COSC 341: Human Computer Interaction
Course Project: Step 4 - Group 41 WeRide Carpooling App

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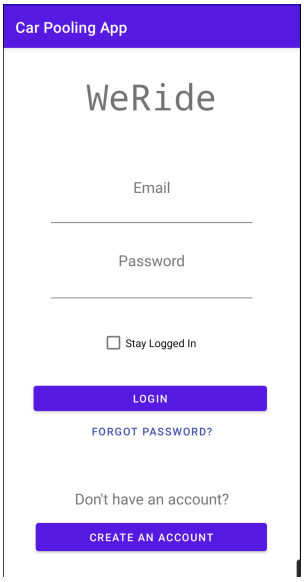
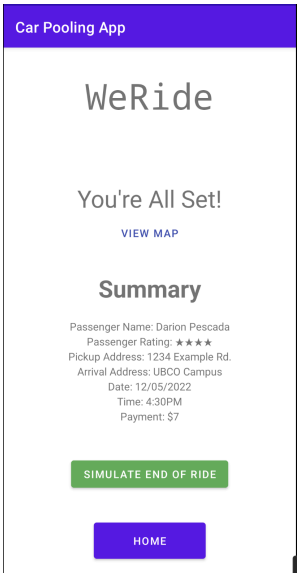
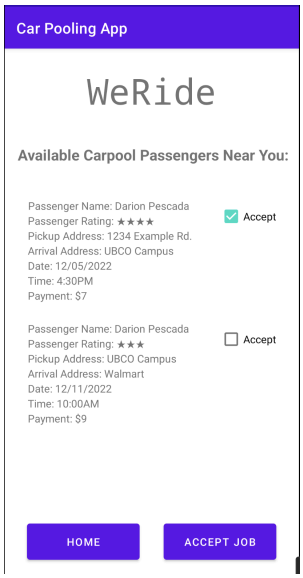
Our course project for this class is a carpooling app named **WeRide**. The application has four major tasks/components. Once the user is logged in to their account, the application should present the user to select if they are a carpool driver or a passenger, If the user selects passenger, present view with a map where a user can select a preferred time and their carpool destination, If the user selects the carpool driver option, present a view of available postings and present an option to accept suitable passengers to join their carpool, Once the carpool ride is over, present the passenger user with a view to rate their carpool driver and present the driver or the user to rate the carpool passenger(s). There were some design changes from the final paper prototype which did not make it to the app for example: in the welcome screen we added a stay logged in checkbox and the location of the login button and create account have been swapped from the final prototype design. In the confirmation screen when the ride is booked we have put a separate button which takes the user to a different screen to track the booked driver instead to show it on the same screen as it was not achievable. We also changed the create account screen, we removed the username and password entry fields and instead added more fields asking for first name, last name, email, and password. The rest of the designs do match the final paper prototype created and no further changes were made.

Design Principles:

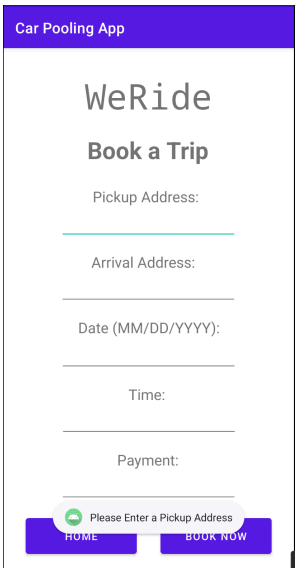


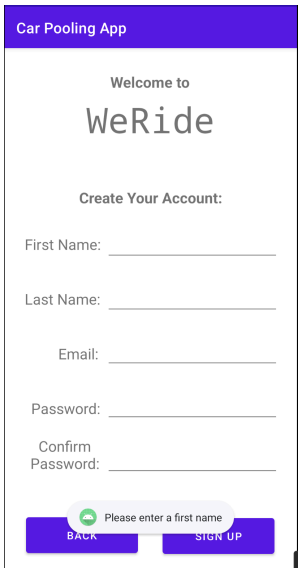


- **Visibility:** Visibility is very essential for user experience and it has been applied to the app. Most common primary functions have been highlighted and have big text describing what each button or text field is used for. The first login screen shows the login button and the fields to put in the credentials clearly while secondary features like creating an account are on another page which is in the form of a button on the login page. Even while booking a trip the fields are clearly highlighted and after trip booking there are clear menus and options to view maps to track drivers and view summary.

