

# CONCEPT OF SMART BUS RESERVATION AND LOCATION TRACKING SYSTEM

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**Abstract** Today scenario smart city, smart transport, smart grid etc. Smartness give the facility to the people and work completed in easy way. The bus using travelling is the growing business in India and every state in India. Public transport bus service is based on the regular operation of transit bus along a route calling at agreed bus stops accordingly. One problem is aware of timing of buses and lake sit availability information at running timing of different buses and another issue is collecting cash may face problem a lot, such many problem is faced by the current system still. In this paper to overcome this problem a application is suggested for the convenes, It uses the tracking system, QR-code for booking, and the ticket booking and available information to the next station also before reaching bus.

Index Terms - smart, QR Code, route.

## I. INTRODUCTION

stops and timing waiting for bus is the time wasting get the information about next bus coming on the stoppage. If the passenger is the new person on that city it is problematic for the person to get the right timing and right bus stop place. Although he reaches at correct destination he will not get nearby places. Another is conductor required to conduct fare collection and passengers may face cash problems. If meanwhile in bus route bus gets fail then passengers remain unaware about it and conductor may face problems for getting help. Like these, there are many problems faced by the current system. Another problem is that if the passenger of the next stop is waiting for the bus and until unless bus is not reach to the destination the ticket counter is not give ticket to the passenger and it will be hectic for the passenger to wait for undefine time and getting information about sit. To overcome these all we come up with a new modle that help the person reducing time of the passenger waiting, ticket related and stoppage related problem. Previously many work has been suggested by the many person still it is problem for the govt transport system and the private system as well.[1-2]

## II. LITERATURE SURVEY

Public transport system is the source of income in developing countries like India. However, security and malfunctioning is the major issues in this system. First issue is regarding the fare confusion the bus ticketing system is expected to be fully automated, reliable, transparent and convenient.

GPS technology uses in many applications. It is also used used int the got the vehicle tracking information this information can used to monitor from any remote place or location. This is depending on the concept of GPS and GSM technology. This system lags in using mobile system to track and get a real time and current view of target or vehThis system lags in some features like its track vehicle only on PC not on mobile. And also, there is no application depending on mobile device to track and get a real time and vehicle [3].

Kidwell use the algorithm predicting of the bus arrival times based on the real time vehicle location.This algorithm divided the route into zones and recorded time bus passed through each zone predict to reach time at stop. However, this algorithm was not suitable for large cities where both travel time and dwell time could be subject to large variations [4].

This system is used for identification of bus ticket in public transport for passengers. Because the passenger having lake of information about bus fare so this confusion benefited to the conductor and get from the passengers these leads to corruption. System will provide automatically fare collection of passengers according to travelled distance. This system uses RFID and GPS for transactions and it make travelling is very precise. This system has Some shortcoming of this system is that not provision for bus tracking and no measure for the crowd density. This system also failed to view schedule of buses [5].

The methodology and the results from its application to bus service data from Porto. The data relate to an AFC system integrated with an automatic vehicle location system that records a transaction for each passenger boarding a bus, containing attributes regarding the route, the vehicle, and the travel card used, along with the time and the location where the journey began [6].

Tracking systems arehardly available in market if available quality is not good and effective system is costly. The above stated system is much economical than other system is currently available now in the market. This suggested system helps to getting

information about location of college bus on mobile or smart phone. The tracking of bus is based on the SMS and no real time view for the location of bus based on mobile system [7].

F. Araujo et al discussed the challenge of creating an electronic ticketing system for transportation systems that can partially or completely run on the cloud. This system is reached to large person. It also provide the two advantages lower operational cost, faster executing query for monthly for analysis. To fulfill the goals of the project, system proposed the atree-tiered architecture a departure of the online and analysis databases; and an Enterprise Service Bus to get the input from very diverse hardware and software stacks. In this paper several options regarding the location of these facilities on the cloud was discussed and evaluate the costs involved was evaluated [8].

### III. RESEARCH BACKGROUND

QR is first designed for automotive industry in Japan. It is developed by Densa-Wave. QR uses four standardized encoding modes (numeric, byte/binary and kanji) to stored data efficiently.

