Wireless Bus Scheduling System

Mr. D. O. Shirsath[1]*, Mr. A. G. Patil[2], Mr. S. V. Phakade[3]

[1]Assistant Professor, Dept.Of E&Tc.Engg. P.V.P.I.T, Budhgaon, Sangli, India

[2]Associate Professor, Dept.Of E&Tc.Engg. P.V.P.I.T, Budhgaon, Sangli, India

[3]Associate Professor, Dept.Of E&Tc.Engg. P.V.P.I.T, Budhgaon, Sangli, India

Abstract – This project is wireless Bus Schedule Display.In this project GPS is placed in every Bus for tracking location of a bus and GSM module will be placed at control room.with the help of control room, passengers will get the message of current bus location.

Keywords—ARMLPC2148; GSM; VB software;keil

-------------------------◆---------------------------

INTRODUCTION

A proper and systematic public transport plays a major role in economic development and well-being of the people in any country. But public transport in most of the developing countries is not running properly because of the lack of systematic planning and monitoring. In this project, we are planning to monitoring operations ofbus transportation systems. We propose use of minimal information i.e. record of arrival time of the buses at the bus-stops, for improvement of bus transportationsystem.Public Transport is one of the important infrastructuresof any country. In developing countries like Indiabus transport consists of 90% of public transport. However, lack of systematic mechanism to monitor andmanage the bus-network is leading to lack of predictabilityof the bus network. It gets difficult to identify causesbehind delays, or predict the arrival times. Bus transportsystem faces the ever increasing problem of traffic andcongestion. The operations of bus-transport systems can be significantlyimproved by monitoring the bus operations andanalyzing them to providing useful information both tothe travelers and bus operating authorities. we propose the use of advanced wirelesstechnologies for automated monitoring of bus operations. The monitoring data thus collected provides informationabout arrival time of buses at bus-stops all overthe deployment area. We next present algorithms thatperform various analysis operations on the collected data.

II. RELATED WORK

In present system of bus, Written displays are known and It will report a passenger's sitting at the stop.Following is the present scenerio in Bus scheduling system

Written displays.:In this displays are used for Arrival and departure of Particular Bus.After arrival and before departure of a bus Announcement is made after reporting.This procedure is Time consuming.If by some means Buses are late for particular route then Changes in main schedule is done.In present system of Bus scheduling lot of paper work is done.Due to such approach Delays are unknown, Delays may occur due to traffic,naturalcalamities,etc Upcoming stop are not known, No system for emergency condition. This limitation is overcome by new sysytem called Wireless Bus scheduling system

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

III. PROPOSED METHODOLOGY

- Detection of buses

- Mapping with database

- Information is displayed on lcd

- Announcing

Each bus is equipped with an on-board device that stores the service schedule information and links to the GPS system on the bus. With this on-board technology buses can compare the real-time GPS

location to the assigned schedule and report the deviations to the Transit Control Center. The "Next-stop" display and voice announcing system, passengers will know where they are and when to get off the bus. People unfamiliar with the route or area will be more likely to take buses as the announcing system provides a navigation guide.With this technique Monitoring of every bus is possible, hence . Schedule updates will be available time to time. Proper record of every trip.will be maintained.Due to such system the paper work is reduced.
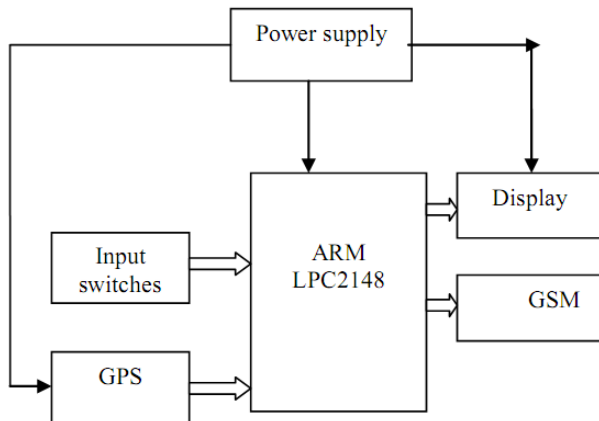
A. Block Diagram
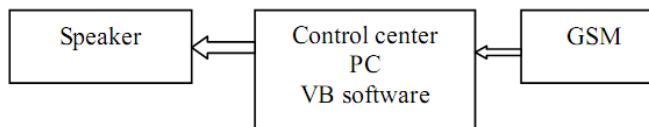

Figure I: Bus Unit

Figure II:Control unit

Bus Scheduling system " is an application for Smart phones that works on Embedded system (LPC2148), this application uses the GPS function.This idea uses application at a specific pickup point will send the current location of the bus to passengers when they request.It also generate predictions of bus arrivals at stops along the route.

