CMSC436 Project Proposal: TerpExchange

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1 App description

Terp-exchange is an online mobile-first C2C marketplace app designed for college students to buy and sell items within their campus community with an emphasis on in-person transactions. Users can create profiles with their campus email addresses and join their respective campus groups. They can then browse listings and post items for sale within their campus community. By forcing users to sign-up using campus provided emails, we can ensure safety and security between transactions.

1.1 Minimal Goals

The app will contain a list of items posted by students that are available for buying. When an item is selected the following will appear:

- The seller's profile: email, number, preferred locations, etc.
- Give users the ability to post an item to sell.
- Building a robust and scalable back-end infrastructure to support the app's functionality (e.g. firebase database to store data, firebase authentication for user profiles, etc.).
- Using firebase authentication, we will ensure that users log in with their terpmail email.
- Give buyers the ability to filter items to make it easier to search around.
- Camera feature that allows the seller to take a picture of the product.

1.2 Stretch Goals

- Implement a system in each user's profile that displays their reputation (star rating, thumbs up / thumbs down).
- Enabling in-app messaging: Since the primary method to buy/sell products is in-person transactions, enabling messaging between buyers and sellers is essential. This involves implementing a messaging feature that

allows users to communicate with each other within the app (e.g. a chat-box utility).

- Increase security by verifying emails. (In order to verify their email address, they will be prompted to input a code sent to their terpmail after account creation).

2 Project Timeline

2.1 Milestone 1 (03/6/2023 - 03/15/2023)

1. Draw overlays and layout for main screens (wireframe).
2. Wireframe:
    2.1. Home page (bulletin board).
    2.2. User profile (user information and items user is currently selling).
    2.3. Item info.
    2.4. Text Fields.
    2.5. Post item page.
    2.6. Login.
3. Translate wireframe design to very basic UI.

2.2 Milestone 2 (03/16/2023 - 04/10/2023)

- Add an element to the home page with image of product (locally on Swift emulator).
- Implement post item page to add image and item description.
- Buttons correspond to proper location.
- Footer to change screens.
- Pressing on element in home page takes you to item information.
- Finish frontend for all screens that users will see.
- Implement the basic log-in system. User authentication.
- Add item filter to categorize elements posted on home page.
- To take advantage of features of a mobile device we will add a camera feature which allows the seller to take a picture of the item.

2.3 Milestone 3 (04/11/2023 - 04/24/2023)

- Implement a filtering and search system that allows users to filter products based on prices and posted date
- Implement app that would need to store user data (google firebase) and item listings in order to design a scalable database schema to help ensure efficient data storage and retrieval
- Testing and debugging: testing the app thoroughly before launching is crucial to ensure that it is stable, functional, free of bugs. Involves running a series of tests, such as user acceptance and performance testing in order to identify and fix any issues before launching into production
- To take advantage of features of a mobile device we will add push notifications. Once the buyer buys the product, the seller gets notified. This enables real time updates thus increasing engagement and retention.