V.S.B Engineering College, Karur

Department of Information Technology

IBM NAALAIYA THIRAN

Literature Survey

Title : Smart Solutions for Railways

Domain Name : Internet of Things

Team Leader : Narendra Kumar.L.A

Team Members : Mohammed Yaser Arafath.S

Mohanasundaram.S

Praveen.V

Mentor Name : Mr. Sathyanarayanan.M

Assistant Professor,Department of IT

V.S.B Engineering College, Karur.

Abstract:

Smart Solutions for railways is designed to reduced the work load of the user and also the use of paper. Here in this project we have all the features shown below.

A Web page is designed for the public where they can book tickets by seeing the available seats.After booking the train, the person will get a QR code which has to be shown to the Ticket Collector while

boarding the train. The ticket collectors can scan the QR code to identify the personal details.

A GPS module is present in the train to track it. The live status of the journey is updated in the Web app continuously.All the booking details of the customers will be stored in the database with a unique ID and they can be retrieved back when the Ticket Collector scans the QR Code.

Introduction:

Previously people used to stand in a long queue for buying tickets where they have to plan their schedule and act accordingly so that they can buy the tickets. For advance booking people used to visit the railway station and book their tickets. Then came the online reservation system where people book their tickets online and download a copy of their ticket for any verification. This too needed some time where they need to book tickets online and take a printout of the copy of their tickets. This is more efficient than the earlier idea but this can be further improved by implementing a QR scanner for verification of tickets.

Literature Survey:

The author says [1] the demand for safe, fast, and reliable rail services continues to be the reason for concern in all the countries across the globe. Lack of operational efficiency and reliability, safety and security issues, and aging railway systems and practices are haunting various countries to bring about a change in their existing rail infrastructure. The global rail industry struggles to meet the increasing demand for freight and passenger transportation due to lack of optimized use of rail network and inefficient use of rail assets. This is expected to induce rail executives to build rail systems that are smarter and more efficient. The passenger reservation system of Indian Railways is one of the world's largest reservation models. Daily about one million passengers travel in reserved accommodation with Indian Railways. Another sixteen million travel with unreserved tickets in Indian Railways. In this vast system, it is a herculean task to efficiently handle the passenger data, which is a key point of

consideration now-a-days. In this paper, the authors have explored different issues of implementing smart computing in railway systems pertaining to reservation models.

The author says [2] technological development has resulted in a boundary free digital world. This development has resulted in transaction through virtual money instead of real ones. One of the most popular forms of online trading is E-ticketing. Android Phones can reduce the trouble of the customers to stand in queue and book the tickets. With the advent of the smart cards the overhead of waiting for ticket was reduced but the user should always remember to carry the card with him. Moreover one has to pay attention that it is not misplaced or stolen. After that came E-Ticketing where passengers have to carry a SMS or a printout of the ticket booked online. But that required laptops or desktop for booking. Thus came into front the use of smart phone application where carrying a smart phone will do all the work. Thus the introduction of smart phone application overcomes all the drawbacks of the earlier systems. This paper deals with the development and implementation of smart phone application which is more effective and simple than current ticketing system. The "Android Suburban Ticket (ASR)" can be bought easily anytime, anywhere and ticket will be present in the customer's phone in the form of "Quick Response Code". GPS facility is used for validation of the ticket at the source and deletion at the destination. The information for each user is stored in a CLOUD database for security purpose which is unavailable in the current suburban railway system. Also the ticket checker is provided with an application to search for the user's ticket with the ticket number in the cloud database for checking purposes.

The author says [3] this paper deals with the new model of Automatic Ticket Vending Machine (ATVM) for Indian Railways which will make it smart and secure. The purpose of this project is to enable cashless payment through a biometric device. As each and every person has a unique fingerprint, they can store it in already existing ATVM database or they can link it to AADHAR card.

The author says [4] the smart cards are now days commonly utilised for purchasing the transportation services ticket fares like buses, railways, etc. There are many such projects underway around the world for transportation utility services like railways. The important factor for the ticketing system in railways is the transaction payment time. The payment time of not more than 300 milliseconds is usually demanded. The Indian Railways smart card is pre-filled and does not have to connect to the bank's site for payment. So, the speed of the facility is very good for payment. The feedback of the respondents who already a user of this service will depend upon this important factor.

The author says [5] Indian Railways comprises a large infrastructure and are lifelines of a country. Our project is to give a chance for the waiting list passenger and booking the tickets by using SMART CARDS very easily. There is no such a system that presently in Indian railways gives accommodation to waiting list passengers during their journey. This paper shows the seat allocation for the waiting list passengers by the railway department. Through activating the SMART CARD, the WL ticket will be confirmed before 1hr 30 minutes or else before chart preparation. The empty seat numbers are sent by the TTR to the department through SMS and conformation message will be sent by the department to the passenger's. SMART CARDS are similar that of an ATM so that they can be recharged and can be reused often. SMART CARD reader reads the SMART CARD for automatic door open and closes purpose and displaying the entry tickets in the display board.

References:

[1] Smart Computing Applications in Railway Systems - A case study in Indian Railways Passenger Reservation System. Parag Chatterjee, Asoke Nath, Department of Computer Science St. Xavier's College (Autonomous) Kolkata, INDIA E-mail: asokejoy1@gmail.com

[2] Android Application for Ticket Booking and Ticket Checking in Suburban Railways,Subarnarekha Ghosal, Shalini Chaturvedi, Akshay Taywade and N. Jaisankar SCSE, VIT University,

Vellore, Tamil Nadu, India; subarnarekha.ghosal2013@vit.ac.in, shalini.chaturvedi2013@vit.ac.in,
akshay.taywade2013@vit.ac.in, njaisankar@vit.ac.in

[3] Biometric Based Automatic Ticket Vending Machine for Indian Railways Harish Koujalgi1, Ajay Sudhir Bale 2 1,2 M. Tech Student, Department of Electronics and Communication, KLE Technological University, Hubballi, INDIA

[4] A STUDY ON THE INDIAN RAILWAY SMART CARD USAGE A Research Methodology Project Report MIM – I Batch of 2007-2008 Saeed Khan Information Systems Consultant Mumbai, India

[5] Efficient Real Time Railway Ticket Management System S. Munaf1 , S. Lakshmana Sruthi2 , V. Dharani3 , M. Hanupriya4 1Assistant Professor, Department of Electronics and Communication Engineering, SRIT, Coimbatore, India 2,3,4UG Student, Department of Electronics and Communication Engineering, SRIT, Coimbatore, India