RideShare
DESIGN PRESENTATION

Dr. Saritha S

Dhiraj Bobby
Jerin Vincent
John Kurian
Kalidas Jayakumar

Contents

Introduction

- RideShare is an Android app facilitating carpooling to reduce traffic, offer cost-effective travel, and promote environmental responsibility by minimizing your carbon footprint.
- *Fewer Cars, Less Traffic*: RideShare carpooling reduces the number of vehicles on the road, leading to smoother commutes and a greener environment.
- *Budget-Friendly Travel*: Offers a cost-effective alternative to taxis and ride-hailing services, saving you money on every trip.

Problem Definition

- Developing a mobile application (Android) to facilitate carpooling and reduce traffic congestion.
- This app will connect riders and drivers for cost-effective travel and promote a more sustainable transportation system.

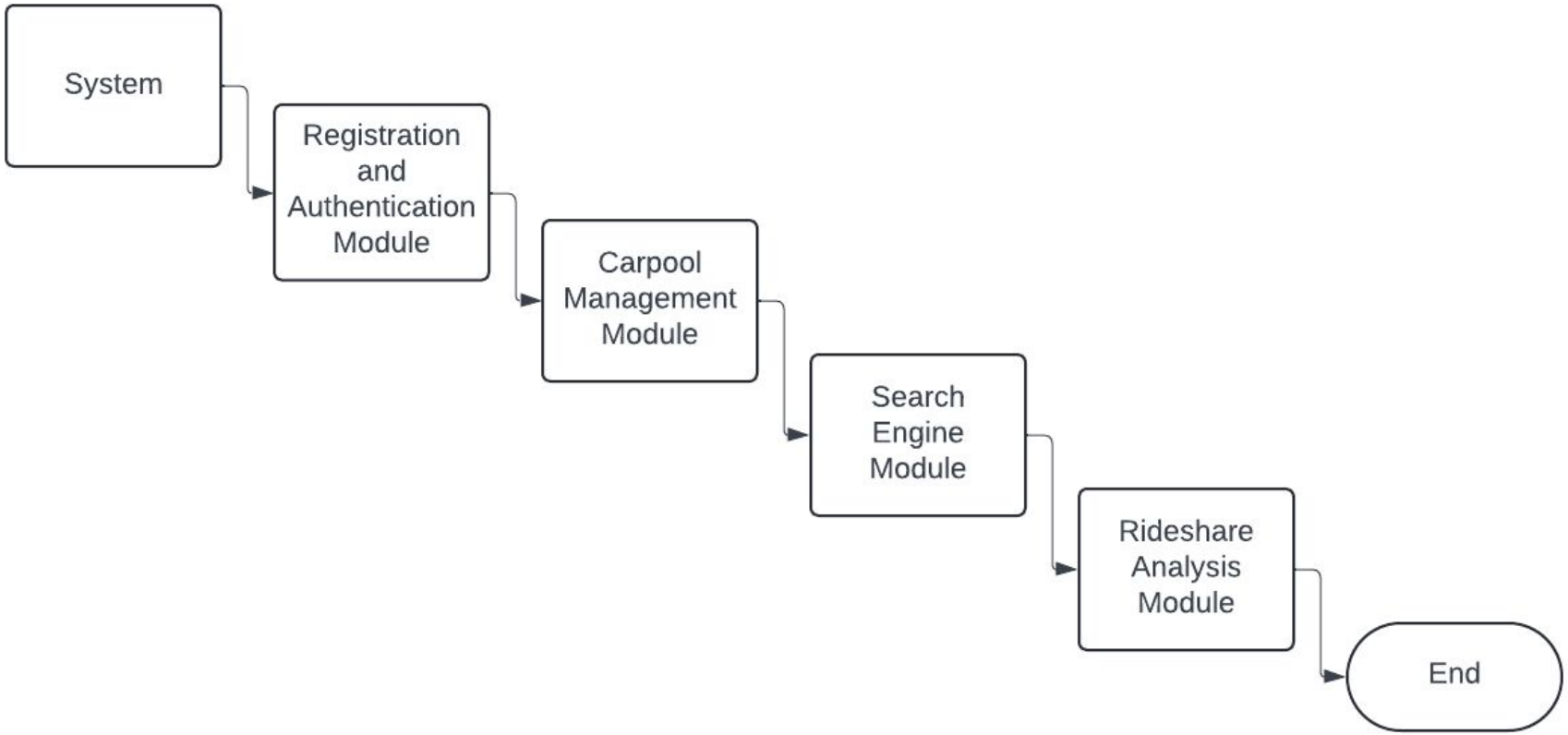
Objectives

1. Allow users to register and login securely.
2. Enable users to search for available carpools and create their own.
3. Integrate with mapping services for route navigation and visualization.
4. Implement a communication system for riders and drivers to coordinate pick-up/drop-off details.
5. Implement features to enhance user safety during carpooling.
6. Incorporate a user rating system to promote trust and accountability.
7. Facilitate user location services to streamline carpool searching.

System Overview

1. Secure User Management handles user registration, login, and profile management, ensuring a secure foundation for the carpooling community.
2. Carpool Managements is carried out efficiently to connects riders and drivers for shared journeys.
3. RideShare simplifies carpool discovery with location-based search, filters, and smart suggestions.
4. RideShare tracks carpool impact, rewarding eco-conscious users and promoting a positive community through data analysis.

