
Software Requirements Specification

For

Car-pool Management

Version 1.0 approved

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DATE: - 16-Feb-2012

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

Carpooling (also known as car-sharing, ride-sharing, lift-sharing), is the shared use of a car, especially for commuting to work, often by people who each have a car but travel together to save cost and to promote other social-environmental benefits. People who don't have a car can also contact people with car and commute together.

The basic idea of car-pooling is the sharing of car journeys so that more than one person can travel in a car. When people are more and they are using the same vehicle then it can reduce each person's travel costs like fuel costs and the stress of driving.

Carpooling is also seen as a more environmentally friendly and helpful way to travel as sharing journeys reduces air pollution, traffic congestion on the roads as well as the need for parking spaces also. It is recommended especially during high pollution periods and high fuel prices. Authorities are encouraging this type of activities.

1.1 Purpose

This document is a Requirements Specification providing the details for the Carpool application. The document will be used to elaborate the functionality of the Carpool application. The document addresses a web-based application that is accessible from an Internet browser.

The document also describes the nonfunctional requirements such as the user interfaces. When the system is designed it also considers the design constraints and other factors which will be used for the

software. This application allows the users to perform tasks like search the car on desired route, date and timing.

1.2 Document Conventions

Particulars	Font Type	Font Size
Main Heading	Cambria (Bold)	22
Sub Heading	Cambria (Bold)	18
Body	Calibri	14

1.3 Intended Audience and Reading Suggestions

This document is written keeping in mind that it should be easily understandable by the developers, users and document writers. This document contains information on the overall description of the application product, functions, the system features, the external interface requirements, other non- functional requirements, glossary and any other requirements needed.

1.4 Product Scope

Carpooling is environmental friendly, reduces cost of journey and it saves from traffic problems. Now a days, number of cars on road has increased tremendously this led to heavy traffic problems and some other environmental hazards like air pollution and noise pollution with the help of this we can share ride with

people who are regularly coming from same place it could provide solution to these environmental problems.

With carpooling they can make their ride enjoyable while talking with fellow persons. It is good way to save on fuel consumption. One of the most important benefits of carpooling is saving of money not only in terms of fueling but also wear and tear ride will be reduced to great extent.

1.5 References

<http://en.wikipedia.org/wiki/Carpool>

<http://www.carpool.in/etiquette.htm>

<http://www.carcabpool.com/carpool-benefits.html>

<http://www.delhicarpool.com/>

2. Overall Description

2.1 Product Perspective

Our system is being implemented is a self-contained product and will be the first of its kind. It will be exclusively designed for the faculty, staff & students of our college i.e. NITC

Every day many persons including faculty, non teaching staff, students etc, go to city by taking their own cars & faces traffic in road as well as in petrol pumps, also they have to bear whole maintenance of the ride therefore, we are creating a software that helps to reduce these problems through ride sharing & also gives a good company to the car owner.

2.2 Product Functions

The carpool functions will support the following functionality:

- Login - logging onto the web server
- Register - Register in the carpooling
- Carpool search - search other members participating in the carpool
- Create Carpool - create carpooling for special events
- Join Carpool - join others carpool.
- View Carpool detail - view detail of the one-time event schedules.
- Delete Carpool detail - delete own created carpool.

2.3 User Classes and Characteristics

<u>Participant</u>	<u>Priority</u>
User	Medium
Guest	Low
Admin	High

Admin: -

He will check the information given by the guest user & provide him user-id and password. He has to maintain the priorities given by the car owners regarding the person for which they are comfortable in journey. He can provide new password if user wants.

Guest: -

The guest can see the schedule to different places with search option by providing the corresponding date and time and he can register on the website by providing the required details. But he cannot join the carpool and create carpool without getting registered

User: -

He can access his profile. He can change and update his profile, change password, create new car-pool, update pool already created, delete the pool created by himself, join new pool according to places and timings.

2.4 Operating Environment

- The computer must be linked up to a server loaded with the Database. The users will require for peripherals a mouse and a keyboard.
- It should be compatible with all the well known and widely used web browsers like Internet Explorer, Mozilla Firefox, Google Chrome, and Opera.

