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VANIYAMBADI-TIRUPATTUR**

**COLLEGE CODE:5119**

**COURSE NAME:IBM**

**GROUP NUMBER:2**

**PROJECT TITLE: TRAFFIC MANAGEMENT**

**PROJECT SUBMITTED TO:SKILLUP**

**YEAR:3**

**DEPARTMENT:ECE**

**SEMESTER:5**

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# Phase 5

## TRAFFIC MANAGEMENT

### PROBLEMS:

Traffic jam is a part of our daily lives. Being stuck in traffic for long hours results in unproductive time. People can get late for their important works.

Sometimes to reach their destination people drive fast which causes accidents. In some emergency cases ambulance get stuck in traffic resulting to life threads.

### SOLUTIONS:

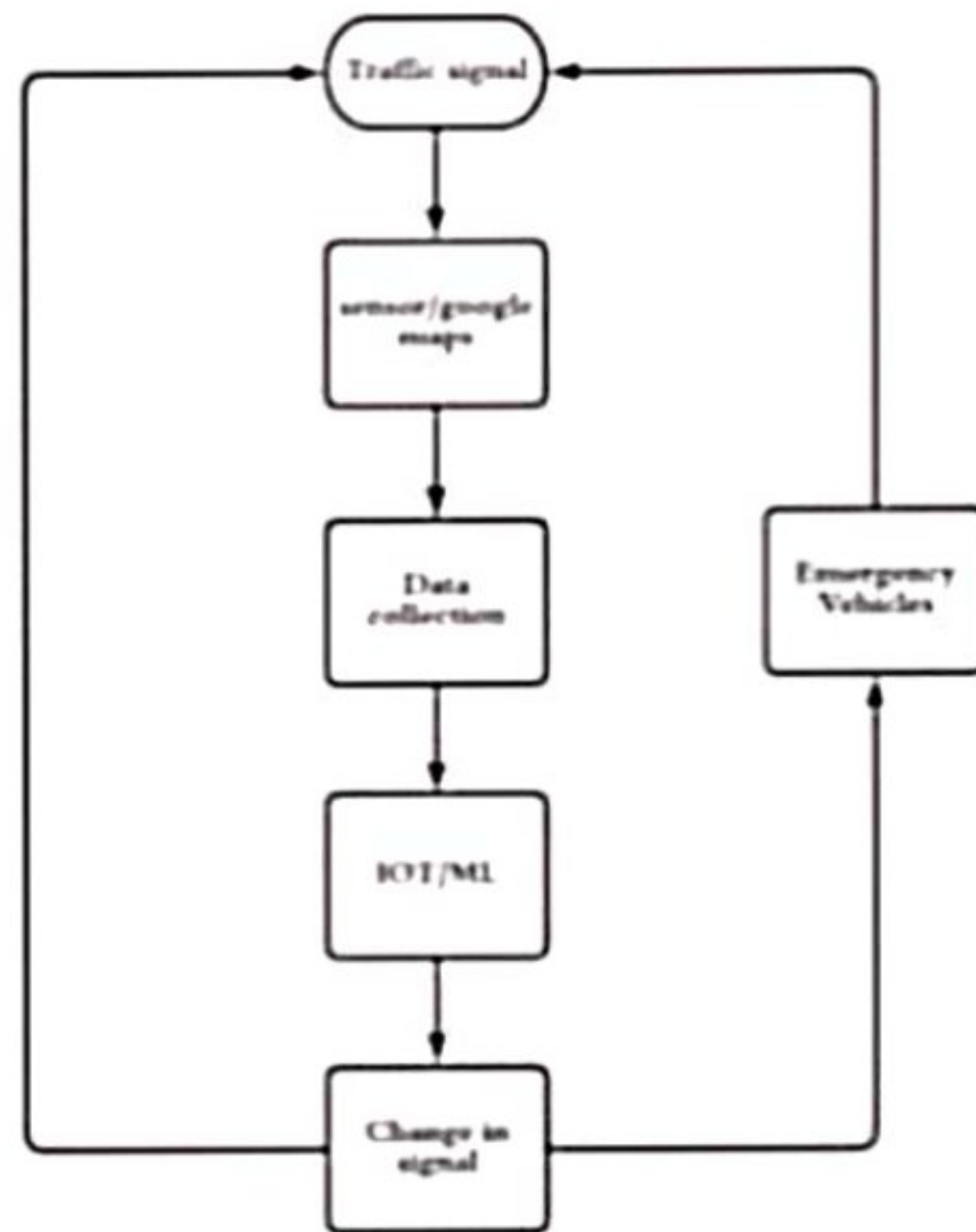
To recover this traffic congestions IOT devices and image processing has been introduced. Camera's are used to monitor traffic congestions. Camera's can be placed at important location such as main road, signals and commercial Streets.

The captured visuals from the camera can be shared to public platform or through mobile apps aiding commuters to choose optimal routes. Other methods include sensors on vehicles to send location through gps to CLOUD.

