

ECE 651 Project Deliverable 3

1. Metadata

1.1 Project Title

UW Carpool Application

1.2 Team Members Information

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2. Demo Description

At present, we have implemented all the functional properties proposed in deliverable 1. To make our application more user-friendly, we are currently implementing some other detailed properties like user profiles functionality (change/upload user's avatar). We also want to add the property that users can know the information of their current trips, but this property requires the communication with the databases, which means our database need to be redesigned. This may cause that all of activities which communicate with the databases need to be rewritten. We are still working on it and considering whether there is a better way to implement this functionality.

2.1 Login and register functionality

We have implemented two login methods. One is login by Google accounts and the other is login by email addresses. After logging into the account, the application will retrieve the database and check whether the user is logged for the first time or not. If it is, jump to the registration activity and then the user will be required to enter their first and last name to complete the registration, and the user entry in the database collection will be updated based on the user's input.

2.2 Driver functionality

In the main activity, there is a navigation bar at the bottom of the screen on which the user can select to become a driver or passenger by clicking the button. If the user chooses to provide the car, then s/he needs to provide some detailed information on the driver's layout, for example, the departure city, the departure address, the arrival city, the arrival address, the contact information, etc.

When the user presses the confirmation button, the application will create a trip document and integrate the relevant information the user provides into the trip document's attributes. The application will then add the trip document to the Trip collection in the database.

The application will monitor whether the data has already been added into the database. If the data has been added to the database successfully, the application will show the message to tell the successful operation to the current user and the only thing drivers need to do is to wait patiently for the passengers. If the data addition fails for some reason (such as a network interruption), the application will also tell the current user that the data has not been added to the database.

2.3 Passenger Functionality

If the user chooses to be a passenger, then s/he needs to provide some detailed information on the passenger's layout, such as departure city, arrival city, departure date, and the number of people. When the user presses the confirmation button, the application will call the query in the Trip collection to query whether there are instances in the database that satisfy the condition according to the user's input information.

If there is no instance in the database, a hint will pop up to tell the user that there is no relevant itinerary now. If there are some instances in the database, the application will first collect the data by a triplist and then display it on the screen. Each element in the triplist contains the driver's first name and the specific departure time.

The user can choose the suitable departure time as they want. When the user clicks on the specific instance (the list contains driver's name and departure time), the application will show the current trip's details, such as departure address and arrival address, prices, and contact information. If the user is satisfied with the current itinerary, s/he can press the confirm button to confirm the current itinerary and contact the driver by the information showing on the screen.

2.4 Various functionalities on Draw View

The Drawer View is located on the main activity. After clicking the button at top-left side of main activity, the drawer view will show on the screen. There are two parts in the drawer view, which are drawer header and drawer options.

Drawer header shows the user avatar, user's first name and log-in email. The avatar is shown on an Image View by downloading the avatar picture from database to the Android device. User's email and first name are retrieved from database as well.

The drawer option bar contains two buttons, Account and Exit. We will discuss the related functionalities later.

2.4.1 Account Information functionality

When the user presses the Account button on the drawer options, the account information activity will start to show. The contents included on the screen are some basic user information (first name, last name, Email and avatar related buttons). The basic user information is retrieved from our database. If the user wants to change his/her avatar, s/he can firstly choose an image from the android device or Google Drive, and then upload it to our database. Whenever the avatar is uploaded successfully, program will show it on the drawer header. If the user has not uploaded one, the avatar will be set to the default one.

2.4.2 User logout functionality

Once the user presses on the Exit button, the user will sign out. Main activity will stop, and the screen will jump to login activity.