2.5 Design and Implementation Constraints

- Its front end should be implemented using PHP, HTML and Java-script.
- The back end should be managed by the MYSQL.
- It will be using the Andromeda server provided by NITC.
- The Backup and recovery functionalities will be constrained by the servers and the data.
- Storage facilities provided by Andromeda.

2.6 User Documentation

- This website will be a user – friendly and created in such way that the person having little or no knowledge of the website can use this; therefore no user manual will be required.
- Other queries will be solves in FAQ'S.

2.7 Assumptions and Dependencies

- It is assumed that the user should familiar with computer &having internet connection in the system.
- It is assumed that all information given by the user is correct regarding personal & scheduling information.
- Our system mainly depends on the users & highly affected when the information given for pooling is not followed.

3. External Interface Requirements

3.1 User Interfaces

On the main page, the guest can check the carpool schedule and will be given an option to login or register as a new user.

The registered user will be a given the option to edit their profile, perform a carpool search, create a car pool, view others carpools, join car pool, and delete his own carpool.

While creating carpools, users can establish their own preferred origin and end destinations places along with his

own choice of partners he wants in his ride sharing journey.

When joining the car-pool we can join according to the description given by the car owner i.e. after matching source-destination places, timings & other preferences.

3.2 Hardware Interfaces

- The user should have end systems (computers or laptops).
- The hardware interfaces (such as network connectivity) will be managed by Internet Service Provider.

3.3 Software Interfaces

- The system is not specific for any particular operating system.
- We will be using HTML, Java script and PHP to build the front end of our Database. It will
- Mainly consist of usernames, passwords, emails, address, and schedule of car-pooling.
- We will use MYSQL to manage the database on our server.
- PHP will be used to connect to MYSQL.

3.4 Communications Interfaces

- HTTP protocol is used for transferring data between the server and the client.
- We will be using HTTP for establishing connection between user and database.
- We will be using PHP along with SMTP authentication to send and receive Email.

4. System Features

1.1 Sign Up/Register

1.1.1 Description and Priority

Register option is provided on the home page of the website. Guest visiting the website can register them self by clicking on the register button after this user redirected to the register page. A register user can only join and create carpool. It's priority 7.

1.1.2 Stimulus/Response Sequences

When the user is redirected to the register page he has to provide the information to fill the required register form.

The information given by the user will be check from the database and if the information found correct a will be displayed successfully register.

Error can occur if the user already registered. Or the information given by him isn't matched with the database.

1.1.3 Functional Requirements

REQ 1:- full name	mandatory	TYPE: -
String		
REQ 2:- email	mandatory	TYPE:-
Alphanumeric		
REQ 3:- CIN	mandatory	TYPE: -
Alphanumeric		
REQ 4:- password	mandatory	TYPE: -
Alphanumeric		
REQ 5:- address	mandatory	TYPE: -
Alphanumeric		

REQ 6:- mobile
Numeric

mandatory

TYPE: -

4.1 Search

4.2.1 Description and Priority

Search option is displayed in the home page on the browse. Any guest (Not- registered) can also access the search option. It's directly connected with the database. Its priority is 6.

4.2.2 Stimulus/Response Sequences

User can search the site by giving his required origin and destination places. User can give only those places which are given drop down menu in the search option. After selection of places the user has to click on the search button. After this options of carpooling will be displayed on the screen.

4.2.3 Functional Requirements

REQ - 1:- Origin place	mandatory	TYPE: -String
REQ - 2: -Destination place	mandatory	TYPE: -String
REQ - 3: -Search Button -Radio Button	mandatory	TYPE:

4.3 Login

4.3.1 **Description and Priority**

This option will on the home page of the website. It allows the user who have been registered before to get access to his own profile. User can also request for the new password in case he forgot the password. It's priority 9.

4.3.2 **Stimulus/Response Sequences**

The user has to provide the user name given to him at the time he registered and the last updated password to login to access his profile after clicking on the login button. To get a new password user has to provide the username/email id.

Error can occur if the user name and password didn't match, and the user will be redirected to login home page.

4.3.3 **Functional Requirements**

REQ - 1:- username	mandatory	TYPE: -
Alphanumeric		

REQ - 2:- password	mandatory	TYPE: -
Alphanumeric		

REQ - 3:- Login button	mandatory	TYPE: - Radio
button		

4.4 Create Car-pool

4.4.1 **Description and Priority**

Only registered user and having car can create car-pool . he has to provide the information regarding the origin and destination place along with the timing. Its priority is 8.

