

# **SMART SOLUTION FOR RAILWAYS USING IOT**

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## **PROBLEM STATEMENT:**

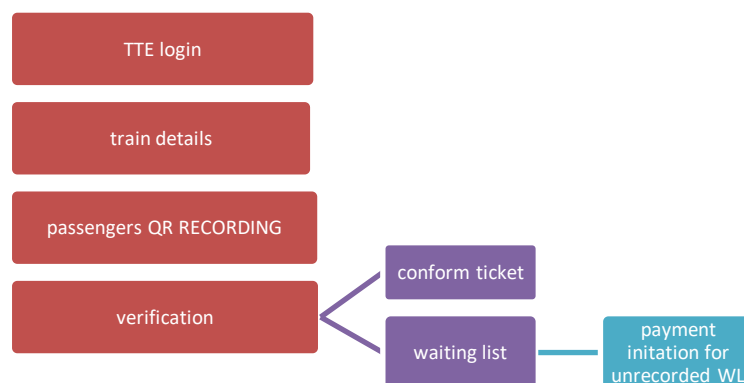
In current system there are many disadvantages which are to be rectified. The main thing which comes under is allocation of lower berths. Even for senior citizens, medically ill and pregnant ladies. during verification there could possibilities for fake identifications also. So there could possibility of unauthenticated travel by stranger also. More over the main disadvantage is about payment for waiting list passengers and un travelled passengers. They are not given any refund and those un travelled seats were sold out for the officers profit. Even in verification there is a lot's of quantity of paper is used.

## **PROPOSED SOLUTION:**

- For overcoming these proposing a new idea. For booking purpose we are going to use an web application which is developed in python. Though

this web application we can book ticket using our QR code as the primary key.

- Since our QR code is recorded in the UIDAI Aadhar KYC system there won't be necessary to enter any further details
- For booking tickets for multiple passengers, It is necessary to enter have their Aadhar number for booking ticket.
- While in case of verification time, QR code should be verified for all the passengers who boarded in the train.
- If the passenger has a confirmed ticket then it will be verify, Otherwise it will check in the waiting list.
- For waiting list, not authentication means it will go refund if not no refund will be provided. For verification we are going to use a specifically designed mobile application .
- This application is accessed by using an external fingerprint sensor or with an inbuild sensor. each official will have individual login credentials so, by this itself we can identify every thing.
- Untravelled seats are automatically allocated for boarded waiting list passengers. More over with is application. Lower seats preference will be adjusted by the QR code and sensor citizenship claim also.
- Mainthing which we are going to utilize is here is AEPS. This means Aadhar enabled payment system.by this system payment is done by using QR code itself. Refund will be also given with consideration of this QR code.



**Fig.**Backend processing at the time of verification.

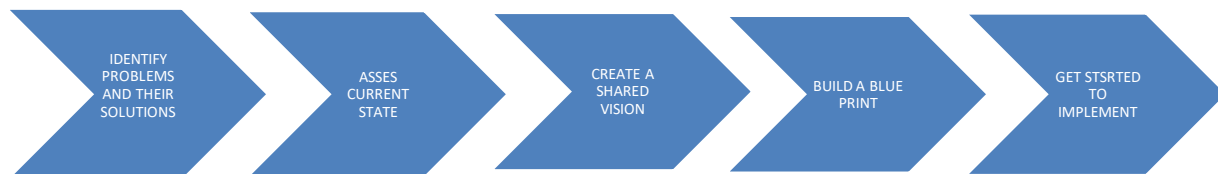
## **NOVELTY:**

Smart ticketing systems using sensor beacons could eventually result in the removal of ticket barriers and signal an end to queues at the ticket machine in metro railway stations. Sensors on station platforms or onboard trains would be able to detect an app on passengers' smartphones as they enter the station or board, automatically charging the correct fare and eliminating overcharges. Metro railway operators would be able to streamline backend billing and revenue management, while better understanding metro train usage behavior through near real-time data.

## **FEASIBILITY OF IDEA:**

- Complete e-ticketing system supports multiple methods of payment and multi-issuers' transaction in one device.
- Support multi-group transfer discount based on parameter settings.
- Support multiple fare deduction modes, group ticket and periodical ticket application.
- Flexible design for support of local business rules.

## **BUSINESS MODEL:**



Business models that have disrupted other, more traditional and verified ways of doing business, called hyper-disruptive models, include: The Subscription, The Free, The Market Place, Access over Ownership, The Experience, The On-Demand, The Ecosystem. Hyper disruptors combine different business models, knit together different types of capabilities and deliver customer value in new ways.

## **SOCIAL IMPACTS:**

The social impact of the railways emerged from the very beginning. The railways made India mobile and opened up new vistas and opportunities for its people. It brought in new expertise and trades, new technology and above all, it gave the people a sense of freedom.

## **SCALABILITY OF SOLUTION:**

Basically, the smart model approach for passenger reservation system depends on some pre-requisites, without which the benefits would not be fully enjoyed. This includes the comprehensive UID registration of all passengers who needs to travel. Also it expects that every passenger (at least one for each ticket) possess a mobile phone. Though this is not compulsory for all the passengers booking through reservation counters. Also it is quite easier to implement a new system afresh, comparative to incorporating modifications to existing system. The huge domain of this reservation system, its zero-tolerance to break-of-service, and scarcity of properly handled huge data repository could have been threats in introducing and implementing this system to the existing one. Efficient searching and indexing operations are needed for fast query processing to actually offer the benefit of the smart model.

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