Phase 4: Development part 2

Public transport and optimization

College code : 5113

College name :Kingston engineering college

Domain : Internet of things

Project title : public transport optimization

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Components required :

- ESP32 MODULE
- GPS MODULE
- 16*2 LCD MODULE
- CONNECTING WIRE
- ARDUINO UNO
- GSM MODULE
- IR SENSORS
- RFID MODULE

ESP32 MODULE : It is low cost and highly versatile microcontroller used for various applications which include wireless communication, IoT (Internet of things) devices, home automation, robotics, embedded systems etc. ESP32 consists of dual core processors which run at frequencies up to 240 MHz

GPS MODULE : IoT-based GPS tracking software is a software system that uses the Internet of Things and Global Positioning System (GPS) technologies to track the location of objects or people in real-time

ARDUINO UNO: is an open-source microcontroller board developed by Arduino.cc. It is based on the Microchip ATmega328P microcontroller. It is one of the most popular Arduino

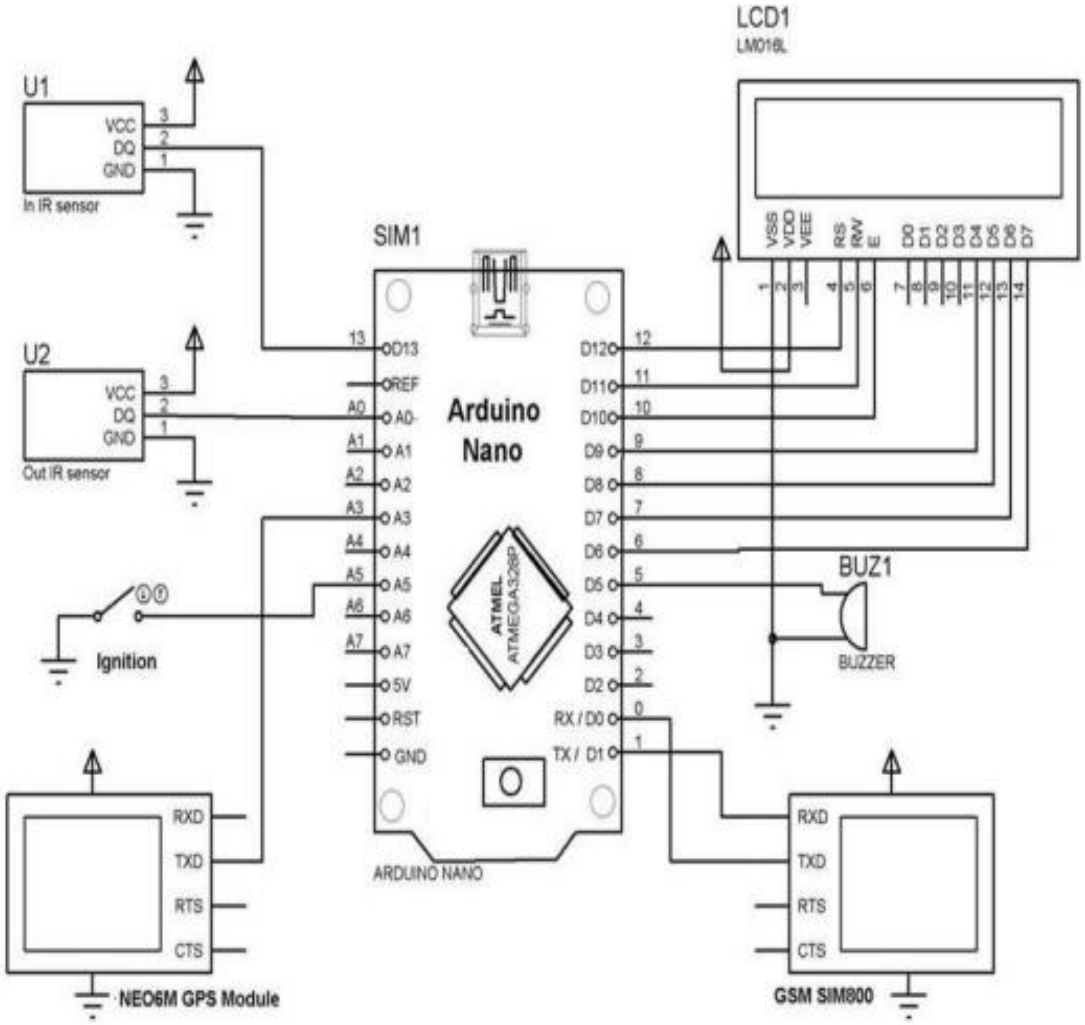
development board and is universally known as 'stock Arduino'. It is a small development board having size 2.7 in * 2.1 in

