Group members:

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THE NEEDS DOCUMENT

OF

VAN TRACKING AND SCHEDULING MANAGEMENT SYSTEM

1. INTRODUCTION

The customer is a student that encounters difficulty in transportation, specifically when riding a van. He states that he finds it difficult to travel from one place to another because he doesn't know the arrival and departure times of the van. Thus, making him waste a lot of time waiting at the terminal. He also states that booking some vehicles in the Philippines is inconvenient for him because there is no online platform available for his travels.

Uber is a site that the student frequently uses for booking a vehicle. He states that he has not had a lot of success in finding his service vehicle there because he prefers to ride a van which is much faster than any vehicle available around his area. Most uber drivers

use a car instead of a van and the app doesn't support a real-time location tracker of the vehicle.

This project aims to create an online booking website and an application (mobile and desktop) that uses real-time tracking to make public transportation with vans easier and accessible for commuters.

2. MISSION STATEMENT

The mission of this project is to provide the following:

1. A system that would allow commuters to have a seamless van booking experience.

   This system aims to make public transportation more convenient for commuters. The website and application allow users to reserve a seat in their desired van and destination which saves them time and effort as compared to the traditional lining up in transportation terminals.

2. A system that tracks the identity of passengers and drivers for security purposes.

   This system puts a premium on security by ensuring that all vans are being tracked and users have access to necessary information such as the name of the driver, the plate number of the van, etc. The app aims to bring passengers a sense of security so that they can travel with their minds at ease.

3. TECHNICAL OBJECTIVES

Technical Objectives	**Performance Measures**
Create a website and mobile application that allows users to create an account.	The use of a registration and login module Test creating 10 accounts using various user credentials. The test must be 100% successful using valid information. Users should be able to login and out of the system.
Create a website, mobile, and desktop application that allows registered users to book rides.	The use of the booking and selecting seats module. Test creating 10 accounts to determine if the passenger can book rides and if they can arrive successfully at their destination. The test must be 80% accurate in using valid accounts and details.
Create a website, mobile, and desktop application that allows	The use of the tracking module Test creating 10 registered

registered users to track rides.	accounts to measure the accuracy of the real-time location of the van travels. The test must be 80% accurate in tracking the rides. Testing the accuracy of estimated time location. The estimated time should change depending on its current traffic flow (just like the app Waze). Users should be able to view the current location of the van to be able to know the arrival and its departure.
Create a website, mobile, and desktop application that allows registered users to edit and view their personal details and also be able to change seats.	The use of edit, change and view modules Users should be able to edit and view their ride details in the system. Conduct a user-satisfactory survey to determine if the users can successfully edit and view details, and can change seats.

	The test must have at least a 90% response rate to measure the system's usability.
Create a ride history	The use of history modules Conduct a user-satisfactory survey to determine if the users feel safer after using the app. The survey method will be a Likert scale to obtain accurate results from the user. The test must have at least a 90% response rate to measure the system's performance reliability.

4. Scope and Limitation

The development of a website, mobile, and desktop application is the focus of this project. This program will provide commuters with the ability to book, track, edit, view and change trips using a mobile and web browser. However, we limited the functionality of the desktop application in which the users must first create an account using the mobile application to access the desktop application.

This system provides three different views: the commuter view, the rider view, and the admin view. From the view of the commuters, it is possible for them to select available seats, choose a van, track,

book, view existing booked trips, obtain information about the van and the driver (contact number and details), check the time of arrival and departure, and also they have the option of selecting a payment method. Having said that, there are some limitations. They are unable to access the admin view or the driver's view, they are unable to see the names of the other passengers, and they are unable to move the seats of other passengers. In the view of the riders, it is possible to examine the list of passengers, the number of available seats, passenger information (contact number and details), and the seats that passengers have picked for themselves. While in the admin view, they have the ability to view, organize, and remove fields. The admin is in charge of scheduling regular system updates. They will make sure there are no glitches and that both clients and riders experience the smooth operation of the system. In addition to this, they are the ones that are in charge of managing and deciding the specific area the van should drive to. However, they are subject to various limitations. They won't be able to modify or publicly disclose information about drivers and passengers.

There are restrictions on the project, including the fact that bookings cannot be canceled and no money will be refunded. In the event that the user attempts to call off the ride, the alternative that is presented to them is the opportunity to reschedule their trips.

Students, professors and staff, officials, and public commuters in Camarines Sur are the intended users of this project. Additionally, we limited the cities that were covered to only those inside of Camarines Sur.

