

BUS POSITION MONITORING SYSTEM TO FACILITATE THE PASSENGERS

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ABSTRACT

The main aim of our project is to design a wireless communication based bus position monitoring system, which is much resourceful in operation. We utilize the wireless communication (GSM -GPS technology), provide the information about number of seats available in the bus and send the information to the bus station if any problems occur in the bus.

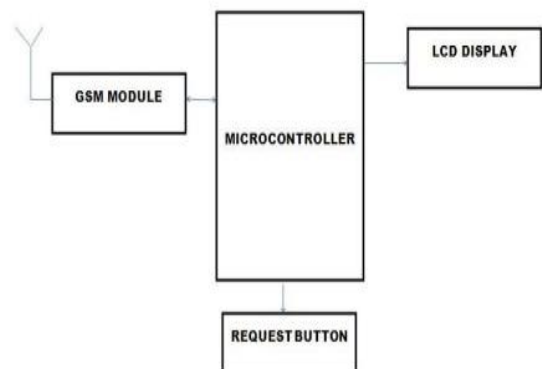
Index Terms: GSM (global system for mobile communication), GPS (global positioning system), APR33A3 (auto play and record), Micro Controller AT89S52.

1. INTRODUCTION

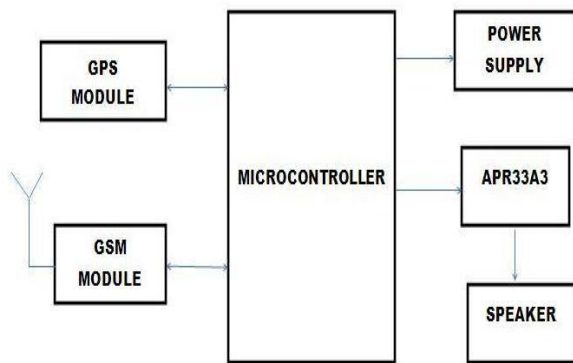
With the advent of GPS and the ubiquitous cellular network, real time vehicle tracking for better transport management has become possible. These technologies can be applied to public transport systems, especially buses, which are not able to adhere to predefined timetables due to reasons like traffic jams, breakdowns etc. The increased waiting time and the uncertainty in bus arrival make public transport system unattractive for passengers. A Real-Time Passenger Information System (RTPIS) uses a variety of technologies to track the locations of buses in real time and uses this information to generate predictions of bus arrivals at stops along the route. When this information is disseminated to passengers by wired or wireless media, they can spend their time efficiently and reach the bus stop just before the bus arrives, or take alternate means of transport if the bus is delayed. They can even plan their journeys long before they actually undertake them. This will make the public transport system competitive and passenger- friendly. The use of private vehicles is reduced when more people use public transit vehicles, which in turn reduces traffic and pollution.

2. BLOCK DIAGRAMS:

Station:



In BUS:



3. EXISTING METHODOLOGY:

In this method they developed an embedded system, is designed with passive RFID reader (U2270), 125KHz RFID tags (TK5530), 8051 family micro-controller AT89C52, multichannel Voice module (APR33A3), 16X2 LCD display, 433MHz ASK RF transmitter and Receivers, HT16 series encoders and decoders.

In this project, every bus is equipped with passive RFID stickers for the purpose of identification at the bus terminals. And also, every bus contains LCD display and Voice processor unit for displaying and announcing the upcoming stations details. Each and every bus stop is assigned with a unique ID which is transmitted up to some distance around it using RF transmitters, when a bus with RF receiver approaches the bus stop coverage area, it receives the RF signal generated by the stop and indicates the next coming station to the passengers in the bus. When the bus arrives the station, the details of the bus is read through the RFID sticker attached to it and the same is transmitted to the next stop for the passengers there to plan their options for travel. This existing method is used for only short distance communication and real time tracking is impossible.

4. PROPOSED METHODOLOGY:

Our project is designed with GSM and GPS technology, 8051 family micro-controller AT89S52, multichannel Voice module (APR33A3), 16X2 LCD display, 433MHz ASK RF transmitter and Receivers, HT16 series encoders and decoders. In our project, every bus is equipped with GSM and GPS modules interfacing with the microcontroller embedded board for the purpose of identification of bus position. And also, every bus contains LCD display and Voice processor unit for displaying and announcing the upcoming stations details. Each and every bus stop is having GSM and GPS receivers to

receive the information about the bus position and LCD display used to display the number of seats available in the bus.

And also in this project we develop other applications that intimating the next stop information to the passengers in the bus by using multichannel Voice module (APR33A3). By using GSM technology we transforming information about bus condition mean that if any problems generated in the bus automatically SMS send to the bus station manager. This project enables real time bus position tracking system and for developing this projects we using microcontroller for controlling the total embedded system and we using embedded c language for developing an software.

5. CONCLUSION AND FUTURE

ENHANCEMENT:

In our project we develop an embedded system which is an used for tracking the bus position, give the information about number of seats available in the bus and information about the fire and any other accidents. The future enhancement is developing a system by using server and ticket collecting machine.

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BIOGRAPHIES



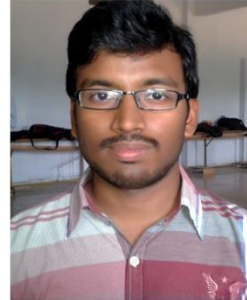
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