
Software Requirements Specification

For Online Bus Reservation System

Version 1.0

Prepared by

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1 Introduction

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. This is a SRS document for Online Bus Reservation System. The objective of Online Bus Reservation System is to manage buses, their routes, fare and passenger and also provide the comfort to both organisation and Passenger.

1.1 Document Purpose

The purpose of this document is to describe the requirements for the Online Bus Reservation System(OBRS). The intended audience includes all stakeholders in the bus reservation system. These include, but are not necessarily limited to, the following: Administrative Staff, Drivers, Passengers.

Developers should consult this document and its revisions as the only source of requirements for the project. They should not consider any requirements statements, written or verbal as valid until they appear in this document or its revision.

1.2 Product Scope

The proposed software product is the Online Bus Reservation System(OBRS). The system will be used to get the information from the passenger and then storing that data for future usage. The current system in use is a paper-based system. It is too slow and cannot provide updated lists of passengers within a reasonable timeframe. The intentions of the system are to reduce over-time pay and increase the number of passengers that can be treated accurately. Requirements statements in this document are both functional and non-functional.

1.3 Intended Audience and Document Overview

The intended audience includes all stakeholders in the potential system. These include, but are not necessarily limited to, the following: Administrative Staff, patients and developers.

The objective of this document therefore is to formally describe the system's high level requirements including functional requirements, non-functional requirements and business rules and constraints. The detail structure of this document is organized as follows:

Section 2 of this document provides an overview of the business domain that the proposed Online Bus Reservation System(OBRS) will support. These include a general description of the product, user characteristics, general constraints, and any assumptions for this system. This model demonstrates the development team's understanding of the business domain and serves to maximize the team's ability to build a system that truly does support the business.

Section 3 presents the detail requirements, which comprise the domain model.

1.4 Definitions, Acronyms and Abbreviations

- **OBRS** - Online Bus Reservation System
- **BN** - Bus Number
- **PIN** - Passenger Identification Number
- **Report** – account of particular Bus
- **Front-desk staff** - administrative staff that work at reception desk
- **Logon ID** - a user identification number to enter the system
- **Password** - a word that enables one to gain admission into the system
- **Web-based application** - an application that runs on the Internet
- **MySQL** - a query language to interrogate the system
- **GUI** - Graphical User Interface
- **SRS** - Software Requirements Specification

1.5 Document Conventions

In general this document follows the IEEE formatting requirements. This document contains Verdana template font size 11 throughout. We have used italics for comments. The document text is single spaced and has 1" margins. The sectional heading uses Arial Heading 1 with font size 18 and Subsection titles follow the Arial Heading 2 with font size 14.

1.6 References and Acknowledgments

1. IEEE SRS Template
2. SRS Online Shopping System
www.scribd.com/doc/60703226/Srs-Online-Shopping-System

2 Overall Description

2.1 Product Perspective

This Online Bus Reservation System is a self-contained system that manages activities of the travels as Passengers Info. Various stakeholders are involved in the Online Bus Reservation System.

2.2 Product Functionality-

The system functions can be described as follows:

❖ Registration:

When a passenger ask for sit reservation, the front-desk staff checks to see if the passenger is already registered with the hospital. If he is, his/her Passenger Identification Number (PIN) is entered into the computer. Otherwise a new Passenger Identification Number is given to this passenger. The passegmer's information such as date of birth, address and telephone number is also entered into computer system.

❖ Sit Reservation:

When the passenger login with his/her Login Id and Passwird then he/ she is asked about the sours and destination of his/her journey, root, date and time of journey and type of but i. e. Normal or Ac. The sit is checked for availability in database on proposed time, if the sit is available then the reservation is done by taking the e-payment and the sit no. And bus no., date and time of bus is send to passenger along with blueprint of tickit.If the sit or bus is not available then the passenger is given with all other alternatives.Even if the passenger complete his journey, then also administrative staff should not delete his PIN from the system. So that database about regular passengers can be maintained and special discount offers or them can be given.

❖ Report Generation:

The system generates reports on the following information: List of detailed information regarding the buses run by travel company and passengers.

2.3 Users and Characteristics

- The system will be used in the Travel agency. The administrators,front-desk staff and online passengers will be the main users. Given the condition that not all the users are computer-literate. The system is also designed to be user-friendly. It uses a Graphical User Interface (GUI).

Front-desk staff:

They all have general reception and secretarial duties. Every staff has some basic computer training. They are responsible for checking sit availability and reserving it for appropriate passenger.

Administrators:

They all have post-secondary education relating to general business administration practices. Every administrator has basic computer training. They are responsible for all of the scheduling and updating day/night employee shifts.

Passenger :

The passenger dose online booking of sit and need littal bit knowledge about computer and Internet.

2.4 Operating Environment

The Online Bus Reservation System will be installed at the Information Technology of Travel agency.

