



International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijareeie.com

Vol. 8, Issue 3, March 2019

IOT Based Intelligent Bus Transport System (IBTS)

D.Aswin

UG Student, Dept. of EEE, Kongu Engineering College, Erode, Tamilnadu, India

ABSTRACT: To design a smart and intelligent bus transport system using a real-time controller. Efficient transportation could be an important issue to be considered in the transport area. To built transportation smart and digitalized this is a small contribution. Intelligent Bus transportation system [IBTS] using IOT shows that how IOT can increase the quality of transportation and reduces manpower. To develop a process flow /algorithm for the RTC using the combination of Raspberry. New advance technology to real life advanced way of tracking vehicle providing message to traveller and riders is through IOT. The relationship between digital and physical components gives a better travel experience.

KEYWORDS: Smart Bus, Technology, Real-time control, Internet Of Things

I. INTRODUCTION

Public transport system from a major problems such as congestions and Time delay. There is an immediate action need for a smart public transport method to make preferable compared to private system. An important problem in creating an effective of public transport method is obtaining details about customer end to end traveling. Obtaining this database is problematic and costly since long travel in India do not have an onboard ticketing system to record where and when passengers get on and off the bus. With the rapid advancement in new Information Technology, transportation is an area more research efforts are required by exploiting the sensors of the mobile phone for providing an advantageous traveling experience. The main feature in IOT is its impact on the every-day to day life of potential users. IOT has sensational effects both in work and home scenarios, where it can play a major cast in the upcoming days. Issues of security, privacy, reliability, heterogeneity scalability, and legal aspects are to be addressed in IOT enabled cloud computing platforms. In this paper, an IOT enabled public transport system is presented. where, a person at away from the place i.e. anywhere at home or newplace can know the details about the bus, from which location, at what time etc., through the internet. Key technologies used in the proposed work are RFID, GPS, and Controller with an in-built Wi-Fi module. Location tracking is achieved using GPS and the Controller with an in-built Wi-Fi module transfers the data on to the cloud. The hardware model is developed and the working of the model is demonstrated.

II. EXISTING MODEL AND METHODS

In existing methods have used lots of man power for the periodical checking and it does not have the idea of real time monitoring of transportation and cloud based control over the transportation are not implemented. Due to various government welfare programs and increase in literacy, the number of people taking up this travel has dwindled a lot which is one of the main reasons resulting in increase in the price of ticket. Another reason is that the problem is crowded control.

International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijareeie.com

Vol. 8, Issue 3, March 2019



Figure 1: Existing method

This can be operated with the help of humans and it requires lot of human effort. It also causes passenger missing the tickets. Due to its problem involved, it is not highly preferred for unskilled person.

III. PROPOSED SYSTEM AND METHODOLOGY

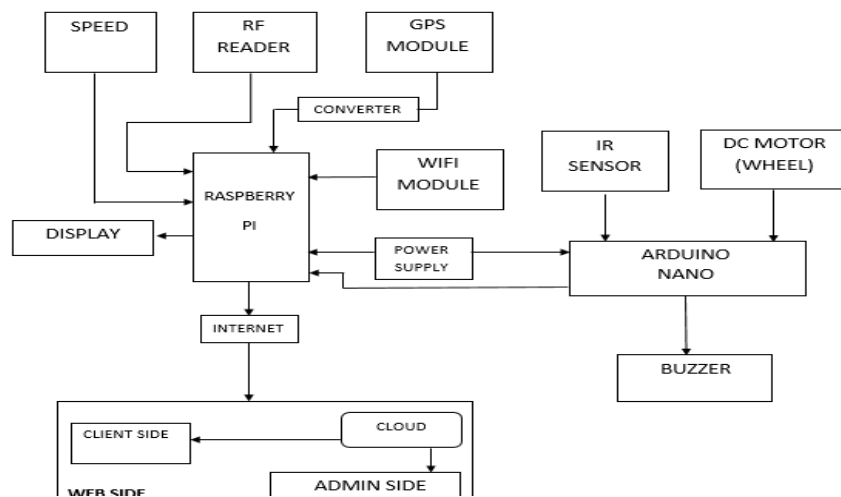


Figure 2 : Block Diagram

This methodology represents the smart bus. In the system to reduce the waiting time to board the bus, control and optimize the fleet of buses effectively and to provide real-time information details of the arrival duration of the bus. A Real-Time passenger Information details Structure uses a different of buses in mobile phones and uses this data to create predictions of bus coming to the bus stop in the route.

