



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 5, Issue 2)

Available online at: [www.ijariit.com](http://www.ijariit.com)

## College bus tracking system

Sangavi K. A.

[sangavianandh@gmail.com](mailto:sangavianandh@gmail.com)

Sri Eshwar College of Engineering,  
Kondampatti, Tamil Nadu

Vinitha N.

[vinitha2109@gmail.com](mailto:vinitha2109@gmail.com)

Sri Eshwar College of Engineering,  
Kondampatti, Tamil Nadu

Vimala R.

[vimalar261297@gmail.com](mailto:vimalar261297@gmail.com)

Sri Eshwar College of Engineering,  
Kondampatti, Tamil Nadu

Ramesh A.

[ramesh.a@sece.ac.in](mailto:ramesh.a@sece.ac.in)

Sri Eshwar College of Engineering,  
Kondampatti, Tamil Nadu

### ABSTRACT

This project is based on a Real-Time College Bus Tracking Application which runs on the website. This enables students to find out the location of the bus so that they won't get late or won't arrive at the stop too early. The main purpose of this website is to provide the exact location of the student's respective buses in Google Maps besides providing information like bus details and distance. College students use this website. It is a real-time system as the current location of the bus is updated every moment in the form of latitude and longitude which is received by the students through the website on Google maps. The application also estimates the time required to reach a particular stop on its route. This mode of communication can be useful for the bus tracking system.

**Keywords**— GPS, Arduino UNO, Wi-Fi module

### 1. INTRODUCTION

In Our College, students and staffs are not aware of knowing the exact timing and location of the college bus. So we have planned to implement the college bus tracking system to know the availability of the bus at the exact time and searching for another bus on the particular route when they miss the bus. The location of the bus can be traced by using GPS and sends the data to server to server platform, by using this website student or staffs of the particular college can find location of the bus when they are in need and college management can also view the website for their reference for proper monitoring of bus at any time. The data (Location) collected from various busses under the management control are retrieved and processed by the think speak platform and location of every bus is shown on the website.

### 2. EXISTING SYSTEM

There is in need of taking efficient care on public transport system to overcome the increasing burden. So for the remote user need some special smart system which provides some real-time information of bus. To implement this, we proposed a new system which solves the main drawback of the current public transportation system and this system handle all the data from the server and back to the remote user who wants to know the real-time bus information. Our system implements tracking of college bus. In this process, we use some technologies like Google map and GPS for the development purpose. This process evolves with the output of location of the bus on the Google map and this application provides output in a web page.

### 3. INTRODUCED SYSTEM

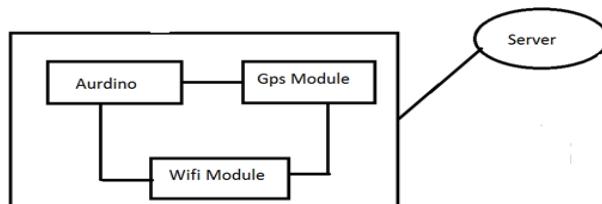
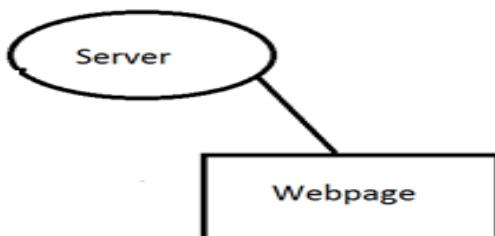


Fig. 1: Block Diagram for the transmitting the location



**Fig. 2: Block Diagram for the receiving the location on the webpage.**

Our system provides the specified information about the bus like bus number, the location of the bus on the Google map. Generally, our system is operated by GPS which is attached to the bus and Arduino, which is used for instructing by the means of Arduino programming. In this block diagram1, Arduino Uno, GPS esp8266 and WIFI module are introduced for sending the location of the bus to the think speak platform and it returns the location of the bus in the Google map.

#### 4. DESCRIPTION

##### 4.1 GPS (Global Positioning System)

This GPS technology is used for calculating the position from which signals sent by the network satellite, to find the location of the system and it is mobile friendly to use and it was designed to communicate with a large number of GPS device. GPS can only provide longitude and latitude from which user who needed to calculate the map. It cannot be used for indoor use. Therefore, mobile phones, Smartphone's, tablet and many other devices used to determine the location.

##### 4.2 Wi-Fi

Wi-Fi provides high-speed internet and network connection and it allows peer-to-peer connection mode. In a wireless communication system consisting of a transmitter and receiver. Wi-Fi technology was preferably used in personal computer, many IOT based products, Smartphone's, laptops. For compatible devices, it can be connected through via Wireless LAN network and wireless access point.

##### 4.3 Arduino Uno

Arduino Uno is a microcontroller and used for building a digital device and act as an interface to sense and control. It has 14 digital input/output pins from which 6 can be used as PWM outputs and 6 analogue pins, USB connection, power jack, reset button and it has everything which it supports the microcontroller. To get started, connect USB cable with an AC to DC adapter.

#### 5. CONCLUSION

In this paper, we have implemented various techniques for building the college bus tracking system, by implementing this idea we can save our time and quality of service to the college bus. In this system, we had introduced the latest technology and optimized algorithm at a moderate cost. This system provides the quality of service to the college management and information about the current location of the bus to students and staffs and it is user-friendly to use this website. And also it provides greater performance with accurate result. This website can be used in laptops, mobile phones, tablet, and personal computers.

#### 6. REFERENCES

- [1] Prof.Priti Shinde, Pratik Bhosale, Shahnawaz Khan, Prashant Patil. "Bus tracking and transportation safety using the Internet of Things" International Research Journal of Engineering and Technology (IRJET), Volume: 03 Issue: 02 | Feb-2016
- [2] Selvapriya P R, Monica R Mundada "IOT Based Bus Transport System in Bangalore "International Journal of Engineering and Technical Research (IJETR) ISSN: 2321-0869, Volume-3, Issue-2, February 2015.
- [3] Manini Kumbhar, Meghana Survase, Pratibha Mastud, Avdhut Salunke "Real Time Web Based Bus Tracking System" International Research Journal of Engineering and Technology (IRJET) Volume: 03 Issue: 02 | Feb-2016
- [4] Savitha S.C, Natya.S, Parinitha.J, "SMART COLLEGE BUS TRACKING MANAGEMENT SYSTEM AND ITS APPLICATION" International Journal of Emerging Technologies and Engineering (IJETE), Volume 1 Issue 5, June 2014, ISSN 2348 – 8050.
- [5] Dr Saylee Gcharge, Manal Chhaya, Gaurav Chheda, Jitesh Deshpande, "Real-time bus monitoring system using GPS," An International Journal of Engineering Science and Technology, Vol. 2, Issue 3, June 2012.