This application uses a variety of technologies to track the locations of buses in real time.It combines GPS and RFID technologies to provide you with real time location and event information to your smart device

IV. EXPERIMENTAL RESULTS

In this project we have implemented two kit's.First kit will be bus unit i.e our Hardware part ashown in figure III which will be placed into a bus & Second kit will be Control room i.e software related part shown in Figure IV,will be at control room. A hardware part placed into

a bus, a driver will press a button,each button will be of different stop so that control room as well as passengers standing near the bus stop and away from bus stop will get message through GSM part from hardware kit.
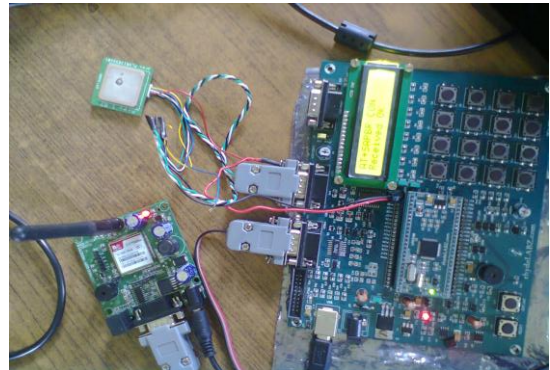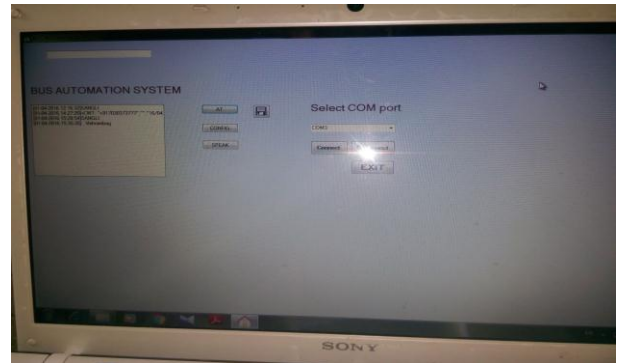

Figure III: Hardware Part

Figure IV: Software Part

A control room consist of software related part i.e our computer will be at bus stop.As soon as driver press a button of particular stop, the computer(Control room) receive a message and it will be displayed on the stop and with the help of computer speaker it will be announced a particular location of the bus that will be benifical for blind person. The passenger's mobile number are burned in an embedded hardware kit will only receives a message. Thus,a scheduled time & location will be updated on control room i.e at bus stop as well as on customer mobile i.e passengers that are away from the bus stop.

V. APPLICATIONS:

- Vehicle tracking systems are commonly used by fleet operators for fleet management functions such as fleet tracking, routing, dispatch, on-board information and security.

- Vehicle tracking systems are also popular in consumer vehicles as a theft prevention and retrieval device. Police can simply follow the

Mr. D. O. Shirsath[1]*, Mr. A. G. Patil[2], Mr. S. V. Phakade[3]

signal emitted by the tracking system and locate the stolen vehicle.

- Field service management: Companies with a field service workforce for services such as repair or maintenance, must be able to plan field workers' time, schedule subsequent customer visits and be able to operate these departments efficiently.

- Trailer tracking: Haulage and Logistics companies often operate Lorries with detachable load carrying units

VI. ADVANTAGES:

- Monitoring of every bus.

- Schedule updates will be available.

- Proper record of every trip.

- Paper work is reduced

VII. DIS-ADVANTAGES:

- Hardware maintenance

- Due to network problem, people might face problem on their internet access due to which this service may get halt.

VIII. CONCLUSION & FUTURE WORK:

This Project will be hhelpful for Monitoring of every bus,Schedule updates will be available.Proper record of every trip &Paper work will be reduced.In future enhancement notice board with audio speakers for visually impaired and uneducated people. Improvement in Android Application for continuous data refreshing can be made.

REFERENCES

Empowering Bus Transportation System Using Wireless Sensor NetworksIndian Institute of Technology, Kanpur, India ISBN 3-900051-07-0.

Design a Smart Bus SystemDept. Electrical and Computer Engineering University of Victoria, ELEC 399.

Jogalelar, "Rationalizing and Reforming Bus routes - case study," inhttp://praja.in/en/discuss/forums/2008/07/rationalising-andreforming-bus-routes-case-study, 2008.

J. Owusu, F. Afukaar, and B. E. K. Prah, "Towards Improving Road Traffic Data Collection: The Use of GPS/GIS," in FIG Regional Conference, 2006.

A. Rahmati, L. Zhong, M. Hiltunen, and R. Jana, "Reliability Techniques for RFID-Based Object Tracking Applications," in DSN, 2007.

B. A. Hatem and H. Habib, "Bus Management System Using RFID In WSN", in EMCIS, 2010.

W. MA and X. YANG, ""Design and Evaluation of an Adaptive Bus Signal Priority System Base on Wireless Sensor Network"," InIEEE ITSC, 2008.

Corresponding Author

Mr. D. O. Shirsath*

Assistant Professor, Dept.Of E&Tc.Engg. P.V.P.I.T, Budhgaon, Sangli, India

E-Mail – shirsath.dinesh@gmail.com

Mr. D. O. Shirsath[1]*, Mr. A. G. Patil[2], Mr. S. V. Phakade[3]