

GSM based live tracking system with safety recommendation for the user

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Abstract

Travelling has become an unavoidable part of our lives. So in order to make travelling easier and easily accessible, the idea of GSM based live tracking with user recommendation system in government buses is proposed so that the people could trust and enjoy government vehicles not like before. "Efficiency is key for prosperous growth in this generation", so for making a resource efficient, we have to use the existing commodities properly, an engineer has to always come up with an exceptional idea to make betterment for the living. This Bus tracking system elevates a question about why use a facility, when there is already a facility that can accomplish the needs of normal civil. To get the best out of public transportation, needs increase day to day, either way a person has to run his life, so in order to make the tedious life sophisticated we have taken some initiatives in coming up with Government bus live tracking system, which can be used to track the bus through mobile phone.

Keywords: *Government Bus Tracker; Dynamic Environment; Premium Services; Simple Interface; Best Transport Services.*

1. INTRODUCTION

Safety measures is a must at any cause keeping that in mind we have put in user recommendation system so that the user will get the safety updates once he selects the route in which he wants to travel. If the route that he/she selects is accident-prone or crime prone zone it alerts the user to be careful and intimating them to be aware of the surroundings. In addition, you get to use some of the coolest features that help people get to the location in a safest conduct that if available .We strive hard to provide best means possible for this problem. We need to create software that can easily navigate people to the destination safely. That is hereby done with the best means possible android development kit, which can be used to create the app that, will help us interact with user and serve them in the best means possible. And we have additionally created a technique to overcome the risks of not getting better care from the public road safety. That is having an inbuilt criminal and accident

record stored on the records that can be inferred by the commuters to have the knowledge the safety measures of the location. This project has undergone through several changes to make it levelled to a high standard that gives people to use this app in a fast and swift manner this project does focuses only on productive outcome.

2. RELATED WORKS

Previous works had concepts based on a Wi-Fi based access points which helps in creating location tags of the moving objects. Whenever the object goes through the Wi-Fi access point, the receiver who is present in the moving object just repeats the signals to the access points which in turn we get as the location of the bus and the key people in the bus[1]. Ensuring Security Intimations in emergency through SMS Alert System implements and satisfied the technical feasibility level. This proposed system is easy to implement, as it is based on JavaSP coding java and html .It is done by Mysql server and GSM for a better SMS request rates[2].This GSM based modem can be used to ping the location of the vehicle even from a remote location. The GPS module can continuously transfer data i.e. the latitude and longitude of the position of vehicle [3].This project adheres to IoT-based remote monitoring systems holds small wireless sensors frequently measuring the signals of particulars and transmits them to nearby gate-way using low-power communication protocols[4].The projects revolves around vehicle tracking system which is developed by product that receives GPS signals of interest and transmitting it to the web server. Additionally these signals are pushed to the vehicle owner in the format of SMS protocol [5]. This project is pivotal as it portrays a smart cost effective of tracking local public transport bus which is done using GSM and GPS [6].

A hybrid way of dealing localization of automobile tracking system makes the project way more appealing than it is because tracking is made easier for application [7].

3. DESCRIPTION

The project has a keen set of methods in which it runs as per the given guidelines, so whenever the user enters the application it asks for a prompt where he/she needs to travel if there is a travel route that the bus are travelling through, the user is pinged through the location to the bus stop and by which he/she can make it to the bus stop and get on the bus and the commuter gets a message before he/she gets to the destination say for 1km prior to the destination. The navigation to the bus stop is highly standardized so that when a user tries to get to the bus stop he/she can use the map interface which is in the app to get to the bus stop in case if there is a high crime rate and theft going

on in the location then the application gives a pop up saying that there is high rate accident in this area so please be careful in the meantime as shown in Figure1.

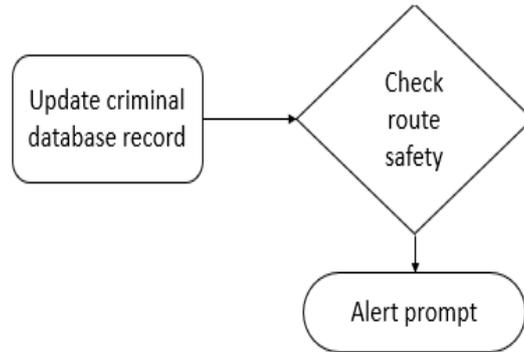


Figure 1: Route safety Check

if there are previously recorded accident or crime prone. The application will prompt to alert ,
If no crime or accident record then it redirects to the map for service as shown in Figure 2.

