

DESIGN PROJECT REPORT

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Ambulance Dispatch System

Nowadays, after calling an ambulance for a medical emergency is like each minute feeling like an eternity. The usage of telephones or mobile phones to call and connect the dispatcher and pinpoint the location of emergency is slow and sometimes can cause the death of the patient. In some cases the dispatcher will call an ambulance that is far from the patient. So, the need for real time tracking of ambulances, patients and hospitals is necessary.

Traffic Monitoring System

India's roads are very busy with many new vehicles being added to the roads everyday. This increases the congestion in the road. Especially crossing traffic signals take a large amount of time creating traffic blocks. During a medical emergency, the patient's worst dream will be a traffic block which makes the ambulance feel like a sitting duck. Currently there is no system to monitor traffic in real time and pinpoint traffic blocks. If a system would have existed Emergency vehicles can use an alternative route so that they can reach in time. Also a system which automatically changes the signal to green when an emergency vehicle is incoming is missing.

Ambulance Drone

During a medical emergency, the crucial factor which determines the condition of a patient, is how quickly the medical care is provided. The average time taken by an ambulance to reach the patient's site is approximately 10 minutes. The duration could be too long to save a person who has suffered major injuries and who needs immediate care. For instance: for a person who suffered from cardiac arrest, if immediate help is not provided within 3-4 minutes, the patient most likely dies. Thus if time is reduced and medical help is provided to the patient sooner, the chances of patient's survival increase to a large extent. A drone is already developed for performing medical emergency procedures which contain a defibrillator. But it is not enough as it can't transport medicines required due to an emergency.

Proposed System: Mobile Ambulance Dispatcher

With this new service, the user can call an ambulance to your doorstep using our mobile app, letting you see the real-time location of your ambulance and making the entire process convenient and seamless. Also this service comes integrated with the Ambulance Drone. The payment can be done through Credit card or via online banking. If medical emergency worsens and the ambulance has not yet reached the patient, the drone can be used to perform emergency procedures such as defibrillation. The real-time tracking of the ambulance can be used for the traffic department to ensure a traffic less way for the ambulance.

Additional Features

1. Checks whether the beds in the ICU of the hospital are available or not, thus saving large amount of time.
2. With the Ambulance being tracked in real time, the signals in the route will be changed to green.
3. Drones can also be used to analyse the current traffic status and can provide alternative short time way for ambulance.
4. This Mobile app can pinpoint the patient's location to a few metres so that no time is wasted and the user can know ETA and location of the ambulance
5. Fast and better services can be provided than the existing system thereby saving a whole lot lives.

Assumptions

- Real time details of the hospital like bed and doctor availability can be integrated.
- Traffic Department can use the location of ambulance so that they can take appropriate measures.
- With this app the paramedics in the ambulance can communicate with the patient using drone in case of any traffic difficulties.