The raspberry pi controller to the internet for connection with the database. If The RFID reader should be connected to the raspberry pi reads a card, its ID will be sent to the server. The Server reads the ID and queries the database. If that Id was not found in the database then invalid message to the controller and the buzzer sounds. Otherwise, the view part of the server extracts the associated details with than RFID key. If the student was registered as paid then welcome message would be the response from the server. Suppose if the student is register in that college, then his eligibility for traveling is checked. If his travel limits exceeded then the student will be fined for his travel. The response will be displayed through LCD.

International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijareeie.com

Vol. 8, Issue 3, March 2019

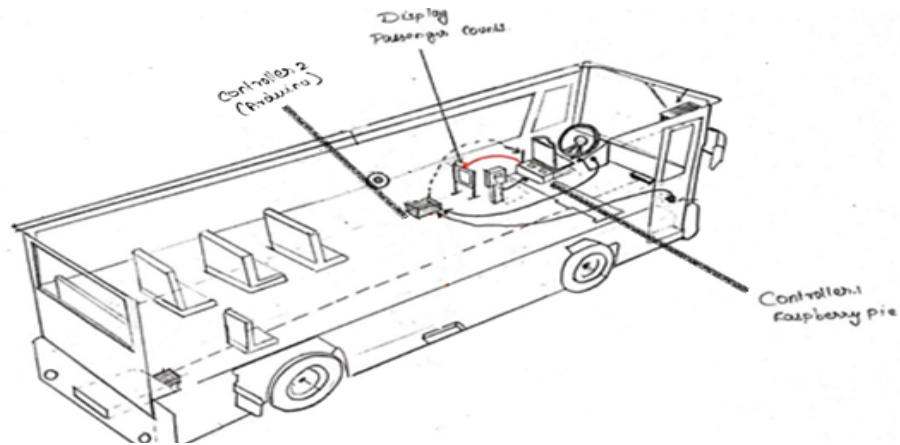


Figure 3 : Layout Overview

Through the GPI module connected to the circuit, the current position of the bus will be determined and will be updated to the cloud through the programmable WIFI module for faster updates. The sole task of this module is to update the location of the bus to the client page. The circuit also comprised of the Arduino controller and its task is to determine the variable speed in motor with the help of the terminal voltage. This voltage will be continuously monitored for

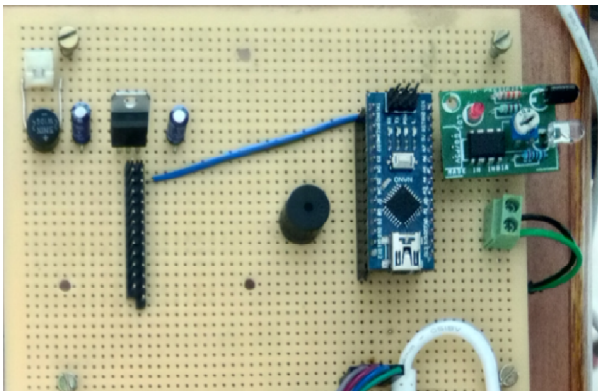


Figure 4 : Foot Board Sensing

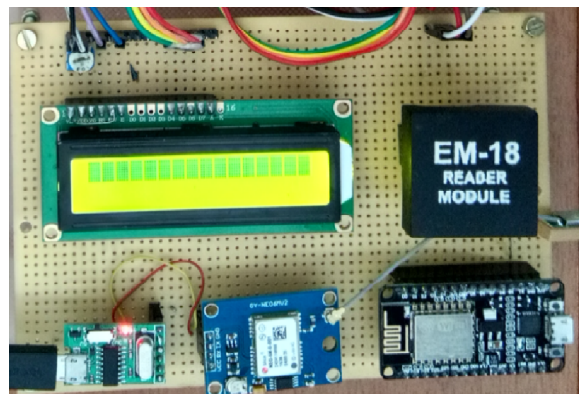


Figure 5 : Display and Reader

deducting the speed of the motor and abstracted data will be updated to the server. If the motor continues to run above the limited speed for a prescribed time then this detail will be updated to the server. If any student stands on the steps during the running time of the bus, the Arduino sends this signal to the master controller and it activates the buzzer.

