ASSIGNMENT 3 - PROPOSAL

Team Information

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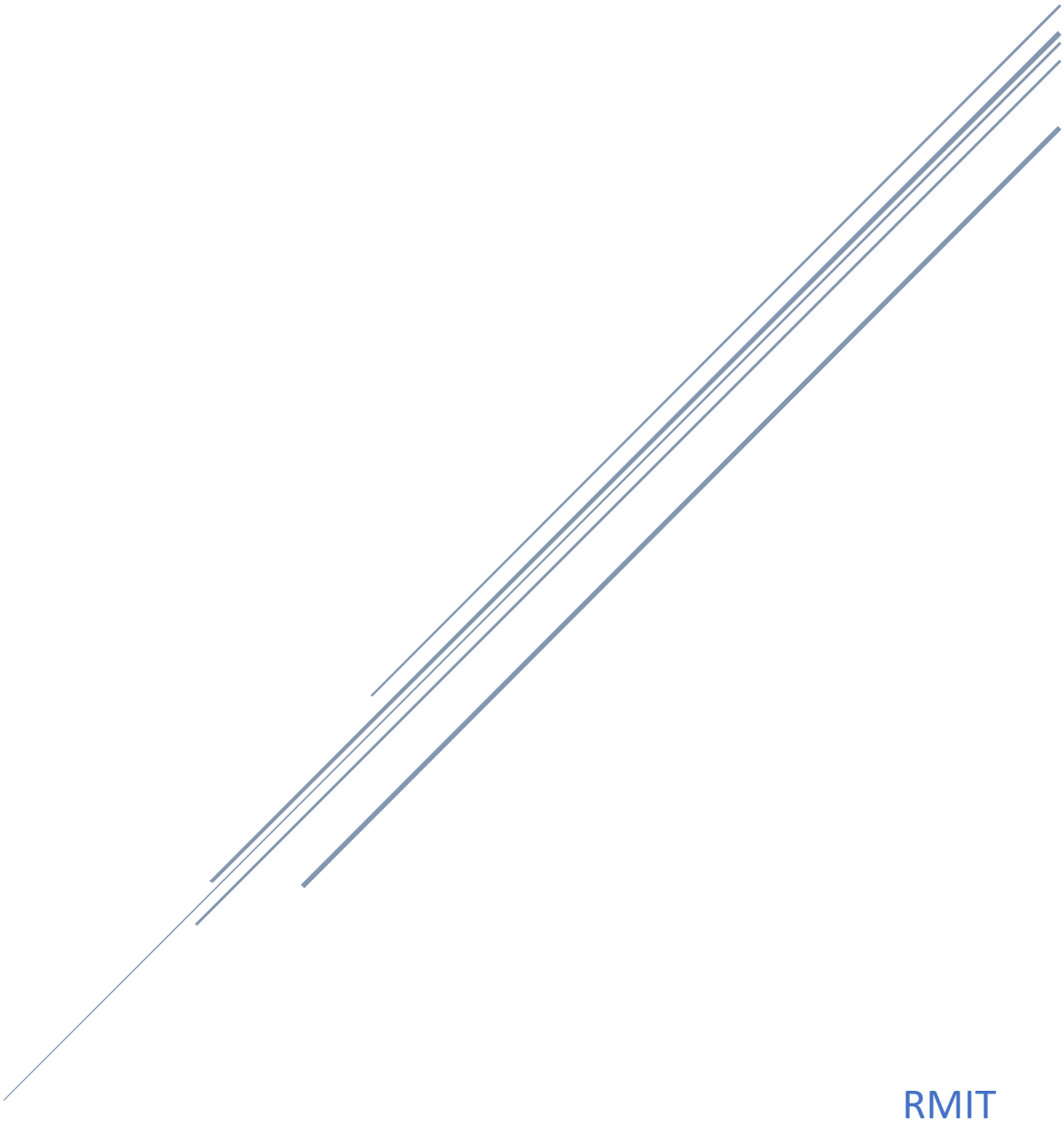

RMIT

COSC2657 – Android Development

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Application Description

The given requirement asks our group to develop an E-commercial Application. Thus, we decide to build a Sneaker Shopping application that will sell sneakers from a variety of sneakers brands such as Adidas, Nike, Puma, … etc. Our group will develop a global application that allows users to access our database from any mobile phone. Because of that, the user just needs to register an account the first time they use our application, and all their information will be stored in our database. The next time, they only need to log in to the account and start purchasing our product. Our application's functionalities will be described below.