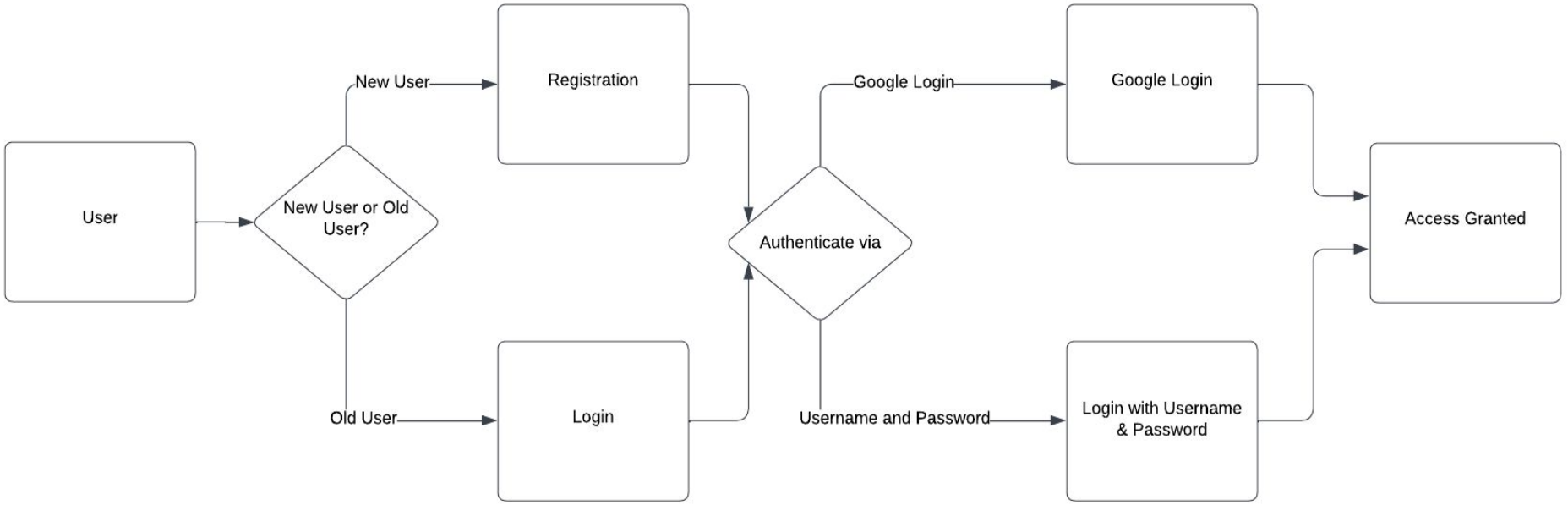
System Overview



Registration and Authentication Module

- RideShare offers secure user registration with options like username/email/password and Google Sign-In (if applicable), ensuring user convenience.
- Existing users can seamlessly access the app using their chosen method (login credentials or Google Sign-In), promoting a smooth and efficient login experience.
- RideShare prioritizes user data privacy regardless of the chosen login method.

