**SMART SOLUTIONS FOR RAILWAYS**

**LITERATURE SURVEY**

This Project provides Smart Solutions for Railways and helps people in Booking Tickets and Tracking the Trains. Smart Solutions for railways is designed to reduced the work load of the user and also the use of paper.

The solution is based on powerful combination of mobile computing, Global System for Mobile Communication (GSM), Global Positioning System (GPS), Geographical Information System (GIS) technologies and software. The in-built GPS module identifies the train location with a highest accuracy and transfers the information to the central system via GSM. The availability of this information allows the Train Controller to take accurate decisions as for the train location.Location data can be further processed to provide visual positioning using maps granting a wholesome view on train location. Positioning data along with train speed

helps the administration to identify the possible safety issues and react to them effectively using the communication methods provided by the system. Additionally,

the location information can be used to facilitate accurate scheduling with regard to train arrival and departure on each station[1].

A GPS system is being used top in point the location of faults on tracks. The paper presents a solution, to provide an intelligent train tracking and management system to improve the existing railway transport service. GPS module identifies the train location with a highest accuracy and transfers the information to the

central system. The availability of the information allows the train Controller to take accurate decisions as for the train location.The inbuilt GPS module identifies the train location with a highest accuracy and transfers the information of the central system GSM. the availability of this information allows the Train Controller to

take accurate decisions as for the train location. If an obstacle is detected, the inbuilt GPS module identifies the train location with a t highest accuracy and transfers the information to the central system via GSM[2].

Railway is the most commonly used transportation vehicle. Most of the people choose this transportation mainly for low cost and it gives comfort ability. To increase this comfort zone and to reduce the number of accidents, our system gives a complete solution.This paper track and detect the arrival of the train by using GPS and not by the sensors. This way of train tracking using GPS is embedded with our mobile application. Using this application the engine driver controls the railway gate[3].

The Railway Ticket generation using android basically derived from computer reservation system and upgrade to android based ticket generation using QR Code.A Railway inventory contains all train details with QR Code Information. The online QR Based ticket generation system has its database centrally located which is accessed through an Application Programming Interface (API).In our system, the passenger can generate the unreserved ticket through their android phone itself. The passenger can get the train details by scanning the QR code of a train to get the ticket. The passenger can get a ticket by entering number of seats and payment details[4].

This project deals with the development and implementation of smart phone application. Ticket will be present in the customer’s phone in the form of QR Code. The ticket checker app is provided with an application to search for the user’s ticket with the ticket number in the cloud database for checking purposes.The Railway Ticket Booking System using QR Code can be bought easily anytime, anywhere and the ticket will be present in the customer’s phone in the form of “Quick Response (QR) Code”. Admin will add the customers based on their aadhaar card details which will be retrieved while registration of customer on an android application.[5].

In this paper, we are proposing QR-code generator and reader for metro ticket system. The QR-code (Quick Response code) becomes popularoutside the automotive industry due to its fast readability and greater storage capacity compared to standardUPC barcodes and we also propose facility to take metro ticket using android mobile application. This systemprovides a facility for ticket checker to check daily passengers ticket by just scanning the QR-code. The app isalso providing live tracking so that passengers can view upcoming stations on map and time to reach atparticular station.Our system has two logins; one for passengers, and another for ticket checker[6].

We propose to build a unique and easy to use local train ticketing system. The system allows users to enroll and as soon as they register themselves with unique id is created in the system. User may book tickets for western central and harbor lines of Indian railway and fare is calculated according to distance between stations. This fare balance is later deducted from user account. User may later recharge his account through an admin. Here we use the server on a station. Android devices coming in Wi-Fi range of the server may book tickets. Our system allows users to thus book tickets through their android device. The user needs to enter his required details along with the source and destination station online. After filling the required details, the user receives a unique id. The user just needs to show this id to the ticket checker. The Ticket Checker enters this ID in his android application and thus can retrieve the user details like the photo of the person, source and destination of the pass. validity of the pass etc[7].

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