GSM MODULE : The GSM module plays a crucial role in the communication between devices and the GSM network. It is responsible for establishing and maintaining the communication link between the device and the network. The module also handles the encryption and decryption of data, which ensures the security of the communication

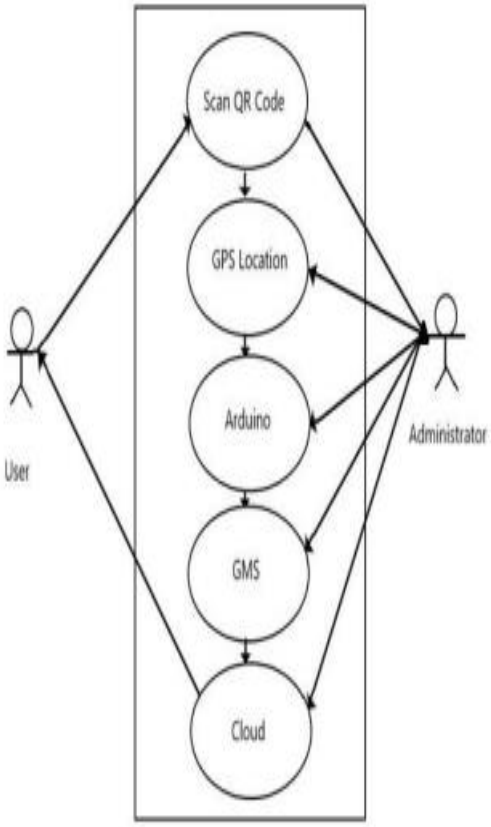
IR SENSORS : An IR sensor is a device that measures the Infrared radiation in its surroundings and gives an electric signal as an output. An IR sensor can measure the heat of an object as well as can detect the motion of the objects.

RFID SENSORS : RFID sensors work by emitting a radio signal through the antenna that is received by an RFID reader. To identify the object, the RFID reader then decodes the signal using the RFID tag data stored on the RFID chip. RFID sensors come in two types: active and passive.

CIRCUIT DIAGRAM PUBLIC TRANSPORT AND OPTIMIZATION :



USER FUNCTIONALITIES IS SHOW IN OUR SYSTEM :



STEP -1 : The user can scan or use our web site to login and provide required information to know the information and transport

Step -2 : The administrator provides the information according to the user request GPS LOCATION, CURRENT SPEED, NO.OF SEATS, NEXT BUS STOP

Step -3 : TO the users tab or web site shows the required information about traffic and opti

mize the public transport system

This system is very secured and smart assisted transport. It's more secure, smart and advanced. The system is

smart and advanced as it has various features GPS tracking, IoT acknowledgement.[4] The objectives of this are,

to design a system that will get the position of bus using GPS module, count the number of passengers in the

bus, count the number of passengers in the bus, count the number of passengers in the bus. To design a system

that will update all the data of the bus to the web page

program:

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Public Transport and Optimization</title>
    <style>
        /* Add your CSS styles here */
    </style>
</head>
<body>
    <header>
        <h1>Welcome to Our Public Transport Service</h1>
        <nav>
            <ul>
                <li><a href="#home">Home</a></li>
                <li><a href="#schedule">Schedule</a></li>
                <li><a href="#routes">Routes</a></li>
                <li><a href="#tickets">Tickets</a></li>
            </ul>
        </nav>
    </header>
```

```
<section id="home">
    <h2>Home</h2>
    <!-- Add homepage content here -->
</section>

<section id="schedule">
    <h2>Schedule</h2>
    <!-- Add schedule information here -->
</section>

<section id="routes">
    <h2>Routes</h2>
    <!-- Add information about available routes here -->
</section>

<section id="tickets">
    <h2>Tickets</h2>
    <!-- Add ticketing information and options here -->
</section>

<footer>
    <p>&copy; 2023 Your Public Transport Service</p>
```

```
    </footer>
</body>
</html>
```

Output: