College bus tracking system

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ABSTRACT

The current generation is requires the time-to-time updates via the internet. So, they can know the exact location of buses. The plan is based on the latest **GPS** technology using **IOT** which permits the college students to track the movement of the college buses and maintain a schedule as well as implement **real-time bus locations** for the users. Unique and stunning conditions on the roads affect the smooth operation of the bus system and the change of vehicles. Also, daily difficulties such as traffic, sudden delays, broken vehicle dispatching incidents take place, and as an outcome of which the program of the students is affected and they necessarily have to wait for the arrival of their particular bus and also attempt to miss their bus. A college bus tracking system is enable the students to find out the bus location information and it will be use to know which time bus reaches their point so that the student didn't get any delay.

KEYWORDS:

KEYPAD, GPS, GSM, MOTOR DRIVER, RTC.

INTRODUCTION

The modern world is guided by the change in the technology day by day. Cell phones are now equipped with navigation systems such as **GPS** (**Global Positioning system**) to help travelers get the most accurate view of their current location. In today's world, time is essence to students. Being a high-tech product, mobile phones are widely and increasingly used famous. The vehicle tracking system is widely used for vehicle

tracking application. Due to traffic congestion and road work, most buses are delayed. People have to wait for their bus at the bus stop for a long time without knowing when the bus will arrive. Thus, the timing of the bus arrival cannot be guaranteed. **GPS** means it is handled to track real-time bus location the main purpose of this is to track the bus location and transfer it to users through the **SMS** alert Therefore, this help the user to prepare and save his/her time properly in the morning and catch the college bus on time.

EXISITING SYSTEM

1. In existing system, there was no tracking system for vehicles.
2. There is no alert system for vehicle fault or vehicles stuck in traffic signals

PROPOSED SYSTEM

The proposed bus tracking system will be able to provide bus users with a real-time platform to check on updated bus information, bus arrival or departure time. This system can update the current location of the bus with the help of a bus conductor or bus driver by just clicking on their current bus stop without using GPS.

Besides this, our system is also able to decrease the workload for the bus management team and supply an instant platform to update the latest and perfect bus traffic information to bus users.

BLOCK DIAGRAM
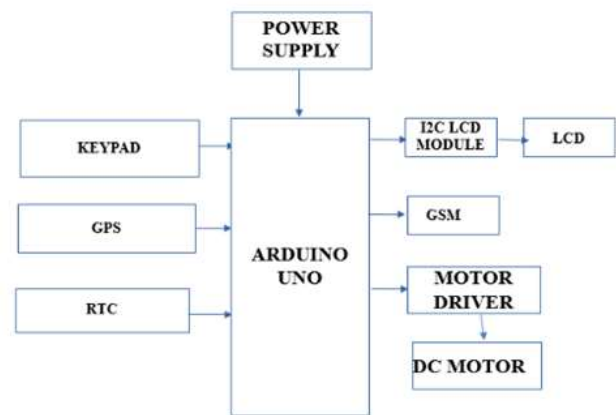
ARDUINO UNO

Arduino UNO is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller,simply connect it to a computer with a USB cable or power

it with a AC-to-DC adapter or battery to get started.

Arduino work as brain for vechile tracking system. It gather for information from **GPS** and gives information to **GSM**.

GPS

A vehicle tracking system is a software system used by transport companies to monitor the location of vehicle. The GPS vehicle tracking does this by using the Global navigation satellite system (GNNS) network. Global navigation satellite system (GNNS) continuously coordinate with satellite together the information about latitude and altitude.

GSM

A Global system for mobile communication (GSM) module is designed for wireless radiation monitoring through short messaging service (SMS). The GSM modem is needed to identify the latitude and longitude of specific vehicle, and GPS modem periodically delivers the data which involves the latitude and longitude giving the location for the

vehicle. The GPS modem provides the output of many parameter, and LCD is used for display.