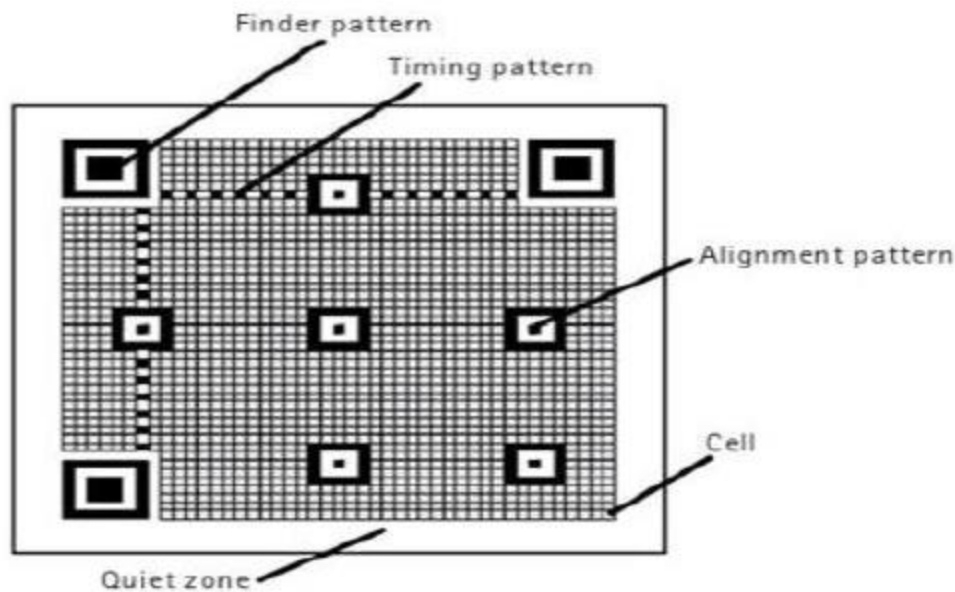


Figure 1: Give the information about pattern

Another method that are used is GPS for tracking location of bus with GSM and Arduino. GPS uses at least 24 satellites. Booking of the ticket the Android application is used it is simple and efficiently technology in bus booking and at the for the relational database are used for storing data.

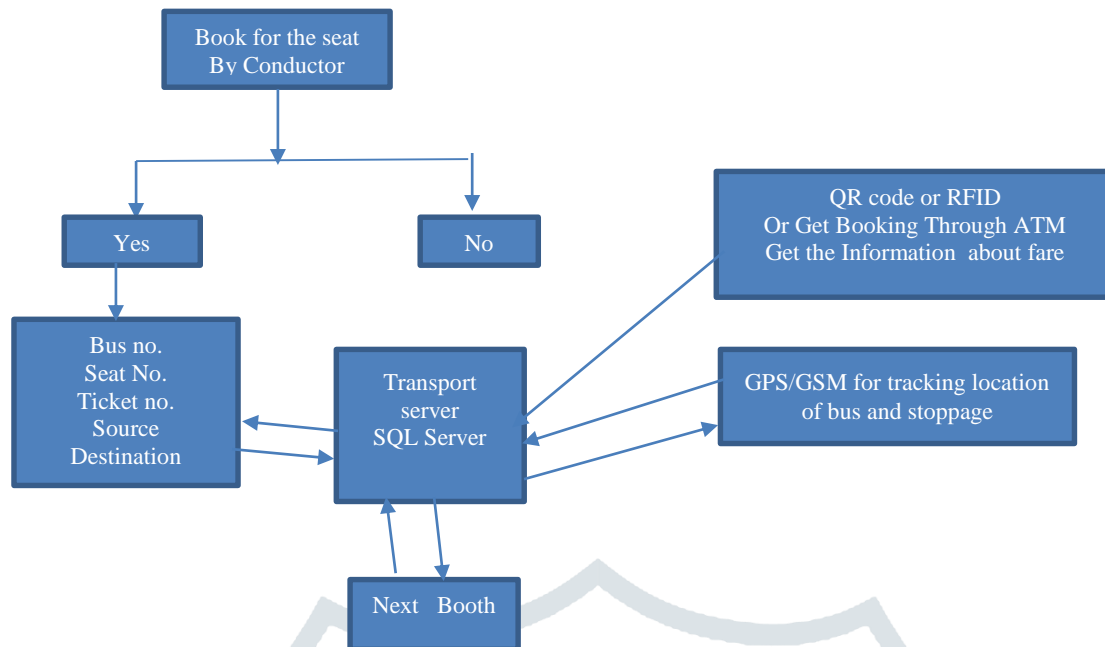
### IV. PROPOSED MODEL

In this proposed model it is trying to implement one application that help to find out the full information about the booking and the location of the bus

