Cloud enable vehicle theft and accident detection system

Intorduction:

overview:

In today's scenario, owning multiple vehicles is considered a social status in the society and consequently the number of vehicles on the roads has increased immensely in the past decade. On one hand, this may be seen as an improvement in the standards of living of people, subsequently, it cannot be denied that there is a stark increase of road accidents, air pollution caused by the vehicles and crimes related to the vehicles like theft

Purpose:

The system is developed using the IBM and IoT cloud services and related services. The hardware components include the "smart device" installed in the vehicle and a mobile phone foruser interaction. The "smart device" installed in the vehicle does not interfere with the normal functioning the vehicle or cause overheads.

Literature Survey:

Existing problem:

 Developed a smartphone application using an on-board unit.This application enables the driver to speak with his/her vehicle. The application detects an accident using air bag triggers and informs the emergency service provider through email or SMS. A drawbackof this application is that it requires the smartphone application to be running.
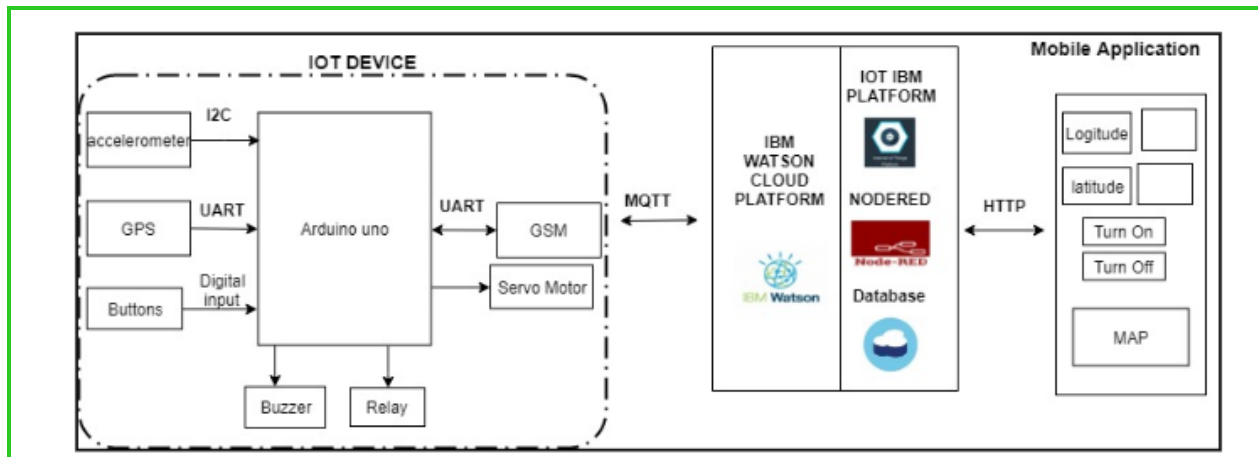
Proposed System:

The proposed system involves Cloud computing technology in vehicular

management to reduce thecomputational overhead. This allows the vehicle users to access various resources such as processors, storage,memory, applications etc. stored in the cloud which is located centrally.

Theoritical Analysis:

Block diagram:

Hardware/software designing:

The hardware part of the project involves the Aurdinouno model. The three sensors are conncted to the Pi via i2c interface.The sensor values are read by the Pi,processed and then sent to the IBM cloud services using the pi's wifi module.the data send to mobile application which was developed using MIT app inventor.Here we use python language for coding.Node-Red.etc,.software tools are used.

Experimental Investigations:

There are several IoT authentication challenges and issues that need to be understood before employing the right security solution that can dynamically vary with the situation.Based on certain critical situations such as IoT accident detection system applications,frequent autherization and authentication of IoT devices .To adress these issues,automated mutual authentication without user intervention if required in supporting users from remebering passwords for a

large number of devices.

