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Medical Emergency Handling

Sagar
Student of Presidency University
Bengaluru, India
sagarbiradar@gmail.com

Binushri.MD
Student of Presidency University
Bengaluru, India
binudhananjay@gmail.com

Roopashree.A
Student of Presidency University
Bengaluru, India
roopagowda1890@gmail.com

Keerthana.MV
Student of Presidency University
Bengaluru, India
keerthana19890@gmail.com

Dr.Shanmugarathinam
Assistant Professor of CSE
Presidency University, Bengaluru
Shanmugarathinam@presidencyuniversity.in

Abstract: A user cantered solution for critical situations as to provide the necessary medical services is the Medical Emergency Handling App. The app has got lots of features, most prominent amongst them is the detailed primary aid instruction that will help users manage the emergencies until professional help arrives. Delivering real time ambulance and hospital location services and making use of google maps and Google Maps API, it lets the users access the nearest healthcare facility with the least possible time delay. One of the features that enhanced the app's utility in cases of urgent need is a dedicated helpline support feature that automatically connects an app user to emergency services. The app also integrates a WebView of Flipkart Health+, so that during an emergency users can browse for, and buy, essential medicines without compromising on the procurement process. The app is designed to be simple with easy access; users can navigate the interface with ease ensuring that it's a comfortable tool to use in case of a medical emergency. App addresses such problematics as delayed responses, scarce healthcare access, etc., being a truly comprehensive platform, while giving the users the tools needed to make a prompt decision in such critical situations. This application is a move to improve the accessibility of healthcare and emergency preparedness through an effective bridge between users and basic medical services.

Keywords: Medical Emergency, Ambulance Locator, Hospital Finder, Primary Aid Instructions, Helpline Support, Medicine Shopping Integration

1.INTRODUCTION

The medical emergencies of life, and the world, are inevitable and often unpredictable. There's no key to saving lives in such critical moments other than receiving immediate help and medical information that one trusts and relies on. Sadly, having access to essential resources and medical guidance in a timely way is often too much to ask, when awareness fails to be raised or support systems remain unavailable. This delays healthy remuneration with adverse outcomes, underscoring the need for innovations that can close this gap, from delivery to reimbursement. To tackle this challenge, our proposed application will serve as a comprehensive tool for granting medical emergencies with support and delivery of information at time of need. To meet the various requirements of users during emergent situation, our app offers a number of useful capabilities. It's the first, it gives clear and concise primary aid instructions that allow someone to take appropriate action before help from a professional arrives. This feature permits users to confidently treat quickly critical situations and to mitigate risks that come with a quick response to stabilize a patient. Keeping things simple and easy to use, this is an app that can be relied on by users with any level of medical knowledge. To further enhance response times, the app is able to access Google Maps and how its API can offer services for real time location for ambulances and hospitals. This guarantees that users can instantly find the local medical services or ambulances, which otherwise could help save a life in critical moments. You'd also get a dedicated helpline support feature within the app so that users can get immediate guidance and assistance that they need, making sure that you won't be left alone should you find yourself in

crisis situations. The app also has a Flipkart Health+ WebView tied up to it as a means of a seamless medicine shopping experience, beyond emergency scenarios. The feature is not only important as it gives the users the access to order essential medications from their home but also helps them quickly get medication for emergencies. The app merges the emergency response ability with routine healthcare support to be used in cases of both urgent and longer-term healthcare tackling. The app is built around a user cantered approach focusing on simplicity, reliability and accessibility. Its intuitive interface makes it easy for users of all skill levels (and background) to quickly learn, navigate and integrate feature. Additionally, the app leaves out fancy technologies like artificial intelligence and top-notch natural language processing, ensuring that the solutions it provides are direct and handy without sacrificing reliability and performance. This application provides an appropriate solution to the problem encountered by individuals and communities in event of medical crisis and in a period where the healthcare systems are overburdened. The app fills the gap in the gap between medical resources and users leading to the improvement of emergency response efficiency and better healthcare accessibility and outcomes. The application represents a mobile starting point where technology is applied to address major challenges currently found in the healthcare industry by virtue of its distinctive features and a whole rounded focus on enhancing user experience. A comprehensive overview of the project's objectives accompanies this introduction and outlines an understanding of the project's potential impact to better emergency medical response and accessibility. With this being set, then, it lays the groundwork for diving into what this app can do, which have the potential to redefine how medical emergencies are handled.

II. LITERATUREREVIEW

*Medical emergencies are very unpredictable and require immediate action to reduce the risk and save lives. There have been a number of technological advancements to close the gaps in emergency response systems to improve healthcare access at the most critical time. Features proposed for the medical emergency handling application are explored, and the current applications and methodologies, being used with these functions, are explored in this literature review.

