SMART BANK

Assignment 3

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1. The description of the Smart Bank's smartphone application:

According to a case study by UX Design Agency or UXDA "*78% of the time that customers spend on offline banking services is wasted* [1]". This is why moving to online banking is crucial to ensure that customers can access any desired services from the comfort of their own homes at any time they want. With the increase in using mobile devices, banking solutions that offer smartphone financial applications help users receive more flexible and satisfactory experience. That would probably result in much more satisfaction and loyalty from clients.

Smart Bank is a smartphone application that offers users the ability to access desired financial services through an easy to use digital banking experience with a full-scale banking functionality without the need to wait in lines. The application offers a variety of digital services such as checking accounts, money transfer, paying bills, investments etc., with the focus on making the end user's interaction as clear and simple as possible and to avoid causing any unnecessary humans' effort or frustration.

2. Tools used:

In our design, we started with simple **hand sketches** on the whiteboard and on paper to visualize the requirements. After that, we mainly used **MockPlus** to create low fidelity wireframes and **Proto.io** to build more interactive prototypes for Smart Bank's mobile application. Screenshots will be provided in this document. In addition, we used **SurveyMonkey [2]** to create a survey for users to provide us with their anonymous feedback about our design.

3. The UX strategy of the Smart Bank application:

In our proposed smartphone application, we started with our own experience as end users and moved to conducting a research on some existing mobile banking solutions in Canada and India. As a result, we were able to extracting a list of some of the most common sources of users' frustration and pain points interacting with banking solutions and to understanding what users actually need.

Smart Bank offers wide range of digital services while keeping the user interface simple and while creating an engaging user experience. Our design workflow is smooth, connected and familiar, to some extent, to the consumers' previous positive experiences. This will result in minimizing users' cognitive load and making it very easy for them to complete any financial task using their own mental model. In addition, we avoided adding so many features and reduced unnecessary clutter to prevent confusing potential users with too many choices. Another important factor our team considered during the design of Smart Bank application is responsiveness. Based on our research and personal experience, responsive design provides immediate and constant feedback that is crucial to guarantee high consumer satisfaction.

4. Competitive research:

We conducted a research on some existing banking applications to better understand the task in hand, and to choose one candidate for our critique.

Screenshots are also provided to support our findings and to provide a visual illustration of each point in the critique below.

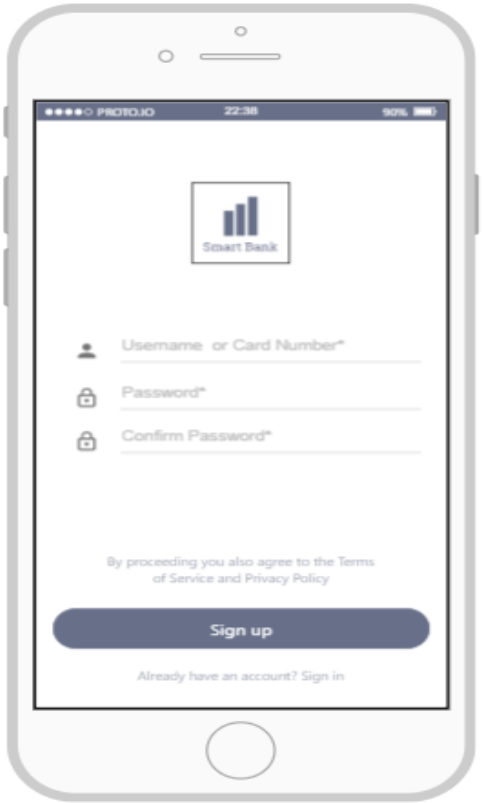
1. **HDFC Bank Ltd. Mobile Application (India):** The HDFC Bank mobile app is "*designed for generation that gets everything done on their mobile phone, from sending money via UPI to paying and managing your accounts, bills and investments* [3]". Some of our team are current customers of the HDFC bank, and they used their application for a while. As end users, we can list some of this application's pain points:
    a. When users first load the app, the first screen, Login Screen, has an over-dense and cluttered design with many elements that lack coherent and logical connection.
    b. On the upper right corner of the app, users can see a message box that is absolutely useless unless the user is logged in.
    c. The same issue appears again at the bottom side of the app where there are buttons like Apply Now, Offers, Passbook, etc. All of these options serve no useful purpose before users are logged in to their account.
    d. The Log in process looks very complex and lacks proper navigation aids with no help or guidance seem to be available to end users. For example, when users first install and load the app, the first screen provides two login options,
        i. Quick Access Pin: this is the default option to log in even if the user is a new customer with no existing PIN code. No help or information is available on what the PIN is or how it is generated and used.
        ii. Customer Id/User Id: This should be the default log in option since it is very common to have ID or card number is the main credential to log in to other banking solutions.
        iii. In addition, new users are not offered an option to register to be able to use this application.

e. Once signed in, the design pattern of this application is more like a nested doll linear design that is time consuming to navigate and perform banking tasks.

