**Experiment 6**

**Title:** To develop Software Requirement Specification (SRS) document in IEEE format for the selected case study

### 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 Bus Reservation System. The objective of Bus Reservation System is to manage buses, their routes, fare and passenger and also provide the comfort to both organization and Passenger.

**1.1 Purpose**

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 in Bus Reservation System. 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 Bus Reservation System(BRS) 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.

**1.2 Document conventions**

In general this document follows the IEEE formatting requirements. This document contains Verdana template font size 12 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.

**1.3 Intended audience**

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.

**1.4 Contact information/SRS team members**

20CO24 – Khan Arshad Abdulla

20CO23 – Saim Kaskar Shabbir

20CO22 – Saqlain Kalokhe

**1.5 References**

### 2. Overall Description

**2.1 Product perspective**

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

**2.2 Product features**

The system functions can be described as follows:

* **Registration:**

When a passenger asks 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 passenger'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 Password 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 seat 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 ticket. 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 User classes and characteristics**

The system will be used in the Travel agency. The administrators, front

desk staff and 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).

* **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 booking of sit and need little bit knowledge about computer and Internet.

**2.4 Operating environment**

The 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**

* BRS 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. External Interface Requirements

**3.1 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

**3.2 Hardware interfaces**

We would need the Intel Core2Duo system and 1GB 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.

**3.3 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.

**3.4 Communication 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 system
* 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 analysing.
* 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.

### 4. System Features

**4.1 System feature A**

* Ticket Booking
* Payment
* Ticket Checking
* Registration
* Log in
* Forgot password
* Admin

**4.1.1 Description and priority**

* **Ticket Booking:**

This module of the project is for the users who want to book the tickets for the journey they want to do at the time of their desire. They fill the details accordingly like time of travel no. Of the people they want to go they select the seats which are available for the booking as the seats which are booked already will be blocked, they’re and the remaining seats are available.They get a digital ticket, and they can board the bus at the time given.

* **Payment:**

They may make payment online through their debit card they use this module to pay as the ticket shows the amount in the account of the owner of the bus. As he makes the payment, the card becomes confirmed and ready to be used.

* **Ticket Checking:**

The verification of the cards is done by the conductor of the bus, he comes to the user and asks for a ticket no. As they take it, he checks and confirms their booking and lets them ride.

* **Registration:**

User’s information has to be compelled to be registered within the system thus on establish every one of them unambiguously and do the required group acts as the real potential. Like on the name of the bill are issued. On the far side, this plenty of things require measure there wherever we will reference him.Without registration, there are a few options and pages one user can see which are landing on the home page and taking the features to read but he won’t be allowed to use those. For use, he will have to register. One person needs to put all the details correctly and precisely as it will be helpful in identifying them and believing that he is the real person who has booked for the same.It also includes driver license for them who is driving and parameter too.

* **Log in:**

After registration one will register within the system because of the operator of the system either on behalf of the user. When this he has the different helpful interfaces accessible for any actions. Here either bride or groom both have to log in with their unique identity and passwords. After this, they will be directed to the primary user interface from where they have further options.

* **Forgot password:**

This is quite often that people tend to forget the password they keep for the login. So, this could be very tedious and hectic to recover the password manually in case if one needs to log in in an emergency. So, to overcome this problem we have this module named ass forgot a password, and using this module users can recover their password in seconds.So here we need only to put our registered email Id and hit the enter. Then one confirmation email will go to the email where he may reset the password. In seconds one can use this module and get rid of the forgetting password problem.

* **Admin:**

Admin has the official powers to control the flow of the data from one part of the system to the other. He can manipulate the access of the users to the data. The primary purpose of this account is to make the user data relevant and then giving the inputs to the other interface module and make it work optimistically and get the timetable according to the wish we want to create for a particular type of inputs.Hence all the data will be reflected in clean and well data in the interfaces.

**4.2 System feature B**

* Bus Tracking
* Bus Arrival Estimation

### 5. Other Non-functional Requirements

**5.1 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 Accessibilityguidelines.

* **Network Connection:**

The should br connected to internet 24 X 7. And the Server must be on all time.

**5.2 Safety requirements**

* **Passenger Identification:**

The system requires the passenger to identify himself/herself using PIN

* **Logon ID:**

Any user who uses the system shall have a Logon ID andPassword.

* **Front Desk staff Rights:**

Front Desk staff shall be able to view all information in BRS, add new buses to BRS but shall not be able to modify any information in it.

**5.3 Security requirements**

* **Modification:**

Any modification (insert, delete, update) for the Database shall be synchronized and done only by the administrator in the ward.

* **Administrators' Rights:**

Administrators shall be able to view and modify all information in BRS

* 1. **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

**6. Other Requirements**

**Appendix A: Terminology/Glossary/Definitions list**

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

**Appendix B: Analysis Model**

**Use case Diagram:**

<https://docs.google.com/document/d/1kEoytsDlvysxBbci_vK_4KIUWvw-LcIYk47ZudRT0iI/edit?usp=sharing>

**Data Flow Diagram:**

[**https://drive.google.com/file/d/1NJIJpiaD305-P0gXvggVqCiykPVfWv5-/view?usp=sharing**](https://drive.google.com/file/d/1NJIJpiaD305-P0gXvggVqCiykPVfWv5-/view?usp=sharing)