Application Functionalities:

There will be two types of accounts in our application which are manager account and user account. Both will have some common functionalities and some separate functionalities. These are the detailed description of the functionalities of our application.

- **Common Features**: Both the manager account and the user account can attempt to these features
    - View personal information
    - Change password
- **User features**:
    - Register account
    - View the latest product
    - Search by category
    - Search by product's name
    - Search by product brand
    - Add product to shopping cart
    - Select the shipping option (pick up or shipping)
    - Wish list (if have time)
- **Manager features**:
    - Get check out the announcement from the user (later)
    - Manage product (add, update, delete)
    - Manage user shopping cart

Application UI

The UI sketch is referred from Figma[1]

Figure 1: Starting Activity

To be able to start shopping or searching for products users need to drag the slider from left to right

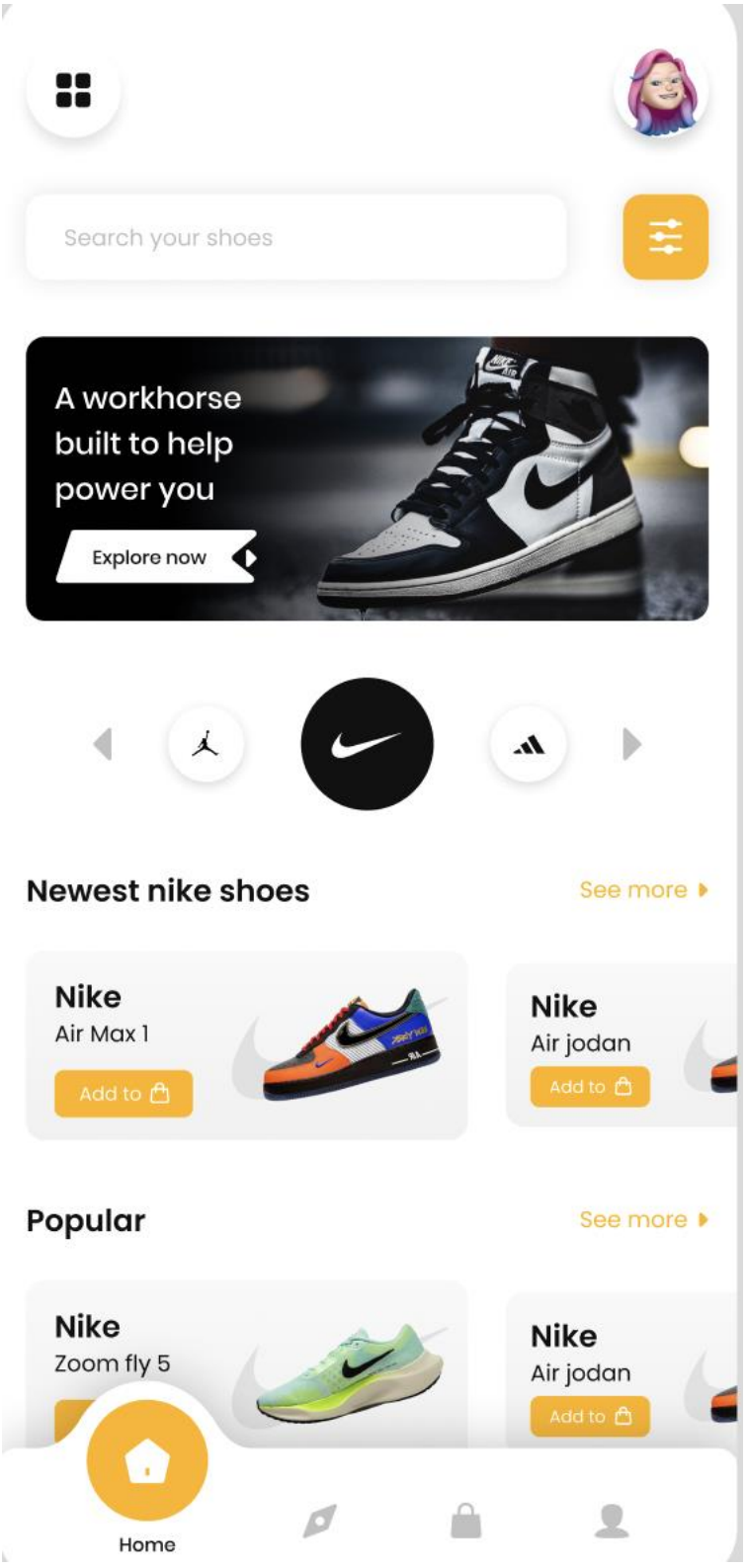

Figure 2: View Product Activity