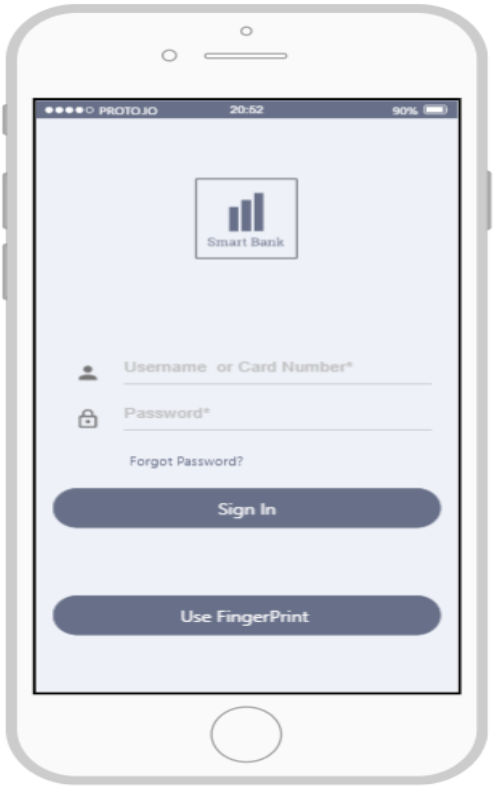
f. In addition, the **Personalize** option in **My Menu** tab requires users to navigate and invest some time in prioritizing their favorite tasks' menu rather than creating a tailored menu based on studying users' behaviors interacting with the application and most commonly used tasks.

5. Wireframes:

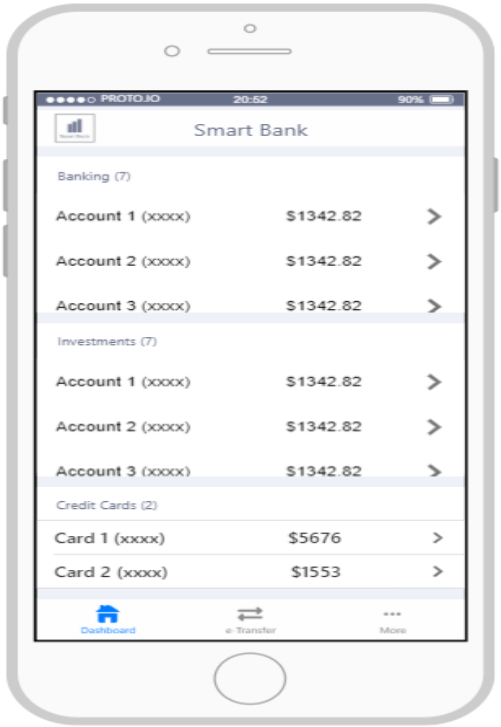
- Sign up/register screen:



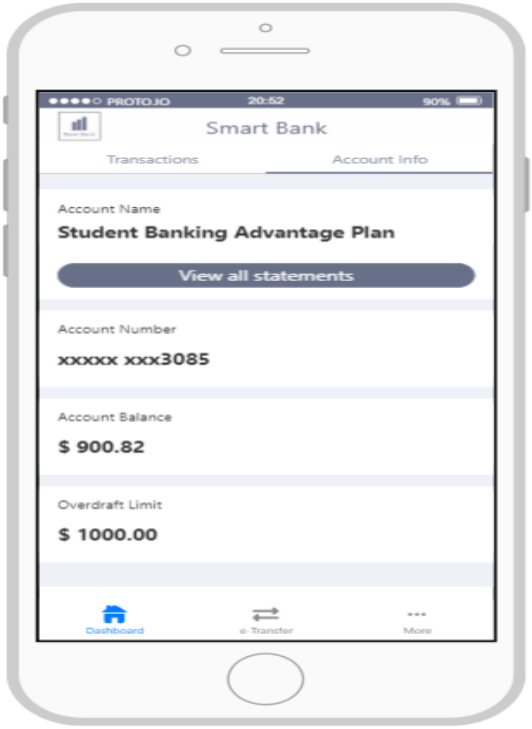
- Sign in screen:



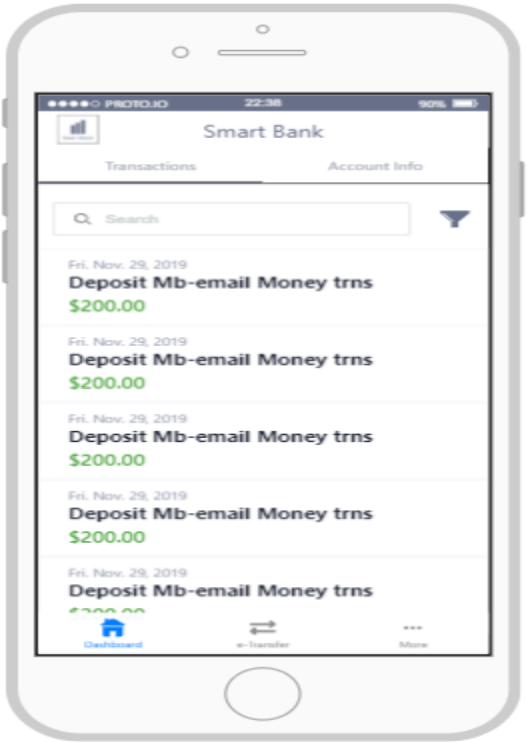
- Dashboard:



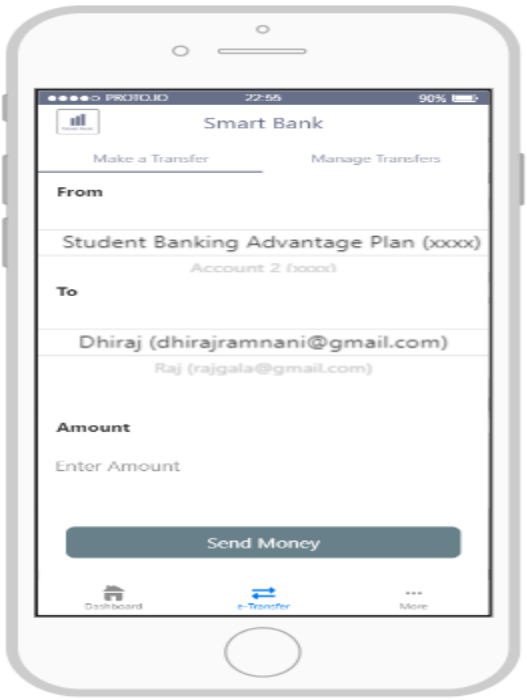
- Accounts information:

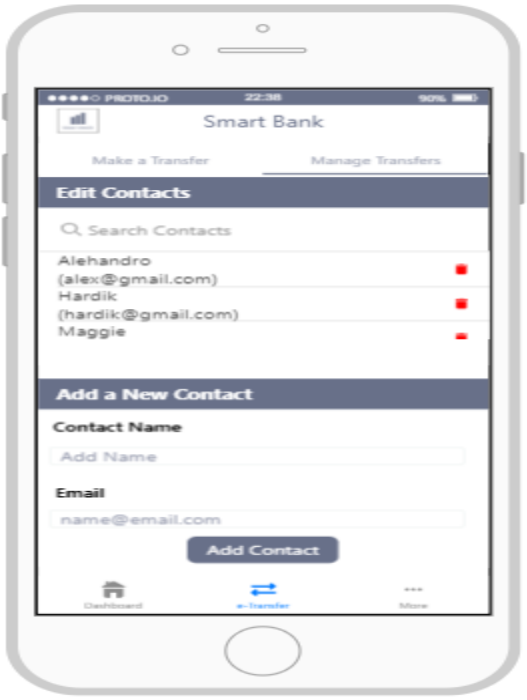


- Transactions:

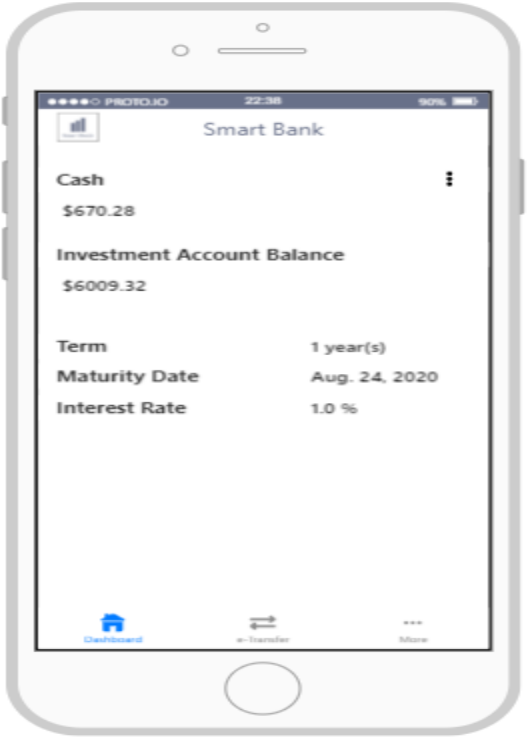


- E-transfer (2 screenshots):