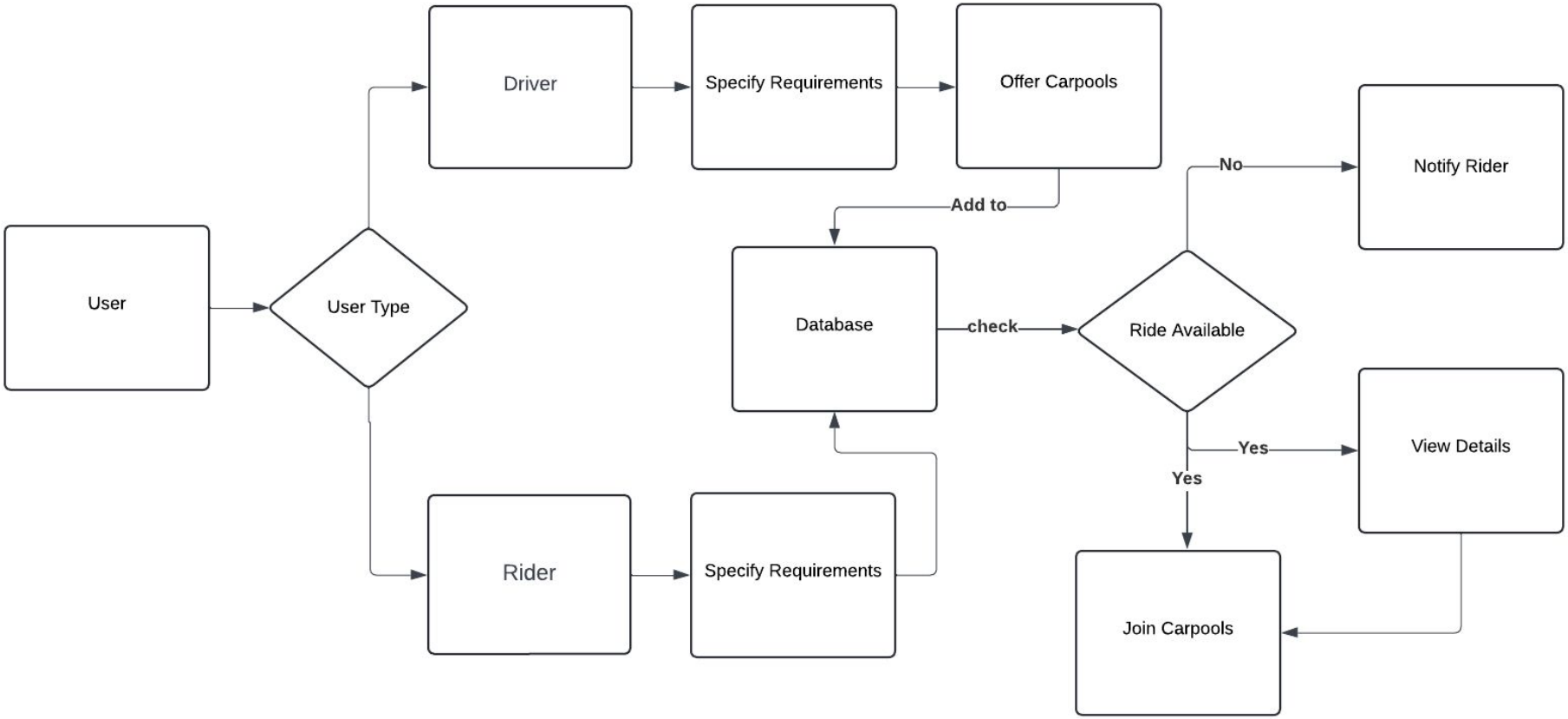
Registration and Authentication Module



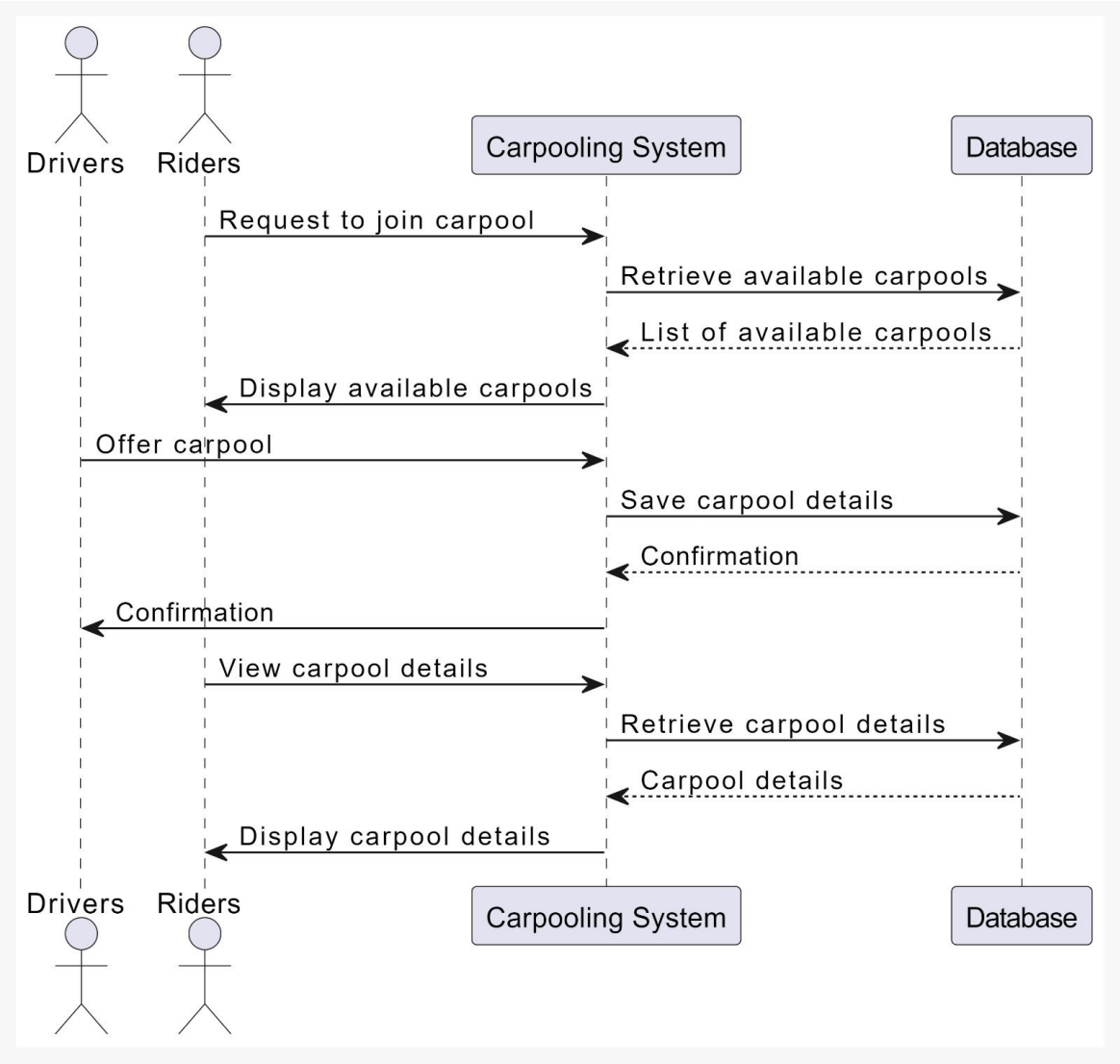
Carpool management module

- Drivers can offer carpools by specifying origin, destination, date, time, and available seats.
- Riders can join carpools based on their desired trip details and requirements(origin, destination, date, time).
- Functionality to view carpool details (driver information, car details, etc.) for informed decisions.