The homepage is the place to display many important information items as well as functions such as search by name, search by brand, suggest trending products, and add to cart. In addition, users can view their own profiles. Admin has an additional function to receive order information from users.

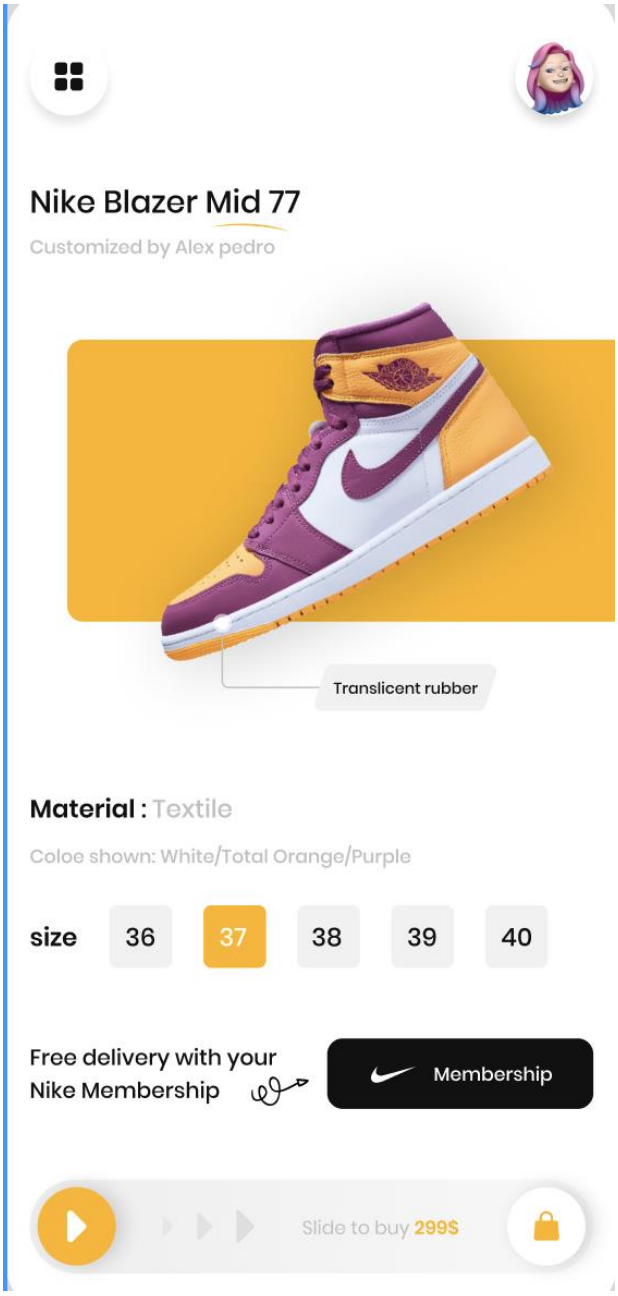

Figure 3: Product Detail Activity

When the user clicks on the product, the application will take the user to the detail page about that product. On this page, users can see information about the quantity of each shoe size in

stock in the store as well as information about the price for each different size. If the user wants to place an order, just drag the slider at the bottom from left to right, and the application will automatically send order information to the admin.

Application Flow

The application flow is divided into 2 types of diagrams which are backend flow and front-end flow. The backend flow illustrates how the application connects to the database to retrieve data. In front-end flow, it will describe which activities will appear after the user selects objects in the application. Detailed information about those flows will be shown below.

