Group Project 3 - Software Requirements Specification

**CARPOOLING**

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Carpooling

Software Requirements Specification

Version 1.0

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Software Requirements Specification

# Introduction

## Purpose

The main purpose is to provide a source for students to get rides or carpooling using a mobile application. The rides availability depends on the rides being posted in the application provided by other students to help the other students of UHCL who are in need of ride.

## Scope

The main objective of this application is providing students a platform for solving an issue of not finding a transport to travel by knowing students who provide ride and students who want rides. The rides wanted by a student can be checked or posted if they need in application and can check the best deal who or which student is offering and can opt that particular ride and can go happily to his or her destination with a lower price as we can see different drivers posting different prices. This helps the rider to choose the best of it and even we can check previous ride rates too for that particular destination provided if any. The payment for the ride will be totally between the driver and rider. A platform can be provided where they can share their views by commenting on a particular ride and how did they feel.

## Definitions, Acronyms and Abbreviations

UHCL: University of Houston Clear Lake

GUI: Graphical User Interface

API: Application Program Interface

## References

1. Leffingwell Dean, Widrig Don; Managing Software Requirements: A Use Case Approach, 2ed

## Overview

The rest of the document explains the problems, how to assess that problems. It also contains the user environment and the inputs on the stakeholder’s problem by the analysts. It will explain in detail all the problems related to carpooling application.

# Overall Description

* **Product perspective:**

The main perspective of the project is provide platform for the students to get a ride to college and to be independent, instead of asking friends help for giving rides

* **Product Functions:**

1. Register/Sign up

2. Add transportation Route

3. Delete transportation Route

4. Search transportation Route

5. Send message

6. Reply to message

7. Block student

8. Specify gender for sharing ride

9. Change language

* **User Characteristics**

There are three types of users: persons who give rides, person who wants ride and administration. Each of the users has their specific role in the application which leads to their own requirements.

The user who wants to give ride has to login into the application as a person who will give rides. This means that user will mention the rides user give and for what price and also he replies to the other users who need rides too. That’s the role given to this user.

The user who wants to take ride has to login into the application as a person who needs ride. This means that user will be able to see the rides being given or can even request a ride.

The admin is the one who manages the whole application. The admin monitors the application and tries to see that some security can be provided to the application as well.

* **Constraints:**

Security of the student is the major constraint, so we added a feature like he /she can specify the gender while requesting the ride, another constraint in this application is we should take care that server whether it is working properly or not if that crashes this application may not be functioned.to sum up, this application constraints can be manageable.

This application is limited to college students that to for University of Houston Clear Lake students. There would also be an issue of security as someone else can also be a part of it by taking someone’s ID and all.

* **Assumptions and Dependencies:**

One supposition about the item is that it will dependably be utilized on cell phones that have enough execution. On the off chance that the telephone does not have enough equipment assets accessible for the application, for instance the clients may have apportioned them with different applications, there might be situations where the application does not fill in as proposed or even by any means.

The application will require internet connectivity for all the functions to operate.

* **Requirements Subsets**

If incase we find some errors in this or find out some new requirements then we will rectify and add the requirement and release the product as the next version.

# Specific Requirements

## Functionality

### Registration

The rider and the driver will have to register in the application before using the application. Rider and driver will have separate links for registration. The registration function is mandatory for the first time user.

* + 1. Login

The rider and driver will have separate links for logging in. Login is mandatory.

* + 1. Selection of rides

The rider can select the rides as per his/her convenience. The drivers and the riders have an option of selecting co-riders for the ride.

* + 1. History of rides

The driver and the rider can view the history of their rides.

* + 1. Payment mode

The rider has a choice of payments via cash, bank, debit card or credit card.

* + 1. Security

Security option is provided for the riders as well as for the drivers. Emergency contacts, share details of the ride, police contacts are provided.

## Usability

### User- Friendly

The application will be simple to use and easily guidable.

3.2.2 User Documentation

The application will be provided with all types of documentation, training materials (online and offline) and user manuals

## Reliability

### Availability

The application will be available 24\*7.

* + 1. Accuracy

The application will be compatible to all the versions, hence the application will be available in all the screen resolutions.

* + 1. Mean Time To Repair

If any repair is needed it will be done when there is minimal usage of the application.

## Performance

### Response Time For A Transaction

The payment will have minimal time response and any transaction will not roll back.

* + 1. Throughput

The average time will be 5 seconds per transaction and the maximum time for a transaction will be 15 seconds per transaction.

* + 1. Capacity

At a time more than 1000 users can use the application at the same time.

* + 1. Resource Utilization

The application will utilize minimum memory, not more than 50MB.

## Supportability

* + 1. Extensibility

The application will be able to extent the third party payment mode.

* + 1. Adaptability

The application will be able to adapt to new features or new changes.

* + 1. Maintainability

The application will be maintained throughout the Software Life Cycle of the application.

* + 1. Compatibility

The application is compatible on all the browsers and all the versions of IPhone, Android and Windows.

* + 1. Configurability

The application will be easy to configure.

* + 1. Serviceability

Online service will be provided 24\*7.

* + 1. Installability

The application will be easy to install and no extra installation of software will be required.

## Design Constraints

### Software Language

The application will be in English language.

## Online User Documentation and Help System Requirements

The application will be delivered with User manual offline as well as online. Online help will be provided 24\*7.

## Purchased Components

Google Maps API licensing will be used in the application to provide the routes and tracking the rides.

## Interfaces

### User Interfaces

The user should be able to logged in into the mobile application using their student ID and password as we are making an application for college students.

The user should be able to view the people who are offering rides and the other case should be able to post about a ride whether user needs or user will give.

### Hardware Interfaces

The mobile application will not need any hardware interfaces. The only hardware for mobile application is the mobile handset.

### Software Interfaces

The application needs communication through database where it displays all the information like riders information, drivers information, past rides.

### Communications Interfaces

None Specified.

## Licensing Requirements

The Application will acquire Google map API licensing permission.

## Legal, Copyright, and Other Notices

The application will have the XYZ Corporation logo as well as the logo of University of Houston Clear Lake logo. The application will follow all the legal rights as per the company and university standards. XYZ will have all the copyrights.

## Applicable Standards

The application will follow all the IEEE Quality standards and the regulatory standards. It will also follow the TCP/IP standards.

# Supporting Information

**Appendices**

The appendices are not to be considered as a part of the requirements for the application.

* Android: An open source mobile operating system provided by Google.
* Carpooling: Sharing of the car rides while going to the same destination
* Google Maps: mapping service for the web developed by Google
* Windows: Computer or mobile operating systems.