**SOFTWARE REQUIREMENTS SPECIFICATION**

For **RAILWAY RESERVATION SYSTEM**

Prepared by :

RAFIA JAWAID & ALMIRA SHAHWAR

SID: 9139 ,9191

[INTRODUCTION: 1](#_Toc37845293)

[OVERALL DESCRIPTION: 1](#_Toc37845294)

[SPECIFIC REQUIREMENTS: 2](#_Toc37845295)

[Basic Processing Action of the system Appendices 2](#_Toc37845296)

[Introduction 2](#_Toc37845297)

[PURPOSE AND SCOPE: 3](#_Toc37845298)

[Definition: 4](#_Toc37845299)

[GLOSSARY: 4](#_Toc37845300)

[OVERALL DESCRIPTION: 4](#_Toc37845301)

[PRODUCT PERSPECTIVE: 4](#_Toc37845302)

[Project Documentation 5](#_Toc37845303)

[DOCUMENTS OVERVIEW: 6](#_Toc37845304)

[SYSTEM ENVIRONMENT: 6](#_Toc37845305)

[FUNCTIONS OF PROJECT: 6](#_Toc37845306)

[SPECIFIC REQUIREMENTS: 7](#_Toc37845307)

[FUNCTIONAL AND NON FUNCTIONAL REQUIREMENTS: 7](#_Toc37845308)

[FUNCTIONAL REQUIREMENT SPECIFICATION: 7](#_Toc37845309)

[HARDWARE REQUIREMENT 8](#_Toc37845310)

[LOGICAL DATABASE REQUIEMENTS 9](#_Toc37845311)

[EXTERNAL INTERFACE REQUIREMENTS(user interface): 9](#_Toc37845312)

[HARDWARE INTERFACE: 9](#_Toc37845313)

[SOFTWARE INTERFACE: 9](#_Toc37845314)

[OTHER REQUIREMENTS 9](#_Toc37845315)

[Security 10](#_Toc37845316)

[Reliability 10](#_Toc37845317)

[Maintainbility 10](#_Toc37845318)

[Supportability 10](#_Toc37845319)

[APPENDICES 10](#_Toc37845320)

[CREATE RESERVATION: 11](#_Toc37845321)

[Reports for the Railway Reservation System 11](#_Toc37845322)

[Instruction for security: 11](#_Toc37845323)

[Data model: 11](#_Toc37845324)

# INTRODUCTION:

Software Requirment Specification for Railway Reservation System

The SRS for Railway Reservation System is given as follows:

Introduction

* Purpose and Scope
* Glossary
* Defination

# OVERALL DESCRIPTION:

* Product Description
* Project documentation
* Document OverView
* System Environment
* Functions of Project
* User of Projects

# SPECIFIC REQUIREMENTS:

* Functionals & Non Functional Requirements
* HardWare Requirements
* Software Requirements
* Logical DataBase Requirements
* External Interface Requirements
* Other Requirements

# Basic Processing Action of the system Appendices

* Input/Output Formats
* Instruction for Security
* Data Model

# Introduction

 To document software requirment specification for online railway reservation system which enables the customer to book tickets from online.

# PURPOSE AND SCOPE:

The purpose of this source is to describe the railway reservation system which provides the Train timing details for knowing available train between two stations. We need to provide source and destination names or codes and then we will be given the trains names between those two stations,Reservation forms it has the easiest of the user interface making it user friendly and easy to use, for cancellation one just needs the PNR number which is again easy,Reservation enquiry and Fare between two stations with a specific class. User friendly interface to administrator and customer.

The main purpose of this system are as follows.

* Creating
* Cancel reservation
* View reservation status
* View train schedule
* Generating reports
* Update train Schedule
* Update reservation details

The Seats of Reservation cannot be more than the seats of Train at that data.This is a constraint that has to be followed by the Clerk when he creats the Reservation. For that purpose he wants to check the seats remaining present in the Train.

The scope of this system in creating Reservation is that, from any Railway Station we can create Reservation, which is updated automatically in all stations. Hence, there is no confusion to the reservation clerk in all the stations to create the Reservation. This can be possible by maintaining Global Database. Clerks present at different stations can access the global database and clerks can easily understand

the remaining reservation seats. It provides the ability to create reservation from different places for a train.

