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Road Analytics For Alert Smart Phone Application

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Abstract-This project come with the internet represents a traffic, and in addition to normal traffic, there are many abnormal traffic, and the abnormal traffic may bring huge security risks to the security and the normal use of the network. He whole system consists of various sensors such as heart rate sensor, pulse oximetry sensor, magnet reed sensor and GPS module. The sensors are connected to the microcontroller and Wi-Fi module that can be accessed through an IoT platform which is blink application. Then the vehicle not follow the speed limit of the particular section then alarm warning to our mobile phone. At a time the person don't consider the alert the Fine will be send to our register mobile phone.

Keywords—Traffic management, cloud computing, Hadoop

I. INTRODUCTION

This is one of the most important challenges in transportation systems is traffic congestion . A Traffic Management System (TMS) as one of the most important components of Intelligent Transportation System offers capabilities that can potentially be used to reduce road traffic congestion, improve response time to incidents and ensure better travel experience for commuters.

Some of the most important services of TMS are vehicle routing to shorten commuter journey, traffic prediction that enables early detection of bottlenecks, parking management that ensure optimal usage of parking spots and interact with routing and prediction services for improved control of traffic flow and finally infotainment services that provide useful information for both drivers and passengers

- This project come with the internet represents a traffic, and in addition to normal traffic, there are many abnormal traffic, and the abnormal traffic may bring huge security risks to the security and the normal use of the network.
- This project with set the speed monitoring sensor on the National Highway to the monitoring the road then it can stored the cloud storage to working the vechical to existing the speed limit to warning message will send to our mobile phone.

II. RELATED WORKS

Hadoop is a popular open-source software framework for cloud computing which consists of two main modules. Hadoop Distributed File System (HDFS) and a parallel processing framework named single file partitions across several separate machines including a master node and some slave nodes. The master node should store file system metadata while the data stores on slave nodes. MapReduce is a parallel programming model for large-scale data processing. MapReduce can be written in various programming languages like Java, Ruby and Python. Based on HDFS, HBase (Apache) is developed as a No-SQL distributed database. In HBase real-time and random big data read and write is done in a fast and easy manner. Hive (Hadoop; Thusoo et al., 2009) is a data warehouse software which facilitates reading, writing, and MapReduce. HDFS is a distributed file system. In HDFS, every managing large datasets residing in distributed storage using SQL commands. Pig (Hadoop) is a platform for large-scale datasets analysis programs which contains a high level programming language "PigLatin" along an infrastructure for evaluating these programs. Mahout (Hadoop) is a distributed machine learning and data mining tool. The aim of mahout is build an environment for quickly creating scalable performant machine learning applications. Oozie (Hortonworks) is a workflow scheduler. Oozie is a web-based java program that uses for scheduling apache Hadoop jobs. Flume is distributed, reliable and available

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service for efficiently collecting, aggregating, and moving large amounts of streaming event data. Sqoop (Apache) is an open source tool used for integration between Hadoop framework and structured relational databases (e.g. Oracle).