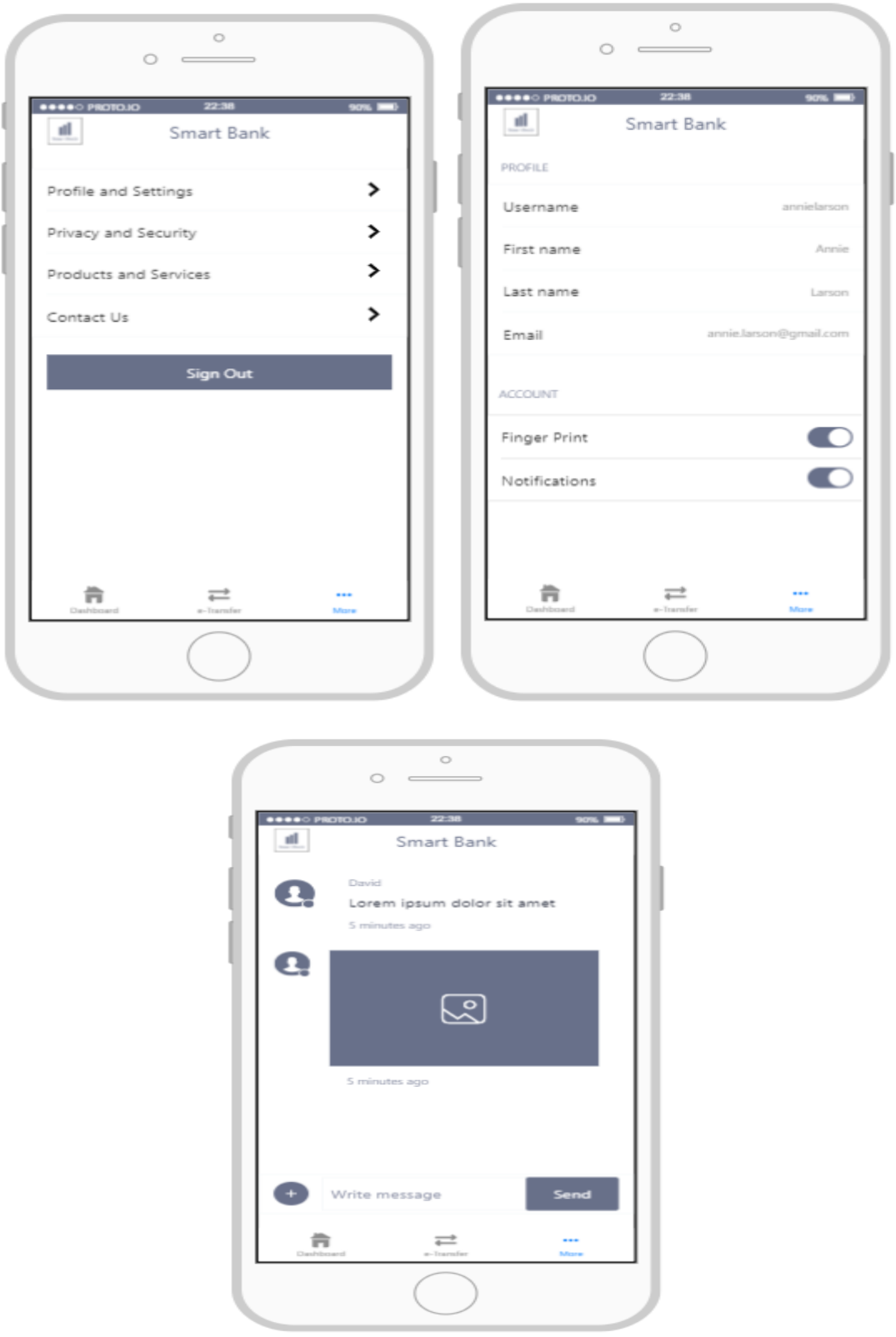




- Investments account:

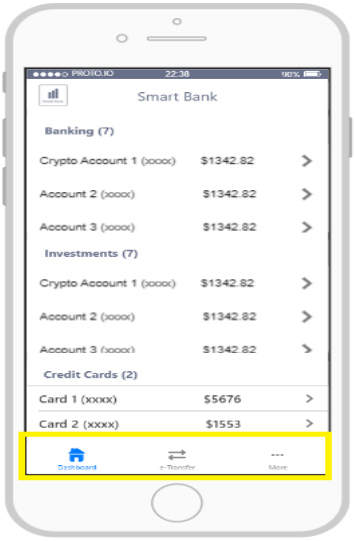


- More menu (account info and contact us):

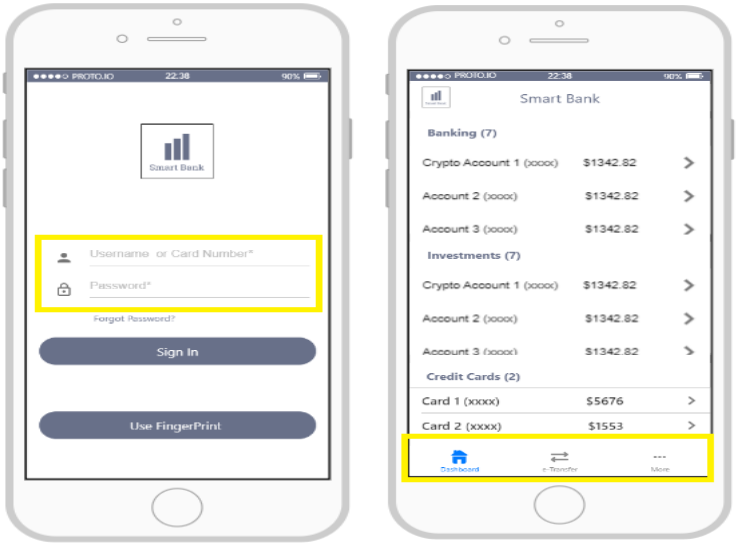


6. List of metaphors, design patterns, and usability principles implemented in Smart Bank application:

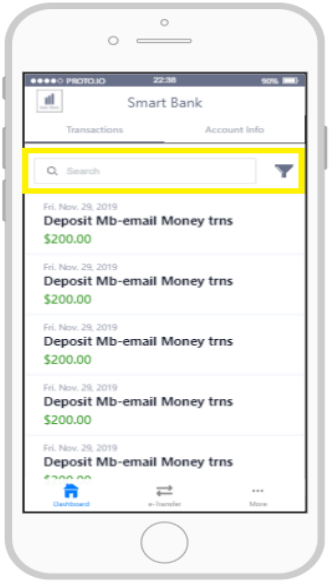
- **Metaphors:**
  1. **Bottom Navigation Bar:** this navbar is an indication that each tab is a different screen or an arbitrary group.



