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IOT BASED COLLEGE BUS TRACKING SYSTEM

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ABSTRACT

The main objective of the project is to track a GPS location through web Server. For this we have used Raspberry Pi and GPS module. After getting the GPS location we are sending the data to an IOT platform. As a third-party server we are using PHP where we have an option of visualizing the tracked information as a map format. By this we can able to view the location details there itself rather than copy pasting the co-ordinates in google maps for getting the location view.

Keywords: *IOT, Raspberry Pi, Web Server.*

INTRODUCTION

The recent emergence of Internet of Things (IOT) has enabled us to consider the contextual factors that can have an impact on student's life and consequently on their education and learning outcomes. College students spend their most of the time in colleges. Some of the people hire the college buses for transportation. So, the tracking of bus is important. So here in this project by using IOT technology we are tracking the bus location.

LITERATURE REVIEW

Kunal Maurya, Mandip Singh and Neelu Jain developed an idea on anti-theft tracking system. Vehicle tracking system is real time system which is working on the GPS and GSM technology which provide the location of vehicle to the vehicle owner if vehicle is stolen. It can also be used in wildlife tracking, asset tracking and in stolen vehicle recovery for security related.

R. Anil Kumar, G. Jyothirmayi and K. Ramesh Babu Proposed Vehicle positioning System based on ARM with combination of GPS and GSM can upload the information of the vehicle such as the position and speed to the monitoring center in time and make it easy and convenient to control the traffic. The vehicle position system has advantage of small size, scalable, reliable and powerful expansibility which makes this system unique.

EXISTING METHOD

In existing systems student has to wait a long time in the bus stops in order to hire the bus. In this the student don't know where the bus is and whether it is on the way or it already left. Here the main drawback is no tracking of bus. Because of this the student has to wait a long time.

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DISADVANTAGES

1. Time consuming
2. Lack of tracking of location

PROPOSED METHOD

In this proposed system we are integrating embedded with web server to track the location of the bus. For this purpose we are using Raspberry Pi and GPS. Where GPS monitors the latitude longitude values of the place where the bus is and will update it to cloud server which means web server created by SQL. By using the URL (Uniform Resource Locator) the student can see the location of the bus.

BLOCK DIAGRAM

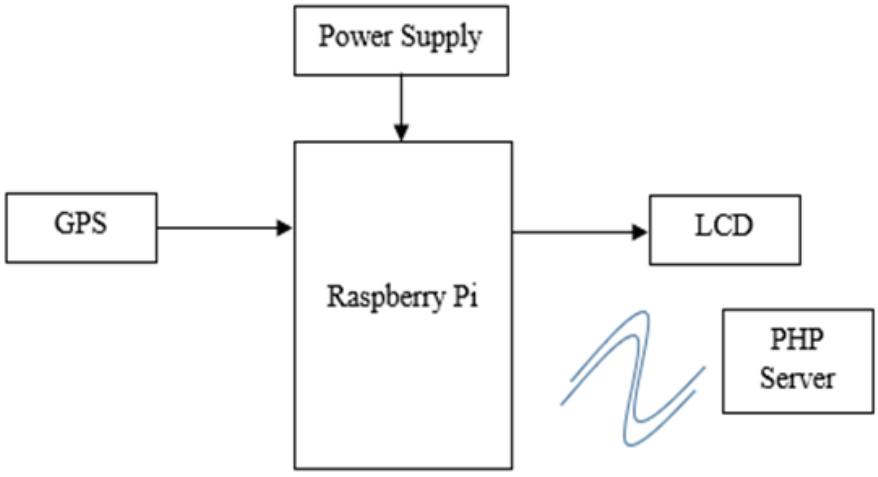

Fig 1: Block Diagram

METHODS OR TECHNIQUES USED

In bus module, GPS data are received from this device and sends them at regular intervals to the server. After that the server analyses the data. GPS module needs to be connected to the Wi-Fi module correctly to receive the signals. GPS and Raspberry Pi are installed on the bus for tracking the bus. GPS module sends location information of the bus on every interval of time to the Raspberry Pi module. Those data are saved on the web server for bus route information.

