***ONLINE RAILWAY TICKET RESERVATION SYSTEM***

**1) Introduction**

(a) Purpose

The purpose of this source is to describe the railway reservation system, which provides the train timing details, reservation, billing and cancellation on various types of reservation namely. In addition, This Railway reservation service will not only enhance the reservation but will also help the commuters in getting support, refunds and other real time fixes.

(b) Document Conventions:

Some of the few ACRONYMS, ABBREVIATIONS used in Ticket Reservation System of Indian Railways are as follows:

* NTES – National Train Enquiry System
* IVRS – Interactive Voice Response system
* PRS – passenger reservation system
* RAC- Reservation Against Cancellation

(c) Intended Audience and Reading Suggestions:

The audience of the system will mainly be

* Passengers
* Administrator
* Clerk

(d) Project Scope

Technology has transformed many aspects of life in the 21st century, including the way many of us make train reservations. For example, to make ticketing more convenient for travelers, an online reservation system helps us in booking tickets from the comfort of our homes or offices. While this is convenient for most people, it has made things particularly easier for people residing in remote locations.

The various advantages of using the online reservation system are as follows:

* Convenient – You can book or cancel your tickets sitting in the comfort of your home or office.
* Saves Time and Effort - You can save the time needed to travel to the railway reservation office and waiting in the queue for your turn.
* Towards a greener planet – Instead of printing your ticket you can also choose to travel with the soft copy of your booked ticket in your laptop or even on your mobiles
* Freight Revenue enhancement.
* Passenger Revenue enhancement.
* Improved & optimized service

(e) Reference:

As Internet is an Ocean of knowledge, we, too, have been helped by the same inter network of system, We’ve referenced from many a sites to get Information/ for Knowledge Gathering to understand the current scenario of the market, below are the references we have got helped from, and we acknowledge the same:

1. www.scribd.com
2. Wikipedia.org

**2) Overall Description**

(a) Product Perspective:

Before making this a real time running online reservation system, old system suffered from many of the DRAWBACKS, such as:

* The existing system is highly manual involving a lot of paper work and calculation and therefore may be erroneous. This has led to inconsistency and inaccuracy in the maintenance of data.
* The data, which is stored on the paper only, may be lost, stolen or destroyed due to any natural calamity of fire or water.
* Existing system is sluggish and consumes a lot of time, resource etc. causing inconvenience to customers and staff.
* Due to manual working, it is difficult to add, delete, update, or view the data.
* Since number of passengers has increased to an uncertain multiple, it is very difficult to maintain or retrieve detailed record of passengers.
* A Railway has many offices around the world, an absence of link between them all causes to a lack of miscommunication and disco ordination.

Hence, this Railway reservation system is proposed, with following benefits:

* Computerization of reservation system will reduce a lot of daily paperwork and hence load on the staff of admin department.
* Machine does all the calculations. Hence, chances of error are low.
* Reservation, Cancellation or updating lists of Ticket’s can easily be maintained and retrieved and any required additions, deletion or updation can easily be performed.

This system provides User Name-Password validation, hence unauthorized access is prevented.

(b) Product Features:

* Information Of Trains
* Booking Of Seats
* Cancellation Of Seats
* Booked Tickets

(c) Classes and Classifications:

* Train
* Passenger
* Railway Administration
* Ticket

(d) Operating environment

(e) Design and implementation constraints:

Design constraints can be imposed by other standards, hardware limitations, etc.

 Standards Compliance:

Specify the requirements derived from existing standards or regulations. They might include:

(1) Report format

(2) Data naming

(3) Accounting procedures

(4) Audit Tracing. For example, this could specify the requirement for software to trace processing activity.

Such traces are needed for some applications to meet minimum government or financial standards. An audit trace requirement might, for example, state that all changes to a payroll data base must be recorded in a trace file with before and after values.

 Hardware Limitations:

Identify the requirements for the software to operate inside various

hardware constraints.

(f) Assumptions and dependencies:

Every system requires some certain parameters to work, to work as per the requirement, our system also requires some parameters, and we assume them as fulfilled before using this system, which are as:

* Booking agent/ user will be having his/ her own username
* registered before booking of any ticket, else, they’ll have to register
* themselves on our website.
* This software needs booking agent/ user to have complete
* knowledge of railway reservation system and its working.
* Software is dependent on access of Internet, as it is a remote
* application, it is necessary to have internet access.

**3) System Features**

(a) Function Requirement

1) Information Of Trains: This module will include all the available Trains between two cities. Clicking on

any Train, will display all basic information about that Train. The information may include arrival and

departure time, duration of travel, cost of ticket, etc.

2) Booking Of Seats: This module will include all the necessary information about the passenger the

passenger will fill all the information which get directly stored in the database.

3)Cancellation Of Seats: If a traveler wants to cancel the reserved ticket, he can cancel the seat by

simply deleting the personal information.

4)Booked Tickets: This module will display all the booked tickets i.e. it will display all the passengers

information that have reserved the ticket.

**4) External interface requirements**

(a) User Interface:

For the efficient working of the User Interface, i.e. the Front End of the system, the OS must be having at least Internet Explorer 8 installed. To log into the website.

(b) Hardware Interface:

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

(c) Software Interface:

For Hosting: Any Windows Operations System with DOS Support and Visual Studio for development. Primarily Windows 8, having Dream Weaver Installed with a working LAN connection to be mandatory. For Using: Any type of Operating System with at Least Internet Explorer Installed and having minimum of 512 kbps working LAN compulsorily

(d) Communication Interface:

Indian Railway’s web-site, www.indianrail.gov.in offers PRS enquiries on the internet Berth/Seat availability, Passenger Status, Fare, Train Schedule etc,. National Train Enquiry System (NTES) website, www.trainenquiry.comgives dynamic information about the running status of any train and its expected arrival/departure at any given station. Mobile telephone based SMS enquiry service. A new mobile phone based facility for rail users’ which is. Country wide extension of Universal Rail Enquiry number “139”through setting up of Interactive Voice Response System (IVRS).

**5) Non functional Requirements**

(a) Performance:

This system helps in increasing the overall performance of the Railway Reservation functionality by shifting a large chunk of load online causing in less hassle in ticket booking, cancellation or querying. This System is 22 hours Live per day giving us greater availability time as compared to that of 9 hours offline activity.

(b) Safety:

The Reliability of the 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 continuously 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.

(c) Security:

This system should work under 3-Level Architecture combining DB-ClassFront end with different security facilities and encryption. The System use SSL in all transactions that include any confidential customer information. The system must automatically log out all customer after a period of inactivity of those users respectively. 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 accessible to authenticated management.

(d) Software quality attributes

There are a number of quality characteristics that can apply to software. Pick the ones most important to this product and develop a section for each one. Definitions of the quality characteristics follow.

* Correctness - extent to which program satisfies specifications, fulfills user’s
* mission objectives
* Efficiency - amount of computing resources and code required to perform function
* Flexibility - effort needed to modify operational program
* Integrity/security - extent to which access to software or data by unauthorized
* people can be controlled
* Interoperability - effort needed to couple one system with another
* Maintainability - effort required to locate and fix an error during operation
* Portability - effort needed to transfer from one h/w or s/w environment to another
* Reliability - extent to which program performs with required precision
* Reusability - extent to which it can be reused in another application
* Testability - effort needed to test to ensure performs as intended
* Usability - effort required to learn, operate, prepare input, interpret output