The system is so secured and clerk and manager utilize it. Nobody can ablr to access the system without his or her permission because of providing login facility to the system. The password is in the form of cipher text by using cryptography technology, so it cannnot be hacked by any person.The global database can passes through network in order to utilized by managers or clerk at differewnt places.

so, we want to provide network security because of the data not hacked by the other persons when it is going through network cables.This network security is provided by cryptography technologyy.

# Definition:

This is the project, which is used to create and cancel Reservation and to update the Train and Reservation details.

# GLOSSARY:

TERMS DEFINATION

Customer The person who is booking a ticket

IEEE The Institute of electrical and Electronics Engineers(Worlds largest technical profession for society).

SRS Software Requirment Specification

Administrator This person is used to recieve the information from customers and update if needed regarding the railways.

Reservation clerk The clerk works according to the administrator.

# OVERALL DESCRIPTION:

This software comprises reserving and cancelling seats for the passengers,it contains information about trains, information about passenger,contains the deatils of reservation fees,any concession etc,it makes entries for reservation, waiting ,cancelled tickets,it will update for uptime and downtime trains. All the information is safely stored in the backed i:e SQL data base.

# PRODUCT PERSPECTIVE:

Before the automation, the system suffered from the following drawbacks

* The existing system is highly manual involving a lot of paper work and calculation and therefore may be enormous.This has lead to inconsistency and in accuracy in maintaining of data.
* The data,which is stored in paper only,may be lost,stolen or destroyed due to natural calamities.
* Due to manusl nature,it is difficult to update,delete,add or view the data.
* since the number of passengers have drasticalliy increased therefore maintaining and retrieving detailed record of passenger is extremly difficult.
* Hence the railway resevation system is proposed with the following:
* The computerization of the reservation system will reduce alot of paper work and hence the load on the airline administrative staff.
* The machine performs all calculations.Hence chances of error are nill
* The passenger rfeservation,cancellation list can be easily retrieved and any required addition,deletion or updation can be performed.
* The system provides for user id validation, hence unauthorized access is prevented.

# Project Documentation

|  |  |  |
| --- | --- | --- |
| *Software Life Cycle Phase* | Documentation | *Intended Activities* |
| Requirement Gathering, Analysis and Specification | * Use Case Diagram with Flow of Events * Activity Diagram * Realization of Use Cases * Software Requirement and Specification (SRS) | Includes the customer expected software features, constraints, interfaces and other attributes.  Moreover the objectives and the benefits gained through the system are clearly specified. |
| Software Design | Software Design Description(SDD) | Describes the logical basis of design decisions taken and how it will pave way in acquiring the requirements of the customer through the software |
| Implementation | Technical Documentation | Contains information regarding the implementations of the system using the programming concepts |
| Software Testing | Software Test Documentation(STD) | Includes information degrading testing procedures to validate and verify the software results. Main types of testing techniques are unit testing, integration testing, system testing and acceptance testing |
| Maintenance | User Documentation | Includes manuals for the end users according to their position of access levels |

# DOCUMENTS OVERVIEW:

The document is in two parts, the first provides full description of the software which lists all the functions performed by the system.The final chapter concerns details of each of the system function and actions in a fully detailed manner for the developers assistance.These two sections are cross refrenced by the topics.

# SYSTEM ENVIRONMENT:

The railway network is a very vast system to be handled manually and its computerization will prove to be of great help to both the employees and the passengers. Even from security point of view,authorization will be done by password checking if correct password has been eneterd by the user, the user will get further access to the system , otherwise he will ahcve to re-enter the password.The password are usually 4 characters long.

# FUNCTIONS OF PROJECT:

1- Create Reservation

2-Cancel Reservation

3-update Train Info

4-Generate Report

5-Verify Login

6-View Reservation Status

7-View Train Schedule

**USERS OF PROJECT:**

**CLERK:**This person uses this system to create reservation,cancel reservation ,view reservation status,update reservation details,view train schedule.

**MANAGER:** This person uses this system to update train information and to generate reports.

# SPECIFIC REQUIREMENTS:

# FUNCTIONAL AND NON FUNCTIONAL REQUIREMENTS:

Functional requirements are those that refer to the functionality of the system, i.e, what services it will provide to the user.