If more sensors are detected in particular place indicates traffic in that place. We can easily analyse the traffic congestion through our mobile phones using sensors. We can also set security alarms incase more sensors are detected in particular place



**The radio waves detector is placed at every junction in order to detect the presence of radio wave emitter that is placed inside the emergency vehicle. Raspberry Pi microcontroller is placed at every junction who collects the information from the various sensors placed at different locations and the resultant time is calculated and the LED lights are turned on by the microcontroller for the stipulated time calculated[3].**

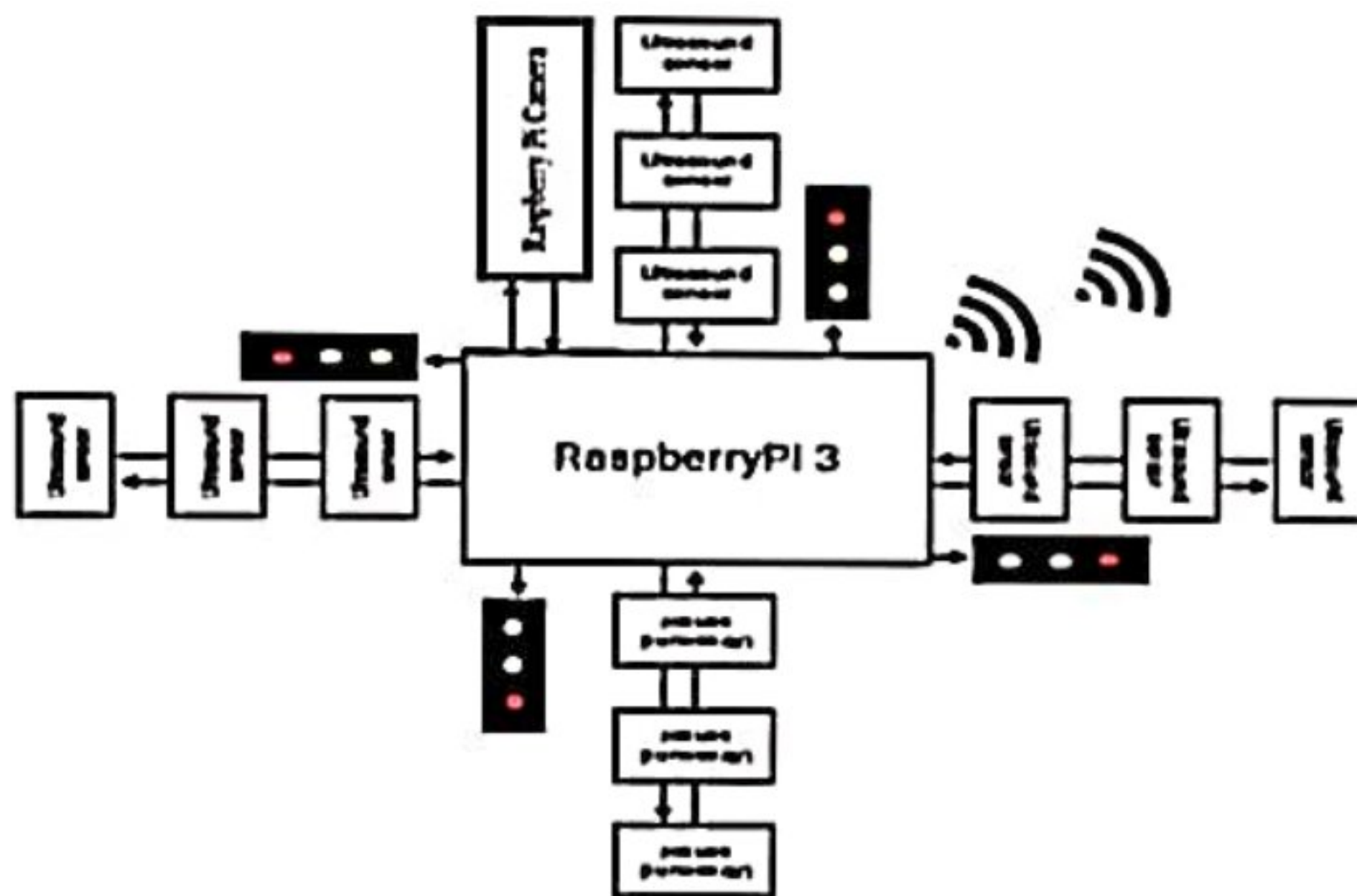


**Fig:Smart Traffic management**

## Abstract:

This paper aims to overcome traffic congestion caused by ineffective traffic management systems that are out dated and work on a predefined countdown. In addition to that, the data that is collected is send to the cloud, and can used to monitor traffic flow at periodic intervals.

## BLOCK DIAGRAM:





## **DESCRIPTION:**

**The main components of traffic management system as shown in block diagram include a camera, yellow, green and red indicators, the IOT platform for analytics – thing speak and the ultrasonic sensor. The ultrasonic sensors and the camera serve as input devices , the indicators as output devices, and Raspberry Pi as the edge device that is used to communicate with the cloud.**

**The pi then determines the level of traffic and allots timing to the traffic light indicators which are the RED, YELLOW and GREEN LED's fig1 shows the setup of the prototype housing the camera module.**

**The RASPBERRY pi , the ultrasonic sensors and the traffic light indicators . Every time the raspberry pi finds the level of traffic it updates the values to think speak to the platform.**



# HARDWARE COMPONENTS



**Fig 1: Four way traffic junction prototype**

# SOFTWARE COMPONENTS





**Fig: 2 Raspberry pi camera module.**