SMART SOLUTION FOR RAILWAYS

Date	29 October 2022
Domain Name	Internet Of Things (IoT)
Project Name	***Smart solution for railways***
Team ID	PNT2022TMID01593

Objective:

Paper pen works takes time and can be time consuming. People in this current fast world won't like to still stand in a queue and book tickets. And most importantly, nowadays most people have a smartphone on their own. So that implementing the solution proposed won't be a challenging task. In fact, compared to the traditional method of booking tickets standing in a queue, our method has a lot of advantages.

Our solution is to design a website where we can book ticket and receive QR Code which can be scanned during boarding. Passengers can also monitor the train status and as well as they are alerted through mobile before their destination arrives.

There won't be any loss in implementing this solution proposed by us. In fact, the truth is the **Tamil Nadu government has been already involved in developing and promoting the solution proposed by us by providing 60% discounts to those passengers who book tickets through online** in Chennai Metro Rail Service (CMRL) understanding the advantages.

And Finally, Digitizing the booking and verification process & alert passenger before their destination arrives. Digitizing the works reduces manual paper pen work and it becomes easier and time saving. Because of the smart changes that can be introduced by implementing in the railway system, **Our Indian Railways can be called as "SMART RAILWAYS".**

LITERATURE SURVEY

PAPER NAME	AUTHOR	YEAR	METHOLOGY	MERITS	DEMERITS
Passenger Monitoring Model for easily Accessible Public City Trams/Trains.	Roman Khoeblal, Teeravisit Laohapensaeng, Roungsan Chaisricharoen	2015	Passenger monitoring, passenger control RFID distance reading, ticket control, RFID ticket inspection.	It is possible to travel cross country with a single public transportation card, using transport systems of several transport operators.	Applicable only for passenger monitoring.
Application of smart computing in Indian Railway Systems.	Parag Chatterjee, Asoke Nath	2014	By Interlinking unique identification system with train ticket reservation system by using video surveillance, rail sensors, biometric input devices and multimedia displays.	Reduces manual effort in passenger data entry. Provides security verification.	Significant investment is needed. Risk of database.

Android Suburban Railway Ticketing with GPS as Ticket Checker.	Sana Khoja, Maithili Kadam	2012	Android, SQ lite, Cloud Database, ASR, QR Code.	E-Ticket facility, enabling reuse and replacement of components.	QR Codes before the user enters or leaves the station, where the user can have access which is risk in ticket booking.

Novel Approach for Smart Indian Railways.	Sujith Kumar, K.M.Yatheendra Parvan, V.Sumathy, Thejeswari C.K	2017	Digitalization, Smart Railways, Aadhar Card, Smartphone, Identity Verification.	Employ a mobile application through which passengers can access various ticketing options in user friendly and efficient manner.	Biometric database is risk of hacking.

A Review on IOT based automated seat allocation and verification using QR code.	Sarvath Saba, Sharon Philip, Shriharsha, Mukund Naik, Sudeep Sherry	2022	The system lets the passenger to have a comfortable journey by checking the temperature first for normal and then the count for avoid crowd using the QR Code.	This model proposes a radical change in train operation and passenger experience. One of the many steps towards a more digitized society as a part of the "Digital India" movement proposed in 2015 by the Prime Minister.	The system is not fool-proof and requires a dramatic change in the existing system in terms of the people allowed on platforms, etc. but baby steps matter.

Reference:

1. Roman Khoeblal, Teeravisit Laohapensaeng, Roungsan Chaisricharoen, "Passenger Monitoring Model for easily Accessible Public City Trams/Trains" (2015).
2. Parag Chatterjee, Asoke Nath, "Application of smart computing in IndianRailway Systems" (2014).
3. Sana Khoja, Maithili Kadam, "Android Suburban Railway Ticketing with GPS as Ticket Checker" (2012).
4. Sujith Kumar, K.M.Yatheendra Parvan, V.Sumathy, Thejeswari C.K, "Novel Approach for Smart Indian Railways" (2017).
5. Sarvath Saba, Sharon Philip, Shriharsha, Mukund Naik, Sudeep Sherry, "A Review on IOT based automated seat allocation and verification using QR code"(2022).