- **Backend flow:**
  The figure describes how we construct the server which allows devices to interact with the database through API. Most of the services are from Amazon Web Services. We utilize two EC2 instances to run the MySQL database and the other will host the Nodejs API

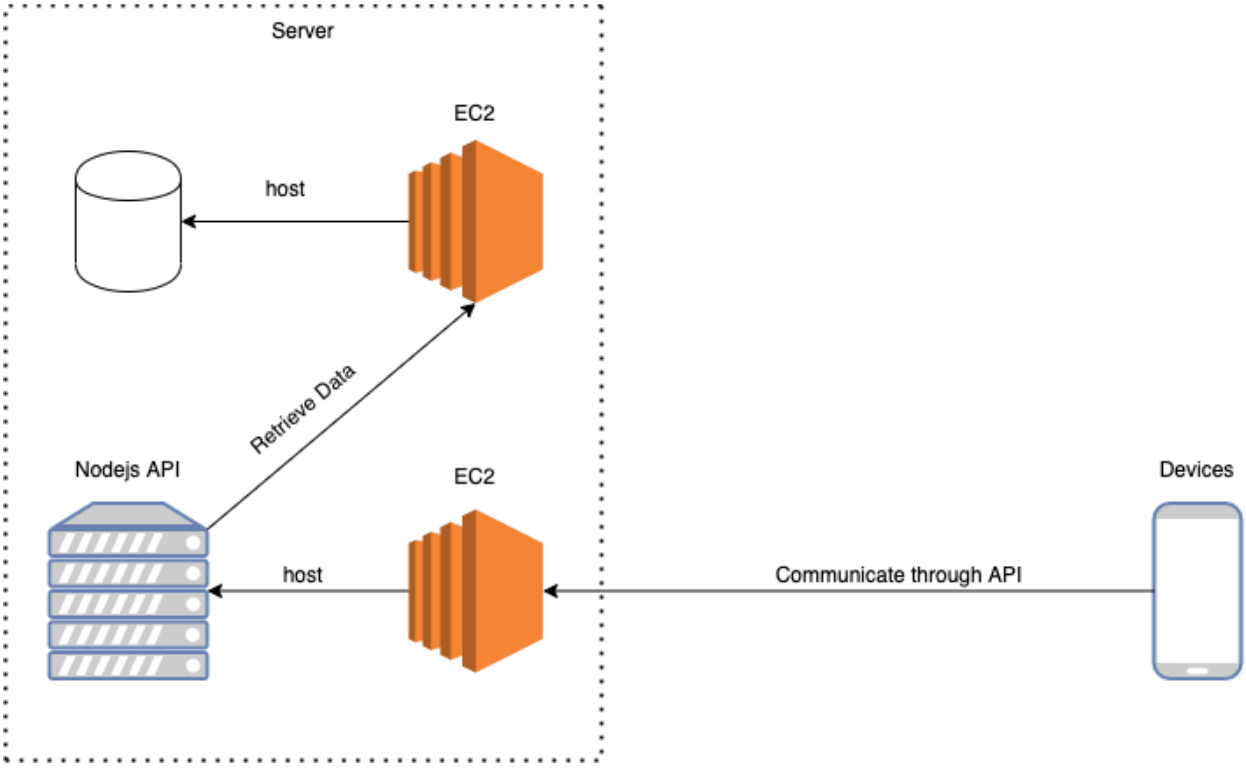

Figure 4: Backend Flow of E-commercial Application

- **Activity flow**
  According to figure 5, when users start the application, the system will check users' sessions first to check if they are logging in or not. If there is no account signed in, it will load the starting activity for the user to choose if they want to create a new account or log in to an existing account. If a user wants to register an account, the application will

display a sign-up activity for a user to fill in their information. After verifying the registered information, it will load the login activity for a user to log in. After the user enters their account, the system will verify and check the type of account to load the appropriate data and activities.