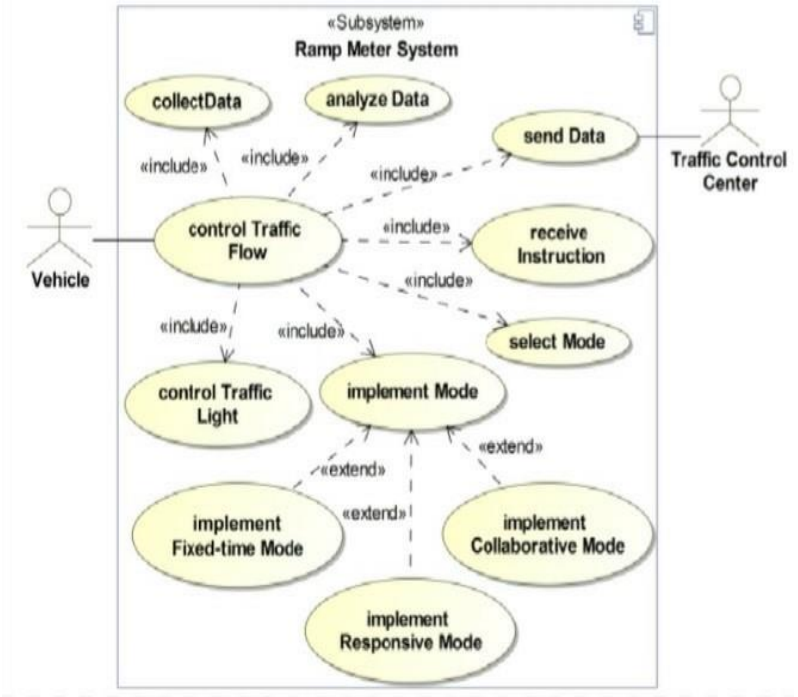
In recent years, several efforts have been made on development of an efficient traffic management system in both academic and commercial research societies. In commercial society, *Trafficware* in Houston government and *TransCore* in Washington D.C. are trying to provide an advanced system for enabling the Traffic management personnel to manage the congestion more effectively. Besides, as a public traffic management platform, *Waze* is an android-based application that uses crowd sourcing data and methods. The users have the app running in the background while travelling to their destination, thereby passively contributing traffic data and other incident data. In academic society, there are some studies on traffic management in literature. Xiao et al. (Xiao et al., 2015) proposed a spatial data oriented platform "DriveNet" for freeways performance analysis. The aim of DriveNet is traffic data integration, sharing, analysis and visualization. In this platform a central web server processes user's requests using HTTP(s) protocol. Then the server obtained data from different sources and process and analyse them. This analysis is done using internal and external modules like R servers. The main drawback of this platform is using central server and lack of fault tolerance, elasticity and high availability. With the aim of finding patterns in traffic data, (Khazaei et al., 2015) developed a cloud based big data analytic platform. (Xiong et al., 2016) discussed different aspects in the design of ITS including future trends and current ITS development considerations. (Sekar et al., 2017) has developed a data mining framework for traffic congestion prediction and route planning using hybrid clustering techniques.

III. Methodology

This project come with the internet represents a traffic, and in addition to normal traffic, there are many abnormal traffic, and the abnormal traffic may bring huge security risks to the security and the normal use of the network. This project with set the speed monitoring sensor on the National Highway to the monitoring the road then it can stored the cloud storage to working the vechical to existing the speed limit to warning message will send to our mobile phone.

Then the vehicle not follow the speed limit of the particular section then alarm warning to our mobile phone. At a time the person don't consider the alert the Fine will be send to our register mobile phone

Fig1:ARCHITECTURE UML DIAGRAM



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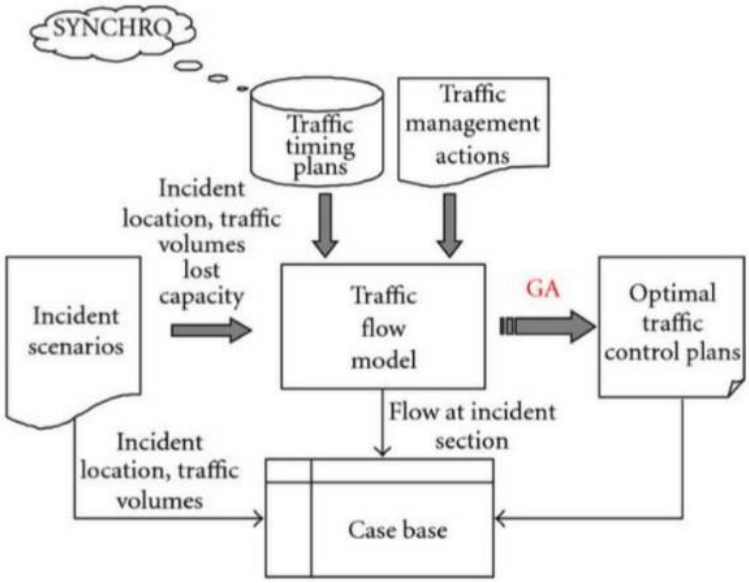
IV. FREAMEWORK EVALUATION

We have setup our framework on a Grid5000's Nancy cluster using 3 nodes. The master node is responsible for data processing along with cluster management. The other slave nodes are only responsible for data processing. The commodity environment used for this evaluation is shown in Table 2. Since our work is still under development, we have only implemented a prototype of our proposed framework and parts of data management and computational layer components have been used in this evaluation.