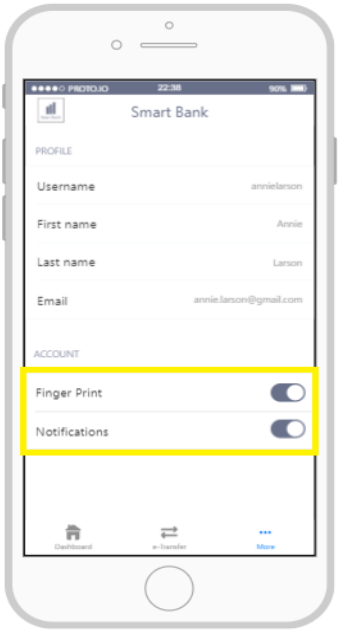
  2. **Icons:** icons such as user name, password lock, and home icons are mapping real-world objects to connect the users' actual experience with their experience interacting with the app.



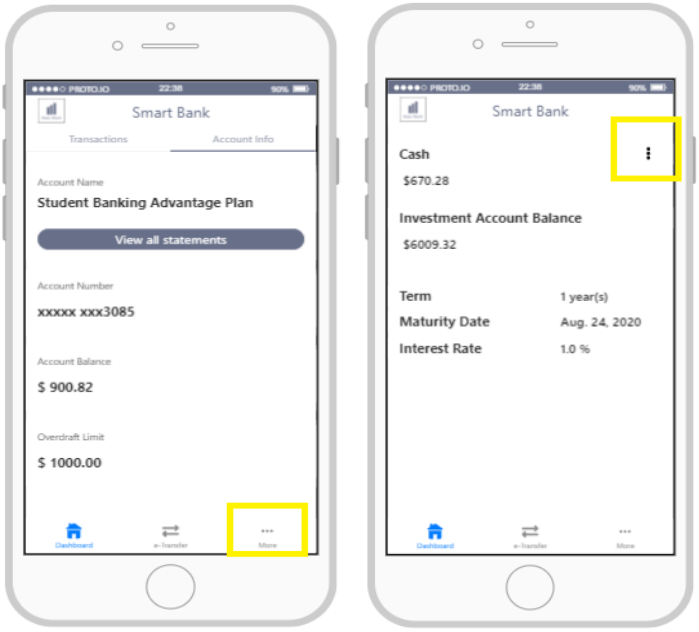
3. **Magnifier/Funnel icons in Search Fields:** using magnifier glass icon in search bar is helpful as this icon has universal recognition from users. It represents a metaphor for searching/finding items or information of interest. Also using funnel themed button instead of regular search buttons indicate filtering results to users.



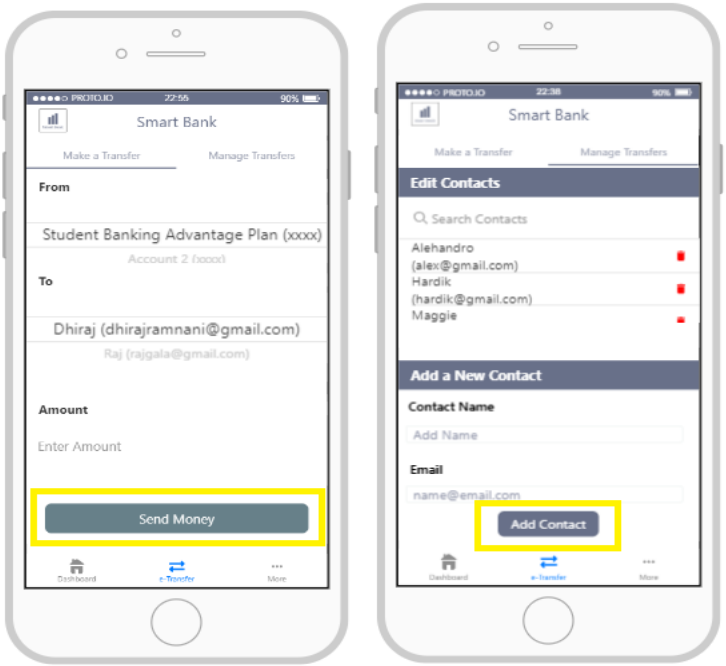
4. **Toggle Switch:** to indicate On/Off states (mutually exclusive options) with a default value. Toggles provide immediate change in their context.



