Software Requirements Specification

for

Ride With US

Version 1.0

Prepared by

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	AYUSH YADAV HARSHIT PATEL JATOTH SHASHI VARDAN KANDULA AMARNADHU PAL AJAY RAMSAGAR ROHIT VINOD ATKURKAR SANGA BADRI SUGALI YASHWANTH NAIK SUNANDINI BANSAL V HARIVANSH	Initial Requirements of the project.	24/01/2025

1 Introduction

1.1 Product Scope

"Ride With Us" is a web-based ridesharing platform that facilitates connecting drivers and passengers for shared journeys. The system enables users to offer rides, search for available rides, and manage ride requests in a secure and user-friendly environment.

1.2 Intended Audience and Document Overview

This document is intended for:

- Development team members
- System administrators
- Quality assurance testers
- Project stakeholders

The document outlines functional and non-functional requirements for the ridesharing platform.

1.3 Definitions, Acronyms and Abbreviations

- SRS: Software Requirements Specification
- UI: User Interface
- CRUD: Create, Read, Update, Delete
- SQL: Structured Query Language
- PHP: Hypertext Preprocessor
- HTML: HyperText Markup Language
- CSS: Cascading Style Sheets
- JS: JavaScript

1.4 Document Conventions

- Requirement priorities are indicated as: Essential, Important, or Desirable
- Database table names are in UPPERCASE
- Code snippets are in **monospace** font

1.5 References and Acknowledgments

- PHP Documentation
- MySQL Documentation
- Bootstrap Framework Documentation
- Leaflet Maps API Documentation

2 Overall Description

2.1 Product Overview

"Ride With Us" is a ridesharing platform that allows users to:

- Register and maintain user profiles
- Offer rides as drivers
- Search for available rides as passengers
- Request seats on available rides
- Manage ride requests and approvals
- View trip details on interactive maps

2.2 Product Functionality

2.2.1 User Management

- User registration and authentication
- Profile management
- Gender-specific ride options

2.2.2 Trip Management

- Creating new trips
- Searching for available trips
- Managing trip requests
- Trip status tracking

2.2.3 Location Services

- Address geocoding
- Route visualization
- Distance calculation
- Location-based search

2.3 Design and Implementation Constraints

- Server-side: PHP
- Database: MySQL
- Frontend: HTML5, CSS3, JavaScript
- Maps Integration: Leaflet
- Security: SQL injection prevention, password encryption
- Browser Compatibility: Modern web browsers
- Responsive Design: Bootstrap framework

2.4 Assumptions and Dependencies

- Users have access to modern web browsers
- Internet connectivity is available
- Geolocation services are accessible
- Server supports PHP and MySQL
- Users provide accurate location information

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

Registration/Login Pages

- Email and password fields
- Personal information input forms
- Driver's license information (optional)

Trip Search Interface

- Origin and destination inputs
- Date/time selector
- Women-only filter option
- Search results display
- Interactive map

Trip Creation Interface

- Route input fields
- Departure time selector
- Available seats input
- Trip description field
- Gender preference option

Trip Management Dashboard

- List of offered rides
- List of requested rides
- Request management interface
- Trip status indicators

3.1.2 Hardware Interfaces

- Device-agnostic web interface
- Support for GPS location services
- Touch-screen compatible UI

3.1.3 Software Interfaces

- Database Management System: MySQL
- Web Server: Apache/PHP
- Mapping Service: Leaflet
- Frontend Framework: Bootstrap

3.2 Functional Requirements

3.2.1 User Management

User Registration

- Capture first name, last name, email, password
- Optional driver's license information
- Gender specification

- Email uniqueness validation
- Password encryption

User Authentication
- Email/password login
- Session management
- Secure password handling