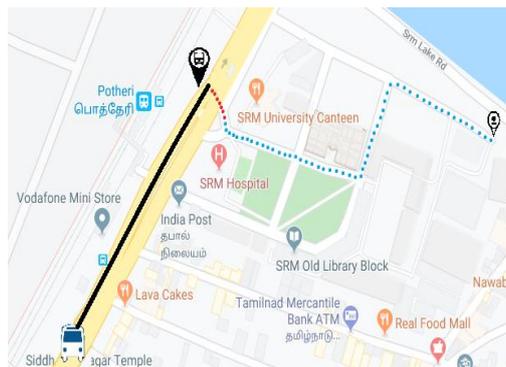


Figure 2. Route service with no crime record

The figure 2 also shows the bus travelling from the source to the destination in between are the places where the bus stops and waits for the people to get in when the bus reaches a particular bus station the driver will wait for 2-3 minutes for the passenger to arrive.

4. METHODOLOGY ADOPTED

i) RECOMMENDATION SYSTEM:

The recommendation system makes use of the collected data and recommends the user whether it is safe or not to go to the particular bus station at that point of time. The main moto of the recommendation system is to maintain the safety of the customers. It tells the user that the particular bus station is crime prone so and it asks the customer to be aware of the surroundings prior to

reaching the bus station. By doing so the safety of the passenger is looked after and to make sure the passenger is fully aware of the route in which he/she is travelling.

5. RESULT & EVALUATION

Figure 3 and 4 give the information of choosing the route through the proposed application. There is a drop down menu with different source to destinations.

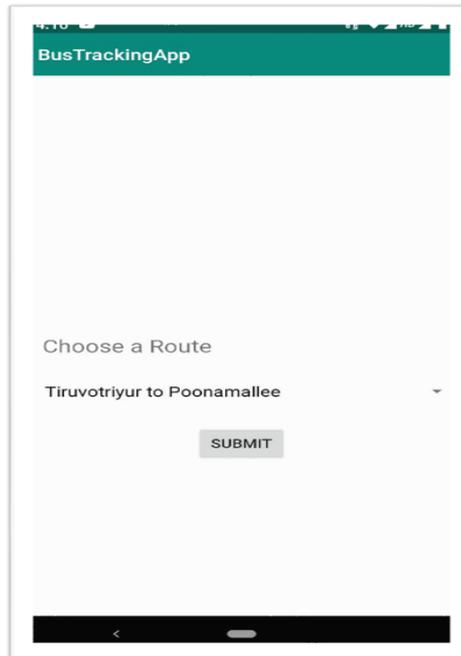


Figure 3. Choose a route to travel

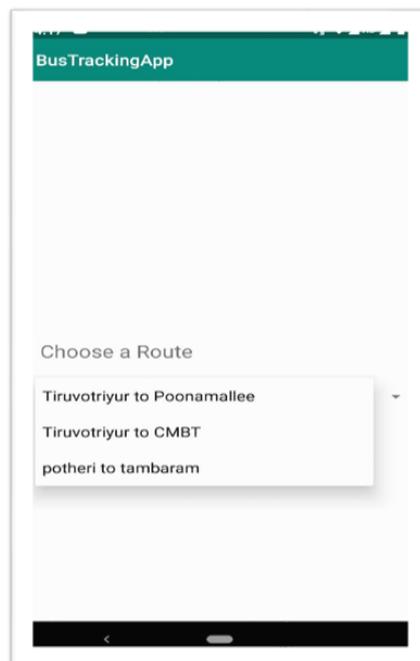


Figure 4. Shows all the possible routes

Now after selecting the required route we are directed to the map as shown in figure 5 and we will be able to see the available stops in between and where the bus currently is so that the system also approximately calculate at what time the bus will reach our location as shown in Figure 6.

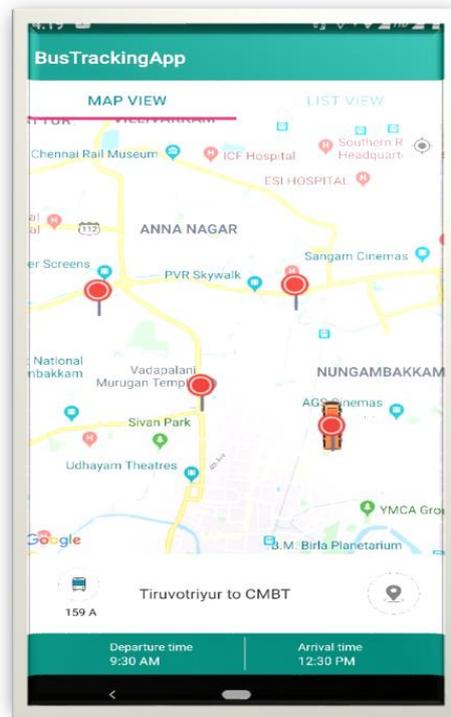


Figure 5. Shows the no of stops and the location of the bus.