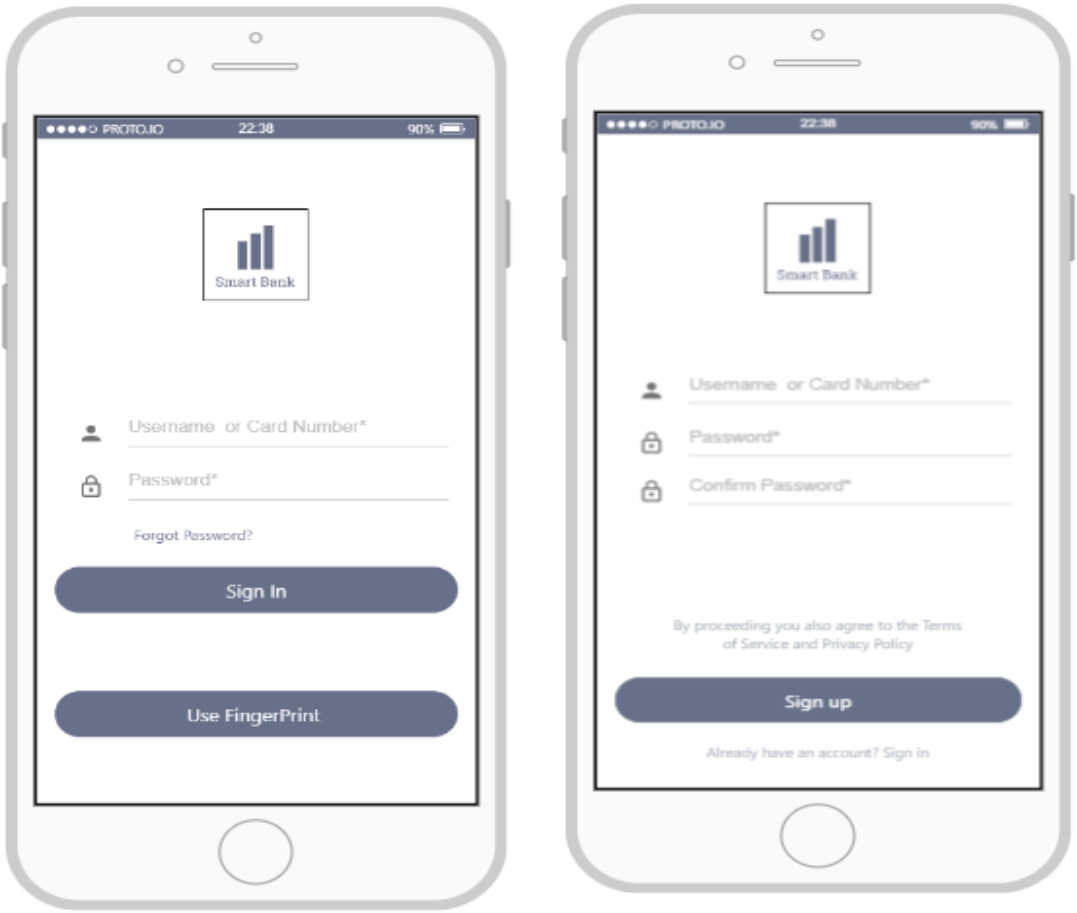
5. **More Menus:** to indicate that there are more options available to the user.



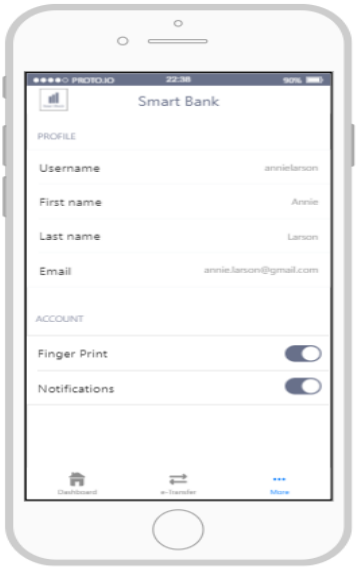
6. **Buttons:** buttons like the add contact, send money, use fingerprint buttons indicate a point of interaction as they are in real life.



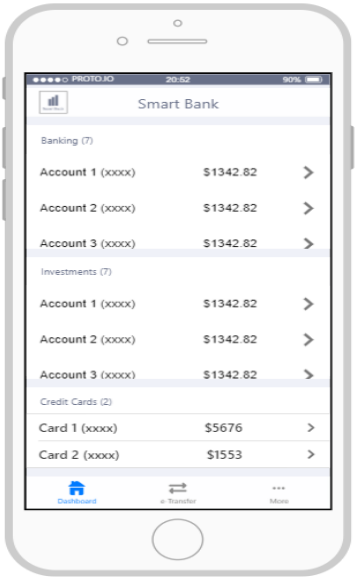
- Design Patterns [4]:
    1. **Easy sign in/sign up:** if users want to access their personalized data and view, they need to be logged in. Signing in using the least possible users' information and effort. Same thing applies for signing up with a very short form.
    2. **Lazy sign in:** users, who don't want spend time entering their personal info to log in to their accounts, can still use the Use **FingerPrint** functionality provided to speed up the sign in process.



