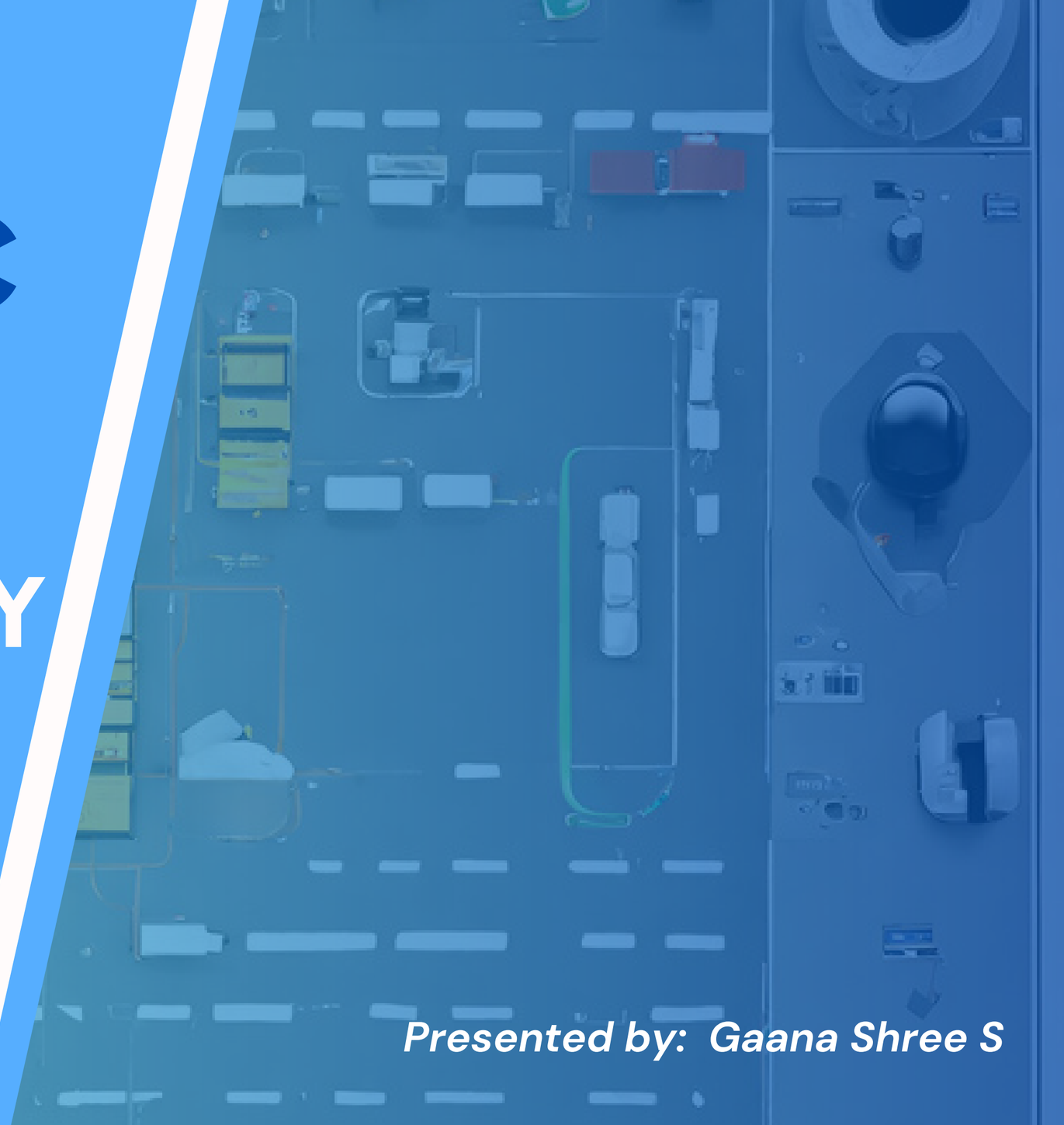
AUTOMATIC TRAFFIC CONTROLLER FOR EMERGENGY VEHICLES



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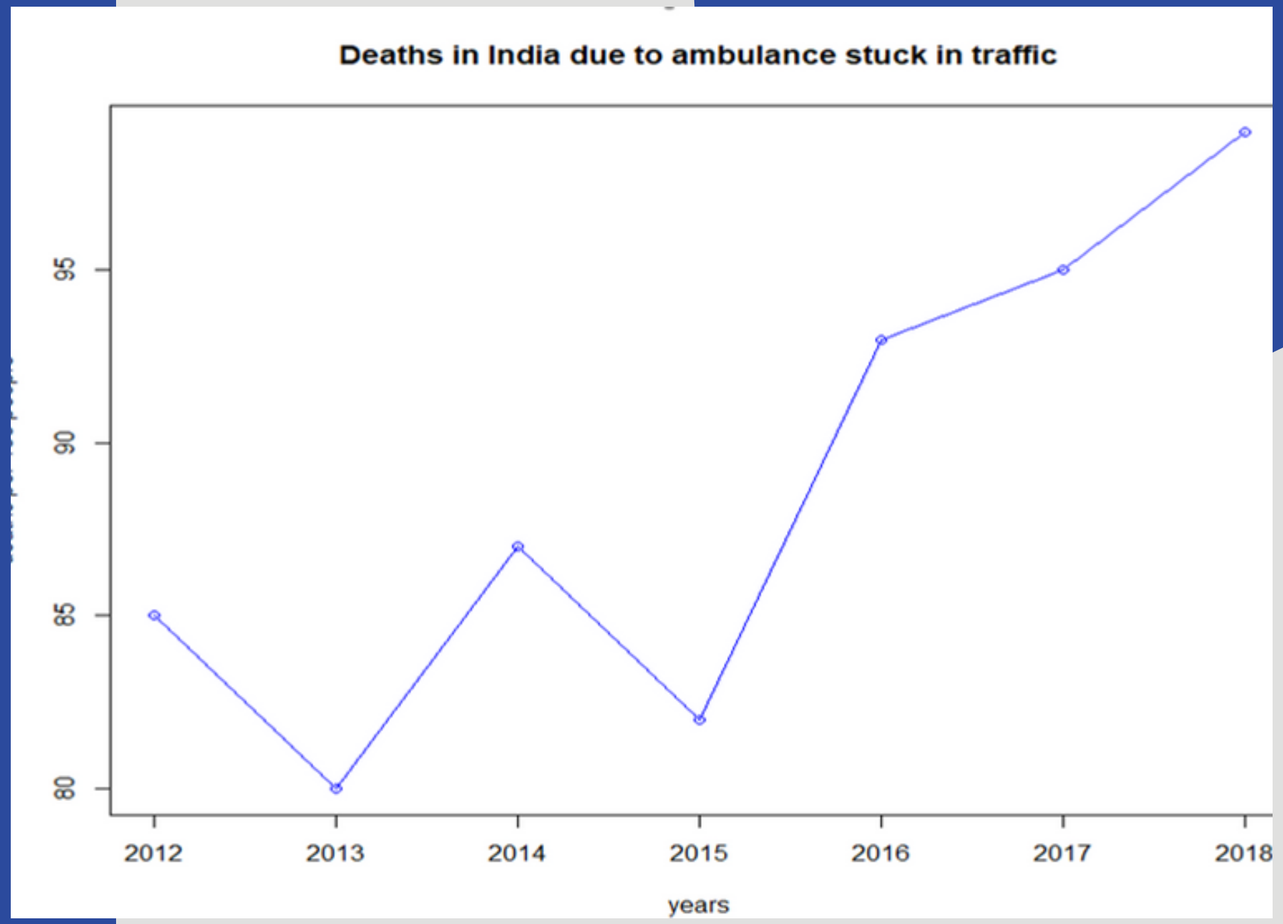