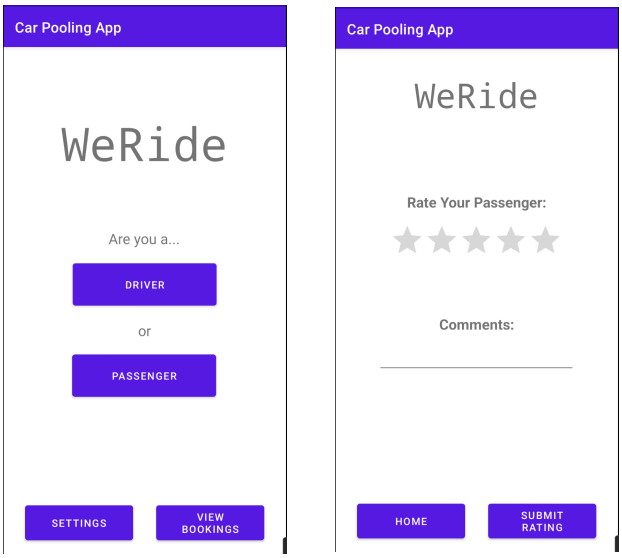


- **Feedback:** Feedback is used at various places in the app, when using the login screen, there is a checkbox for stay logged in which tells the user if the option is selected or not shown in image 1. Whenever a driver is looking to accept rides, there is a list of rides and the driver gets a feedback of which ride the driver selected through a checkbox before the driver can confirm a ride shown in image above. It also gives feedback when either the driver or the passenger submits a rating, they receive feedback

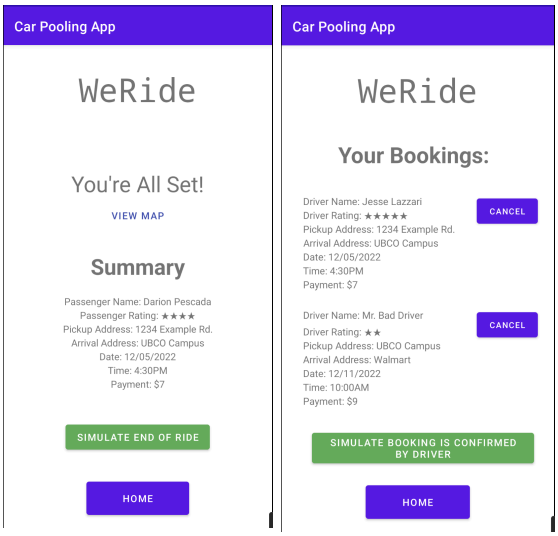




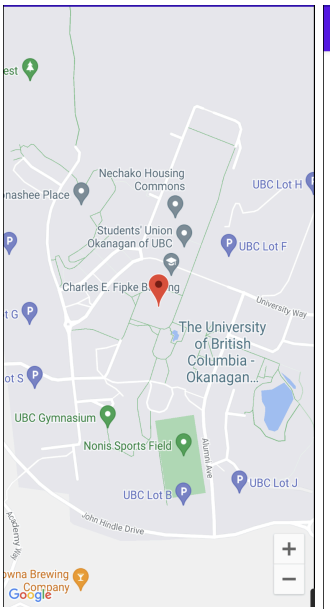
- **Constraints**: Constraints are important for any UI and it is important to restrict user actions when necessary. The project has many constraints in the app. As shown in the image above, if the passenger tries to book a ride without a pickup address, it restricts the user to book it and gives a toast message as a feedback. Similarly the user cannot book a ride without entering all the fields otherwise it will show a toast message. Same goes for the create account page, user cannot create an account without name, email and password otherwise there is a toast message.