CONCEPTUAL FUNCTIONAL MODEL

OF

VAN TRACKING AND SCHEDULING MANAGEMENT SYSTEM

Technical Objective 1: Create a website and mobile application that allows users to create an account

OPERATIONAL SCENARIO:

The user will either open the mobile application or visit the website using their preferred web browser. The user interface of the application initially consists of a “Login” and a “Sign Up” button. This allows users to either sign in to their existing accounts or create new accounts when the application is first launched. A window containing a login form will appear if the user clicks the login button on this page. This window has a form that requests the user's email address as well as their username and password, in addition to a login button. The user will fill out the form with his or her information, and the system will verify it. If the login is successful, users will be redirected to a new window containing the application's primary window. Otherwise, they will encounter an error message.

If the user does not have an account yet, they will be redirected to the registration page. On this page, the users will fill out the needed information to proceed to the website or application. If the registration is unsuccessful, it will display an error message on the page.

Technical Objective 2: Create a website, mobile, and desktop application that allows registered users to book rides.

OPERATIONAL SCENARIO:

After successfully logging in, a window with a "Book Now" button appears, redirecting the user to a window with a list of vans and locations. This enables the user to plan rides and select a preferred location for their trip. The window also has a "Back" button, which allows the user to return to the application's main window if he wishes to cancel a booking. If users continue to schedule a ride, a window with a list of vans available for their chosen destination will be presented. If he successfully selects a destination for his trip, a popup window will appear with a selection of the scheduled time of a van. A window containing a form that requests the user's name and contact number appears after the user finishes selecting a time.

If they do not finish filling out the form, they will encounter an error message. Otherwise, the user will be routed to a new window with the "Pay Now" button, where they may choose a mode of payment to pay for the trip. The user will be forwarded to a window with the receipt and ticket details for his booked trip after successfully transacting.

Technical Objective 3: Create a website, mobile, and desktop application that allows registered users to track rides.

OPERATIONAL SCENARIO:

On the home page, the app contains a search bar at the top. The user will navigate to the search bar to access the real-time location of the van travels. He will type the location of the nearby van terminal and his drop-off location. While the user is typing, the app will also suggest the possible locations that the user prefers for more accuracy. If the location cannot be found or identified, an error message will appear and he will be redirected to the home page.

After successfully entering the 2 desired locations, he will be redirected to another page that contains the list of available vans with their time of arrival and departure. The user can choose between these options to access its real-time locations. Hence, the real-time locations of the vans are accessible to all users.

Technical Objective 4: Create a website, mobile, and desktop application that allows registered users to edit and view their personal details and also be able to change seats.

OPERATIONAL SCENARIO:

After the user has successfully booked his ride but entered incorrect information, or the user wishes to change some of his details (Phone number, seat, address, etc.), as long as it is not later than the time of the agreement in the terms of conditions, it is still possible to change the incorrect information simply by navigating to the edit button. The edit button might help him do that. A window containing an “Edit” button that allows the user to edit his information. Also, if the user wants to change seats, a button “Change Seats” will be presented to them. This will allow the users to pick their desired seat for their comfort. The user won’t have to worry because they can change or update their details and information whenever they want. After changing their infos, they should not forget to click the save button below and save the changes in order for the website/app to acknowledge the changes that they’ve made.

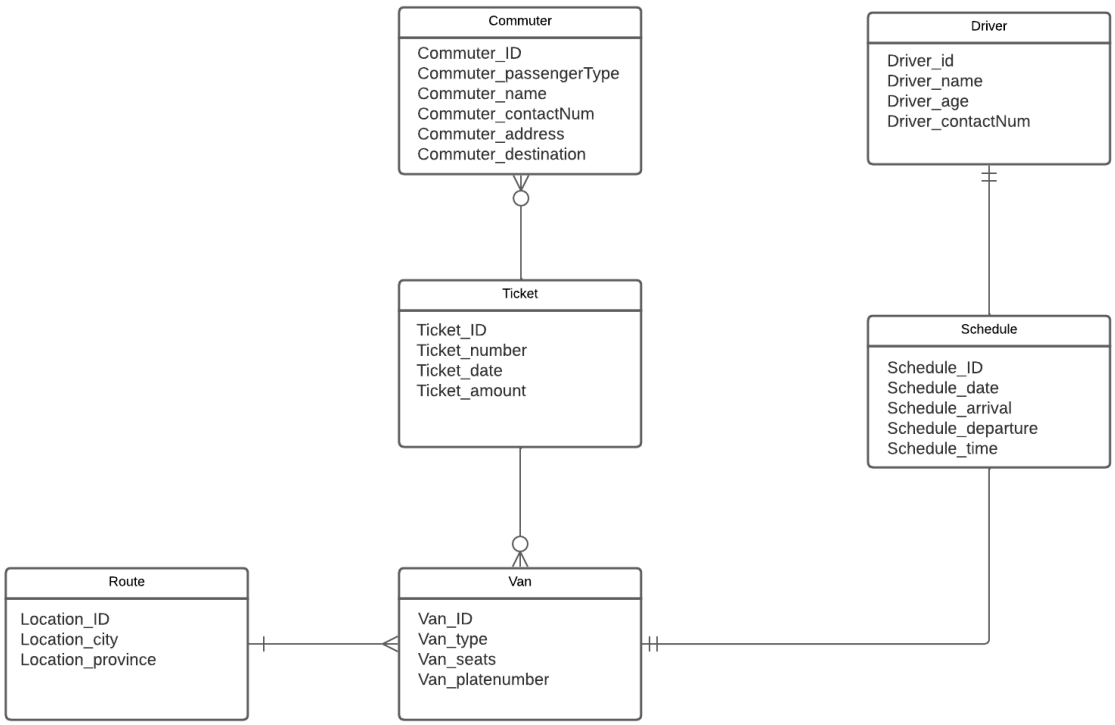
Technical Objective 5: Create a ride history

