WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Interactive Mobile Application for Emergency Ambulance Service

Fasate Shubham Rajendra[1],Sawant Vikas Mahaveer[2], Ugalmugale Prathamesh Sayaji[3], Dr. S.D. Gunjal[4]

[1] Dept.of Computer Engineering, Jaihind College Of Engineering Kuran, India . Email:shubhamfasate2@gmail.com
[2] Dept.of Computer Engineering, Jaihind College Of Engineering Kuran, India Email:sawantvikas865@gmail.com
[3] Dept.of Computer Engineering, Jaihind College Of Engineering Kuran, India . Email:ugalmugaleprathamesh02@gmail.com
[4] Dept.of Computer Engineering, Jaihind College Of Engineering Kuran, India

ABSTRACT :

Emergency response plays a vital role in a variety of situations, including accidents, medical emergencies, and natural disasters. In this paper, we design and implement a mobile application for emergency situations, aimed at facilitating communication between injured victims and ambulance drivers. The proposed system enables real-time detection of emergencies and transmits the victim's location to the nearest available ambulance. By leveraging this technology, we aim to significantly reduce response time and improve the chances of survival in critical situations. Experimental results demonstrate the effectiveness of the proposed emergency ambulance service application in enhancing the speed and reliability of emergency responses. Emergency detection and response is one of the most promising fields of mobile application development with vast real-life applications. In the real world, the concept is widely used for emergency services, disaster management, and healthcare.

Keywords:- Realtime Tracking System,Interactive Mobile Application for Emer-gency Ambulance Service,Leverages

1.INTRODUCTION :

The effective and quick handling of an emergency incident can be crucial for patient's survival and recovery. This is directly affected by the work of first responders (paramedics); the effective dispatch procedures of ambulance vehicles, as well as data interchanged between an ambulance vehicle, the control center, and the hospital emergency department Recent advances in electronic health systems along with evolution in technology and research in computer science is something, which can significantly help the aforementioned issues.

Despite the technological advances, several logistical problems appeared in emergencies due to failures to coordinate their distribution. In order to address these issues several emergency dispatch centers around the world are increasingly using several forms of emergency dispatch protocols when handling emergency calls. The main objective behind these protocols is to ensure that an incident is appropriately evaluated and responded. In addition, there has been a consistent effort to implement several priority dispatch protocols through computer-based systems in an effort to automate processes and further minimize human error rates.

2.PROBLEM STATEMENT :

To enhance the process of emergency response by the ambulance to a collision or an accident through the use of a panic button and an Ambulance driver panel activation to access the nearest ambulance to the accident site.

3.OBJECTIVES :

 Enable Quick Access to Emergency Services: Develop a mobile application that allows users to request an ambulance quickly and efficiently during medical emergencies.
 Real-Time Location Tracking: Integrate GPS functionality to provide real-time tracking of the user's location, enabling ambulances to reach the user accurately and promptly.
 Health Monitoring Features: Include health tracking functionalities such as menstruation, fertility, and menopause monitoring to offer a comprehensive health management tool within the app

 User-Friendly Interface: Design an intuitive and accessible user interface that allows people of all ages and technical backgrounds to request emergency services without difficulty..

4. SYSTEM ARCHITECTURE :

In the field of blockchain and NFTs, we would like to elaborate more on the components of an NFT marketplace system architecture:

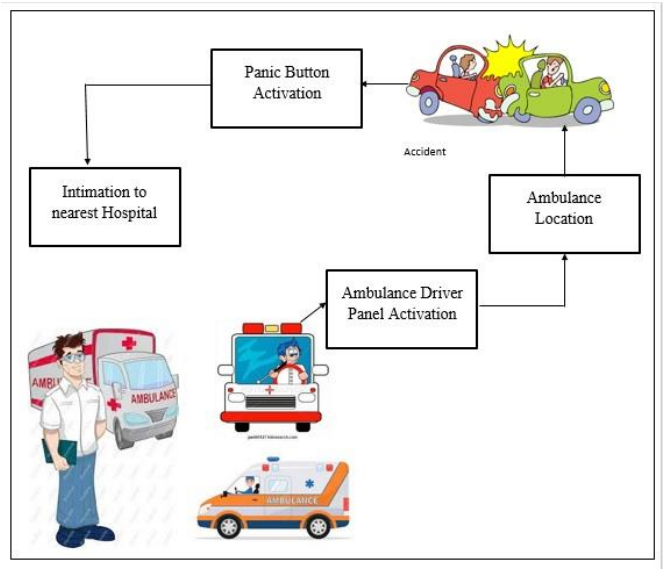
 Blockchain technology integration: The choice of blockchain network plays a crucial role in the success of an NFT marketplace. There are several types of blockchain networks such as public, private, consortium, and hybrid. Brands can choose popular public technologies like Ethereum, Ripple, or Cords, or they can opt for new options like the NBA Top Shot, which uses its own blockchain called Flow.

 Minting: This process involves validating data, creating a new block, and recording it on the blockchain. The decision on whether to allow NFTs with upfront gas costs or introduce lazy minting, which doesn't require any gas, needs to be made in advance.

 Token types: It's important to define the types of NFT tokens that the platform will support. For example, Opensea supports the majority of NFTs, including ERC-721 and ERC-1155.

 Navigation: A smooth user experience is key to the success of an NFT marketplace. Hence, it's important to plan the navigation of the platform carefully to ensure users can easily find the NFT assets they're interested in.

 On-boarding: With the rise of user-centric design, it's important to provide a seamless on-boarding experience for users. This can be achieved by offering options such as social logins.



5.EXISTING SYSTEM :

In the existing system, Users need digital wallets (e.g., MetaMask, Coinbase Wallet) to connect to the marketplace. These wallets store cryptocurrencies and NFTs and act as the user's identity in the blockchain space.Research on NFT trading platforms can be divided into several main areas: user behavior, acceptance, and media engagement. Supports fractional ownership and community-driven decision-making.Built for brands, sports leagues, or enterprises, these marketplaces focus on offering digital collectibles from licensed IPs. These platforms often emphasize user-friendliness, with a more centralized approach.NFT marketplaces have rapidly evolved to cater to specific niches, enhancing features for usability, scalability, and interoperability to better serve the needs of creators, collectors, and enterprises.

6.PROPOSED SYSTEM :

In emergency situations, timely access to medical services is critical for saving lives. However, many existing emergency ambulance systems face significant challenges that can lead to delays in response times, miscommunication, and inadequate patient care. The reliance on traditional communication methods, such as phone calls to emergency hotlines, often results in inefficient dispatching and a lack of real-time information for both the user and emergency responders.

Emergencies demand quick and effective medical responses, yet many people face challenges in accessing ambulance services promptly and efficiently. Traditional emergency call systems often rely on manual calls to dispatch centers, which can lead to delays due to long wait times, miscommunications, and lack of real-time information. In many cases, critical information such as the caller's location, type of emergency, or specific medical needs is not effectively communicated, potentially jeopardizing patient toutcome To address these issues, an interactive mobile application for emergency ambulance services is required. This app should serve as a user-friendly, reliable, and efficient platform that allows individuals in emergency situations. Users should be able to request an ambulance with a single click, bypassing the need for a phone call. This reduces response times, especially for individuals who may be in distress or unable to communicate verbally

7.ACKNOWLEDGEMENT

I would like to express my deepest gratitude to everyone who contributed to the successful completion of this project, "Interactive Mobile Application for Emergency Ambulance Service."

First and foremost, I am thankful to my mentors and academic advisors, whose guidance, expertise, and support were instrumental throughout the research and development phases. Their valuable insights and encouragement kept me focused and motivated to achieve the project objectives. I am also grateful to my peers and colleagues for their constructive feedback and collaboration, which enriched the overall quality of the project. Additionally, I extend my sincere thanks to healthcare professionals and technical experts who provided real-world insights, allowing me to better understand the practical needs of emergency medical services..