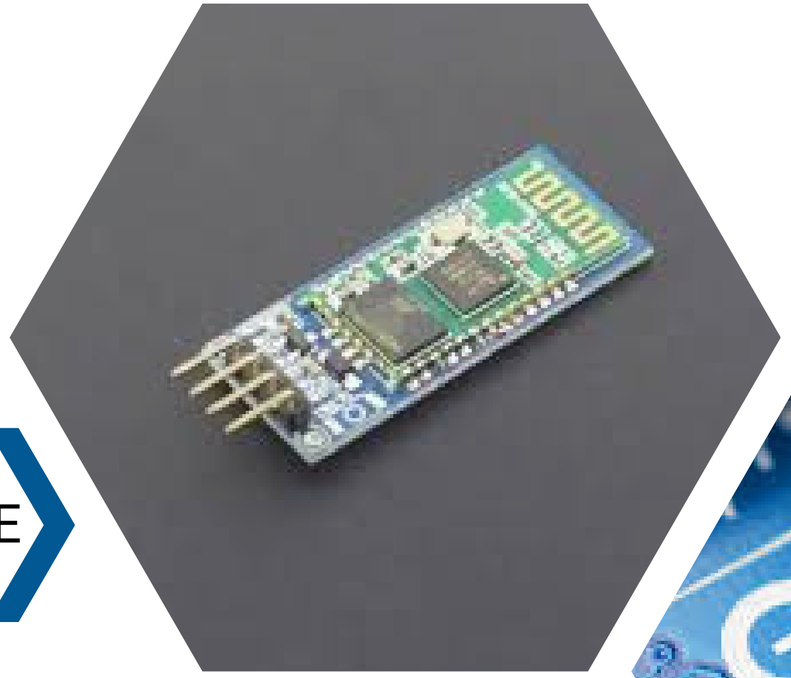
EVERY DAY IN INDIA, 24,012 PATIENTS DIE DUE TO DELAY IN GETTING MEDICAL HELP AS AMBULANCES ARE DELAYED DUE TO TRAFFIC, AND THEY ARE MEDICALLY ILL-EQUIPPED TO HELP THE CRITICAL PATIENTS.