OPERATIONAL SCENARIO:

The user may see their ride history in the top left navigation bar if they decide to view it. To access the list, simply click the navigation bar and look for the "Ride History" button. A window providing a list of their successful rides will then appear as a result. Each ride in the list includes an "info" symbol. Clicking on this will display information about the van, including the time it departed, their seat number, the date it was booked, the location, and the identity of the driver. Also the user cannot delete or edit the information in the ride history.

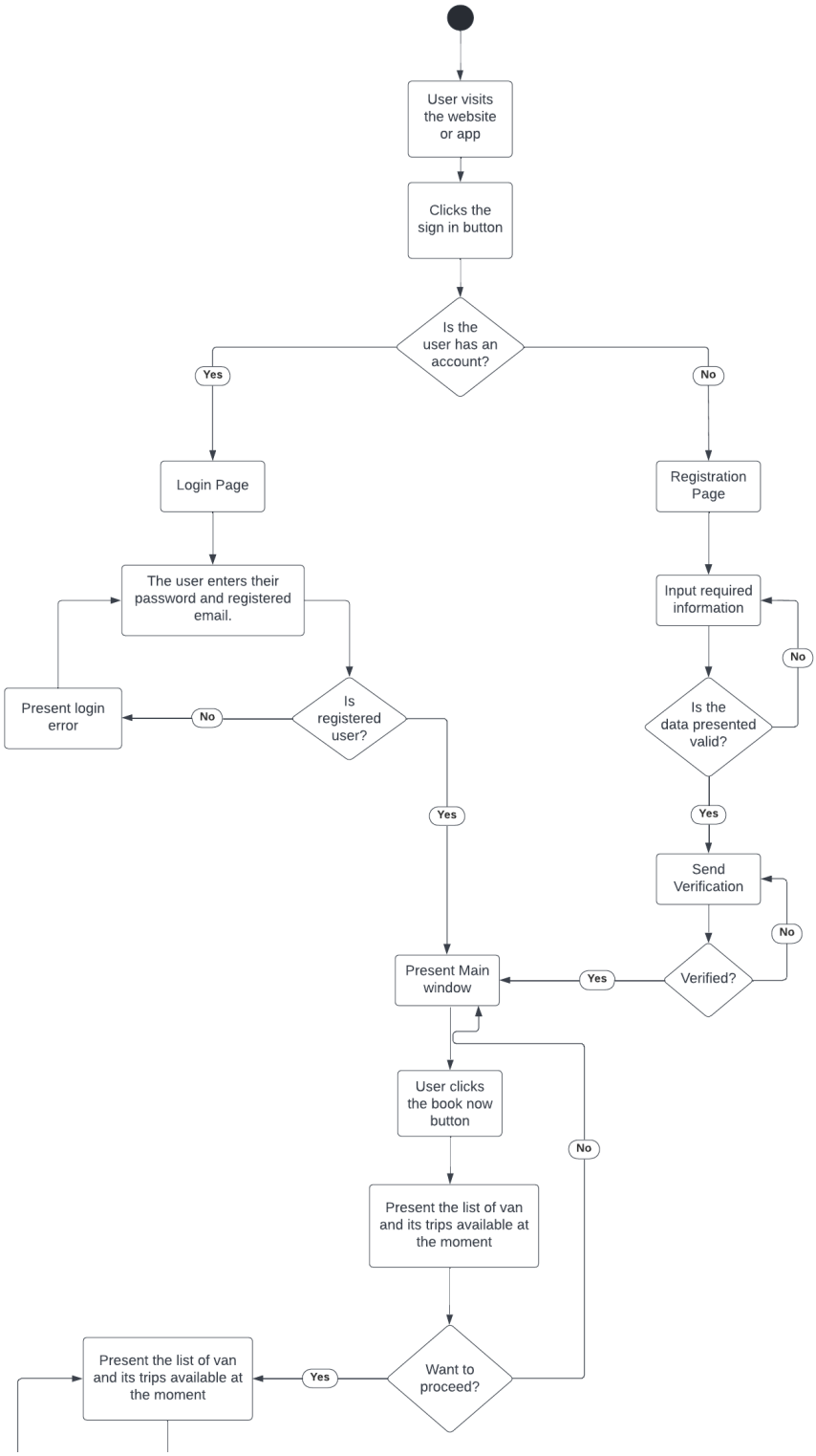
SYSTEM ACTIVITY DIAGRAM

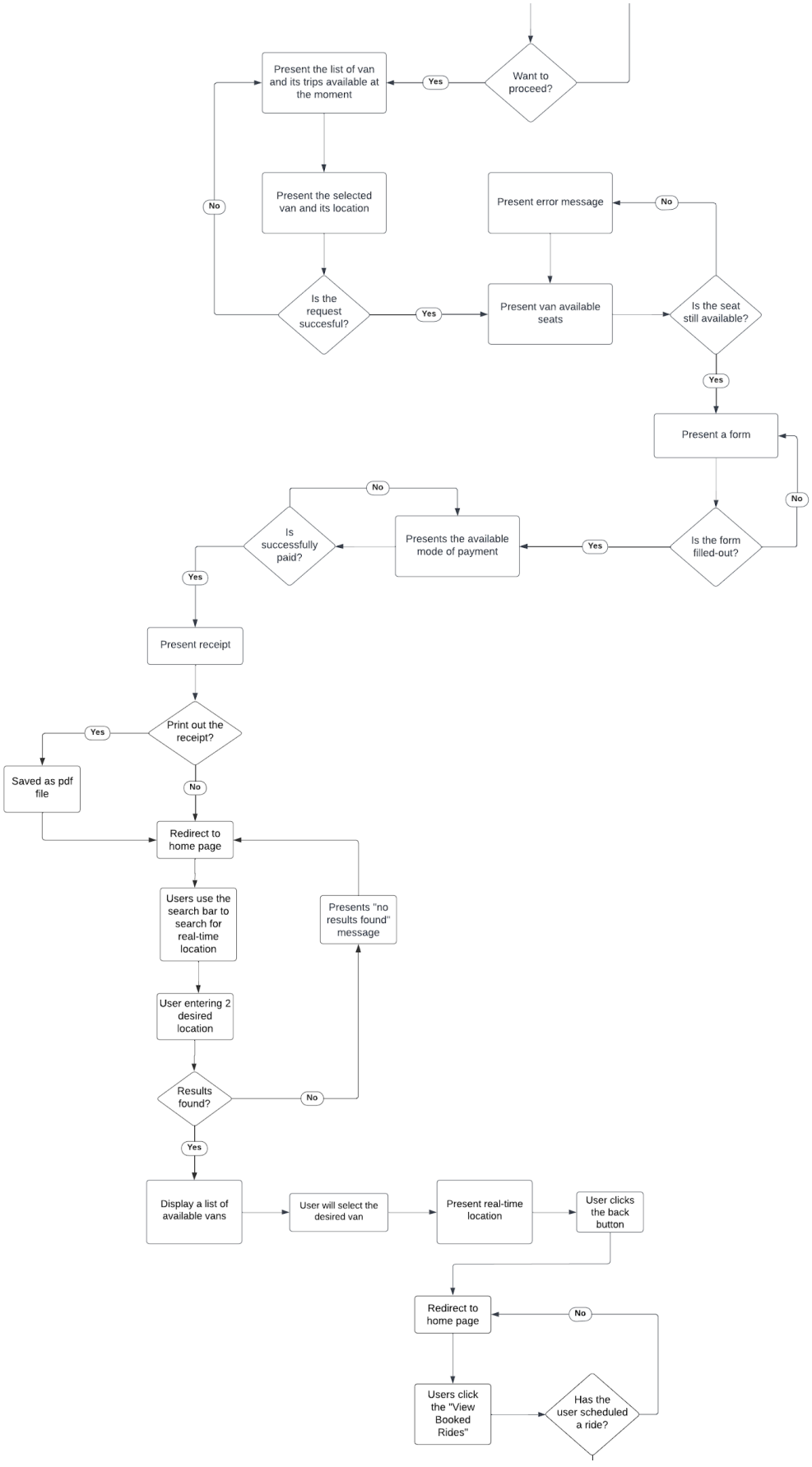
Data Analysis: Entity-Relationship Diagram