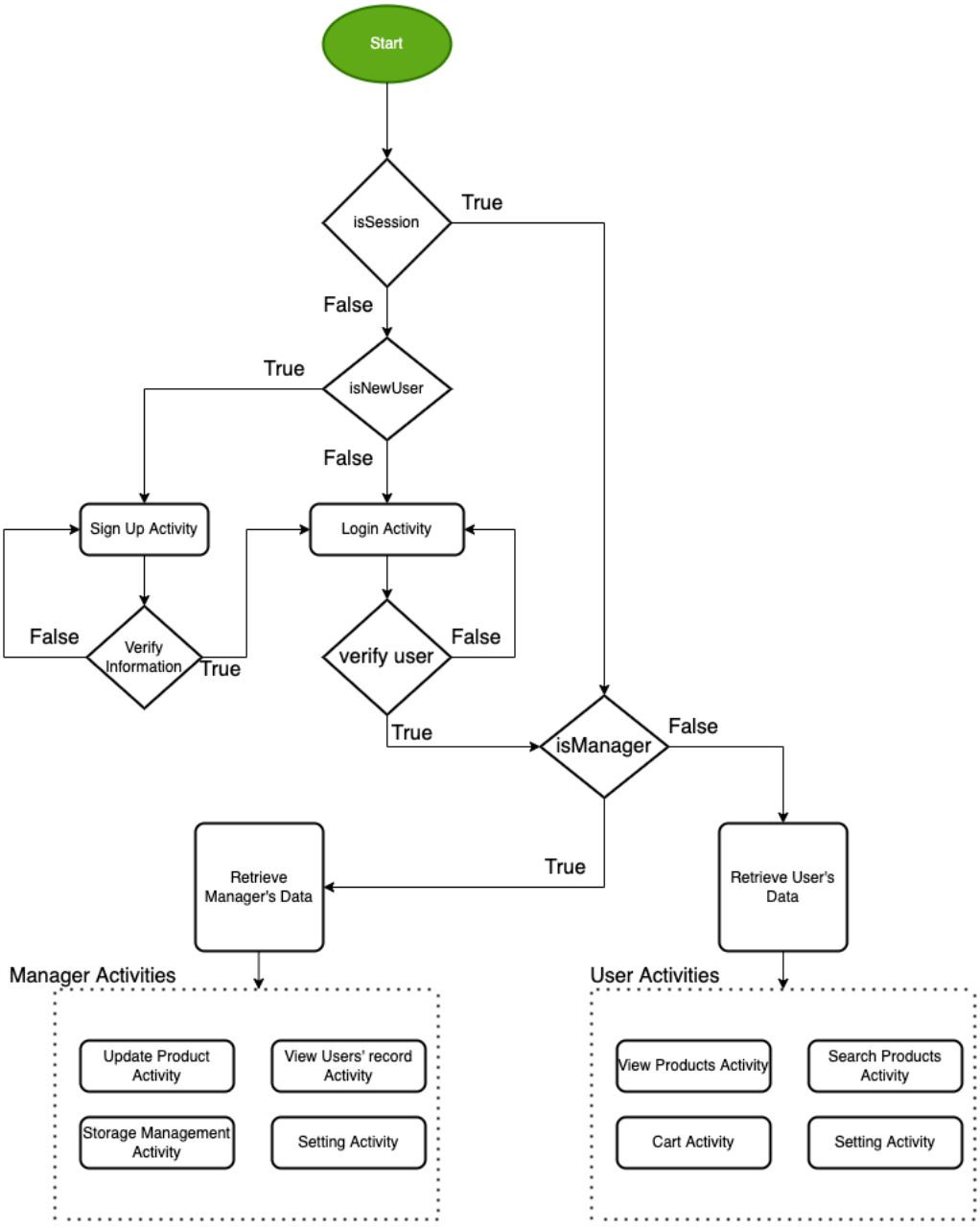

Figure 5: Activity Flow of Application

Technologies

For the UI design, we generally plan to utilize Image View to store the image of our product and logos also. Some other stuff such as information about products and users will be displayed by

the Text View. Some functionalities such as allowing the user to view the product by categories or brands, those categories and brand can be shown in a List View. Especially, according to the UI sketch, we will create a navigation bar at the bottom of the application, so we plan to use Navigation View to perform that feature. However, these are generally planning about Android Studio components, there should be some changes during the building process.

For back-end stuff, all the APIs will be developed and hosted on the AWS server according to figure 4. To retrieve data from the server, we will develop some Java methods according to the requirements of that activity to get the data.

References

[1] Y. Patel, "E - Commercial App For Shoes," Figma, [Online]. Available: https://www.figma.com/community/file/1177227938968072094. [Accessed 8 December 2022].