Carpool management module



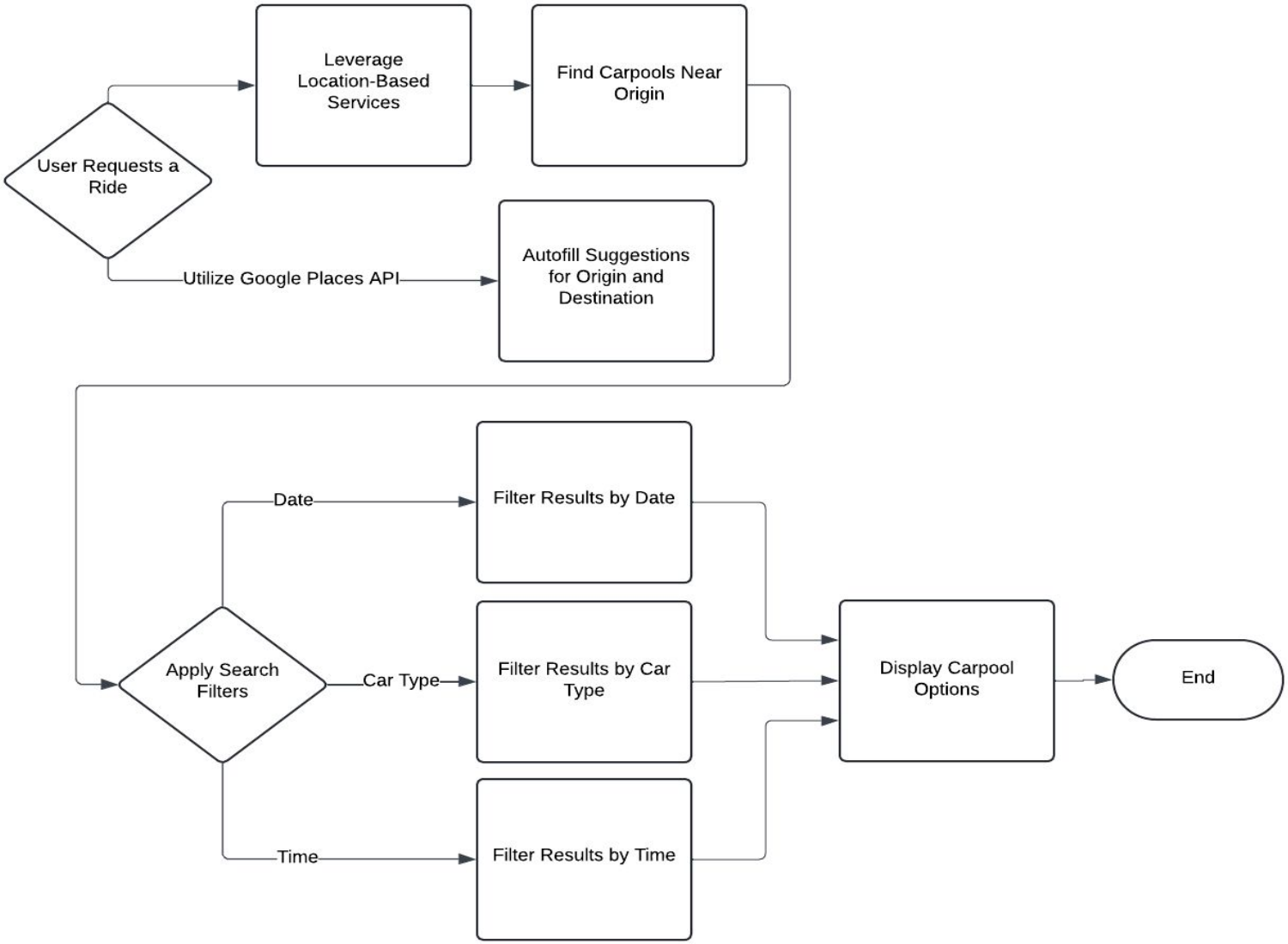
Carpool management module



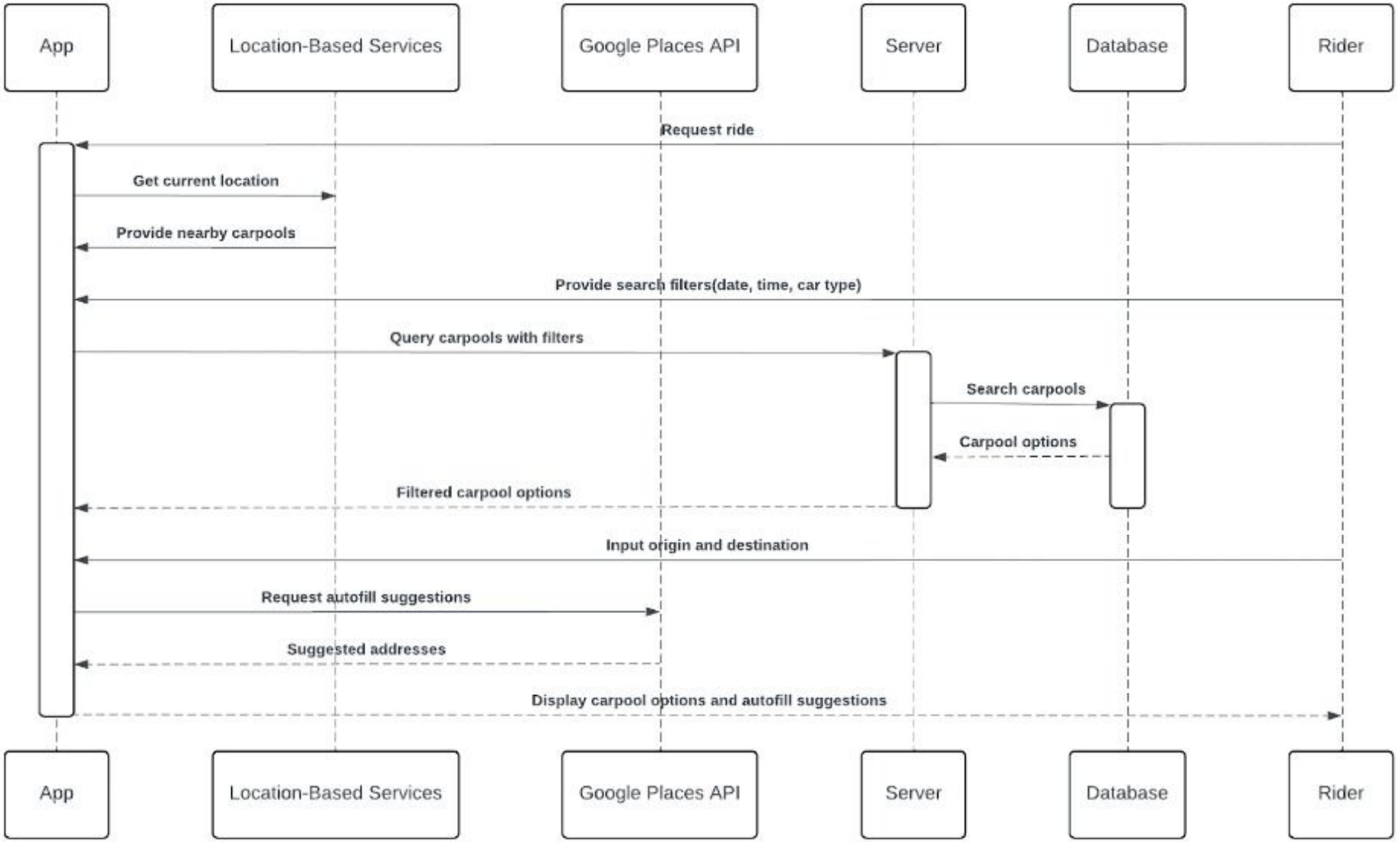
Search engine module

- Leverages location-based services to find carpools near the rider's origin.
- Search filters allow riders to refine their search by date, time, and car type (if applicable).
- Displays relevant carpool options based on search criteria and proximity.
- RideShare leverages Google Places API for autofill suggestions, streamlining origin and destination searches for riders.