Fig2:



V.USAGE FRAMEWORK

This system follows a client-server communication structure to connect vehicle to the intersection control section. The intersection control system represent the server node that make to decisions for the vehicle passing to intersection, and the vehicle represent the client of the system. Each vehicle is treated as a job that need to scheduled through the intersection.

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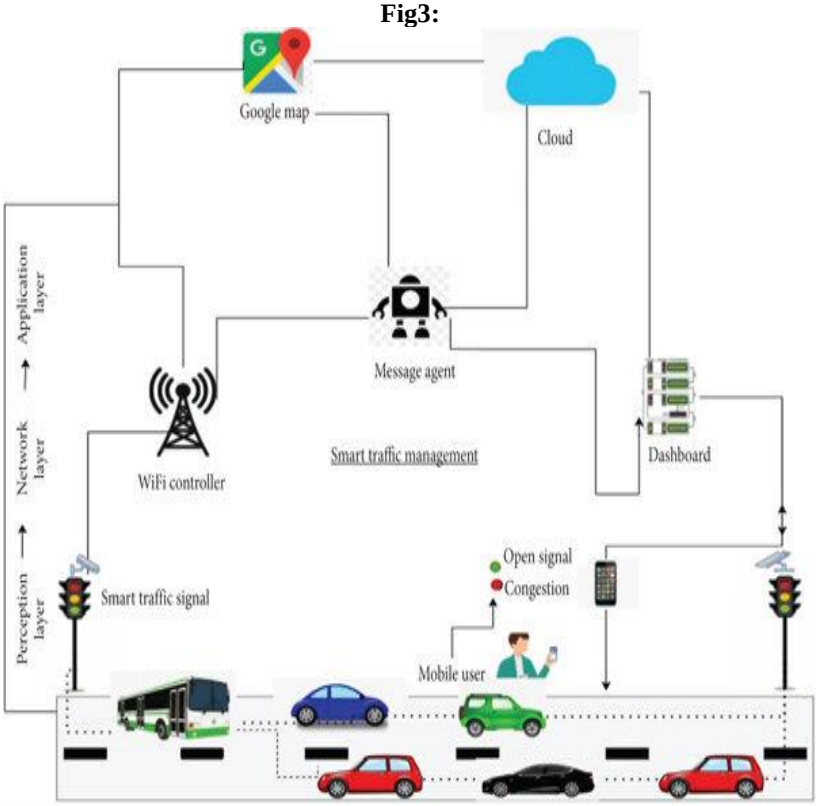
Fig3:



- The speed monitoring sensor will monitoring the vehicle speed to extension the it fine to send of register smartphone
- This project with set the speed monitoring sensor on the National Highway to the monitoring the road then it can stored the cloud storage to working the vehicle to existing the speed limit to warning message will send to our mobile phon

VI. RESULT:

Then the vehicle not follow the speed limit of the particular section then alarm warning to our mobile phone. At a time the person don't consider the alert the Fine will be send to our register mobile phone

There Will stored on cloud storage the it will send the warning message to our register mobile number the it will be fine amount send to our mobile phone on the time

VII. CONCLUSION AND FUTURE WORK

The traffic control system has initiated to monitoring the Speed existing on the vehicle the to check to the vehicle number. This project come with the internet represents a traffic, and in addition to normal traffic, there are many abnormal traffic, and the abnormal traffic may bring huge security risks to the security and the normal use of the network.

This project with set the speed monitoring sensor on the National Highway to the monitoring the road then it can stored the cloud storage to working the vehicle to existing the speed limit to warning message will send to our mobile phone.

- The Proposed Solution is using on easily identify to our smartphone to alert message to speed restriction area.

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