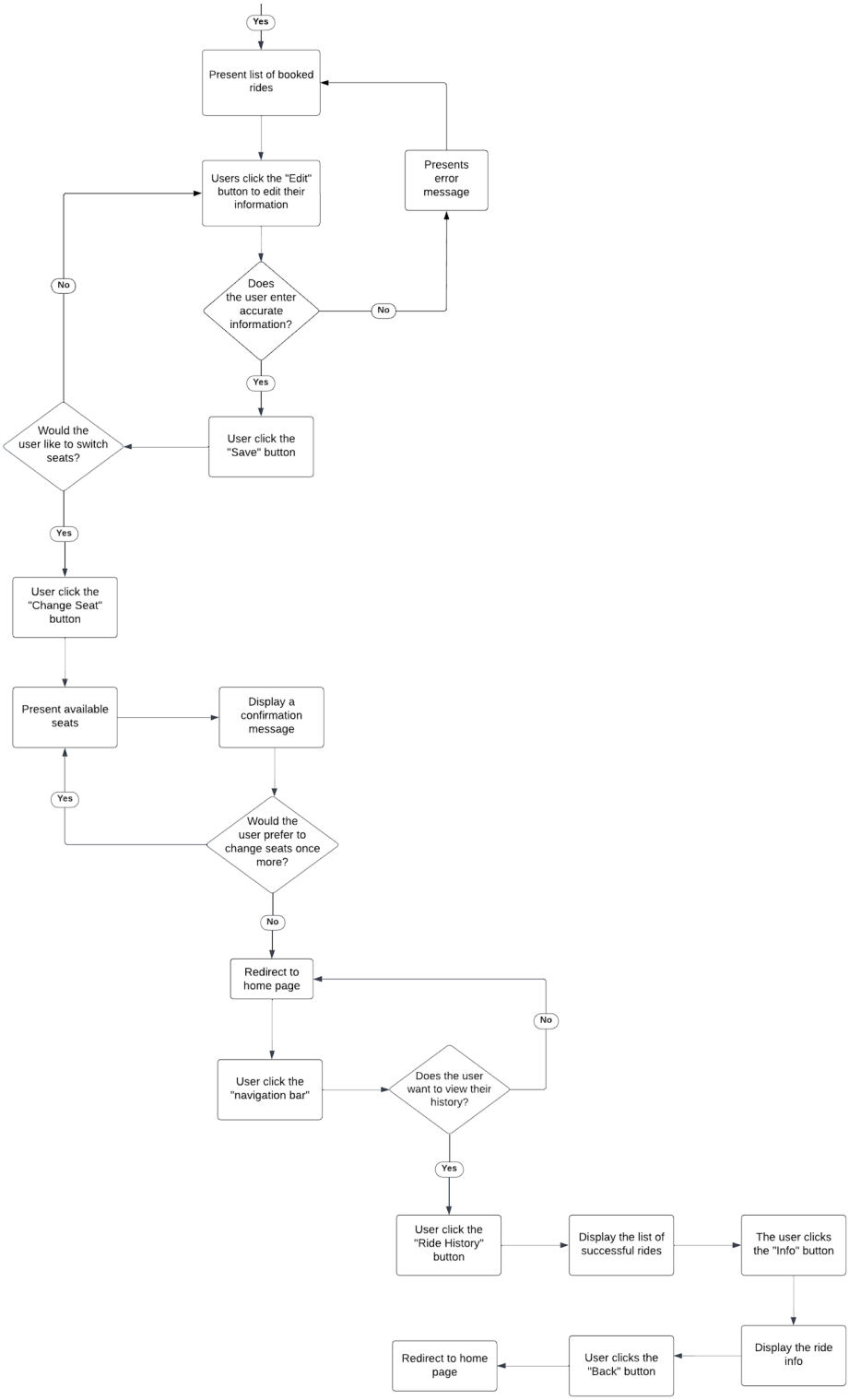


Behavior Analysis: Use-case Diagram

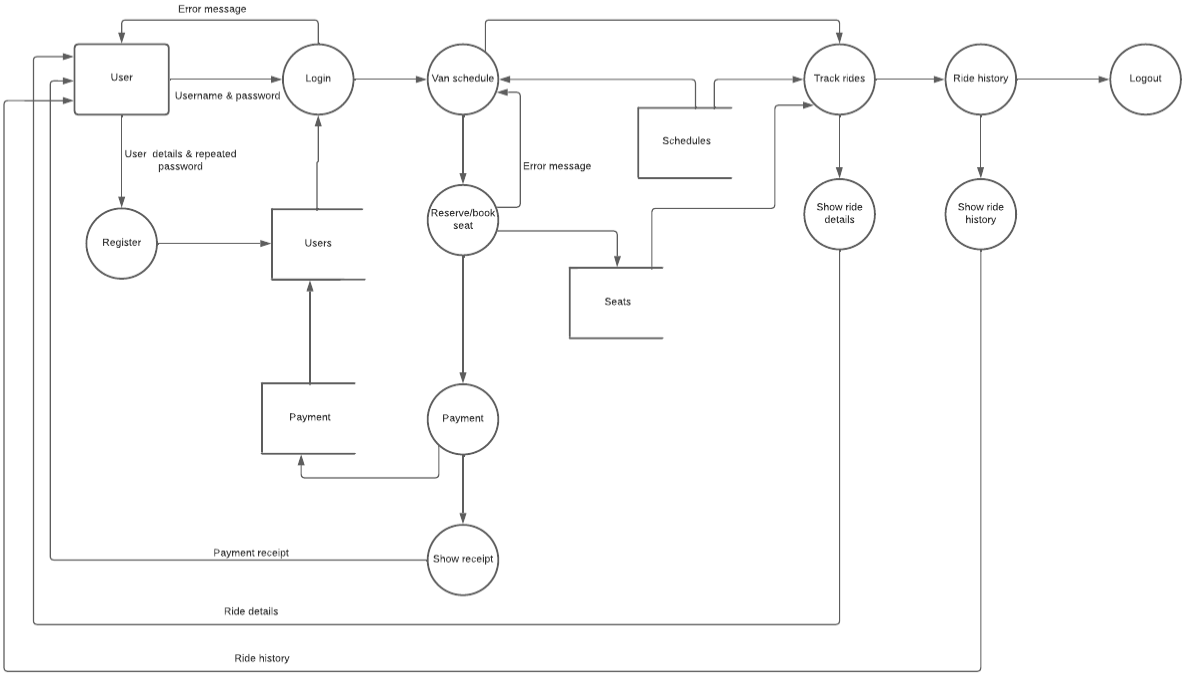
Functional Analysis: Swimlane Diagram



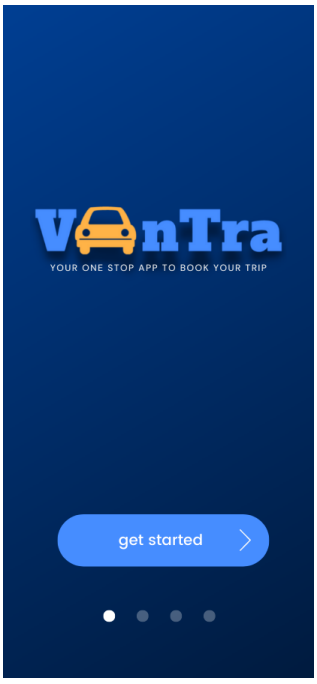

Want to proceed?
Yes
Present the list of van and its trips available at the moment
Present the selected van and its location
No
Is the request succesful?
Yes
Present van available seats
Present error message
No
Is the seat still available?
Yes
Present a form
No
Is the form filled-out?
Yes
Presents the available mode of payment
No
Is successfully paid?
Yes
Present receipt
Print out the receipt?
Yes
Saved as pdf file
No
Redirect to home page
Users use the search bar to search for real-time location
User entering 2 desired location
Results found?
No
Presents "no results found" message
Yes
Display a list of available vans
User will select the desired van
Present real-time location
User clicks the back button
Redirect to home page
No
Users click the "View Booked Rides"
Has the user scheduled a ride?

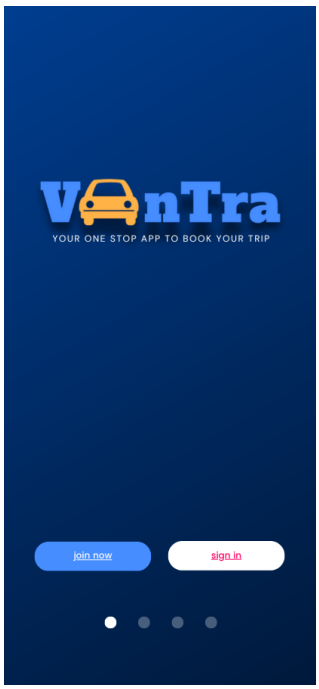

Yes
Present list of booked rides
Users click the "Edit" button to edit their information
Presents error message
Does the user enter accurate information?
No
No
Yes
Would the user like to switch seats?
User click the "Save" button
Yes
User click the "Change Seat" button
Present available seats
Display a confirmation message
Yes
Would the user prefer to change seats once more?
No
Redirect to home page
No
User click the "navigation bar"
Does the user want to view their history?
Yes
User click the "Ride History" button
Display the list of successful rides
The user clicks the "Info" button
Display the ride info
User clicks the "Back" button
Redirect to home page