Search engine module



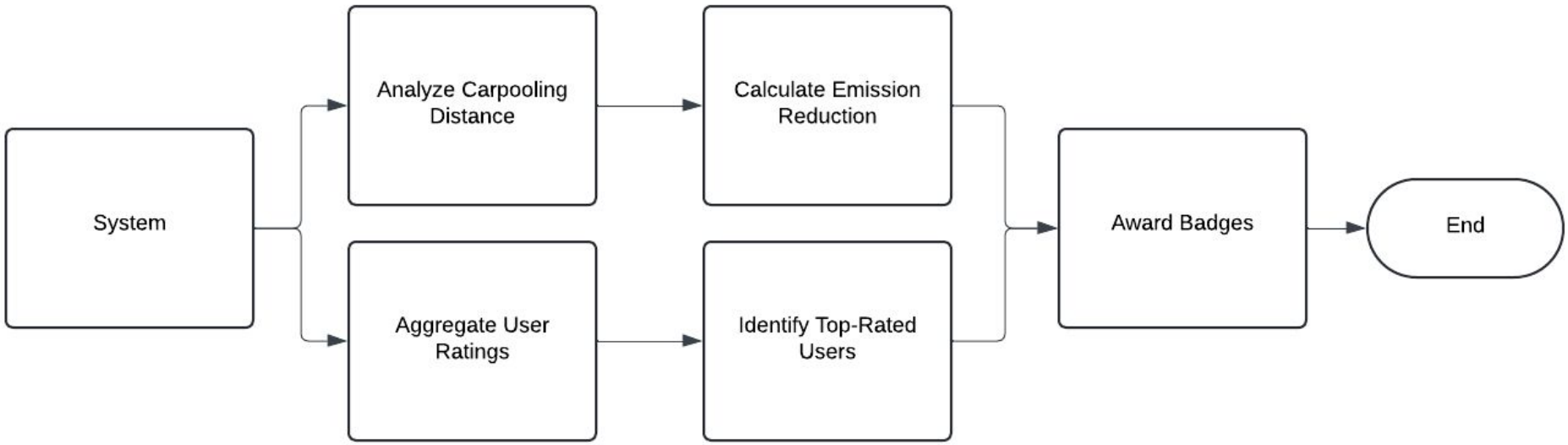
Search engine module



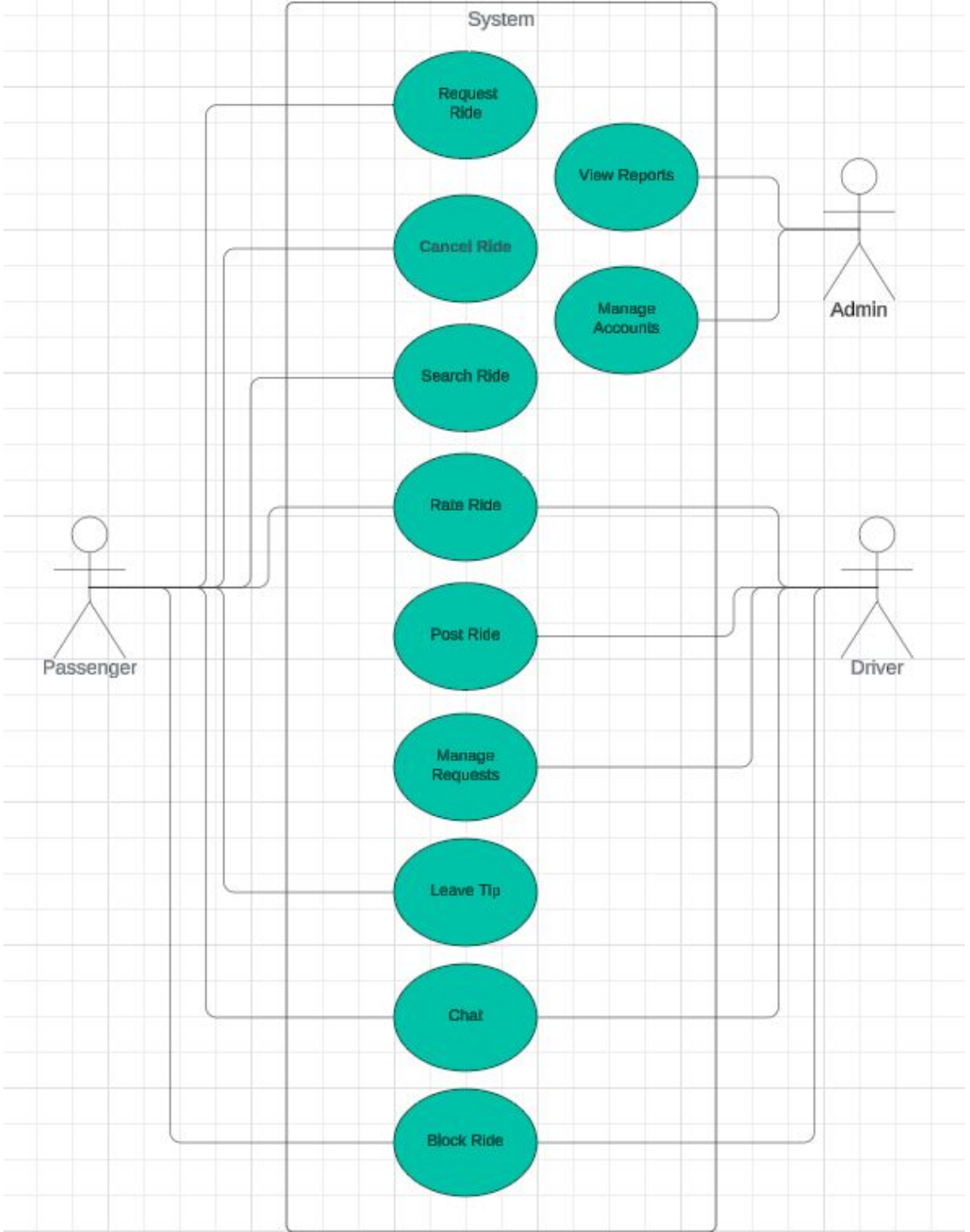
Rideshare Analysis module

- Analyzes the total distance traveled through carpooling, showcasing the collective impact on reducing individual car usage.
- Calculates the estimated reduction in carbon emissions based on carpooled distances, highlighting the environmental benefits of carpooling.
- Awards badges to users based on their contribution to carbon emission reduction through carpooling.
- Aggregates and analyzes user ratings for both riders and drivers. This data can be used to identify top-rated users and incentivize positive behavior within the community.

