IT632 : SOFTWARE ENGINEERING

GROUP ID : 7

PROJECT : A REAL TIME MOBILE APP FOR SHARING CARS

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INDEX

Sr. No.	Content	Page
1	Scope of Project	5
2	Process Model	6
3	Users and Stakeholders	7
4	Requirements	8
5	Use Case Diagram	10

Scope of the project :

Carpooling is one of the latest technologies discovered which has made travelling convenient and efficient to the common man. It is also known as car-sharing in which one can travel to their destination while sharing a vehicle and the expenses incurred. Hence fuel costs, tolls and the stress of driving will be reduced when more people travel together in one vehicle. It also helps in reducing traffic congestion, and other poisonous gases in the air. It can help to save a lot of space in the Parking lot. During high fuel prices and high pollution periods, making use of the car pooling system is an intelligent decision. In our application, we will make an Android based application that will allow passengers to collaborate with other like-minded people and plan out their journey using the easy UI of the app after signing in to it. Pre-registration ensures security, as only identified people get into the vehicle so that trust can be established. People will also be able to share expenses and not have to worry about reaching late while making new connections.It is a combination of incremental and iterative methodology. The process involves breaking down each project into prioritised requirements, and delivering each individually within an iterative cycle.

Process Model :

Agile : It is a combination of incremental and iterative methodology. The process involves breaking down each project into prioritized requirements, and delivering each individually within an iterative cycle. An iteration is the routine of developing small sections of a project at a time. Each iteration is reviewed and assessed by the development team and client.

Reasons for choosing Agile :

- In this model, the development team does not attempt to develop all features at once. Instead, we **divide the car-pooling project into multiple iterations** to focus on the quality.
- Every iteration includes **cross functional teams working on different areas** such as planning, requirements, analysis, coding and testing.
- After every iteration, the **project will be reviewed** by different users of the application.
- **Adaptability** is one of the key reasons as in this model teams can easily make changes in the plan.
- The iterations in it are **shorter in duration** ranging from 2 weeks to 2 months.
- It **reduces the risk** as the application will be developed in a sprint allowing us to find out whether we are on track or not.

Users :

- Car poolers (users offering ride)
- Riders (users sharing ride)
- Admin

Stakeholders :

- Government
- NGOs
- Private Institutions
- Development Team
- Project Managers
- Car Poolers (users offering ride)
- Riders (users sharing ride)
- Admin

User stories :

Functional Requirements :

- As a user, I want to register myself, so that I can login to the application.
- As a user, I want to login, so that I can use the functionalities of the application.
- As a user, I want the application to verify the login credentials of users, so that no user can access the application without registration.
- As a user, I want to reset the password, so that I can login again in case I forgot the password.
- As a user, I want to take a tour of the application, so that I don't face any difficulty while using it.
- As a user, I want to edit my profile details, so that I can update the details whenever required.
- As a user offering a ride, I want to add the car, so that I can offer the ride.
- As a user offering a ride, I want to edit the car details, so that I can update the information whenever required.
- As an admin, I want to accept or reject the cars that are added by the user, so that I can authenticate that the information is genuine.
- As an admin, I want to view all accepted cars, so that I can view that information in future.
- As an admin, I want to view all rejected cars, so that I can view that information in future.
- As a user offering a ride, I want to offer a ride by filling in necessary details, so that anybody who wants to share the ride can request me.
- As a user offering a ride, I want to cancel the ride, so that in case my plan changes I can update it on the application accordingly.
- As a user offering a ride, I want to modify the ride, so that in case my plan changes I can update it on the application accordingly.
- As a user offering a ride, I want to accept or reject users' taking a ride, so that I can choose according to my choice.
- As a user offering a ride, I want to see the details of a user requesting me to share a ride, so that I can make an informed decision.
- As a user offering a ride, I want to start the ride, so that I can keep the record of rides (when it started).
- As a user offering a ride, I want to end the ride, so that I can keep the record of rides (when it ended).

- As a user taking a ride, I want to take a ride by filling in necessary details, so that I can request the available offered rides.
- As a user taking a ride, I want to view the offered rides, so that I can select the ride according to my requirements.
- As a user taking a ride, I want to request a ride to a user available, so that I can take a ride with that user.
- As a user taking a ride, I want to see the details of a user available, so that I can make an informed decision.
- As a user taking a ride, I want to cancel the request sent, so that in case my plan changes I can update it on the application accordingly.
- As a user, I want to give feedback, so that I can share my experience or suggestions accordingly.
- As a user offering a ride, I want to report another user whom I have offered a ride, so that if I have experienced something inappropriate then necessary actions can be taken further.
- As a user taking a ride, I want to report another user whom I have taken a ride with, so that if I have experienced something inappropriate then necessary actions can be taken further.

Non-Functional Requirements:

- As a user, I want to be able to run the application on all versions of android, so that I can use it on any android device.
- As a user, I want the application to be available 99.99% of the time so that I can access it whenever required.
- As a user, I want the application to respond quickly so that I can have a pleasant and seamless experience.
- As a user, I want to use the application on iOS devices also, so that I am able to use the application irrespective of the type of mobile.
- As a user, I want the application to not share any of my personal details with any third party without my permission so that I can trust and use the application without any fear.
- As an application user, I want the number of users to be scalable in the database so that the application works smoothly.
- As a user, I want an easy user interface, so that it is easy to navigate in the application.

USE CASE DIAGRAM