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RESULT

INPUT:

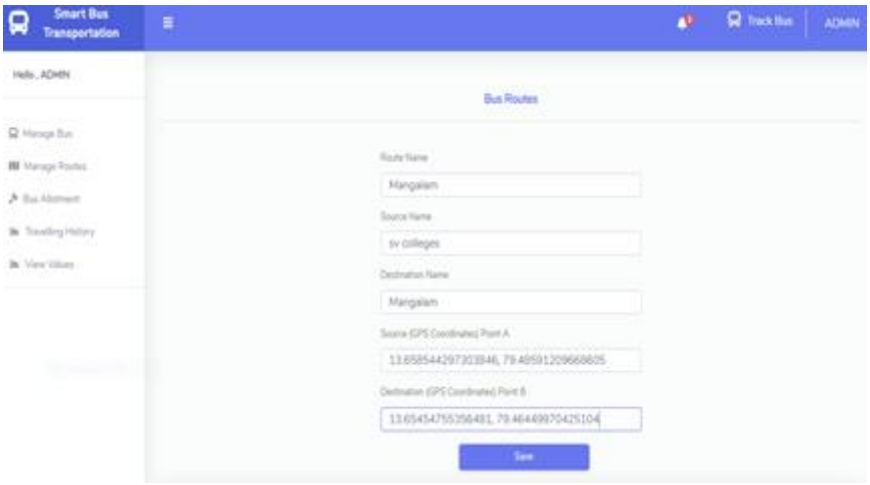

Fig 2: Co-ordinates of source and destination given in the website.

Fig 3: Power supply is given as an input to raspberry pi.

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OUTPUT:

Fig4: Output of current location of the bus.

Fig 5: Output of movement of the bus.

Fig 6: Output of movement of the bus.

Fig 7: Output of the bus reached to destination

ADVANTAGES

1. Enables Scheduled Monitoring
2. Helps buses get filled to their capacity
3. Easy accessibility
4. Saves the time of the students

APPLICATIONS

1. Used in vehicles
2. For security purpose of women
3. Used in ambulance
4. Used in buses and cars

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CONCLUSION

This is a developing project with the help of the embedded and web Server. The later development and the accuracy of the project depends on the development in both hardware and software. In this project we try to save the time of the students mainly and some faculty who uses the college transportation service and we also tend to help them with easy and tension mornings for a bright and peaceful day. We also intend to develop this project for school and public transportation services in the near future.

FUTURE SCOPE

This project has described the design and implementation of the bus tracking system. In future we can add a panic switch is placed inside the vehicle for the safety of the students. A smartphone application can be downloaded by the parents which will continuously show the location of the bus. The system was able to experimentally demonstrate its effective performance to track the school bus; thereby ensuring the parents of their child's safety.

On board video surveillance system in bus transportation eliminates even minor glitches. The software is equipped with components that make the bus journey safer, convenient and accountable. Live video in the bus alerts the owner of the remote location in case of panic situations through an e-mail alert. By live video, reports can be analyzed like over speed, harsh breaking, vehicle ideal time, halt time, ignition on/off to closely monitor the security compliance and driver's behaviour.

REFERENCES

1. Ministry of Internal Affairs and Communications of Japan, "the security system for children on school route in Hiroshima", http://www.cbt.gojp/hodo/2006j0204-2.pdf, March 2006.
2. "Mobile phone based ad hoc network using built in bluetooth for ubiquitous life", Hitomi Murakami, Atsushi Ito, Yu Watanabe, Takao Yabe, Proc. The 8th International Symposium on Autonomous Decentralized Systems (ISADS 2007), PP 137-l46, March 2007.
3. Shahid Bangali,S.K.Shah, "review: Real Time School Bus Security System with biometrics, GPS and GPRS using ARM Controller" International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE)Volume 4, Issue 4,PP 730-732,April 2015.
4. Sumit S. Dukar, et.al "Vehicle Tracking, Monitoring and Alerting System: A Review"International Journal of Computer Applications, Volume 119 No.10, PP 39-44, June 2015.
5. "A study of scalable member discovery technique by using mobile ad hoc network", http://www.pe. ce.hiroshima -cu.acjp/SCOPE-C /.
6. Raja Godwin D, Abisha blessy E, Dhivya Priya K, Kodeeswari B, Seshavardhan S," Smart School Bus Monitoring System Using IOT" International Journal of Pure and Applied Mathematics Volume 118 No. 20 2018, 617-623.
7. Ms. Deepali M. Bhavale, Ms. Priyanka S. Bhawale, Ms.Tejal Sasane, Mr. Atul S. Bhawale," IOT Based Unified Approach for Women and Children Security Using "Wirelessand GPS "International Journal of Advanced Research in Computer Engineering & Technology (IJARCE InternationalJournal of Advanced Research in Computer Engineering &Technology (IJARCET) Volume 5, Issue 8, August 2016.