iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 6 **Issue:** V **Month of publication:** May 2018

DOI: http://doi.org/10.22214/ijraset.2018.5306

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 6 Issue V, May 2018- Available at www.ijraset.com

Smart Signal Controlling for Emergency Services and Stolen Vehicles in City

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Abstract: ***Nowadays vehicle traffic increased rapidly and can cause large traffic congestion. There is no provision to handle the emergency vehicles like ambulance, police van or fire engine which are stuck into traffic jams. Here we are developing a signal system for smart city. We are Developing Smart controlling system for emergency services and stolen vehicles which will help to decrease the travel time as well as decrease congestion. Also we are gathering environment values like temperature and moisture from particular area and upon crossing of the threshold value and generating alerts at the server side.***
Keywords: ***Sensors; IoT; RFID, Stolen vehicles; Smart City; Monitoring; Mobility***

I. INTRODUCTION

For appropriate management of urban processes like traffic management, pollution control many systems are invented.The main concept behind that is "Smart City". In which management of complex processes, connectivity, safety and new innovations, comfort and attractiveness can be achieved easily. Smart City means the city which include smart innovative products and achieved intelligence with the help of those products. Different aspects of smart cities are as follows:

A. IoT(Internet of Things)

In this technology the object is remotely sensed and controlled across existent network infrastructure. The technology consists of sensors, actuators, electronic software and connectivity which enable objects to connect and exchange data.

B. Cloud computing

Cloud computing is nothing but technique that enable access to shared resources and high level services using less effort of managing the huge data. It allows enterprises to run their applications at faster and at low maintenance. Manageability is also easy for the cloud computing because of sharing of resource.

C. Wi Fi Systems

Wi Fi is nothing but the wireless local area network system. Which can be applicable for desktops, mobile phones, smart TV, modern printers, video consoles etc. That technology is mainly used to provide internet accessed to devices within a particular range.

II. RELATED WORK

A. An Integrated Mobility System Using Real-Time Data For Traffic Simulation

In that area we are combining mobile and sensors and create a wireless network. And with the help of that system monitoring of urban mobility can be done.

B. Iot Enabled Environmental Monitoring System For Smart Cities

That IoT based system is used to monitor air quality, humidity as well as CO2 from an environment**.** That system uses transmitter and receiver. The data is monitored and recorded at the receiver side with the help of GUI.

III. ABBREVIATIONS AND ACRONYMS

TS	Traffic Signal. A green arrow which appears with a full red *signal* to give right of way to a particular movement. They are often used to allow left turning *traffic* to start moving before the rest of the *traffic*.
DD	Software that enables computer hardware to communicate with a device. A device driver

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	may also translate data and call other drivers to actually send data to a device. The software development board (SDB) uses a device driver for Windows NT to ensure communication between the host and the SDB..
M	A microcontroller is a small computer on a single integrated circuit. In modern terminology, it is similar to, but less sophisticated than, a system on a chip or SoC.
ADC	An analog-to-digital converter (ADC, A/D, or A-to-D) is a system that converts an analog signal, such as a sound picked up by a microphone or light entering a digital camera, into a digital signal. An ADC may also provide an isolated measurement such as an electronic device that converts an input analog voltage or current to a digital number proportional to the magnitude of the voltage or current.

IV. PROPOSED WORK

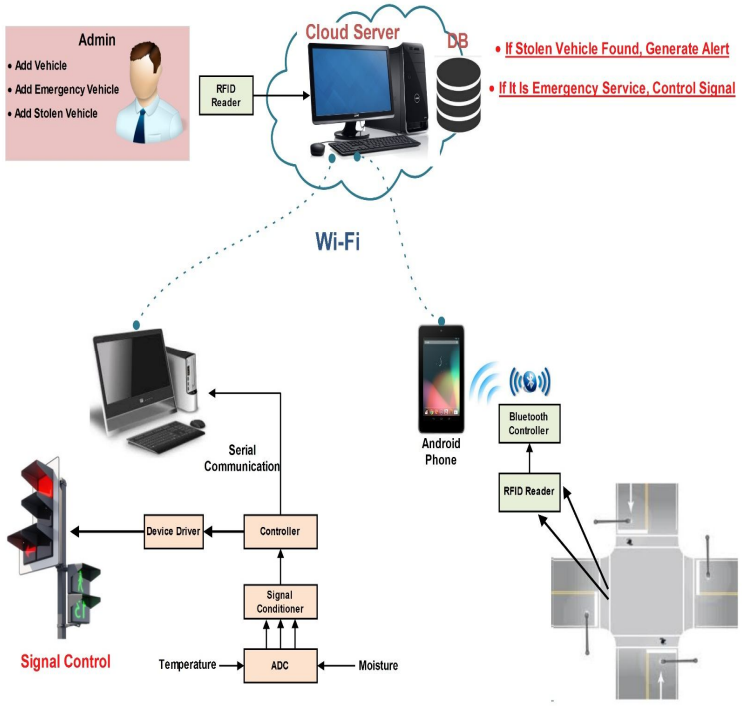


Fig 1. System Design

In this project we are developing a signal system for smart city. We are Developing Smart controlling system for emergency services and stolen vehicles using RFID .At the beginning we are having vehicle data categorized in different types such as normal vehicle, emergency vehicle and stolen vehicle .here we are dealing with the real time data. Different actions are carried out depending on the type of the vehicle. If the vehicle to be passed is an emergency vehicle, will be giving them the first way to go. And also the deadlock situation is handled i.e if at the same time emergency vehicles will occurred from all the sides of road.That situation will manage carefully.If vehicle is stolen vehicle, will be generating alert to the next signal which includes its longitude and latitude. Also we are Gathering Environment values like temperature and moisture from particular area and upon crossing of the threshold value , we are generating alerts at the server side.