2.5 Design and Implementation Constraints

- All of bus and passenger record must be protected for all steps.
- In the future, it is possible that the software design will have to incorporate changes that could take place in other Travel agency in the same domain. The bus and passengers record of all Travel agency in domain should have the same standard of data format and security of data when transferring between the agencies also needed.
- Changes or additions about payment methods can affect the system directly.
- The system must be user-friendly

2.6 User Documentation

- OBRS software manual documents for passengers, drivers, conductors, helper, mechanic, office staff, patient, agents and system administrator.
- The development team will go to your Travel agency and perform the training courses for all classes listed above.
- The development team will service the agency 24 hours for 1 year of warranty.

2.7 Assumptions and Dependencies

- It is assumed that one hundred IBM compatible computers will be available before the system is installed and tested.
- It is assumed that the agency will have enough trained staff to take care of the system
- The system uses licensed third party software products.
- The system is volatile. If the electric power is lost. The PMS system will go do.

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

The user interface for software shall be compatible to user which can access to the system. The user interface shall be implemented using any tool or software package like servlet, asp, jsp etc.

3.1.2 Hardware Interfaces

We would need the Intel Core2Duo system and 1 GB of Memory at the minimum for the client. The corporate server needs to be a server class machine with at least 2 GB and Intel Xeon system per rack and 15 TB of storage at the minimum. And also have the dedicated links between the server and clients.

3.1.3 Network Interfaces

The server and client computer must have NIC card. And must get the internet service active from wellknown ISP.

3.1.4 Software Interfaces

The client machines require Microsoft Windows XP or better. The corporate server requires Red Hat Enterprise Linux AS 5 (RHEL 5) and Oracle Database 11g Enterprise Edition to hold on to all archives. Also both the client and server computer must have internet browser to work online.

3.1.5 Communications Interfaces

The System will perform the following functions:

- Sophisticated and user friendly interface for all passengers.
- Individual account or profile for each user related to the system.
- Sophisticated interfaces for all people who related to the system.
- Implement bus, passenger, driver and staff database systems.
- Implement Account System for managing invoices.
- Each passenger needs only one barcode i. e. PIN and username for walking through every step.
- Keep secret for all of passenger profiles. Each division can see only necessary data of each passenger for analyzing.
- Internet connection to work on with the system.
- Emergency help system in case of any accident and any other technical or non-technical problem or risk.
- Real time or dynamic service should be given in case of all changes appearing in the system.

3.2 Functional Requirements

➤ Registration:

- **Add passanger:** The OBRS shall allow new passenger to add themself to the system.
- **Assign PIN:** The OBRS shall allow front-desk staff to give each passenger a PIN and add it to the passengers record. This ID shall be used by the passenger throughout his/her stay in agency.

➤ Reserve Tickit:

- **Sign In:** The passenger first need to sign in to the system with the username and password he/she have provided with. The system need to check for validation of that username and password and then only allow he/she to access the system.
- **Check Availability:** The passenger must be allowd to see all available options for journey. And see if the sit is available or not.
- **Reserve Tickit:** Then if the tickit is available then the sit should be booked with the PIN of that passenger only and it should not be granted to other passenger again till it get free.

➤ Maintain History:

- **Maintain PIN:** The administrative staff in the ward shuld not delete the PIN of the passenger from the system when the jounney is over.
- **Add sit to sit-available list:** The administrative staff in the ward shall be allowed to put the sits in sit-available list when the journey is over or the sit is cancelled.

➤ . Report Generation :

- **Bus Information:** The OBRS shall generate reports on bus about the following information: Bus Number, daily root, driver name, cleaner name ,conductor name, no. of passengers can travel, type of bus: Normal or AC list of passenger who have booked their sits in bus and thecnical issues occurred in bus also.
- **Sit Aavailability:** The OBRS shall generate reports on sits availability about the following information:bus number, sit number, occupied/unoccupied.

