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IOT based Fleet Tracking System

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Abstract: *This paper presents the development of a new technology which has the ability to track or monitor the fleet of vehicles such as goods carrier. As we know, in day to day life resource management plays a very important role. Especially when we start to deal with the consumable fuel used in the transportation, due to sudden failures it can cause a big economical loss. To resolve this issue we have developed a solution which will monitor the goods carrying fleets traveling in a remote location through IoT and track it's on demand location through GPS, engine status and display various parameters on the computer dashboard of the owner using cloud platforms.*

Keywords: fleet, resource management, Cloud platform, on demand location, GPS

I. INTRODUCTION

Major portion of the transportation depends on buses and fleets', having dependable control for the administration over the armadas utilizing negligible human asset, cash is properly required. This gives (control) sparing of fuel due to the unmaintained condition of the vehicle. So, we have created this arrangement which gives armada organizations to have secured, dependable and inaccessible control over the armada of its organization utilizing Web of Things (IoT). This fuel persistently screens the status of the vehicle utilizing fuel sensors, GPS based Odometer gives status related data of the vehicle to the armada control administration. The control administration from farther put utilizing IoT stage can give prudent measures for driver in keeping up the vehicle.

II. PROPOSED PROJECT WORK

We are proposing a system which will help to counterfeit fleet management and delivery issues at portable scale. The proposed project is to design and build a system which will take parameters of the traveling fleet of cargo vehicles such as engine temperature, cabinet temperature in case of perishable goods through DHT22 sensor, location tracking by using GPS NEO6M module and internet connectivity using GSM and cloud storage as blynk IOT cloud platform. The first step in the project will be to determine the size and dimensions of the hardware. This will be based on the intended use, as well as the amount of items to be transported. This has been designed and constructed; it will undergo thorough testing to ensure that it meets the desired specifications. This will involve testing its cooling efficiency, power consumption, and overall durability.

III. SYSTEM ARCHITECTURE

The system is divided into given sections:

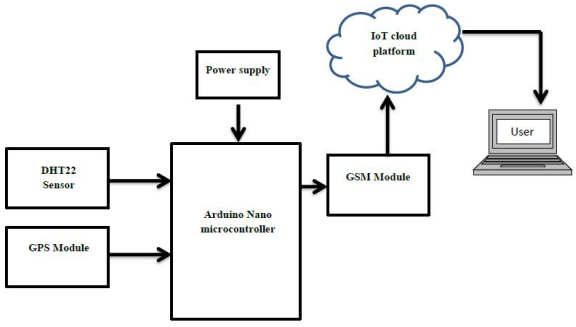

Fig: System architecture

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Stage 1: In the first stage, Arduino Nano is assemble to receive parameters from DHT22 sensor and GPS module
Stage 2: In the second stage, the hardware components are assembled..
Stage 3: In the third stage, the arduino is programmed to control the system. The Arduino nano can be programmed using the Arduino IDE and can be connected to the DHT22,GPS and other components and control circuit via GSM.
Stage 4: In the fourth stage, the system is tested and optimized for efficiency and performance. The arduino can be used to monitor the temperature of the two surfaces,
Overall, the system architecture of the system with Arduino involves the design and assembly of hardware components, programming of the arduino for control and monitoring, and testing and optimization for efficiency and performance.

3.1 Advantages:

1. Cost effective solution.
2. Easy to trace the path of the fleets.
3. Easy to use: The combined system is easy to use, with a simple interface for monitoring the status of the vehicle.
4. Low maintenance.
5. Compact design: The combined system has a compact design, making it suitable for small spaces, and easy to move if required.
6. Quiet operation: The combined system operates silently, without producing any noise or vibration, making it ideal for applications that require low noise levels.

3.2 Applications:

1. Food and Beverage industry: The system can be used to keep food items at a specific temperature range for extended periods, which is essential for food preservation.
2. Medical and Pharmaceutical industry: The system is ideal for maintaining temperature-sensitive products such as vaccines, medicines, and blood products.
3. Research and Development: The system is suitable for laboratories and research centers where temperature-sensitive experiments are carried out.
4. Environmental Testing: The system can be used for environmental testing, such as simulating hot and cold temperatures to test the durability of materials and products.
5. Agriculture and Horticulture: The system can be used in agriculture and horticulture for the preservation of seeds, plants, and vegetables, which require specific temperature ranges for storage.

IV. CONCLUSION

In conclusion, this system provides automation in tracking of the vehicle in a at a remote location. Also this will help to resolve the problem of quality degradation in the cold chain monitoring using IoT technology and trending cloud platform like Blynk.

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