To reduce the amount of compliexity when emergency vehicle is struck in traffic, automatic traffic contoller is used. This consists of two components hardware and software. The hardware components are programmed and placed at every junction (intersection of more than one signal). The software component (mobile application) is installed in emergency vehicle that can control hardware components at junction

HARDWARE COMPONENTS

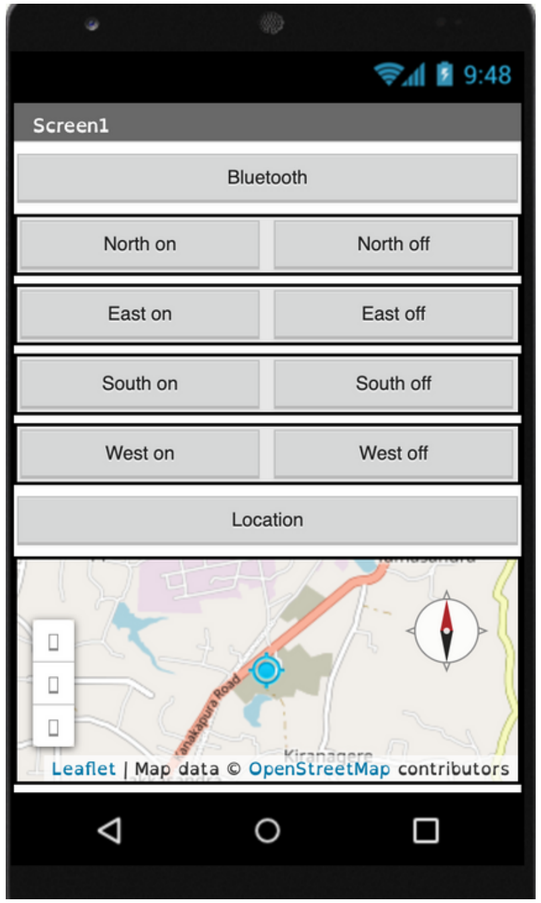
BLUETOOTH MODULE



ARDUINO BOARD

SOFTWARE COMPONENTS

Mobile application is built using MIT app developer. This application can access bluetooth near signal and control traffic signal. Bluetooth module in traffic signal is connected to arudino board which is programmed in such a way that it can turn all signal red excecpt one letting emergency vehicle pass traffic. Once vehicle is passed traffic signal runs normally without interuption.