International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijareeie.com

Vol. 8, Issue 3, March 2019

IV.RESULTS AND CONCLUSIONS

This project, Study of IOT based Bus intelligent System, gives the overview of the Transport tracking in the city, where method of transportation are different. The proposed method tries to give the correct location of local transport buses on display screens and on the web page. This helps commuters to reach their destination on time instead of going to the station early.

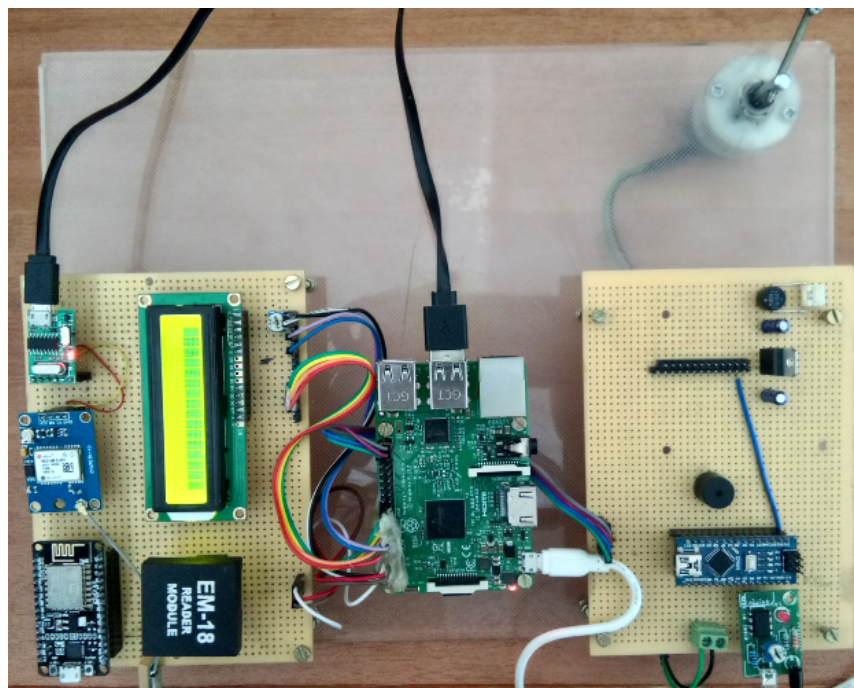


Figure 6 :Hardware implementation in IBTS

REFERENCES

1. Connected Navigation System for Urban Bus Riders, Ieeeinternet of things journal, vol. 3, no. 5
2. J. Raper, G. Gartner, H. Karimi, and C. Rizos, "Applications of location- based services: A selected review," J. Location based Services, vol. 1, no. 2, pp. 89– 111, Jun. 2007
3. Juan Zambada, Ricardo Quintero,RamonIsijara,RicardoGaleana,LuisSantillan,"An IoT based scholar bus monitoring system",EEE First international smart cities conference,2015.
4. Elie Nasr, Elie ,Kfoury, David Khoury," AnIoT Approach to VehicleAccidentDetection,Reporting, and Navigation".,IEEE,InternationalMultidisciplinaryConference on Engineering Technology,2016.
5. S.Geetha, D.Cicilia Proceedings of the 2nd International Conference on Communication and Electronics Systems (ICCES 2017) IEEE Xplore Compliant,2017.
6. Dina Fitria Murad, Meyliana ,Achmad Nizar Hidayanto , HarjantoPrabowo International Journal of Pure and Applied Mathematics Volume 118 No. 18 ,2018.