



FINAL YEAR PROJECT REPORT

ZIGBEE BASED EMERGENCY ROUTE CONTROL FOR AN AMBULANCE

**In fulfillment of the requirement
For degree of
BEE (TELECOM)**

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ABSTRACT

In this project, we introduce the mobile ad-hoc network (MANET) by discussing its definition, historical background and scientific fundamentals.

The project is about providing safe and fast route for an ambulance by utilizing the latest ZigBee technology specifically designed for sensor networks. We have used the tactful combination of different fields such as communication technologies, software design and hardware integration.

Many traffic light systems operate on a timing mechanism that changes the lights after a given interval. An intelligent traffic light system senses the presence of ambulance and reacts accordingly.

The idea behind this system is that drivers will not spend unnecessary time waiting for the traffic lights to change. The system developed is able to sense the presence of vehicles with in certain range by setting the appropriate duration for the traffic signals to react accordingly. Duration and route direction display on LCD.

The system can help to solve the problem of traffic congestion.

The main aim in designing and developing of the Intelligent Traffic Signal system is to provide safe and secure route to an ambulance in order to reduce time. In many of cases due to traffic jam ambulance getting late which cause the patient death. So our project plays an important role for solving this issue.

First part is of computer (microcontroller) which controls the selection and timing of traffic movements in accordance to the varying demands of traffic signal as registered to the controller unit by zigbee sensor.

The second part is the signal visualization or in simple word is signal phase. Signal comprise of solid red, yellow and green lights.

The third part is the detector or sensor. The sensor/detector is a device to indicate the presence of specified vehicles.

ZIGBEE BASED ambulance alert system which civilian drivers elect to stay off the road in which the 3 signals automatically falls red and green to ambulance by sending signal from ambulance to traffic light sensor system.

Finally the key applications and the future research directions are addressed.

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