SRS DOCUMENTATION FOR RAILWAY RESERVATION SYSTEM

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1. INTRODUCTION

The software requirements specification (SRS) gives an overview of the entire SRS purpose , scope, definition ,abbreviation, and so all of SRS. A software requirement specification is a complete description about the behavior of a system to be developed. It include a set of Use cases which describe the interaction of the user with software. Use case are known as functional requirements. In addition to use case, SRS also contain non-functional requirements which impose constraints on the design or implementation (like performance engineering requirements, quality standards).

A software for automating manual Railway reservation system have following functions.

- RESERVE SEATS: Reservation of the seat by the passengers themselves like giving the entries train name, number and destination
- CANCEL RESERVATION: For the cancellation of the booked seat.
- VIEW STATUS: It display the user booking status.

1.1 PURPOSE

The purpose of this project is to describe the railway reservation system .This will provide the train timing details, reservation, billing and cancellation on various types of reservation namely:

- Confirm reservation
- Waiting list reservation
- Reservation against cancellation
- Online reservatio0n
- Tatkal reservation

1.2 SCOPE

Railway reservation system have basic concepts of online reservation system that enables the following functions:

- Search train
- Booking
- Payment
- Cancellation
- Improved and optimized service

1.3 ABBREVIATIONS

- NTES- National train enquiry system
- PRS-passenger reservation system
- DFD-Data flow diagram
- SRS-Software requirements specifications

2. OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

Limitation of Existing system:

- The existing system involves a lot of manual paper work and calculation and therefore there are many errors in collected informations.
- Since the number of passengers have drastically increased so maintaining and retrieving detailed record of passenger is very difficult.

PROPOSED SYSTEM:

- The computerization of reservation system will reduce a lot of paperwork and hence the load on administrative staff. The machine performs all calculations and hence chances of error are less.
- The passenger, reservation, cancellation list can easily be retrieved and any required addition, deletion or updating can be performed.
- The system provides for user-ID validation, hence unauthorized access is blocked.

2.2 PRODUCT FUNCTIONS

This software is simple to use by the user. The project encompasses on: -

- SEARCH

  This function allow the user to search for train if there is a train between two source and destination.The search option gives a details about the train like departure and arrival time, train number and so all.

- SELECTION

  This function help the selection of the train by the user the following information will be shown:

  - Train name, Train number
  - Arrival date, time
  - Departure date, time
  - Duration of the train
  - Ticket price per head

- USERS INFORMATION

  The software asks the basic details of the traveller like email, phone no and address

- PAYMENT

  Payment information is asked for the the reservation of the seat. The user can use any card such as debit or credit cards and also do net banking for paying the ticket price.

- CANCELLATION

  The system allow the user to cancel their booked seat .This function register information about the user requested for cancellation and the amount is refunded to their corresponding account.

2.3 USER CHARACTERISTICS

- EDUCATIONAL LEVEL

  The user must know to read and understand English language.

- TECHNICAL EXPERTISE

  The user should be comfortable to use general purpose applications in computer.

2.4 ASSUMPTIONS AND DEPENDENCIES

User must have a valid username, password to access

The user must have basic knowledge of railways reservation system.

Software depends on internet connectivity.

3. REQUIRMENT SPECIFICATION

3.1 FUNCTION REQUIREMENTS

3.1.1PERFORMANCE REQUIREMENTS:

User friendly: - It is easy to learn ,understand and a user can also use the system effectively.

Response Time: -The response of all operations are good.

Error Handling: - Response to user errors and undesired problems has been taken care without halting the system.

Safety and Robustness:-The system is able to avoid disastrous action. It safeguards against undesired events, without human interaction.

Portable: - It can be used in any platforms.

3.1.2 DESIGN CONSTRAINTS

The factors in the client's environment which include standards that must be followed, resource limits, operating environment, reliability and security requirements and policies have an impact on the design of the system. An SRS (Software Requirements Specification) should identify and specify all such constraints.

- **Standard Compliance**

  This specifies the requirements standards a system must follow. The standards include the report format and accounting properties.

- **Hardware Limitation**

  The software have to operate on some existing or predetermined hardware, thus imposing restrictions on the design. Hardware limits includes the types of machines to be used, operating system available on the system, languages supported and so all.

- **Reliability and fault tolerance**

  Fault tolerance requirements can place a major constraint on how the system is to be designed and make the system more complex and expensive. Recovery requirements are often an important part here, detailing what the system should do if some failure occurs to ensure certain properties.

- **Security**

  Security requirements are significant in systems and database system

3.1.3HARDWARE REQUIREMENTS

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

Minimum Hardware Requirements

Processor Pentium III

Hard disk drive 40 GB

RAM 128 MB

Cache 512 kb

Preferred Hardware Requirements

Processor Pentium IV

Hard disk drive 80 GB

RAM 256 MB

Cache 512 kb 3.1.4

3.1.4SOFTWARE REQUIREMENTS

Any window-based OS with DOS support are the requirements for software development. Windows XP,7,8,10 and database like SQL-my SQL. The systems should be connected Internet. The System is developed with help of Visual basic and designed by IBM rational rose.

Specific requirements

External requirements

- Train delay alert
- Booking terminals
- Touch screen
- Passengers operated enquiry terminal

3.2 NON-FUNCTION REQUIREMENTS

- **Security**

  The system uses SSL (secured socket layer) in all transactions that includes confidential customer information. The system logout automatically for all customers after a period of inactivity.

- **Reliability**

  The reliability of overall project depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is maintained and updated to reflect the most recent changes.

- **Availability**

  The system is available at all times, so that the user can access it using a web browser, and only restricted by the down time of the server on which the system runs. In case of a hardware failure or database corruption, a replacement page is shown.

- **Maintainability**

  A commercial database is for maintaining the database and the application server. In case of a failure, a re-initialization of the project will be done

- **Supportability**

  The code and supporting modules of system will be well documented and easy to understand.

4.VERIFICATION

All the given Requirements are completely checked and satisfys all the functional and non functional requirements. The goal of the above system is to achieve as per the requirement specification and conditions.

5.REFERNCES

1. https://www.wikipedia.org/

2. https://www.irctc.co.in/nget/train-search

3. https://www.slideshare.net