Flowchart:
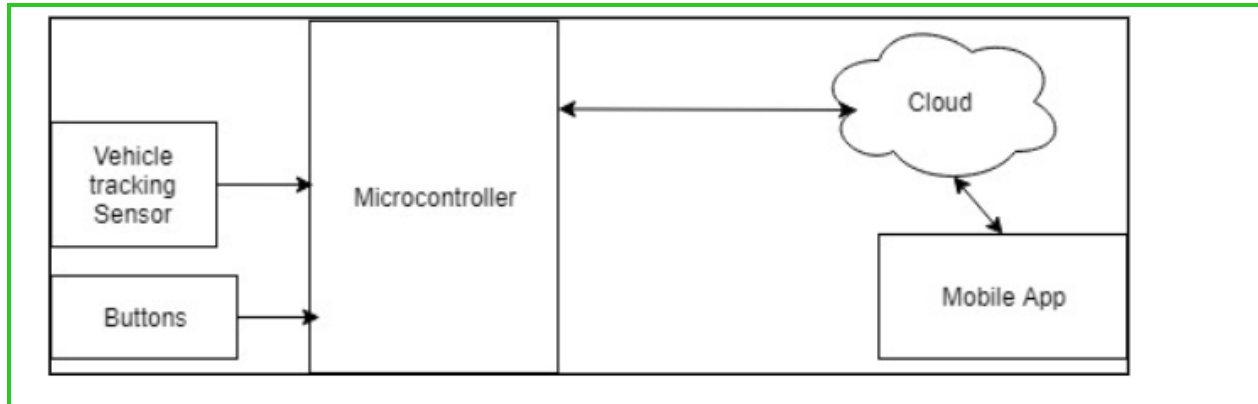
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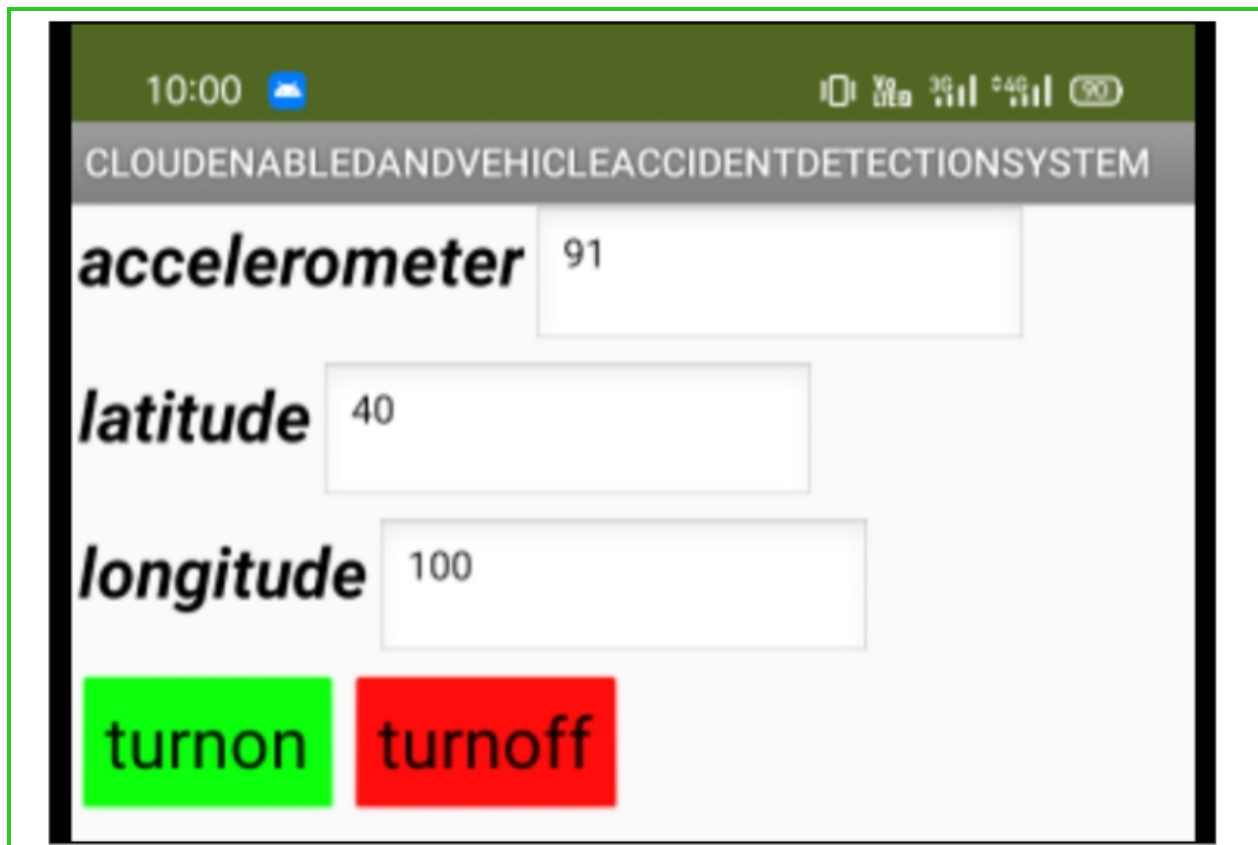
Advantages&Disadvantages:

Advantages of vehicle accident detection system:

1. If an accident is detected it will notify the nearby people with alarms and emergency notifications will be sent to the concerned persons and ambulance.
2. If the vehicle is found to be theft he can switch off the engine using the mobile app.
3. Through the app, the user can track his vehicle.

Disadvantages:

1. Privacy can be potentially undermined. As we've already mentioned, systems get hacked. Lots of attention will be need to be focused on security.
2. If the Google maps are not connected with the vehicle we can't access the location of the vehicle.

Applications:

1. Traffic control apps
2. vehicle monitoring apps
3. Accident detection apps
4. cops monitoring apps

Conclusion:

The proposed system uses the cloud enable accident and detection System information alert, real time vehicle tracking and pollution check up warnings. The interface between the vehicle and cloud is the internet and that between user and cloud is SMS service.

Future Scope:

The proposed approach implements to control the vehicle theft by using GPS and

GSM. Real time data logging and analysis will be implemented Various safety warnings can be issued to the owner of car if car crosses certain defined speed limits. The real-time alarms can also be set for the unauthorised vehicle movements and other exceptions using a series of geographic zones together with the time-based rules for vehicle in/out.