Non -functional(supplementary requirements) pertain to other infomation needed to produce the correct system and are detailed separately.

# FUNCTIONAL REQUIREMENT SPECIFICATION:

* PERFORMANCE REQUIREMENTS:

***1- USER SATISFICATION:***

The system is such that it stands upto the user expectations

***2-ERROR HANDLING:***

Response to the user errors and undesired situations has been take care to ensure that the system operate without any halting

***3-USER FRIENDLY:***

The system is so easy that even a native user can this to book tickets online

Design constraint The system shall be web based system that runs on differnt type of browsers such as internet Explorer, Mozilla, and Google chrome. There are number of factorial in the client's environment that may restrict the choices of a designer. Such factors include standards that must be follwed, resource limits, o[perationg environment,reliabilty and security requirements and policies that may have an impact on the design.

# HARDWARE REQUIREMENT

For the hardware requirement the SRS specifies the logical characteristics of each interface between the software product and the hardware components.It specifies the hardware requirements like memory restrictions,cache size, the processor,RAM size.. etc those are required for the software to run.

The hardware requiremnet for the system is given below.

* 128MB of RAM
* 40GB of HDD
* Printer
* LAN cable
* SOFTWARE REQUIREMENTS

Any window based operating sytem with DOS support are primary requirements for software development. Windows XP, front page,and dumps are dumps are required.The system must be connected via LAN and connection to the internet is mandatory.

The Software requirments of this are as follows:

* Window 2000 OS
* SQL

# LOGICAL DATABASE REQUIEMENTS

The following information is to be stored in the database.

* Passenger details
* Reservation details
* Train details
* Login details

Basic Processing Actions of the System.

* Verification of the user
* Maintain Reservation details
* Maintain Train details

# EXTERNAL INTERFACE REQUIREMENTS(user interface):

* Keyboard
* Mouse

# HARDWARE INTERFACE:

* Printer
* Normal Pc

# SOFTWARE INTERFACE:

* Front end-> Visual Basic
* Back end->MS-Access

# OTHER REQUIREMENTS

**Software should satisfy the following requirements are well**

1-Security

2-Portability

3-Correctness

4-Efficiency

5-Flexibility

## Security

The system use SSL (secured socket layer) in all transactions that include any confidential customer information. The Sytem mustautomatically log out all customers after a period of activity. The system should not leave any cookies on the customer's computer containing the user's password.The system's back-end servers shall only be acessible to authenticated management.

## Reliability

The reliability of overall project depends on the reliability of the seperate components.The main pillar of reliability of the system is the backup of the database which is continously maintained and updated to reflect the most recent changes.Also the system will be functioning inside a container.Thus the overall stability of the system depends on the stability of container and its underlying operating system.

## Maintainbility

A commercial database is used for maintaining the database and the application server takes care of the site. In case of failure, a re-intialization of the project will be done.Also the softeware design is being done with modularity in mind so that maintainability can be done efficiently.

## Supportability

The code and supporting modules of the system will be documented and easy to understand.Online User Documentation and help system requirements.

# APPENDICES

Input/Output formats:

The input format for the system is given as follows

* Login Screen

# CREATE RESERVATION:

Output format for the system contains the following screen

This is the form that is to modified the train details. The form consist of no of seats textbox, which shows the remaining seats present in the train. The no of seats value is automatically changed when we create or cancel reservation. This is the form which consist of two buttons for the purpose of create reservation and to cancel reservation.when the seats text box has value zero than its, says no seats are remaining in the train to create reservation.

## Reports for the Railway Reservation System

This is report generated by manager after modifying train details.

This is report generated by the clerk in order to give the reservation details to the manager.

This is report generated by the clerk about the passenger details who take the resrevation.

## Instruction for security:

Security is an integeral part of any system. Reservation clerk can create or cancel reservation when he goes through the login form. He is not able to update the train information and generating report. Manager update the train in formation and generate report only when he go through the login form. So, the system so secured,because of avoiding other people to update the train information and reservation details.

## Data model:

Class involved in project.

* Passenger
* Manager
* Clerk
* Login
* Reservation
* Trains
* Reports

The code and supporting modules of the system will be documented and easy to understand.Online User Documentation and help system requirements.

RESULT:

Hence,SRS documentation of Railway Reservation System is done