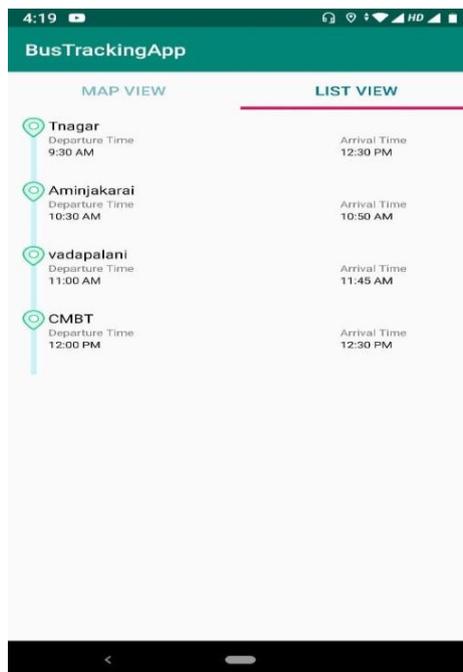


Figure 6. Shows the respective timings of arrivals of all the locations.

The figure 7 depicts that the proposed GSM based live tracking system with safety recommendation for the user outperforms the existing application in terms of accuracy during peak and non-peak hours.

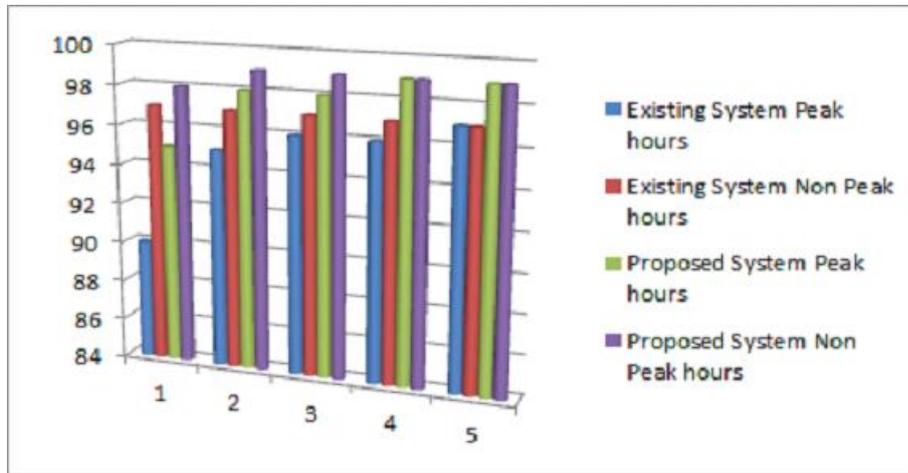


Figure 7. Accuracy

The delay in system response also reduces greatly compared with the existing system as shown in figure 8. Thus the service response is faster than the existing system.

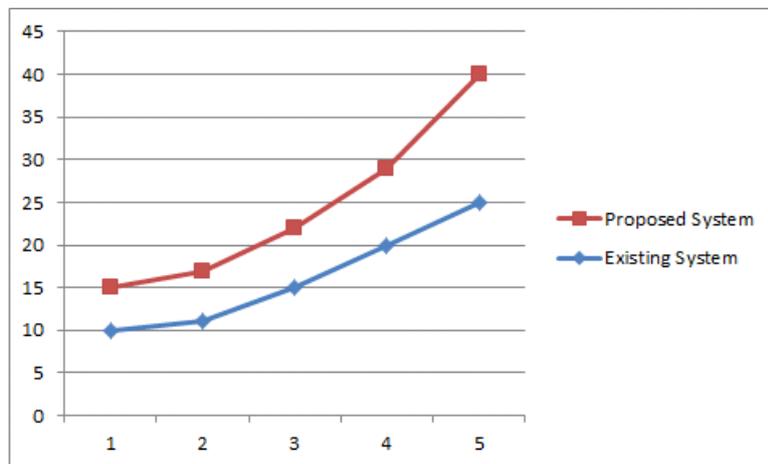


Figure 8.latency

6. CONCLUSION&FUTURE ENHANCEMENT

The main purpose of the project is to make people rely more on government buses to travel. And more importantly it is to make travelling more easier for people with busy schedule buy letting them know the exact time when the bus would arrive at the particular bus station. The work of the recommendation system is to help maintain the safety of the people. The current system is only

limited to cities. In the future we are looking to enhance it in a larger scale like from one state to other to make travelling in government buses way more easier and reliable.

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