



## MedEm - A Website

**OMKAR BAJPAI, SHREYA BAMBAL, PRATHMESH BANSODE, ATHARAV BAPAT, PRANAV BARAPATEE, TANVI BARASKAR**

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Vishwakarma Institute of Technology, Pune, INDIA.

**Abstract** —The no. of increasing accidents is becoming a big concern today. The medical emergencies we face in day-to-day life and then find ourselves helpless in most conditions. To reduce the risks of death in medical emergencies there came the idea of making a website. This website will be of great help in case of emergencies. This website will send emergency notifications to the hospital. It will also make nearby hospitals accessible. It will talk about the nearby hospitals and specializations available. After that users will be able to select a hospital and then they will be directed to the map which will show them the directions from their present location to the hospital selected. Meanwhile, an emergency notification would be sent to the selected hospital. This emergency notification will alert the hospital management and give them enough time to prepare in advance and keep the ICUs ready just in case. This paper focuses on the study done and the technologies needed to make the website. It includes research about phpMyAdmin which will be of great help in database management. It includes a study about Dijkstra's algorithm which is used for finding the shortest route. Also, it includes some information about Google's push notification system. This website is called MedEm, which stands for Medical Emergency. It can reduce death rates if used effectively. This website can be of great help to all those who are in need and have to find nearby hospitals.

**Keywords**—sustainable road construction, materials, durability, cost-effectiveness, environmental impact

### I. INTRODUCTION

The main objective of our website is to give more time to doctors and prepare in advance for the emergency case. It will also provide help to the patients in case of emergency. It will tell the user about nearby hospitals and the specializations available. After selecting the specific hospital, it will send an emergency notification to the hospital which will give more time to the doctors. This website will be useful to save lives and will reduce the number of deaths.

We have to enter the information about injuries of the patient and personal medical information of the same. After that the site will suggest you the nearby hospitals. It will also send an emergency notification to that particular doctor so they can do necessary arrangements. We decide the target area and visited

hospitals in nearby area i.e., nearby area of our collage because we run our project on small scale. There are several websites regarding medical emergency are already existed but our website give notification to hospital and hospital management system regarding patient injury and details this

will reduce time and patient life. The website will also suggest a specialized doctor for a particular type of injury. We used certain software to build our website like phpMyAdmin which will be of great help in database management. It includes a study about Dijkstra's algorithm which is used for finding the shortest route. Also, it includes some information about Google's push notification system. We have used "one signal" push notification services which are beneficial to send information to doctor in form of notification. For building our website we read various research papers which include the study of Dijkstra's algorithm, cross-platform smartphone emergency reporting application in urban areas using GIS location based and google web services etc. Medical emergencies require prompt and effective response to prevent serious harm or death. Adequate EMS systems, effective pre-hospital care.

### II. METHODOLOGY

#### Problem Identification:

With developments of roads and cities there is a significant increase in the number of road accidents. Many people lose their lives in such kinds of road accidents. The main reason behind this is not getting help at the proper time. There are several more reasons which cause the loss like unavailability of specialist doctor, unavailability of blood of particular blood group etc. so it is a serious problem. Lives can be saved if we can somehow find the solution to the above problems. These are some of the shortcomings of medical systems in emergency conditions we tried to address and improve for betterment of the society.

### Objectives of solution:

We think that time is the most important element in such emergency conditions. We tried to bridge this time gap. We are building a website which is to be operated by the person who is with the victim or the staff present in the ambulance. This website basically delivers the important information about the patient's injuries, blood group, any medical history of the patient directly to the doctor's mobile phone in the form of a push notification. This will give doctors some extra time to make necessary arrangements in order to save the life of people. The website will also suggest a specialized doctor for a particular type of injury. It will also tell information about the location of the nearby hospitals.

### Design and Development:

- 1) We decided the target area and visited hospitals in that particular area. We collected some information from doctors such that what information from the patient can help them to make the necessary arrangements.
- 2) We did the thorough analysis of collected information and started working on the design and development of the website.
- 3) We have to enter the information about injuries of the patient and personal medical information of the same. After that the site will suggest you the nearby hospitals. It will also send an emergency notification to that particular doctor so they can do necessary arrangements.
- 4) We have used "one signal" push notification services which are beneficial to send information to doctors in the form of notification.

## III. LITERATURE REVIEW

Medical emergencies can occur unexpectedly and can be a threat to life if not handled promptly and efficiently. With the increasing demand for emergency medical care, the need for effective and efficient emergency response systems has become more important than ever. This literature review examines the current state of research on medical emergency response systems and explores the key factors that contribute to successful emergency care.

