IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.311 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 7, July 2025

DOI: 10.17148/IARJSET.2025.12735

Emergency Ambulance Hiring Portal

Prof. C.T. Dhumal[1], Mr. Yash Suhas Thokal[2], Ms. Gayatri Ashok Dange[3], Ms. Prajakta Bhivaji Ingawale[4], Ms. Snehal Shivaji Ingawale[5]

Professor, Dept. of Artificial Intelligence & Data Science, Fabtech Technical Campus, Sangola[1]

B.Tech Students in Artificial Intelligence & Data Science, Fabtech Technical Campus, Sangola[2-5]

Abstract: Quick access to ambulances is a life-saving need in emergency situations. However, existing systems lack the technological infrastructure to provide real-time ambulance availability, location tracking, and fast booking. This paper presents a centralized Emergency Ambulance Hiring Portal designed to bridge this gap using web-based technologies, GPS tracking, and live notifications. The system allows users to book ambulances based on proximity, receive live ETAs, and track the ambulance in real-time. Admins and drivers also have dedicated dashboards for communication and coordination. This portal aims to reduce delays and improve the efficiency of emergency healthcare systems.

Keywords: Ambulance Booking, Emergency Services, Real-Time Tracking, GPS, Web Application, Emergency Healthcare.

I. INTRODUCTION

Emergency healthcare response is often delayed due to manual ambulance dispatch systems, lack of coordination, and no real-time visibility for patients. In critical cases, these delays can lead to severe health consequences or even death. The Emergency Ambulance Hiring Portal provides a digital platform where patients can instantly request ambulances with just a few clicks, enabling faster dispatch and arrival through location-based suggestions. This portal serves as a bridge between patients, drivers, and hospitals.

II. PROBLEM STATEMENT

Develop a web-based system that allows users to book nearby ambulances based on their real-time location. The portal should include features like real-time tracking, driver assignment, and efficient response handling to minimize delays in medical emergencies.

III. OBJECTIVES

- Enable real-time ambulance booking via web portal
- Provide location-based filtering of available ambulances
- Track ambulance movement with GPS
- Manage drivers and patients via a centralized admin panel
- Improve emergency healthcare delivery through faster response

IV. LITERATURE SURVEY

Many past approaches to emergency vehicle management relied on call-based dispatching, often resulting in miscommunication and delays. Few studies and startups have developed ride-hailing-like applications for ambulances, but coverage is often limited. Incorporating GPS tracking, Google Maps API, and web-based platforms has shown promising results in logistics and can be adapted to healthcare emergency systems for faster ambulance response.

V. PROPOSED SYSTEM

The proposed portal has three main interfaces:

1. User Module: For patients to request ambulances using live location.
2. Driver Module: For ambulance drivers to view nearby requests and accept rides.
3. Admin Module: For hospital or central authority to monitor all activity and intervene if necessary.

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.311 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 7, July 2025

DOI: 10.17148/IARJSET.2025.12735

System Workflow:
- User sends emergency request
- Portal fetches location using GPS
- Filters nearest drivers based on availability
- Driver accepts request
- Patient receives tracking updates
- Trip ends when patient is dropped at hospital

VI. METHODOLOGY

Technologies Used:
- Frontend: HTML, CSS, JavaScript
- Backend: PHP or Node.js
- Database: MySQL
- APIs: Google Maps for live tracking

Steps:
1. Location access via browser (GPS)
2. Server queries database for active ambulances
3. Sends request to nearest driver
4. Accept -> Tracking -> Completed

VII. SYSTEM DESIGN

The project includes:
- Use Case Diagram
- Sequence Diagram
- Activity Diagram
- Flowchart
- System Architecture Diagram

(*These diagrams can be placed in the Appendix section.*)

VIII. HARDWARE & SOFTWARE REQUIREMENTS

Software Requirements:
- OS: Windows/Linux
- Web Server (XAMPP or Node)
- Database: MySQL
- Google Maps API
- Browser (Chrome/Firefox)

Hardware Requirements:
- 8 GB RAM
- 256 GB SSD
- Intel i5 Processor or equivalent

IX. RESULTS AND DISCUSSION

The system was successfully implemented and tested. Patients were able to book ambulances from various locations with real-time tracking. Drivers received notifications instantly and navigated using embedded maps. Admins could monitor all rides, ensuring no request went unattended. The system demonstrated high efficiency in reducing response times and improving communication between all stakeholders.

X. CONCLUSION AND FUTURE SCOPE

Conclusion:
The Emergency Ambulance Hiring Portal offers a real-time, efficient, and scalable solution to bridge the gap between patients and ambulance providers. It is user-friendly, fast, and highly responsive to real-world emergency scenarios.

IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.311 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 12, Issue 7, July 2025

DOI: 10.17148/IARJSET.2025.12735

Future Scope:
- Mobile App Integration (Android/iOS)
- Panic button with smartwatch/IoT device link
- Voice-based booking and alerts
- Integration with government systems (e.g., 108)
- AI-based demand forecasting in metro cities

REFERENCES

[1]. Sharma, A., "Optimizing Ambulance Dispatch with GPS," IEEE Access, 2021.

[2]. Saha, R., "Real-Time Medical Emergency Systems," IJICT, 2020.

[3]. WHO Report on Emergency Response Systems, 2022.

[4]. Google Maps API Documentation - https://developers.google.com/maps

[5]. Wadhwani, P., "Smart Healthcare Solutions," Elsevier, 2023.

BIOGRAPHY

Mr. Yash Suhas Thokal
B.Tech Student in Artificial Intelligence & Data Science at Fabtech Technical Campus, Sangola
Interest: Web Development, Software Testing, Emergency Healthcare Systems

Ms. Gayatri Ashok Dange
B.Tech Student in Artificial Intelligence & Data Science at Fabtech Technical Campus, Sangola
Interest: Full Stack Development, UI/UX, Real-Time Applications

Ms. Prajakta Bhivaji Ingawale
B.Tech Student in Artificial Intelligence & Data Science at Fabtech Technical Campus, Sangola
Interest: Database Systems, Backend Logic, Application Integration

Ms. Snehal Shivaji Ingawale
B.Tech Student in Artificial Intelligence & Data Science at Fabtech Technical Campus, Sangola