Rideshare Analysis module

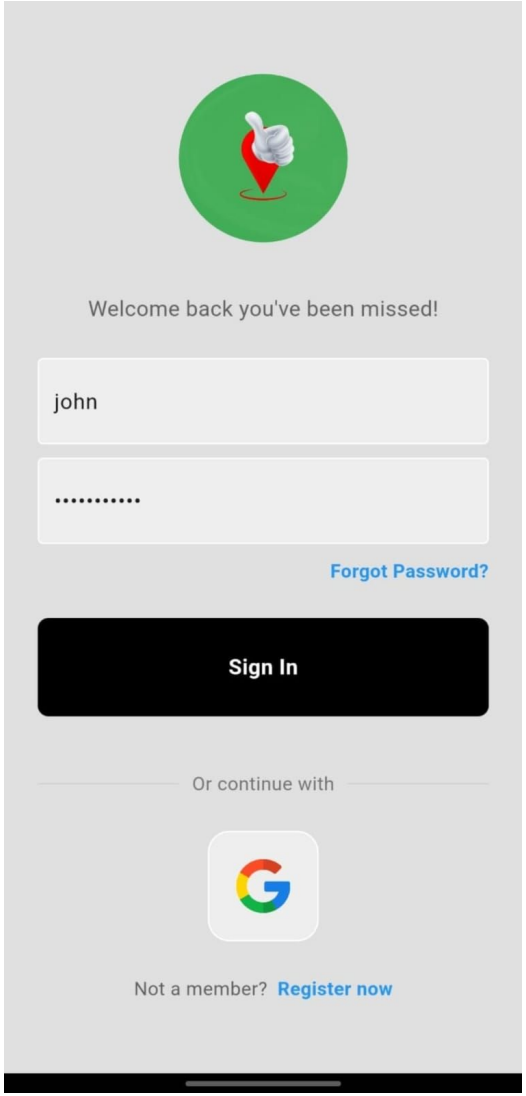


USE CASE DIAGRAM



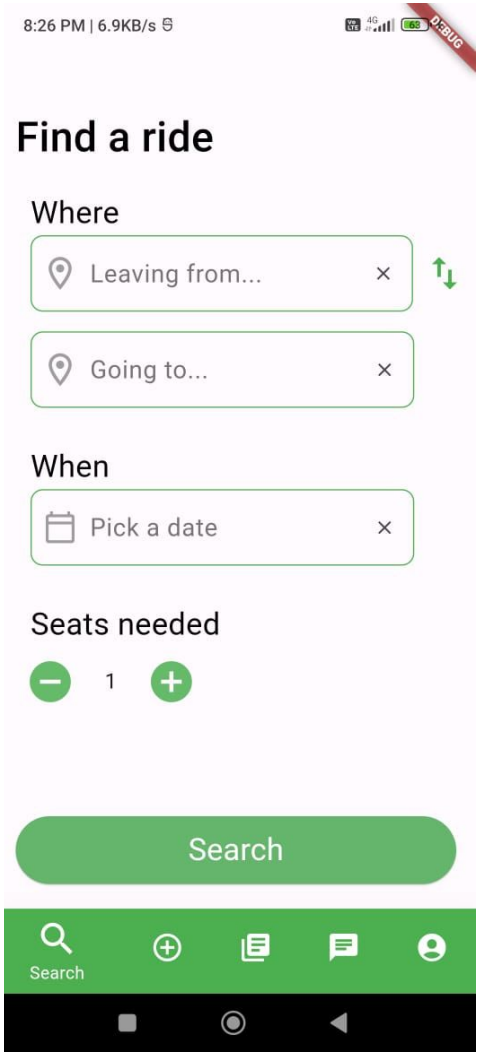
UI Design

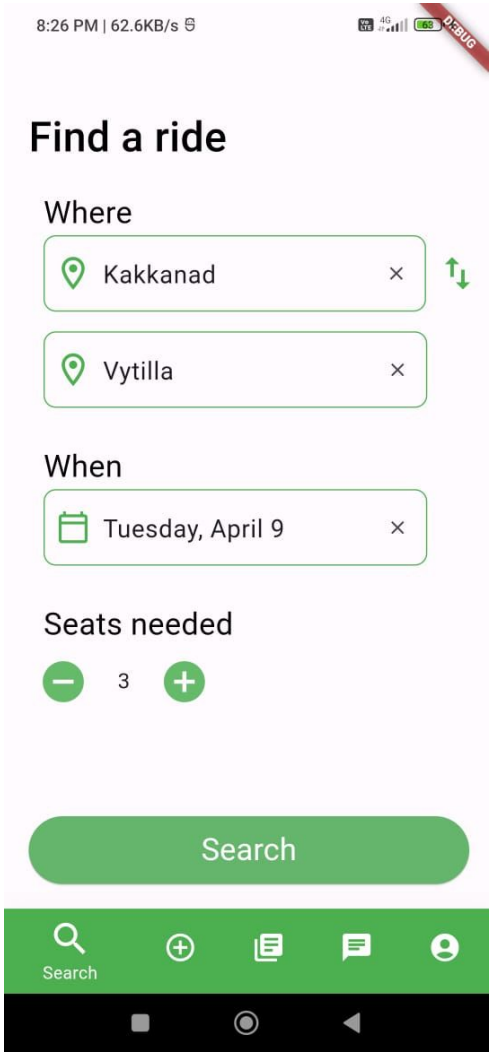
- LOGIN PAGE UI



UI Design

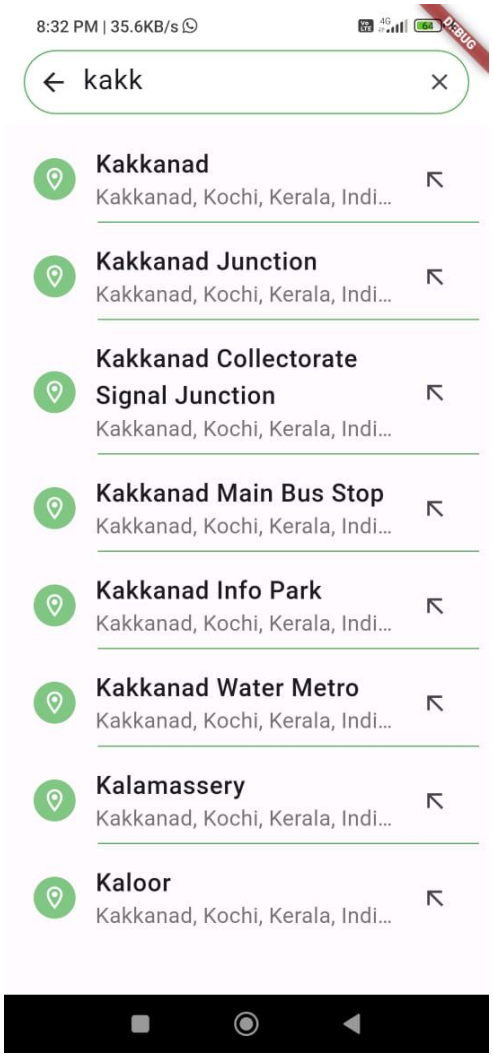
- SEARCH PAGE UI





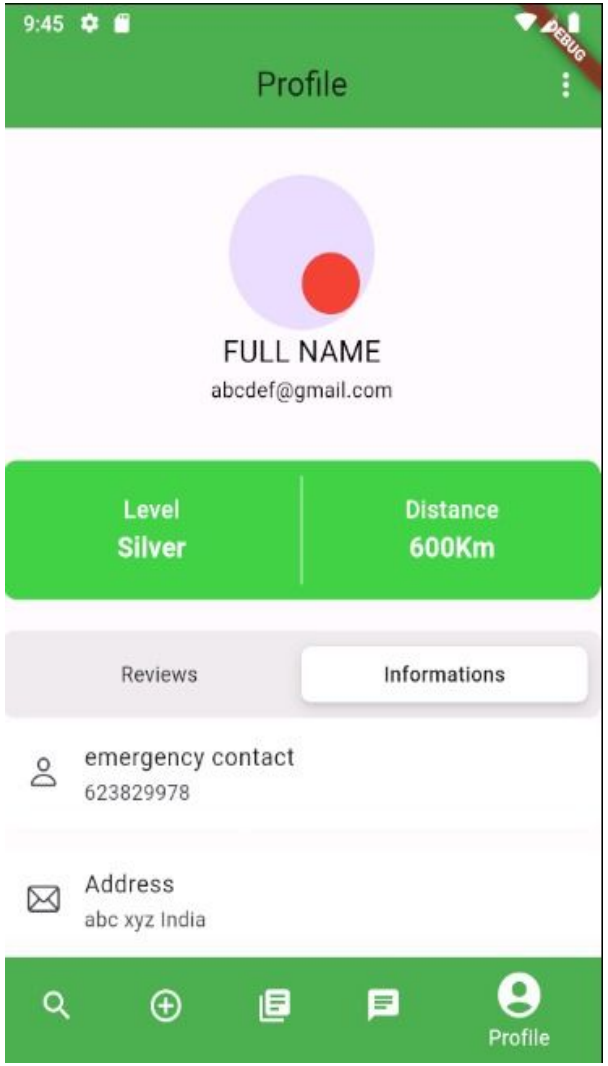
UI Design

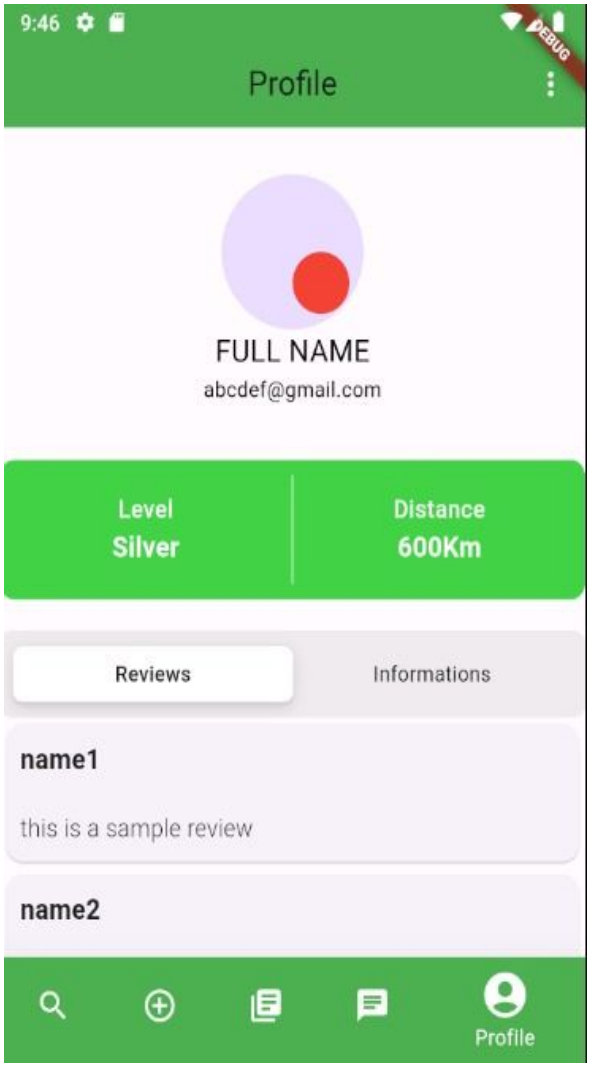
- SEARCH PAGE UI



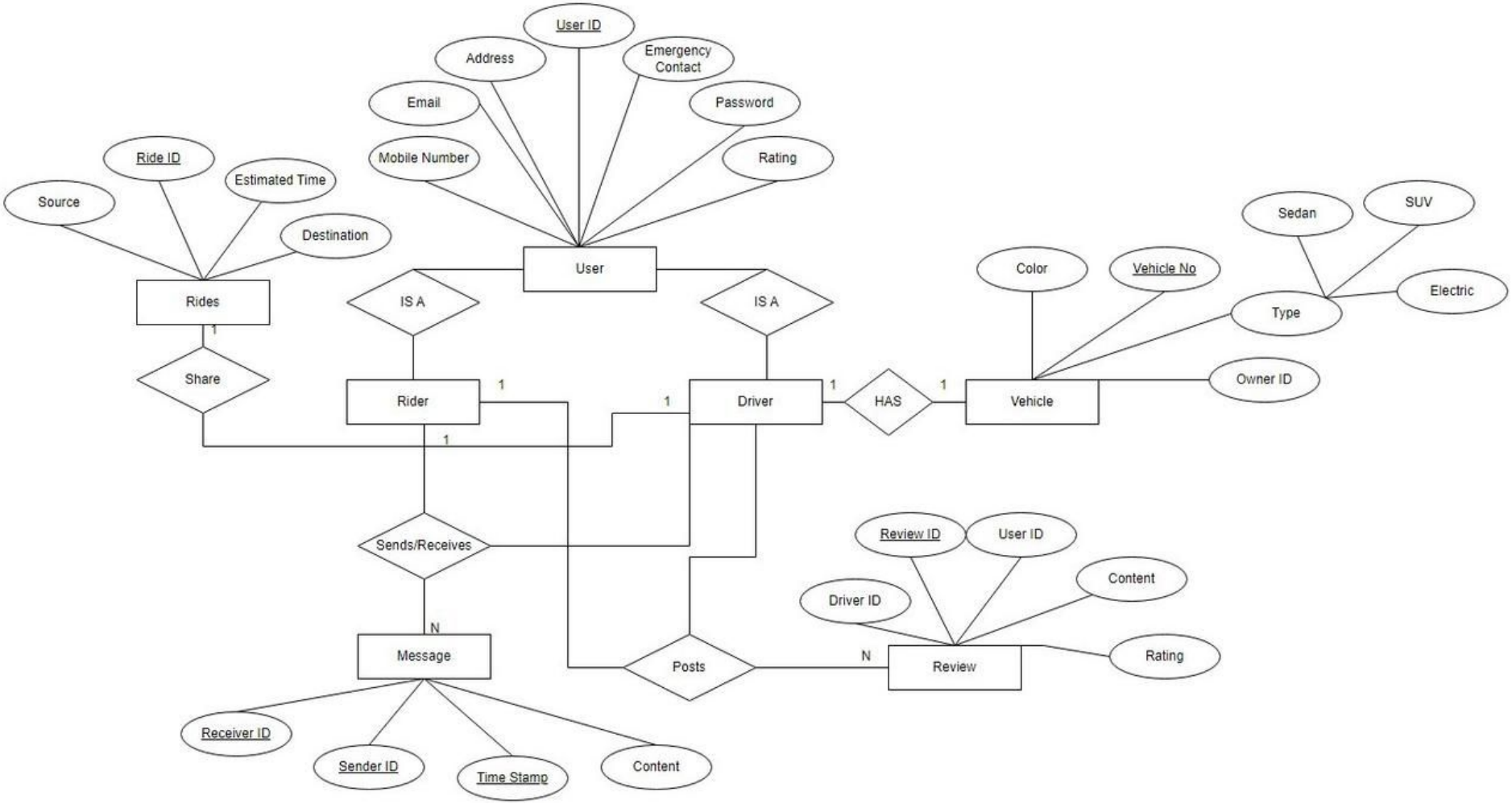
UI Design

- PROFILE PAGE UI

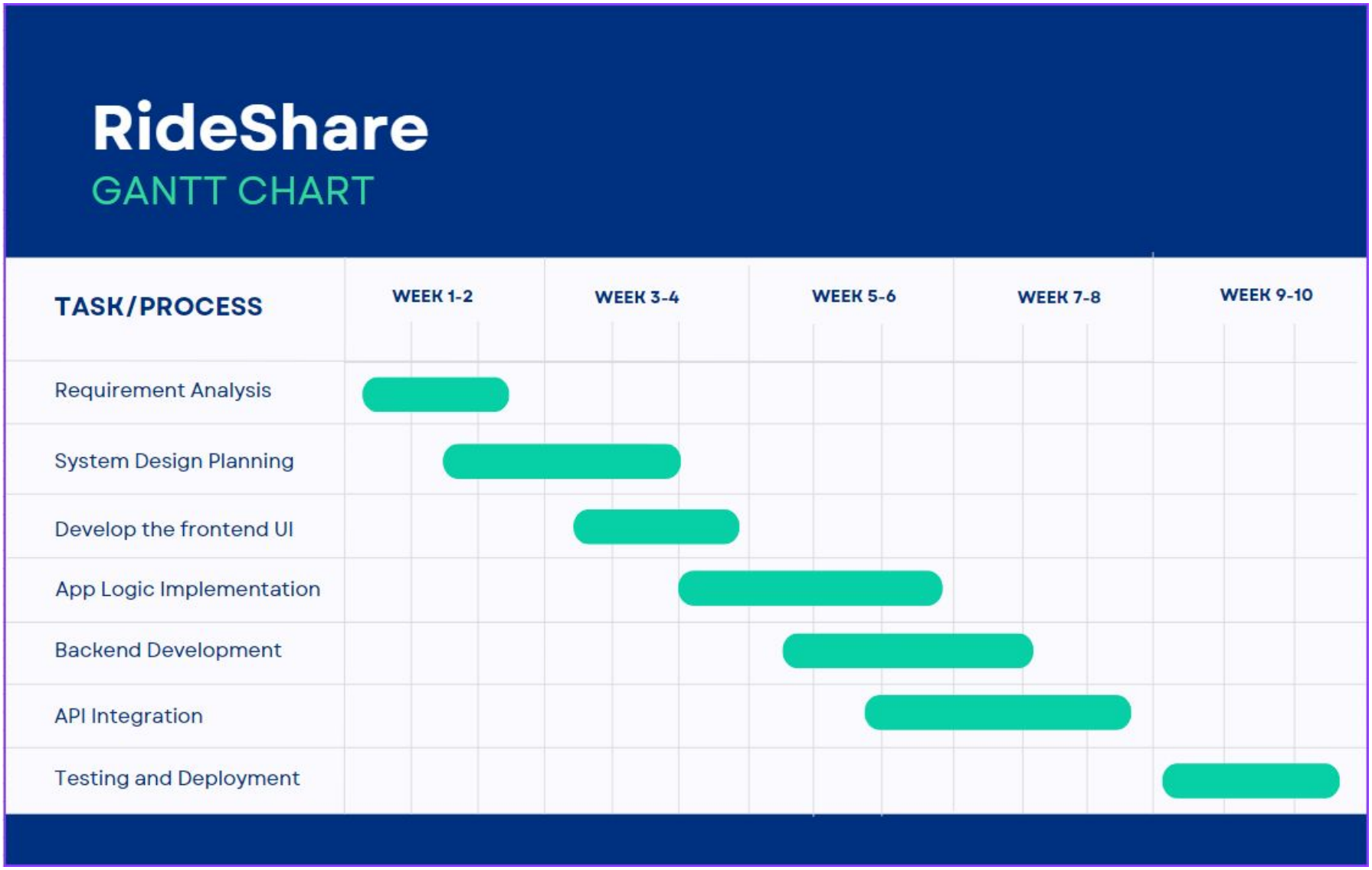




Database Design



Work Division



Software/ Hardware Requirements

Software Requirements:

- Flutter
- Dart Programming Language
- Firebase