In thatarchitecture having two modules: Controlling the signal and sense the temperature,humidity etc. In that in first module RFID reader can be used. When vehicle will arrive the RFID reader scanned those vehicles and tag no. is recognised and send towards the bluetooth controller, that bluetooth controller send that towards cloud server which is located on remote loction. That cloud server taken that tag no. and match with database which is already their having number plate and tag associated with them and also it include all the information about vehicle. After that analysing process can be done i.e categorization of vehicle can be done, that vehicle is normal or emergency or stolen. And depend uppon the category the controlling of signal process can be proceed.

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V. CONCLUSION

Our present project work relates to emebedded design for smart signal controlling for emergency as well as stolen vehicles. And also the deadlock conditions are handled by system.(i.e at the same time occurance of emergency vehicles from every side of signal.)

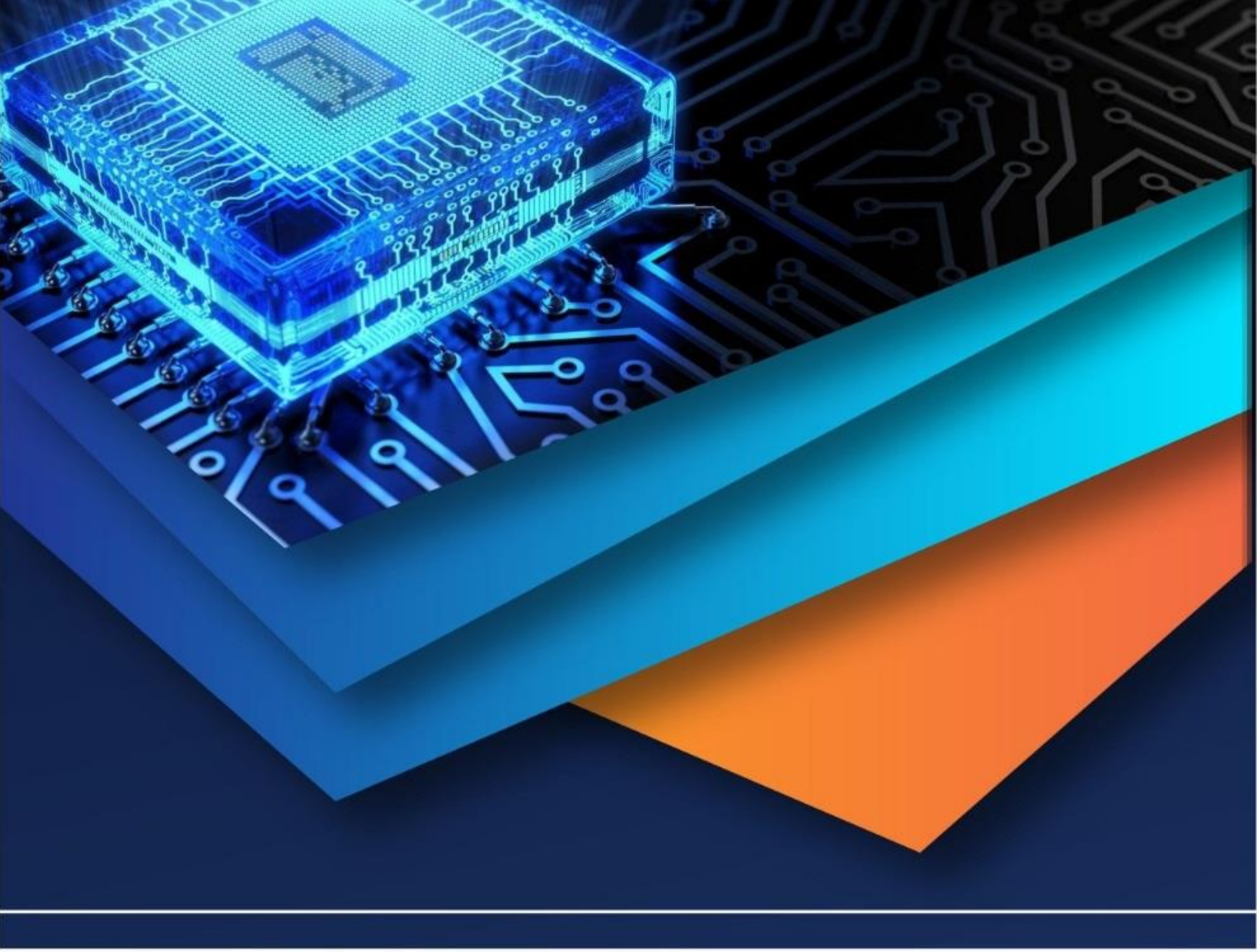
VI. ACKNOWLEDGEMENT

We are indebted to entire staff of PVG's COET, Pune for providing us the necessary infrastructure and support. And also thankful to our colleagues.

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