8.DATA FLOW MODEL

1. DFD LEVEL 0

The DFD 0 diagram for the data flow diagrams describes the flow of the approach. The DFD diagram provides the simplest flow wherein the driver registers on the system and then activates the location after which the intimation to the nearest hospital is initiated.

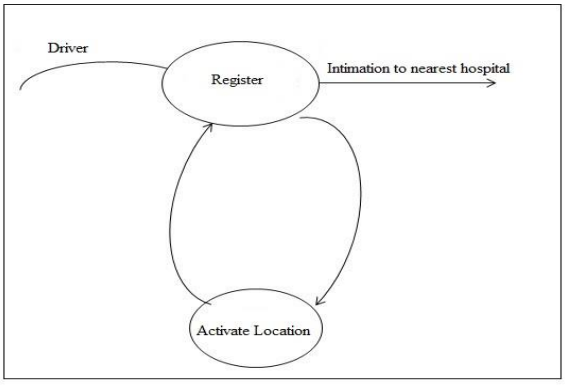
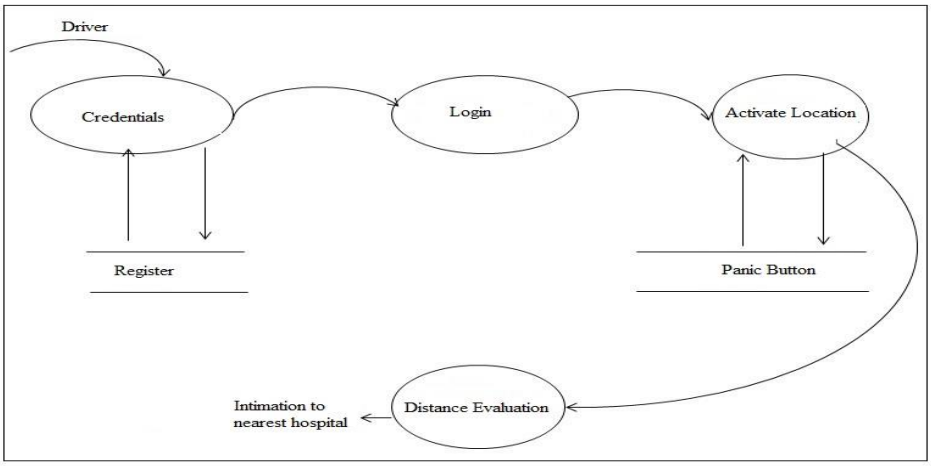


Figure 1 - DFD Level 0

2. DFD Level 1

The DFD 1 diagram provides even more details wherein the driver provides the credentials which are utilized for registration and login. The driver then performs a login and activates the location which is then utilized to deploy the panic button after which the distance is calculated and intimation to nearest hospital.

Figure 2 – DFD Level 1



3. DFD LEVEL 2

The DFD 2 diagram is the most detailed wherein the driver provides the credentials which are utilized for registration and login, the driver can also edit the profile and its credentials. The driver then performs a login and activates the location for which the latitude and longitude are captured to deploy the panic button after which the distance is evaluated and intimation to nearest hospital

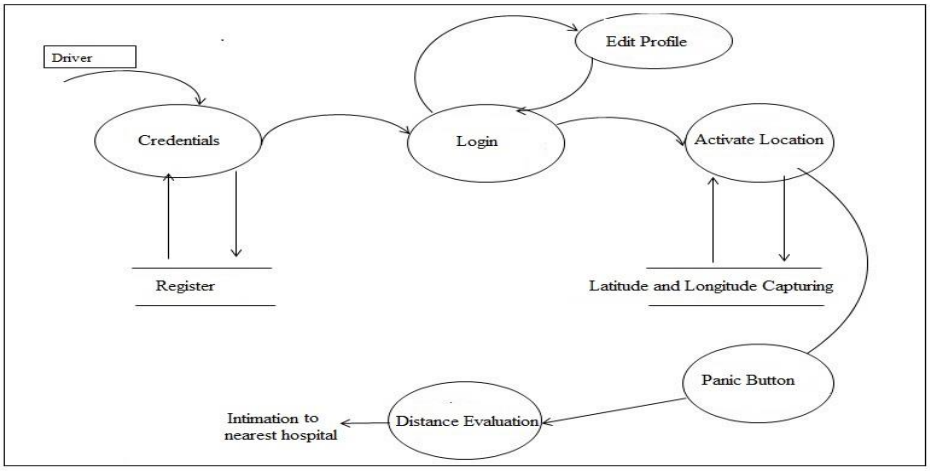


Figure 3 - DFD Level 2

9.FUTURE SCOPE :

The Interactive Mobile Application for Emergency Ambulance Service is designed to provide users with rapid access to emergency medical assistance. By integrating real-time location tracking, automated alerts, and health monitoring features, the app allows users to quickly request ambulances in times of crisis

- *Integration with Wearable Devices*: The app could integrate with wearable health devices (e.g., smartwatches, fitness bands) to track vital signs like heart rate, blood pressure, and oxygen levels. Real-time data sharing with emergency responders can help in faster and more accurate initial assessments.
- *AI-Powered Health Analysis*: Implementing AI and machine learning algorithms can help predict potential health emergencies based on user data. For example, based on prior health trends, the app could issue alerts or suggestions to prevent potential health crises.
- *Expansion to Telemedicine Services*: The app could incorporate telemedicine consultations, allowing users to connect with healthcare providers virtually. This feature can be particularly helpful for follow-up consultations or minor health issues that do not require immediate physical intervention.
- *Multi-Language Support*: Adding support for multiple languages will make the app more accessible in diverse regions, particularly in multilingual countries. This inclusivity ensures that language is not a barrier to accessing emergency services.
- *Smart Traffic Navigation and Drone Assistance*: Advanced features could include real-time traffic analysis and route optimization, helping ambulances reach patients more quickly. Future innovations might also allow drones to deliver essential medical supplies in hard-to-reach locations.
- *Community Support and First Aid Guidance*: Expanding the app's functionality to provide immediate first aid guidance for bystanders can increase survival rates. Additionally, community volunteers could be alerted in situations where immediate assistance might save lives before the ambulance arrives.

10.CONCLUSION :

In conclusion, this paper has presented the development and implementation of the Interactive Mobile Application for Emergency Ambulance Service. We have discussed the theoretical foundations, technological frameworks, and usercentered design principles that underpin this application, aiming to enhance emergency response times and overall service efficiency

11.REFERENCES :

1. Pantelopoulos and N. Bourbakis, survey on wearable sensor-based systems for health monitoring and prognosis", IEEE Trans. Sys., Man, and Cybernetics, Part C: Applic. and Reviews, vol. 40, no. 1,pp. 112, Jan 2010. .
2. Moeen Hassan alieragh and Alex Page,Monitoring and Management Using Internet-ofThings(IoT) Sensing with Cloud- based Processing: Opportunities and Challenges, IEEE International Conference on Services Computing 2015.

3. Ahmet Arıs and Sema F. Oktug, ”Nesnelerin Interneti Guvenligi: Servis Engelleme Saldırılari (Internet-of-Things Security: Denial of Service Attacks)”, Computing, 2015.
4. M. A. Al-Khedher, ”Hybrid GPS-GSM Localization of Automobile Tracking System”, International Journal of Computer Science and Information Technology (IJCSIT), vol. 3, no. 6, pp. 75-85, Dec. 2011.
5. ” Smart Real-Time Healthcare Monitoring and Tracking System using GSM/GPS Technologies”, The Master of IEEE Projects, 2015.
6. Somanath Tripathy, ”Design and Evaluation of an IoT-enabled Secure Multi-service Ambulance Tracking System”, IEEE Region 10 Conference (TENCON), Proceedings of the International Conference, 2016.
7. Bing-Yuh Lu and Ming-Kwen Tsai, Distant Auscultation System for Detecting Lung Sounds of Patients on Ambulances”.