School bus arrival notification system

Abstract

Unusual and unexpected conditions on the roads affect the smooth operation of the bus system and the movement of vehicles. Also, everyday problems such as traffic congestion, unexpected delays, randomness in passenger demand, irregular vehicle dispatching times take place and as a result of which the schedule of the passengers are affected and they inevitably have to wait for the arrival of their respective bus. This passenger inconvenience can be avoided by introducing a system which provides real-time information about the location and estimated time of arrival of the buses. This project focuses on the implementation of a Real-Time bus Tracking System (RTBTS), by installing GPS (Global Positioning System)-module devices on college buses which will transmit the current location on the GPS Receiver. Now the GPS Receiver will be interfaced with a computer and an interface driver will auto save data in a dot text (.txt) file which will continue to do so until the GPS module is connected to a bus. From here the application will retrieve data and store it in web server from where the system will display real-time information of the bus. The real-time bus tracking system is a standalone system designed to display the real-time location(s) of the buses provided by the college.

INTRODUCTION

The movement of college buses is affected by different uncertain conditions as the day progresses such as traffic congestion, unexpected delays, and randomness in passenger demand, irregular vehicle-dispatching times and many more incidents. Many students and staff members are often late for college because they decide to wait for the bus instead of using an alternate transportation. To reduce this confusion and inconvenience, a message will be shown on the web that will provide the real-time information about the bus showing its arrival time which could reduce the anxiety of passengers waiting for the bus. With the advent of GPS and the omnipresent cellular network, real-time vehicle tracking for better transport management has become possible. These technologies can be applied to 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 and impractical for passengers to manage their daily transportation. The real-time bus tracking system uses GPS (Global proposed system and this information is then given to a remote user who wants to know the real-time bus information. The system provides web-based application, which gives the real-time location of a bus on user interface screen to the remote user. This will make the college transport system smooth and passenger friendly. Positioning System) technology to fetch data and displays the data using a software allowing a user to monitor a particular bus on a particular route. When this information is presented to the

passenger by wireless media or online web media, they can manage their time efficiently and reach the bus stop just before the bus arrives, or take an alternate means of transport if the bus is delayed. They can even plan their journeys long before they actually initiate them. The real-time tracking of the bus can be done by our

Block Diagram :