**GPS/GSM Model used for Tracking:** -An android application is used GPS/GSM used for tracking of the of the bus service where the bus location and it should also be design such that for the particular area bus stop get on the mobile app and by mobile location the application using GPS automatically shows the how much far and which location the of the city bus stop so that it will be the helpful for the passenger location stop and location of bus and timing of bus arrival. Second Problem is about confusion about cost of the ticket it could be solved by the location where you are and where you want fill the information it will automatically find the fare rate by the transport server or if using the cloud, it may fetch fare related information about fare and it show in android application.

**QR code or RFID code for ticket booking:** - In this model the QR code is used to automatically bus ticket booking from source to destination and we can used the card which may be know as bus card or may be used the ATM card for that booking.

**Android Application working:-** the work of the application is that first if person want to check bus location and the boarding point or bus stoppage it can take from GPS system and the person can get sit information in real time from the server or cloud where the data are store. It then after if he may have booked sit before arrival of the bus or person can used the QR or RFID for the ticket booking in the bus itself. At the time of booking the information fill by condor it will give ticket number source to destination. Will go to the server and that information can be collected by the next station ticket booking counter at that time he can give the ticket and sit any person that also reflect to the conductor. By this standing time of in front of ticket booking widow also can be saved and it can be relaxed from the Queue.



**Figure 2:** Proposed model in an application

## V. CONCLUSION

Still there are many problem for bus booking of ticket still work is done manually. Or if any app available every work done by individual application still it is the problem to get information about bus ticket, fare, location. In this concept model every requirement will come into the one platform that will be easily reachable to every person and no require that much perfection into the Knowledge of the technical aspect. The person easily accesses the application and get benefited that give us good filling and resolve the timing of bus, stoppage and queue on the ticket counter

## REFERENCES

- [1] Miss. Mohini S. Shirsath ,Pooja M. ChincholeA Review on Smart Bus Ticketing System using QR-Code International Research Journal of Engineering and Technology (IRJET), Volume: 05 Issue: 03,pp-42-44.
- [2] Oloyede, M.O., Alaya S.M.Development of an Online Bus Ticket Reservation System for aTransportation Service in NigeriaComputer Engineering and Intelligent Systems, Vol.5, No.12, 2014,pp-9-17
- [3] BaburaoKodavati, V. K. Raju, S. Srinivasa Rao, A.V. Prabu,T. Appa Rao, Dr. Y. V. Narayana GSM And GPS Based Vehicle Location WdTracking System, International Journal Of Engineering Research And Applications (IJERA) ISSN: 2248-9622 Www.Ijera.Com Vol. 1, Issue 3, Pp.616-625 2000.
- [4] Kidwell,B, Predicting Transit Vehicle Arrival Times. Geographic Laboratory, Bridgewater State College, Bridgewater, Mass., 2001.
- [5] Saurabh Chatterjee, Prof. Balram Timande Public Transport System Ticketing System Using RFID And ARM Processor Perspective Mumbai Bus Facility B.E.S.T , International Journal OfElectronics And Computer Science Engineering., 2012.
- [6] Karin Siebenhandl, Guntherschreder, Michael Smuc, Eva Mayr And Manuel Nagl A User-Centered Design Approach Toself-Service Ticket Vending Machines. Ieee Transaction Oprofessional Communication, Vol. 56, No. 2, June 2013.
- [7] R. Ramani, S. Valarmathy, Dr. N. Suthanthiravanitha, S. Selvaraju, M. Thiruppathi, R. Thangam, MECS I.J. Vehicle Tracking And Locking System Based On GSM And GPS”, Intelligent Systems And Applications, 2013, 09.
- [8] Filipe Araujo, Marilia Curado, Pedro Furtado, Raul Barbosa Taking AnElectronic Ticketing System To The Cloud: Design And Discussion CISUC, Dept. Of Informatics Engineering, University Of Coimbra, Portugal Filipius@Uc.Pt, Marilia, Pnf, Rbarbosa@Dei.Uc.Pt 2013.