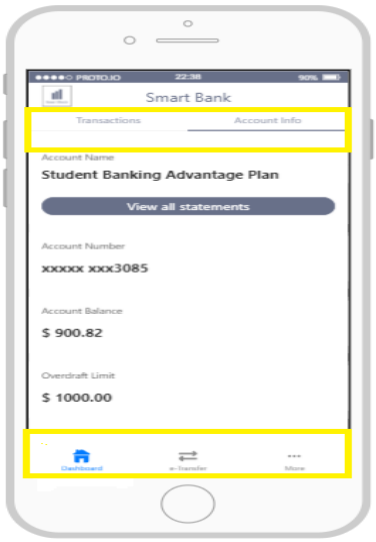
3. **Profile:** users needs to add, edit and update their personal or banking information to keep the user in control.



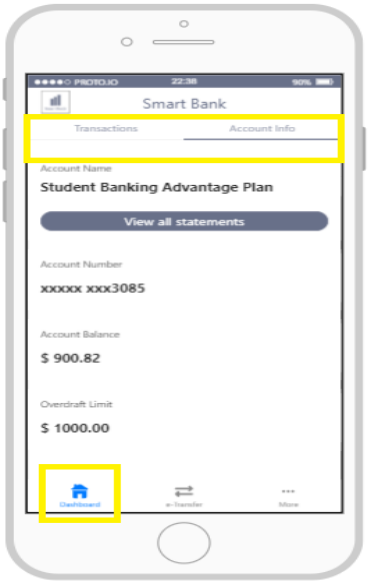
4. **Continuous scrolling:** Creating a central hub for users who want to have most of the content in one place to avoid moving back and forth between multiple pages. Extra content can be shown by scrolling (implemented in Dashboard). In Addition, the dashboard provides data segmentation to divide content into recognizable segments. (Banking, Investments, Cards).



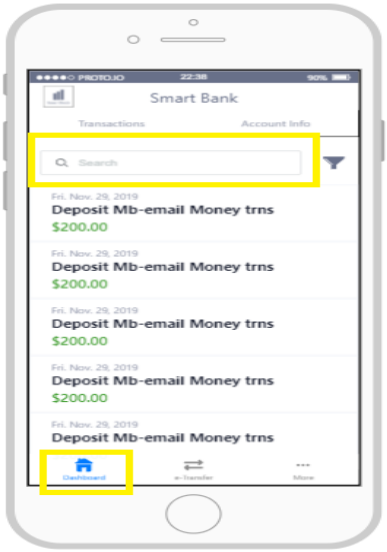
5. **Bottom/Top Navigation:** having navigation bar at the bottom or the top of the screen to enable users to switch between views or screens in an app.



- **Usability Principles [5]** (for better look refer to prototype/link provided instead of screenshots)**:**
    1. **Visibility of system status:** informing users about their current state and what is going on. For example, users are informed about their active screen by looking at the navigation bars at the bottom. Current screen is highlighted in blue in the navigation bar. Same thing applies on top navigation bars in accounts.

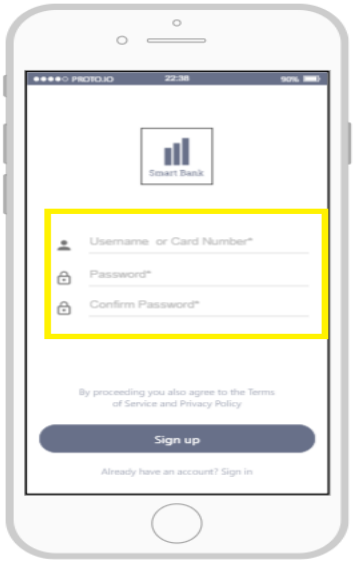


2. **Match between system and the real world:** using common language and real-world concepts like "Search" to find content and home icon to express the home screen or users' main dashboard.

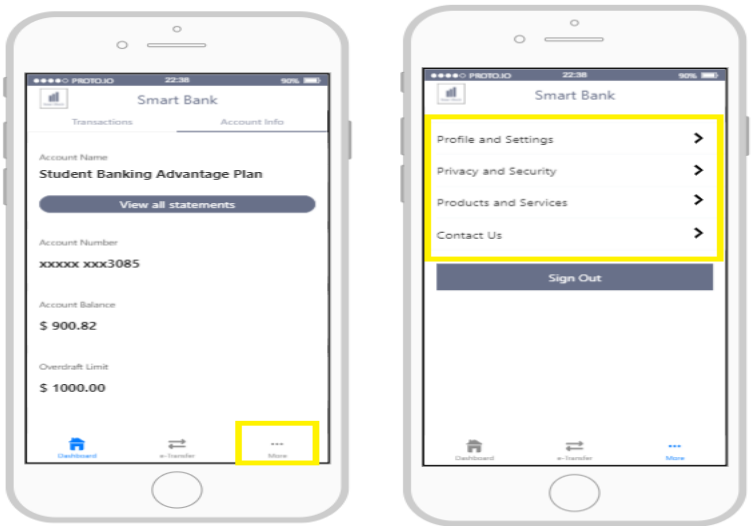


3. **User control and freedom:** supporting undo/redo actions. If users select sign in instead of sign up, they can still undo this accidental action by clicking the close button and leave the current unwanted state.
4. **Consistency and standards:** consistent colors and appearance. (for better look refer to prototype/link provided instead of screenshots).