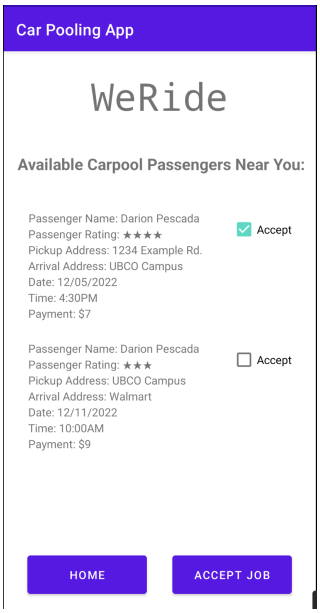


- **Mapping:** Mapping of buttons and controls is important for user to easily find how to navigate through the app. For example, the login screen with large buttons to login or create an account at the bottom of the screen, making it easier to access and a more probable location to find. After booking the ride, view map is on the middle of the page since that is easier for the user. The ratings page has a very simple design following a standard format with star rating at top and then comments with shortcuts at the bottom as in the picture above.



- **Consistency:** It is important in terms of a learnability aspect for the user. The app is very consistent in terms of placing the buttons at the bottom of the page, using the same HOME button for the home shortcut. The app logo is always at the top and shortcut buttons always at the bottom, the toast messages always appear at the bottom of the page on top of the buttons. The rating page has a star rating which is very consistent format of rating anything.





- **Affordance:** Affordance has been included in the project in terms of checkboxes where the user can easily understand what the checkboxes are meant for just by looking at them. The integration of Google Maps is an example of affordance, the maps API makes it very easy to track the driver and since it is the most used GPS app, Google Maps is already known by most users.

- **Simplicity:** Each page is very simple with text boxes clearly marked and the pages are minimal without extra buttons and options. The home screen is very straightforward as well with two main options and shortcuts at the bottom for home and bookings, the pages are not very clustered with side information. The summary booking the ride is short and simple with only the important information as shown above.

Video link: https://youtu.be/S_ZNePxPpMg

Heuristic Evaluation

Issue: entry for date is in the incorrect format.
Severity: 2 (minor)
Heuristic(s) violated: Consistency and Standards, error prevention
Description: When filling out information as a passenger, the text box to enter a date is just a regular text box so the user is confused as to what format the date should be typed in.

Issue: entry for time is in the incorrect format.
Severity: 2 (minor)
Heuristic(s) violated: Consistency and Standards, error prevention
Description: When filling out information as a passenger, the text box to enter a time is just a regular text box so the user is confused as to what format the time should be typed in.

Issue: Login without information
Severity: 3 (major)
Heuristic(s) violated: error prevention, user control and freedom
Description: If the user does not put any information in the login screen, they can still click the Login button to proceed to the next screen. Moreso, there is no option to go back to the login page to fix the error screen without going into the settings and logging out.

Issue: Sign up without information
Severity: 3 (major)
Heuristic(s) violated: error prevention, user control and freedom
Description: If the user does not put any information in the sign up screen, they can still click the sign up button to proceed to the next screen. Moreso, there is no option to go back to the sign up page to fix the error screen without going into the settings and logging out.

Issue: Confirmation without selecting a job
Severity: 3 (major)
Heuristic(s) violated: error prevention
Description: When selecting a job as a driver, the accept job button can be pressed without checking an accept check box on a job.

User Feedback Implementation:

- Date box now says what format to enter and uses a date formatted keyboard
- Time box now uses a time formatted keyboard.
- Error prevention added on Login, Signup, and Available passengers screen.