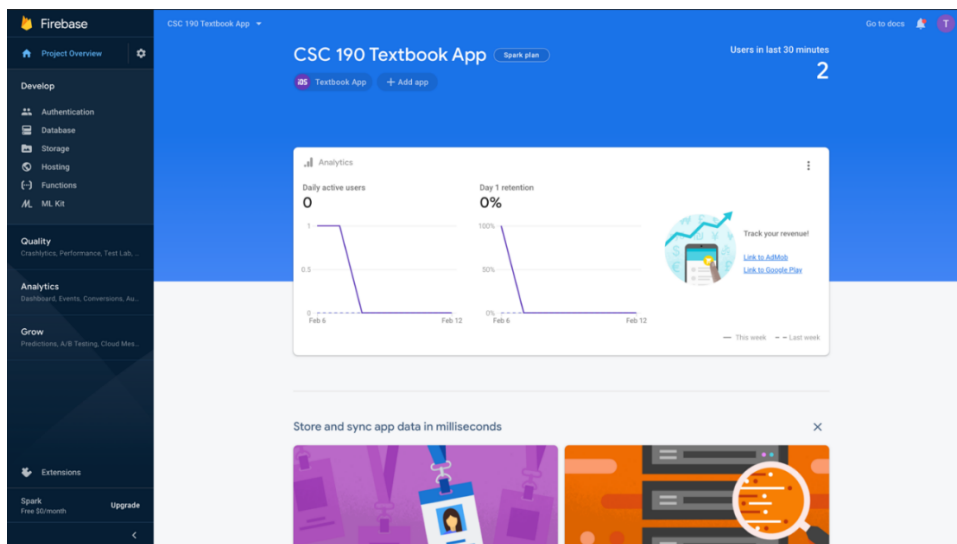
5.2 Textbook Information

Information listed about each textbook will include the title, author, and price entered by the seller. Additionally, the ISBN number and condition of the textbook will also be displayed.

6. Purchase Request and Contact

Once the user hits the purchase button, a message will be sent to the seller's email address associated with their account from the application server. This message will inform them that another user wants to purchase their textbook and will include the buyer's email to facilitate the transaction. Payments do not occur within HofSwap.

7. Textbook Database

User authentication, storage of user data, and storage of uploaded textbooks will be handled by Firebase. Firebase is a mobile and web application development platform developed by Firebase Inc. in 2011, then acquired by Google in 2014. This will allow us to focus on the front end and other functionality of the HofSwap application while Firebase will serve as the backend database.

Application Workflow:

Creating an account: Launching the application immediately brings the user to the login page. The user hits the "create an account" button to go to the account creation page. On this page, they must enter their first name, last name, Hofstra ID number, email address, and password. Afterwards, they can press the sign up button, which will sign them into the application.

Purchasing a textbook: After signing in, the user navigates from their profile page to the search view by clicking in the bottom right of the screen. Here, they click on the search bar at the top of the page and enter the title of the book they want to purchase. They then scroll through the list of textbooks matching their search until they find one at the price they are looking for. After clicking on the listing, they can click on a button, which sends the seller their email for further contact.

Selling a Textbook: After signing in, the user is brought to the profile page. From here, the user navigates to the bottom left corner and presses the button to upload a textbook. Here, the enter information about the title, author, ISBN number, price, and condition into a series of textboxes. They then press the button to upload the textbook. After they are finished, the application returns the user to the profile page, where they can see the textbook they just uploaded along with their other textbooks. Next to each textbook is a button which the seller presses after the book has been sold. This removes it from the database and they can no longer see it on their profile page, so they can be sure it has been removed.