

# Management of MSRTC And Location Tracking

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## ABSTRACT

Primary information for the most city transport travelers the bus arrival time. Excessively there often discourages the travelers due to long waiting time at bus stops and for taking buses makes them reluctant. In this system, based on bus passenger's participatory sensing we are going to present such system which will predict exact time of bus arrival. The commodity cellphones to estimate routes for bus traveling and to predicting arrival time of bus at different bus stops, the passengers of bus are effectively collected and also utilized context of surrounding environmental. System has a panic button which notify the police station, parents and depot manager at the time when the bus gets hijack, accidents or any problem occur related bus. On the participating users collaborative effort there solely relies and it is not dependent from operating companies to bus, so without support requesting from particular bus operating companies for supporting the universal bus service systems it can be adopted easily. We resort to energy efficient sensing and more generally available resources, including signals of cell tower, statuses with movements, recordings of audio, etc., instead of referring the GPS enabled info of bus location, to participatory party to bring less burden by encouraging their participation. Instead of going to depot the person who wants buspass, They can apply online through the Android app.

**Keywords :** GPS, J2ME, Google Maps, Cell Tower, RFID

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## I. INTRODUCTION

### MOTIVATION:

Passenger have to wait for the bus to arrive, hence to reduce the waiting time we are developing this system. Here main moto is to reduce a waiting time as well as provide the location. Also provide details to the passenger about seat availability in the bus.

This was one of the main motivation behind developing this system. Such systems must be installed urgently in order to reduce number of abduction taking place. It provides security for passenger with the help of panic button through app.

### AIM:

The purpose of this system is to track a accurate bus arrival time, which will very useful for passengers. In addition system also provides security to passengers by sending panic notification message to police station, parents no and bus depot manager at the time of any panic condition through Android app.

Provide online Bus pass facility through app for people who wants to travel by bus.

### OBJECTIVE :

- To design a such system which give exact location of bus and tell predicted bus time to the passenger.

- To design a simple bus ticket management system by introducing new approach of valid OTP till destination.
- To design and develop smart bus location tracker and management system in which conductor can give info to next bus stand if any failure is occurred.
- To design a secured app which will send notification through panic button In case any problem occur.
- We are giving the online buspass facility, To reduce the time to retrieve the buspass, Instead of going into the depot.

## II. RELATED WORK

### A. WORK

To many problem are occurs during bus transportation so to reduce all such problem the system must have to implement such module to reduce that one.

According to the author, RFID technique will be used to track the location of bus from source to destination. Radio frequency signal sends signal to reader, which send info to the server for need of application. The entry of the buses with arrival time are also there [1]. Author suggesting that Nowadays, increasing the density of vehicle is becoming the problem of vehicle control so that many accidental situation are arises due to traffic. In that the tracking of vehicle is most important factor which is helpful for the people without wasting of time. so, In this paper they couldn't explained about the accidental situation controlling. So, its too important to control or manage the accidental situation [2].

The tracking system consists of GPS antenna that generates coordinates, a GSM module receive request from the users and sending coordinates of particular vehicle generated by GPS antenna via message through mobile app based on google maps to point out the vehicle location [3].

The main Objectives of this research work are :

- RTBMS will going to indicate the bus location expected time of arrival in real time.
- Web server interface will pass current info from system to the app in real time.
- The mobile app for end users to find out bus schedules and location.
- People faces too many problem regarding buspass, So to reduce that one.

According to author view :

A) Existing Bus monitoring system: According to author proposed system which integrates the RFID technique with wireless sensing network for Bus management system to track bus by route if bus was

stuck in any traffic inside the bus station. System also overcomes the drawbacks of the wired connection over wireless.

B) Bus Tracking and Notifications System: Proposed system to manage the bus driver to follow the arrival time at the schedule time without any delay. The system notify that the departure and arrival time of bus at bus stop [4].

## III. PROPOSED ARCHITECTURE

### A. SYSTEM ARCHITECTURE

Proposed system will have two algorithms for solving the Fair RendezVous Point (FRVP) problem in a privacy preserving fashion, where each user participates by providing only a single location preference to the FRVP solver or the service provider. The Proposed system has 3 major components:

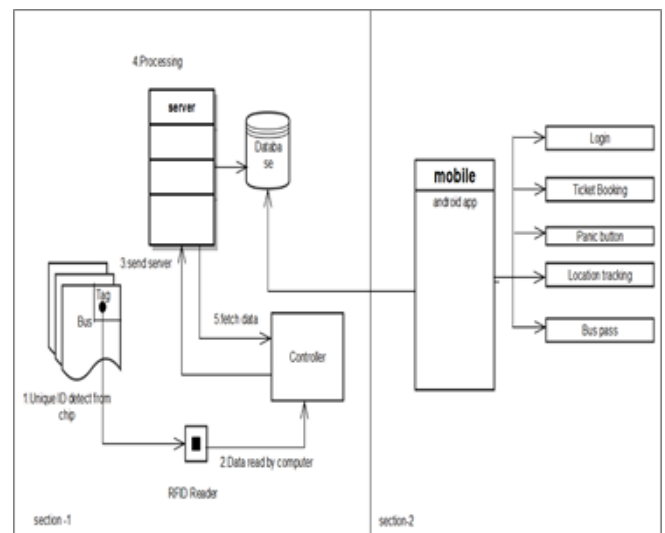


Fig: System design for MSRTC work.

### 1. Querying user:

The users send the request to the back end server a querying user queries the bus arrival time. The interest bus route and bus stop indicates by the querying user for receiving the predicted bus arrival time.

### 2. Conductor

They contributes the info of cell phones sensing by sharing user to system. The data collection module starts for collecting the sequence of nearby cell tower IDs after sharing user gets on a bus. The collected data is transmitted to the server Via cellular networks. To detect whether a current user is on a bus or not by cell phones since with different means of transport the sharing user may travel.

The surrounding environment samples there periodically and extracts transit buses identifiable features by the mobile phone. It starts sampling the cell tower sequences and sends the sequences to the

back end server once the mobile phone confirms it is on the bus, Ideally, there automatically performs the data collection and transmission by the cell phone for sharing user without the manual input from the sharing user.

### 3. Admin server

To the back end server we shift most of the computation burden where from querying users are addressed the uploaded info from sharing users is processed and the requests. There are involved two stages in this component. In order to bootstrap the system, in the offline preprocessing stage we need to survey the corresponding bus routes. Initially update the entries with registration of driver and give RFID tag to bus for the continuous entry updation. Here we use passive RFID Tag for unique Identification of bus and bus driver. When bus is arrive on depos gate Tag will be read by RFID reader when Tags come in range. This proposed system consist of two Tags which store two unique ID's. After reading Tags by using RFID reader through WiFi module bus entry will be update into database. Route also get updated over there. If any problem is occur with entry module then bus controller have an authority to add the bus entries.

### 4. Android App

Login:

There is two authorized login one for passangers and another for conductors.

#### *Passangers login :*

After successful login, passangers can book tickets or cancel it, current location tracking of bus with source and destination place.

#### *Conductors login :*

After successful login, panic button is given there for future panic problem solving. Seats availability check by conductor. Another one way to track the bus using conductors mobile.

#### *Bus Search :*

Passengers can search the bus by route. After searching bus, passengers can select displayed bus. It shows available buses with predicted time.

#### *Ticket Booking :*

Passengers want to see the seats available on the selected bus. The vacant seats are available for booking if they want. If they wants to cancel the booking they can do it.

#### *Location Tracking :*

In two ways system can gives live location of bus, *First* Show the bus current location by using GPS of

conductor cell phones. *Second* if any network problem occur then live location of bus will be going to predict after passing bus stop. The controller can suggest the predicted time for passengers.

#### *Panic Button :*

When any panic condition occur with bus conductor having an option is panic. This panic condition is decided by conductor which situation occur. In android app provided three options with panic button. After decided the situation conductor press the button based on situation. If bus get hijack conductor can press the *Hijack Button*, here system send message to police station and depot by using Gateways. If bus failure is occur then conductor press the *Failure Button*, here system send the message to depot based on this message depot provide another bus to replace that one. If any accident happen with bus then conductor press *Accident Button*, here system send message to Nearer Hospital, Police Station and bus stand. It might be happen conductor can get injured at that time bus stay on single location more than 7 minutes, according to this one the accident is happen is predicted.

#### *Buspass :*

Every time passengers and students wants to retrieve the passes they have to go bus stand and then apply for the passes. To overcome this one, Android app having facility to provide digital passes. For retrieve the pass the passengers and students have to fill the details with valid document proof.

## IV. CONCLUSION

Here we come to the conclusion that the proposed system will not only facilitate the passangers to search or track the bus location but also helps to avoid the paper work. The proposed system also intimate to user or admin about failure of bus. The proposed system also helps passenger to get seats availability and person who want buspass, they can take it through app. As of now this app is developed for bus only. In future we will add other transport system to this app such as taxi services and trains. Also we will add some hardware part to the project at the conductor end.

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