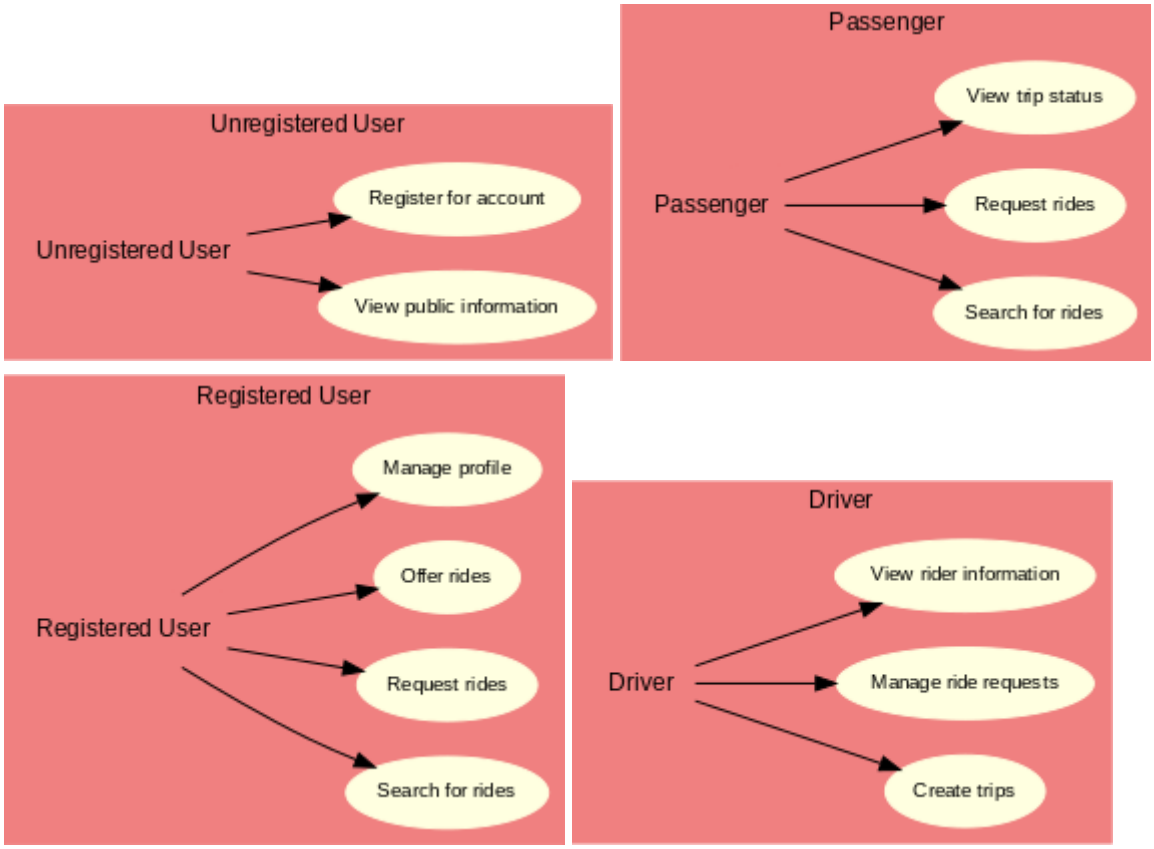
3.2.2 Trip Management

Trip Creation
- Origin and destination specification
- Departure date and time
- Available seats
- Trip description
- Women-only option
- Route length calculation

Trip Search
- Location-based search
- Date/time filtering
- Gender preference filtering
- Results within geographic radius
- Available seats verification

Request Management
- Seat request submission
- Request approval/denial
- Status tracking
- Automatic seat counting
- Message exchange

3.3 Use Case Model



3.3.1 Actor Descriptions

Unregistered User

- Can view public information
- Can register for account

Registered User

- Can search for rides
- Can request rides
- Can offer rides
- Can manage profile

Driver

- Can create trips
- Can manage ride requests
- Can view rider information

Passenger

- Can search for rides
- Can request rides
- Can view trip status

4 Other Non-functional Requirements

4.1 Performance Requirements

- Page load time < 3 seconds
- Search results returned within 2 seconds
- Support for concurrent users
- Efficient database queries
- Responsive map interactions

4.2 Safety and Security Requirements

- Password encryption using SHA-256
- SQL injection prevention
- Input sanitization
- Session security
- Access control
- Data privacy protection
- Gender-based ride restrictions

4.3 Software Quality Attributes

- *Reliability: System uptime > 99%*
- *Usability: Intuitive interface design*
- *Maintainability: Modular code structure*
- *Scalability: Support for growing user base*
- *Accessibility: Cross-browser compatibility*

5 Other Requirements

- *Regular database backups*
- *System monitoring*
- *Error logging*
- *User activity tracking*
- *Performance monitoring*

Appendix A – Data Dictionary

Database Tables

1. USER_TABLE
   - id: INT (Primary Key)
   - first_name: VARCHAR(64)
   - last_name: VARCHAR(64)
   - email_address: VARCHAR(128)
   - drivers_license_id: VARCHAR(64)
   - gender: BINARY(1)
   - password: VARCHAR(64)

2. TRIP_TABLE
   - id: INT (Primary Key)
   - driver_id: INT
   - spots: TINYINT
   - spots_taken: TINYINT
   - length: VARCHAR(128)
   - message: VARCHAR(4096)
   - women_only: BINARY(1)
   - departure_time: INT
   - origin_id: INT
   - destination_id: INT

3. PLACE_TABLE
   - id: INT (Primary Key)
   - address: VARCHAR(128)
   - lat: FLOAT
   - lon: FLOAT

4. TRIP_REQUEST_TABLE
   - trip_id: INT (Primary Key)
   - user_id: INT (Primary Key)
   - message: VARCHAR(4096)
   - status: TINYINT

Appendix B - Group Log

<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist in determining the effort put forth to produce this document>