



## AmbuLens (Ambulance Service)

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**Abstract**— *AmbuLens(Ambulance Service) System aims at providing a platform to Book and provide Ambulance nearest to the particular geographic location. This application maintains each of the things accurately. The Modules involved are Administration Module, User booking Module, Destination Module and Tracking Module. Moreover, this system can be used for Ambulance booking and emergency services, having live location of ambulances in the area.*

*In this system, the User will be able to book an ambulance in advance according to the size of the ambulance and selected hospital, or the user can also book an ambulance for emergency regardless of its size and a random hospital will be allocated to the user. Then the ambulance driver will accept or reject the booking from the user, after accepting or rejecting the status will be updated for the same to the user.*

### I. INTRODUCTION

When a traffic collision occurs on the road network, or if a medical emergency occurs, and the need to preserve a human life arises, an ambulance plays a critical role. In an emergency, manually arranging an ambulance can waste valuable time because it is a time-consuming process. Furthermore, the delay caused by heavy traffic between the pickup location and the hospital facility may enhance the victim's risk of mortality.

With today's technology, when practically everything runs on smartphones and apps, the necessity for rapid and efficient services is almost essential in almost every aspect, particularly when it comes to medical care.

The technology proposed here would allow users to book an ambulance quickly and simply. The user must choose the ambulance size, pick-up location, and hospital. In the event of an emergency, the user will just select the pick-up place and destination, and the system will book the nearest ambulance and hospital for them.

### II. LITERATURE REVIEW

"Shortest Path Finding Algorithm-Based Automatic Ambulance Rescue System." [1] by P.Arunmozhi and P.Joseph William introduced a scheme called Automated ambulance rescue system in 2018. In today's urban regions Traffic-congestion and tidal flow management were major issues identified for management of ambulance. The ambulance system has been a difficult task because of this. Furthermore, there have been a slew of accidents in the city, including the number of people killed in car accidents is even higher. To put this AARS concept into action (Automated ambulance resuscitation system). The Most important function or the goal of this approach is to ensure that the flow of information is as seamless as possible. Ambulances to arrive at hospitals on time and, as a result, keeping the Practical Implementation to a minimum. The concept behind this plan entails putting in place an ITS that would monitor and control traffic. The traffic lights in the path of the vehicle are controlled mechanically.

In our proposed system, the user will be able to book an ambulance in advance according to the size of the ambulance and select a hospital, or the user can also book an ambulance for emergency regardless of its size and a random hospital will be allocated to the user.

### III. SOFTWARE USED

**Android Studio** is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. In the Eclipse IDE as your environment for developing Android applications, you can install a custom plugin called Android Development Tools (ADT), which adds integrated support for Android projects and tools.

We have used android studio as our development platform

## Kotlin

Kotlin is a cross-platform, statically typed, general-purpose programming language with type inference. Kotlin is designed to interoperate fully with Java, and the JVM version of Kotlin's standard library depends on the Java Class Library, but type inference allows its syntax to be more concise. We used Kotlin as our development language

## Google Map SDK

For android to display google map in our android screen

## Google Maps API

The APIs provide functionality like analytics, machine learning as a service (the Prediction API) or access to user data (when permission to read the data is given). Another important example is an embedded Google map on a website, which can be achieved using the Static Maps API, Places API or Google Earth API

.Map displaying , path displaying , current location, drop location selection ,to show user and ambulance spot

## Google Maps Autocomplete API

We have used google map autocomplete API to auto complete locations search , to get additional information such as lat, long, street point etc about the place

## Distance Matrix API

To get approximate travel distance and time from coordinates.

## Direction API

To draw path between two coordinates

## MongoDB Realm

Is NoSQL cloud based SaaS

MongoDB Realm's edge-to-cloud sync and fully-managed back-end services help you deliver offline first application for Android, iOS

## MongoDB

It is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB Inc. and licensed under the Server-Side Public License (SSPL).

## IV. PROBLEM IDENTIFICATION

In the existing system, there was no correct system to find ambulance and driver faces the difficulty to reach the geographical locations in short time due to lack of services to find nearby ambulance service. Due to this many people may lose their lives or is in trouble due to heavy traffic. This system would not help the ambulance to reach the hospital in short time.

## V. PROBLEM SOLUTION

The system proposed here will help the users find and book an ambulance easily in an instant. The user will have to select the ambulance size, pick-up point & drop location i.e. Hospital. In case of emergency, the user will have to just select the pick-up point & destination and the system will automatically find the nearest ambulance. Once nearest ambulance is found the user can book the ambulance and the ambulance operator will receive a notification for confirmation of the booking. The Ambulance driver can view the pick-up and drop location on Goggle Maps. The users will receive the contact details of the driver and vehicle. The Hospitals can also view the booking history. This is how this Ambulance Booking App will act as a life saviour in times of medical emergency.

## Modules

- Welcome page
- Login
- Pickup drop location
- Request an ambulance (For Patient / Attendant)
- Select an ambulance
- Pickup Request (For Drivers)

## VI. OBJECTIVE AND SCOPE

- Patients can now book an ambulance for an emergency in addition to for non-emergency services. User can maintain records of the journeys and might view any time
- You can discover the closest to be had ambulance and request the same.
- Instantly get the information & touch information of the driver.
- In destiny we're searching out Ai implementation for best sanatorium and course locating algorithms making it seamless to get first useful resource help and quicker pickups.

## VII. REFERENCES

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