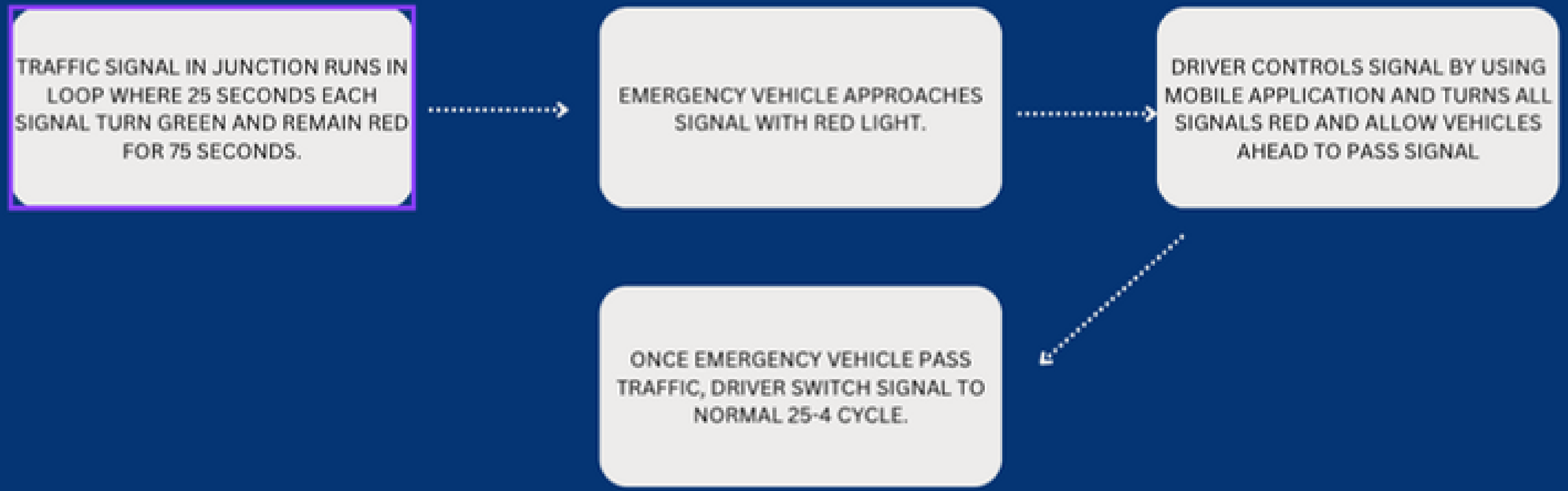


METHODOLOGY

Automatic traffic controller uses arduino board which works as brain for this device. This controller can be installed at junctions where more than two traffic signals are available. This controller works on loop where out of 100 seconds, 25 seconds each signal will turn green and remain red for remaining time. When any emergency vehicle approach any signal with red light, using app, driver can control signal and turn all signals red and after vehicle crosses signal, driver can switch signals to normal 25-4 loop.