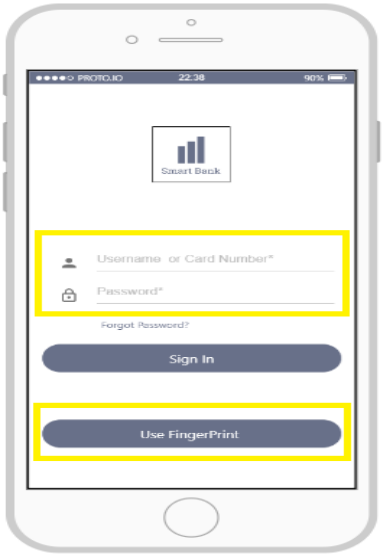
5. **Error prevention:** for example, we marked required fields in sign-up/ sign in forms to inform users that these fields are mandatory and therefore prevent errors if left blank.



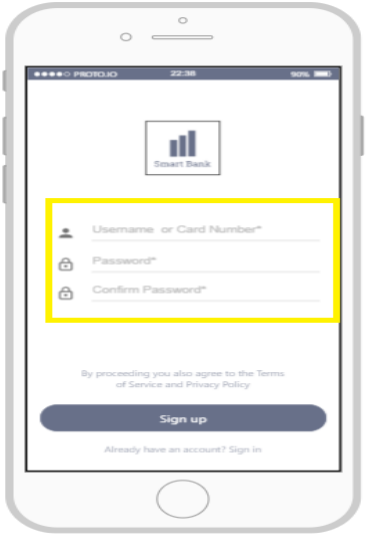
6. **Recognition rather than recall:** more menu in the bottom navigation bar is an example of recognition. Users are not recalling any information from their memory like how to edit their profile or how to contact support. Instead, they are shown a list of extra possible options, and they can choose the one they want to use.



7. **Flexibility and efficiency of use:** sign in screen accommodates different customer types. The screen speeds up the process for some users by offering **FingerPrint** sign in while still having a sign up by username or card number for other users.

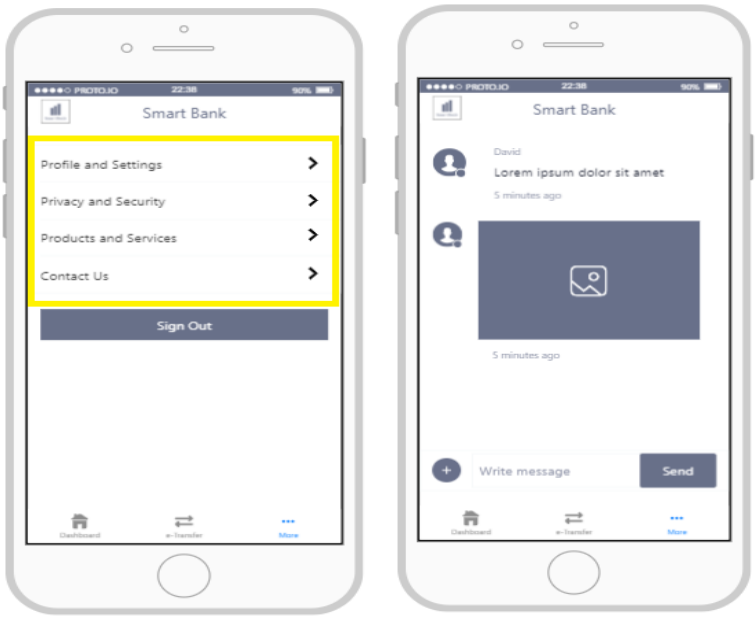


8. **Aesthetic and minimalist design:** for example, sign up form is concise and only includes relative and necessary information, and users always can edit their profile and add more info.



9. **Help users recognize, diagnose, and recover from errors:** when users leave a required field empty in any of the forms, an adequate error message will be shown to help the user recognize and fix the error.

10. **Help and documentation:** For example, in More menu we added **Contact Us** to allow users to ask for immediate help when needed.



7. Mapping between wireframes and prototypes:

Moving from basic low fidelity wireframes to more detailed interactive prototypes was not straight forward at all times due to the type of tools we have used in this assignment. Free trial versions of design tools don't provide access for all features especially important and critical ones. For our wireframes, we used MockPlus pro after changing our accounts to free students' plan, and extending our MockPlus subscription expiry to 30 days with access to more features compared to the initial free version we used at the start. Students' accounts on MockPlus provided us with more features and wider range of UI components and Controls, and we were able to finish wireframes one day before the subscription ends.

On the other hand, transferring wireframes to prototypes was not very smooth at the beginning because we have tried few different tools like FluidUI, Divi and PROTO.IO. We ended up using PROTO.IO that provided us with more elements and wide range of functionalities. Our prototypes almost matched wireframes except some small graphical elements. For example, while signing in using fingerprint, we used popup with fingerprint and finger image in prototype which was not possible in wireframes because of its limitations. Except these little details, our prototypes were a great match of the low fidelity wireframes of the Smart Bank application.

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