GSM Based Public Transportation Information System

Abstract

Many different types of information systems have been proposed over the years by different people. Most of these did not include the real time information about the position of the buses and hence were inaccurate and sometimes useless. In this project we propose a solution that uses the real time location of the bus using GPS and prediction of the travel time of the buses, to provide the users more detailed information that is also accurate.

In this project a three segment system will be implemented. The first segment is the user who wants to get the information about the buses. The second segment is a device fitted in the bus, which provides real time updates about the location and the travel of the bus. The third segment is a central server, that interacts with the device in the buses and gathers the location of the various buses and when required gives this information to the user.

The information is not just about the number of a bus or the route of the bus, but more detailed information in terms of the current location of the bus and also the expected arrival time of the bus.

In the operation of the system the user standing on a bus stop can ask the central server using a default number about the buses available for a certain route, using his mobile phone. This request is received by the server and the server finds out the buses available for the route and checks their real time position and gives the user the list of buses according to the time of arrival. Then the user can query the system again if he wants more information like the seat availability also. Furthermore voice announcements can be given in the bus to the travelers about the arriving bus stops etc using this system.

Existing System

1. The technological developments of the transportation bodies are still poor.
2. Automation of operations is not given importance.
3. Check-in process still follows old methods.
4. Accurate information is not available for the commuters.
5. Chaos prevails among commuters over the arrival time of buses.

Proposed System

1. This project provides technological support for public transportation.
2. Technological implementations help in modernizing the transport facilities.
3. Utilization of technologies like GSM and GPS provide means for updated information sharing.
4. Minimal efforts required by the commuters for acquiring the information.
5. Information are transferred through simple SMS conversation.
Software Tools

- LPCXpresso IDE / MPALB IDE
- EAGLE
- OrCAD
- Embedded C

Hardware Required

- ARM LPC11U67 / PIC18F45K22
- GSM Modem
- GPS Receiver
- Voice Processor
- Speaker
- LCD Display