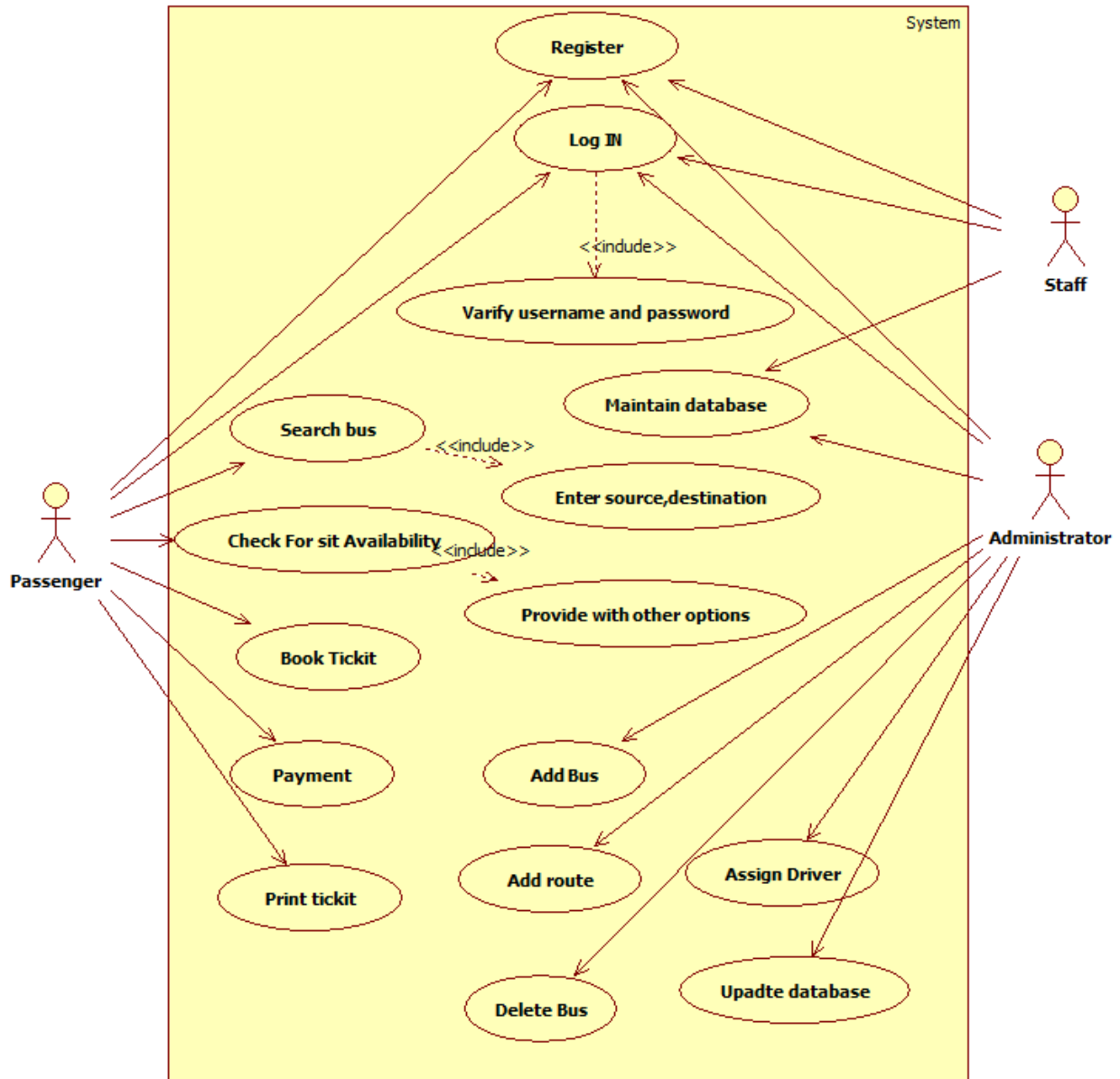
➤ Database:

- **Passenger related Information:** Each passenger shall have the following mandatory information: first name, last name, phone number, passenger identification number, address, postal code, city, country, username and password.
- **Bus related Information:** Each bus should have following information:bus number, no of sits, bus type: normal or AC, driver, engine details.
- **Update Passenger Information:** The OBRS shall allow the Administrator to update any of the bus information.

3.3 Behaviour Requirements

3.3.1 Use Case View

A use case defines a goal-oriented set of interactions between external actors and the system under consideration. Since sometimes we will not be able to specify completely the behaviour of the system by just State Diagrams, hence we use use-cases to complete it.



4 Other Non-functional Requirements

4.1 Performance Requirements

- **Response Time:** The system shall give responses in 1 second after checking the patient's information.
- **Capacity:** The System must support 1000 people at a time.
- **User-interface :** The user-interface screen shall respond within 5 seconds.
- **Conformity:** The systems must conform to the Microsoft Accessibility guidelines.
- **Network Connection:** The should br connrcted to internet 24 X 7. And the Server must be on all time.

4.2 Safety and Security Requirements

- **Passenger Identification:** The system requires the passemger to identify himself /herself using PIN
- **Logon ID :** Any user who uses the system shall have a Logon ID and Password.
- **Modification :** Any modification (insert, delete, update) for the Database shall be synchronized and done only by the administrator in the ward.
- **Front Desk staff Rights:** Front Desk staff shall be able to view all information in OBRS, add new bues to OBRS but shall not be able to modify any information in it.
- **Administrators' Rights:** Administrators shall be able to view and modify all information in OBRS.

4.3 Software Quality Attributes

➤ Maintainability:

- **Back Up :** The system shall provide the capability to back-up the Data
- **Errors:** The system shall keep a log of all the errors.

➤ Reliability:

- **Availability :** The system shall be available all the time

Appendix A – Data Dictionary

This SRS document is used to give details regarding Online Bus reservation System. In this all the functional and non-functional requirements are specified inorder to get a clear cut idea to develop a project.

Appendix B - Group Log

Day-1: *Date:-* 17-01-2013

A group of four people was made to prepare the project for Software Engineering. A sub topic was decided upon as Online Bus Reservation System. The topic and the group members' names were then given to the Instructor. All the four members then read the example srs document provided and searched for the requisite document for system. The Problem description, the purpose and the scope of the document was finalized.

Day-2: *Date:-* 24-01-2013

Each section was divided among the four members and each member was given the task to complete their sections with proper theory. The entire document was then clubbed to form the SRS for Online Bus Reservation System.