RTC

A real time clock, or RTC, is a digital clock with a primary function to keep accurate track of time even when a power supply is turned off or a device is placed in low power mode. RTC's are comprised of a controller, oscillator, and an embedded quartz crystal resonator. The RTC design also includes a power switch function to battery operation or another low power backup power source. This allows the RTC to maintain precise and continuous time counts even if the unit goes into sleep mode or if main power is lost. It also alleviates the need for the user to reset the time and date every time the device supply is cycled. To minimize the impact on the system board, both the ECS-RTC-3225-5609 and -5699HS are available in a 3.2mm x 2.5 mm x 1.0mm package.

I2C LCD module and LCD

I2C_LCD is an easy-to-use display module, It can make display easier. Using it can reduce the difficulty of make, so that makers can focus on the

core of the work. We developed the Arduino library for I2C_LCD, user just need a few lines of the code can achieve complex graphics and text display features

KEYBORAD

A keyboard is a series of buttons or keys placed on an input device with the aid of digits and symbols or alphabet letters. A keyboard can only be numerical so that it can be easily entered into a computer by an individual on most computer keyboards.

POWER SUPPLY

There are many different kinds of power supplies for a variety of uses. These include **variable power supplies, AC** to **DC** wall adapters, and batteries. Ultimately, the power supply that you want to choose is one that will fit with your project's requirements.

MOTOR DRIVE

Basically, the **motor driver** acts as an interface between the **motor** and the control circuit. **Motor drivers** allow

you to control a much larger load from a small signal. They can handle the high voltages and current where some **motor** work best.

A **motor driver** circuit consists of an IC or discrete JFETs that can handle high power.

DC MOTOR

A DC motor is an **electric motor that converts direct current electrical energy into mechanical energy**. It runs on direct current power and uses magnetic fields from the electrical currents to power the movement of a rotor. The rotor is fixed within the output shaft or an armature coil that rests inside the motor's casing surrounded by permanent magnets.
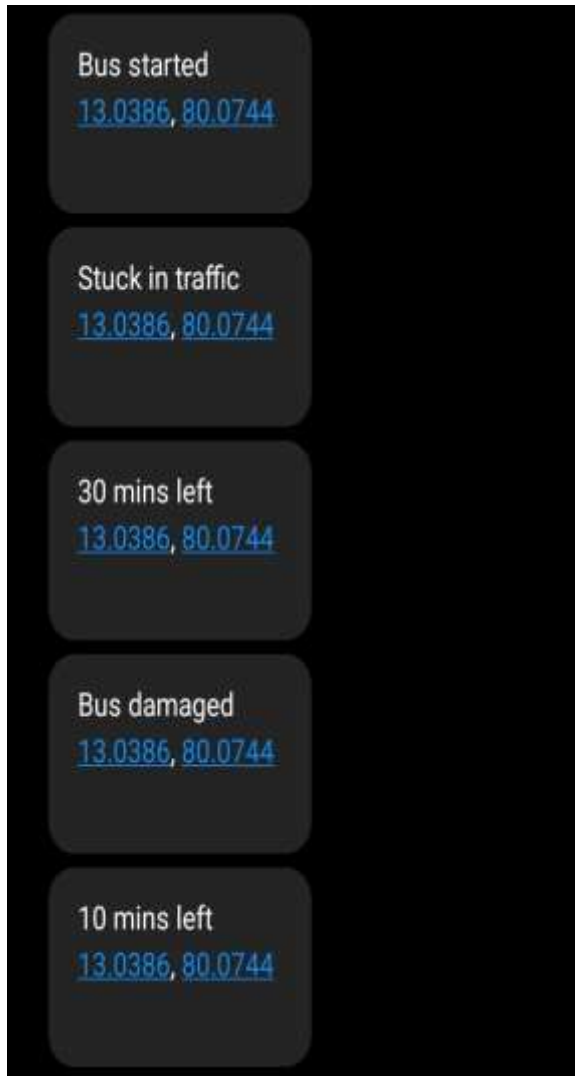
CONCLUSION

The aim of the paper is to provide overview of college bus tracking system. Because now a days most of the runs their own transport. Students also liked to use the college transport facilities. This system allows both students and college management to track their bus and to get the exact location of the vechile.

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