- Google Maps API
- Location-based APIs (Geolocation API, Places API, etc.)
- Flutter Packages
- Payment Gateway API

Software/ Hardware Requirements

Hardware Requirements:

- Android OS 7.0+
- 4GB RAM
- 8 GB storage
- GPS
- Wi-Fi
- Mobile data
- Snapdragon 600 series or equivalent processor
- 720x1280 display

Conclusion

- Streamline your commute with RideShare. Our user-friendly carpooling app connects riders and drivers, letting you join or create carpools for a faster, smoother journey.
- Find carpools that match your needs, with real-time notifications, clear route visualization, and easy tracking for a seamless experience.
- Reduce traffic, save money, and contribute to a greener environment by carpooling with RideShare.

References

- Napoli, M.L., 2019. Beginning flutter: a hands on guide to app development. John Wiley & Sons.
- Tashildar, A., Shah, N., Gala, R., Giri, T. and Chavhan, P., 2020. Application development using flutter. International Research Journal of Modernization in Engineering Technology and Science, 2(8), pp.1262-1266.
- Dagne, L., 2019. Flutter for cross-platform App and SDK development.
- Pawar, S., Vishwakarma, A., Desai, J., Kashyap, S. and Pawar, T., 2021. Development of Mobile App for Cab Booking and Rental using Flutter SDK.