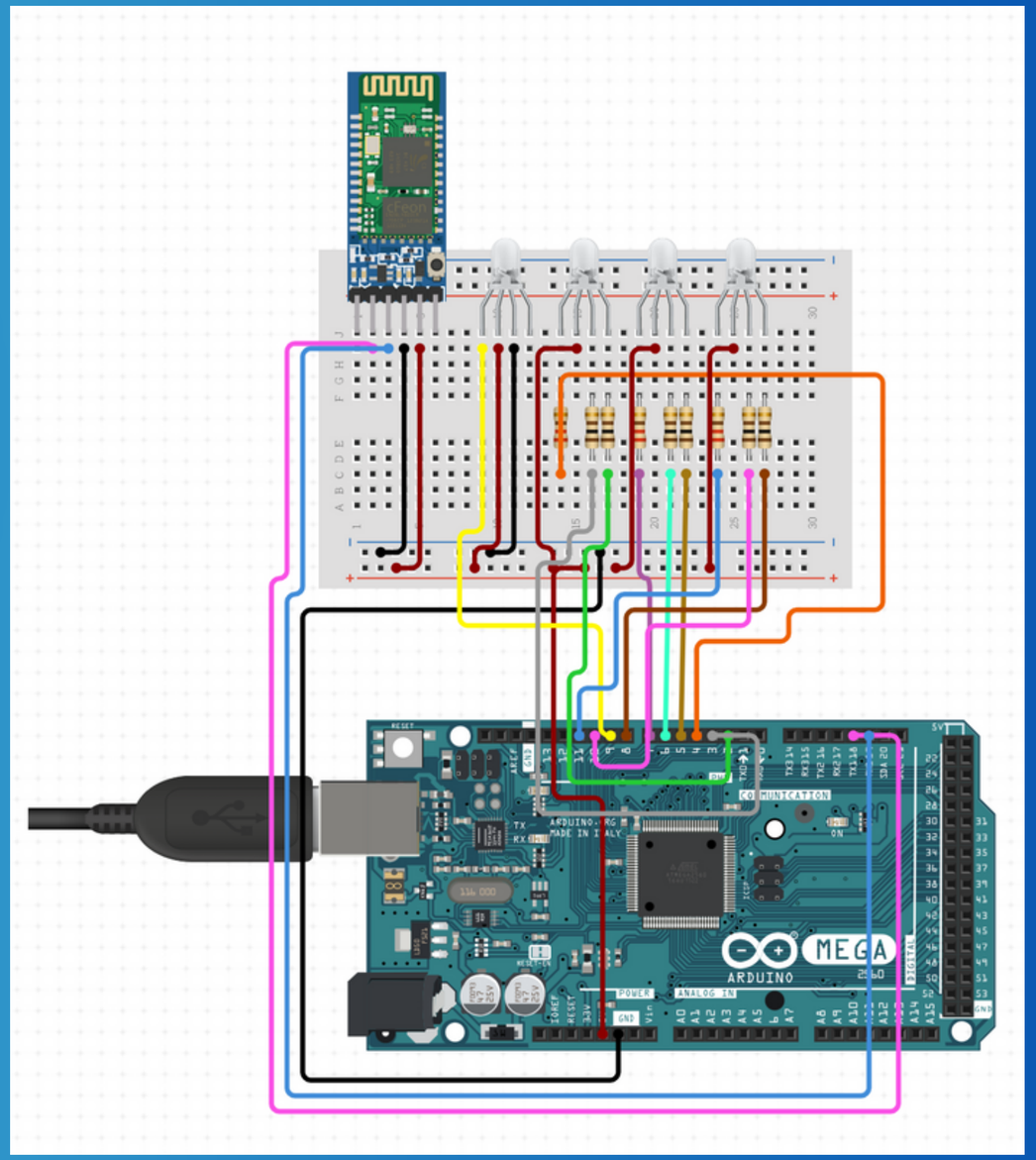
Automatic traffic controller for emergency vehicles using arduino board contolled by mobile application

FLOWCHART



CIRCUIT DIAGRAM

- HC 05 BLUETOOTH MODULE
- ARDUINO BOARD
- RGB LEDS
- JUMPER WIRES
- POWER SUPPLY-5V



Conclusion

01 This system can manage traffic in urban areas efficiently.

02 It is cost effective traffic manager.

03 Automatic traffic light controller requires no superviser to monitor it’s activity, once program is installed in arduino it can easily be contolled.

04 Controller can be monitored by vehicles with authority only, such as ambulance, police vehicles, fire truck etc..

REFERENCE

To build circuit and program:

- **https://www.tinkercad.com/**
- **https://www.circuito.io/**

To create mobile application:

- **https://appinventor.mit.edu/**