EMS systems are an integral part of any healthcare system, and their effectiveness in responding to medical emergencies is crucial. In a study by Springer-Verlag Berlin Heidelberg 2014, the authors, Mahdi Moeini, Zied Jemai, Evren Sahin examined the dynamic emergency medical service (EMS) systems.. A dynamic location model is presented for locating and relocating a fleet of ambulances for the shortest emergency medical system for patients, patients with shorter EMS response times had better outcomes.[2]

In another study by Swapnil R. Rajput, Mohd Sohail Deshmukh, Karbhari V. Kale of cross-platform smartphone emergency reporting application in urban areas using GIS location based and google web services in 2015. They were proposing the new idea for emergency detection and reporting. This system will record and report emergencies in real time.[5]

In another study by International Journal of Applied Information Systems Foundation of Computer Science FCS,

New York, USA in 2018 proposed a medical emergency alert system. It consists mainly of two components, a wearable hardware unit and an android application .The wearable unit contains sensors.

In another study of shortest path analysis based on Dijkstra's Algorithm in emergency response system given by Shanghai Institute of Work Safety Science, Shanghai in 2014. This paper presents an overview on shortest path analysis for an effective emergency response mechanism to minimize hazardous events. Both graph theory and network analysis in GIS (Geographic Information System) was discussed for the purpose of modelling and analysing traffic networks.[6]

In a study by Sahriar Habib, Zawata Afnan, Sakib Anam Chowdhury, Abu S. M. Mohsin, Sarah Altaf Chowdhury about design and development of IoT based accident detection and emergency response systems, this includes reducing the time of response to an accident to the minimum, among other things. The development of the Internet of Things (IoT) based accident detection and response system is an attempt towards minimizing the rates of casualty and injuries occurring to both passengers and vehicles due to road accidents. The system is fully automated to be able to send emergency notifications to nearby hospitals.[1]

Medical emergencies require prompt and effective response to prevent serious harm or death. Adequate EMS systems, effective pre-hospital care. Research has shown that technology, such as mobile phone technology, can be valuable tools in improving emergency medical systems.

## IV. RESULT

A software programme called a Web service enables interoperable communication over a network. Running on our platform's "one signal" push notification, web services offer a standardised way for various software applications to communicate with one another. The web application for our emergency response system has tools that allow you to choose the Start/End location on the map. The closest hospital is the result of analysing the shortest path between the users' specified origin and destination on the server.

Every edge has a cost attached to it, and they can be chosen and marked from alphabets A to F, allowing the Dijkstra algorithm to locate the closest hospital.

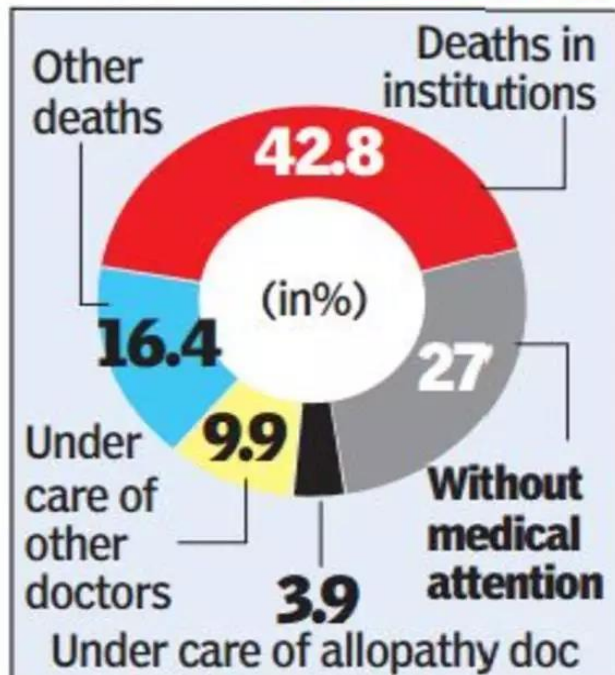


Finding a route that takes the least amount of time to get to the destination after an accident is crucial for rescue efforts. In India, poor emergency management results in more fatalities than a lack of access to healthcare. According to the study, India has a death rate from subpar healthcare that is higher than that of its neighbours Pakistan (119), Nepal (93), Bangladesh (57), and Sri Lanka (74), as well as South Africa (93) and Brazil (91), Russia (91), China (46) and South Africa (51).

Poor care quality causes more deaths than a lack of access to healthcare; in India, 1.6 million people died in 2016 as a result of bad treatment, roughly twice as many as a result of not using healthcare facilities (838,000 persons).



## HIGH IN VILLAGES



Source: Civil Registration System, 2013

Source:

<https://timesofindia.indiatimes.com/india/27-of-deaths-in-India-for-want-of-medical-attention/articleshow/49474537.cms>

## V. CONCLUSION

This website can collect the information about exact information of injuries of the patient and any medical history of patient in emergency cases of accident and deliver to the hospital so they can make necessary arrangement. Website working is very easy as first ones have to login and enter patient details and location. hospital will receive the data. This saves time. The main objective of our website is to give more time to doctors and prepare in advance for the emergency case. It will also provide help to patients in case of emergency. It will tell the user about nearby hospitals and specialization available After selecting the specific hospital it will send an emergency notification to the hospital which will give more time to doctors. This website will be useful to save lives and to reduce death rate.

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