4.4.2 **Stimulus/Response Sequences**

For creating a car pool the user is redirected to the create carpool page, there he has to provide the information to fill the required form like origin and destination places, timing. His description, etc. after this a if the carpool created then message will be displayed.

4.4.3 **Functional Requirements**

REQ - 1:- Name	TYPE: - String
REQ - 2:- Description	TYPE: - String
REQ - 3:- Seat	TYPE: - Numeric
REQ - 4:- Origin	TYPE: - String
REQ - 5:- Destination	TYPE: - String
REQ - 6:- Start timing	TYPE: - Time
REQ - 7:- End timing	TYPE:- Time
REQ - 8:- Vehicle no. -Alphanumeric	TYPE:

4.5 Join Car-pool

4.5.1 **Description and Priority**

Only registered user can join the car pool. He has to provide the information regarding the origin and

destination place in the search box. If the user has already joined car pools an option will be provided to leave that car pool. Its priority is 8.

4.5.2 **Stimulus/Response Sequences**

After giving origin and destination place in join pool search box, the user is redirected to the join carpool page, where the search result is displayed according to the information given in the search box. He can join any of the carpool showing in the search result by clicking the join button, according to the time and description for the journey given by the person who created the carpool. After clicking on the leave button the user is no more member of that car pool.

4.5.3 **Functional Requirements**

REQ - 1:- Origin place	mandatory	TYPE: -String
REQ - 2: -Destination place	mandatory	TYPE: -String
REQ - 3: -Search Button -Radio Button	mandatory	TYPE:

4.6 View Car-Pool

4.6.1 Description and Priority

When the user click on the view button given on his profile page the user is redirected to the page where he can see the pools created by him and joined by him.

On going to the page showing the pools created by him, a option is provided for him to Delete the car pool.

On going to the page showing the pools joined by him, a option is provided for him to leave the pool. Its priority is 8.

4.6.2 Stimulus/Response Sequences

In the page showing the carpools created by the user. The user can delete that carpool if he desired so. All member who are already joined that pool are being automatically deleted.

In the page showing the carpools joined by the user. The user can leave the pool.

4.6.3 Functional Requirements

REQ - 1:- View button	mandatory	TYPE: -Radio
REQ - 2:- Leave button	mandatory	TYPE: - Radio
REQ - 3:- Search Button Button	mandatory	TYPE: - Radio

5 Other Nonfunctional Requirements

5.1 Performance Requirements

A proper internet connection is needed for the users using this website and the user should be user friendly with computer and the user interface of the website should be easy.

5.2 Safety Requirements

If some unauthorized person get access to the site he can damage the site, therefore, the system shouldn't allow the user to access, until he provides correct username and password.

5.3 Security Requirements

- Only administrator has the access to update and delete the database.
- Guest user can only search for carpool to join or delete a car pool he should be registered.
- The system shouldn't allow the user to access, until he provides correct username and password.
- If the user request for a new password the password will be send to his mail id.

5.4 Software Quality Attributes

- A healthy internet connection having a good speed is to be use to get a better response time.
- This website is available 24*7.
- This website site is easy to use; it is being made, keeping in mind that the use has a little knowledge of the computer and website.

- The website is very flexible so that the user can update the car pools information anytime
- In the website , any operation on the stored information, triggered by the
- User shall complete in less than 10 seconds.

5.5 Business Rules

The user who created carpool has complete access over the car pool and on the members joining the carpool. He has the contact detail of all the persons who often join his carpool. In case the website is crashed he can directly contact with them.

6 Other Requirements

- Licensing Requirements
 - The usage of CAR-POOL MANAGEMENT is restricted to only who has the license.
- The system will try to retain the integrity of data
- Access Reliability
 - The system shall provide 100% access reliability.

Appendix A: Glossary

SRS	Software requirement specification
NITC	National institute of technology Calicut
PHP	Hypertext preprocessor
HTML	Hypertext markup language
FAQ's	Frequently asked questions
HTTP	Hypertext transfer protocol
SMTP	Simple mail transfer protocol
CIN	College identity number