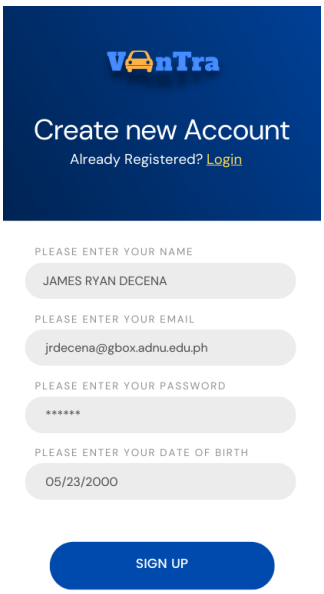
Data Flow Analysis: Data Flow Diagram

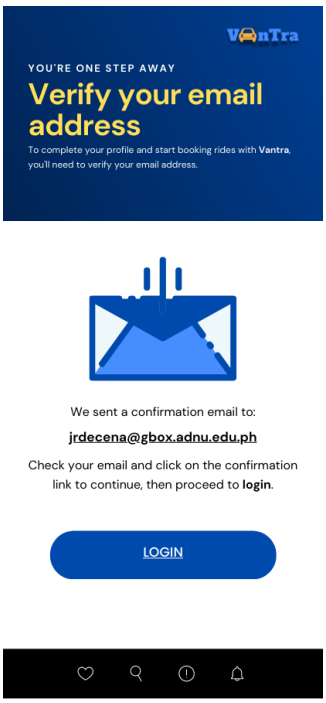


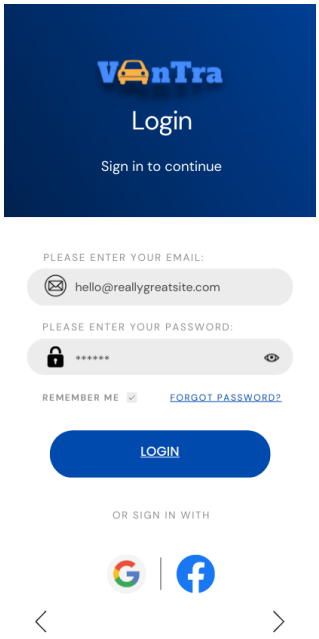
UI/UX Analysis: Mock Screenshots

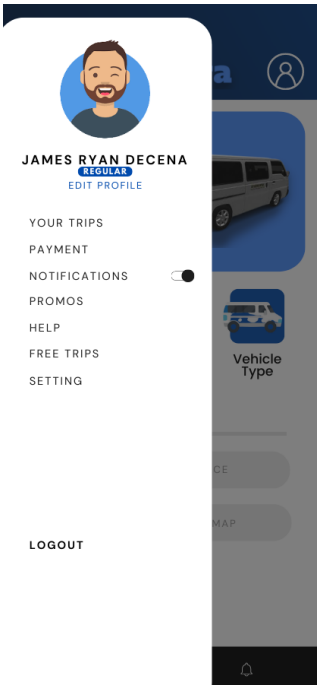


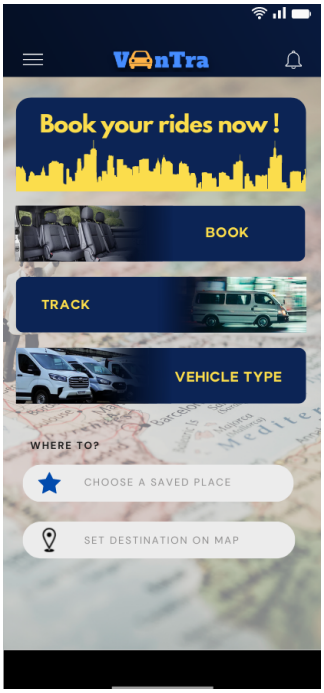


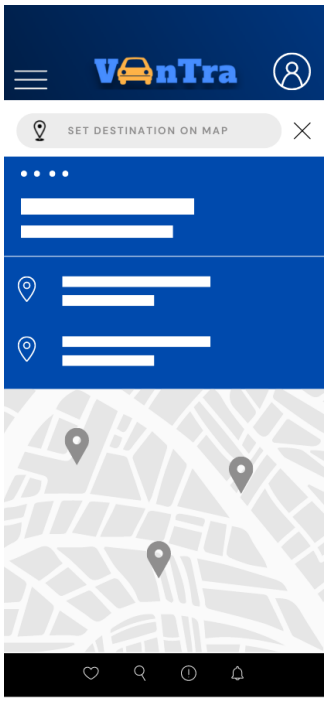




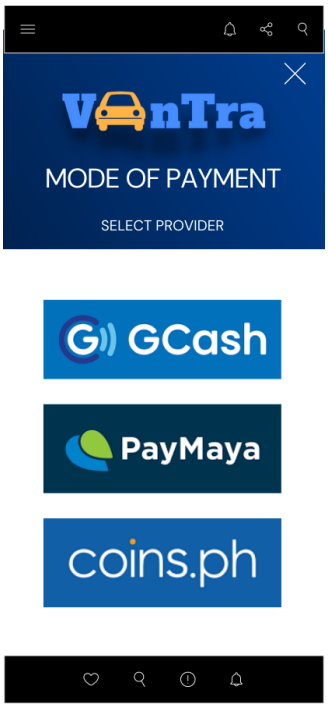

VanTra
Login
Sign in to continue
PLEASE ENTER YOUR EMAIL:
hello@reallygreatsite.com
PLEASE ENTER YOUR PASSWORD:
******
REMEMBER ME
FORGOT PASSWORD?
LOGIN
OR SIGN IN WITH

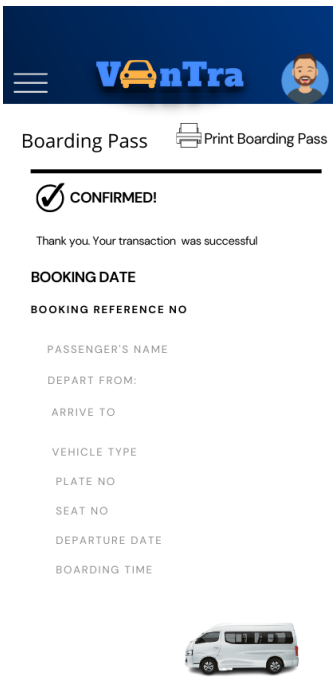

JAMES RYAN DECENA
REGULAR
EDIT PROFILE
YOUR TRIPS
PAYMENT
NOTIFICATIONS
PROMOS
HELP
FREE TRIPS
SETTING
LOGOUT
Vehicle Type

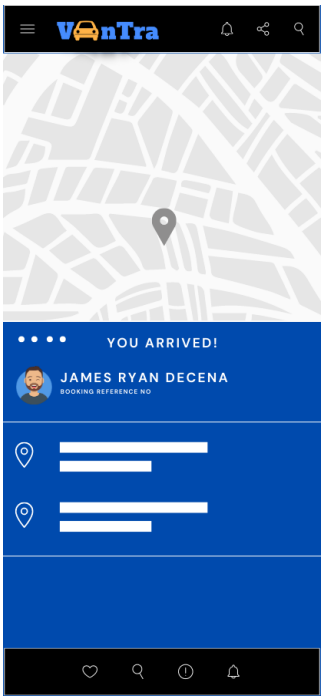

VanTra
Book your rides now !
BOOK
TRACK
VEHICLE TYPE
WHERE TO?
CHOOSE A SAVED PLACE
SET DESTINATION ON MAP


VanTra
SET DESTINATION ON MAP


VanTra
AVAILABLE SEAT
AVAILABLE
OCCUPIED
FULL


VanTra
MODE OF PAYMENT
SELECT PROVIDER
GCash
PayMaya
coins.ph


VanTra
Boarding Pass
Print Boarding Pass
CONFIRMED!
Thank you. Your transaction was successful
BOOKING DATE
BOOKING REFERENCE NO
PASSENGER'S NAME
DEPART FROM:
ARRIVE TO
VEHICLE TYPE
PLATE NO
SEAT NO
DEPARTURE DATE
BOARDING TIME


VanTra
YOU ARRIVED!
JAMES RYAN DECENA
BOOKING REFERENCE NO

PHYSICAL ALLOCATION MODEL

Allocated time	Assigned task	Allocated person
3 hours	Install MySQL and Rails	Juanabell
1.5 hour	Convert Rails to MySQL	Kristine
1 day	Create HTML for Database	James
1 day	Create HTML code for index	Roi
1 day	Create HTML code for Login page	Juanabell
1 day	Create HTML for ride booking page	Kristine
1 day	Create HTML for Tracking page	James
1 day	Create HTML for Edit page	Roi
1 day	Create HTML for Ride history page	Juanabell
3 days	Design the HTML codes	All members
3 days	Front end code	Kristine & Roi
3 days	Back end code	James & Juanabell