*Real time location service for emergency assistance:

Emergency response applications have developed a requirement for real time geolocations. According to various studies, Google Maps API are used for locating nearby hospitals and ambulances quickly. This way response times reduce and important care is provided without delay. Nevertheless, research stresses matters relating to stability of internet connectivity and geospatial data accuracy; issues that are more pronounced in rural or remote areas.

*Primary Aid Instructions:

A manual primary aid instruction framework is included which fulfils a need for immediate medical aid, prior to professional help arriving. First-aid guidance has been important; studies there have shown that first aid regarding the patient influenced much in the matter of saving lives when emergencies occur. Unfortunately, since this is based on pre-defined scenarios, it does not consider rare or complex medical conditions. Current solutions such as first aid apps are primarily limited to basic procedures with the need for more adaptive and context-based instructions that first aid apps don't address.

*Helpline Support Integration:

Real time communication during emergency has become very important features of helpline in order to enhance the services by reducing the users' stress and confusion. The literature indicates that such a system is a way to provide users prompt guidance and A lot of healthcare applications use geolocation to find nearby hospitals and clinics. Study shows that this is one of the main features that make healthcare accessible to users because they get to have the exact information about the nearest medical facility. Still, the effectiveness of such systems relies on reliable geospatial data and verbose updates of such in order to stay reliable.

*Analysis of Wholesale Medicine Procurement via E-Commerce Integration:

Integrating e commerce platforms for medicine procurement is an innovative way to solve the instant need of needing emergency essential medicines. According to literature such integrations are considered very convenient and help users to have access to a large range of products to use. Some challenges of third-party platforms, delivery delays and availability of products are identified as potential limitations.

III. PROPOSED METHOD

The idea behind a proposed application is to tackle the main problems in medical emergency handling having an easily available infrastructure for supporting with a reliable system. Careful attention towards user safety and convenience determines the application prioritizes immediate access for user to get access to important medical resources and information.

The first feature is **Primary Aid Instructions**, which offers detailed and easy to follow direction on what to do in a medical emergency. It makes sure if you can provide the basic first aid until professional medical help arrives. The instructions aim for easy and straightforward use by a wide variety of users.

The second feature focuses on **Ambulance Location Services** that is designed to help people locate and connect with nearby ambulances. The app shows the fastest way, using real time traffic and road conditions, and computing this by

means of the Google Maps API, to lower response time and improve efficiency.

Also, **Hospital Location Services** help users to locate nearest medical facilities from their location. Users can quickly find themselves close to the nearest hospital or clinic when needed with the power of geospatial data.

In addition, the application consists of **Helpline Support** which allows users to directly communicate with the helpline for a walk through and/or urgent help. The benefit of this feature is reliability during emergencies and avoids confusion which might arise in the event that people are not accustomed to certain emergency procedures.

A challenge with getting access to vital medications in an emergency is also addressed through the app, which integrates the **Flipkart Health+ WebView** so the user can browse and buy medicines. It links emergency care and routine health care needs.

The application is built in a user-friendly way where everyone meets inclusively and can easily navigate without challenges. The features are built for use in both urban and remote areas with ease and make it a dependable tool for handling of medical crises. With this proposed work, the app hopes to raise the standard of accessibility, decrease response times and generally improve the area of emergency management among healthcare workers.

IV.OBJECTIVES

1. Give accessible instructions for primary aid emergencies.

2. Let you track ambulance location in real time.

3. Provide easy access to hospitals around.

4. Provides users to connect with emergency helplines instantly for support.

5. Seamlessly check out medicines with Flipkart Health+ integration.

V.IMPLEMENTATION

1. Development

Front-End Development

-Separate Interfaces: Design an Interface for each of Primary Aid Guide, Ambulance Locator, Hospital Finder, Helpline Support and Medicine Procurement modules.

-Responsive Design: Use CSS frameworks such as Bootstrap so you can implement a mobile first approach and have things work across devices.

Back-End Development

-APIs: Build RESTful APIs to serve geolocation services, ambulances and hospital locations updates in real time and helpline requests.

-Database: Create tables for users, emergencies, locations and medicine orders with role-based user access for user and admins.

2. Integration

Front-End and Back-End Connection: This will allow the fetching of real-time updates, displaying of ambulance and hospital locations and dynamic primary aid instructions by link front end interfaces with back-end API.

-Real-Time Analytics: Use geospatial APIs to set up real time tracking of ambulances and hospitals and integrate Flipkart Health+ to help in easy and smooth medicine browse and order.

-Payment Options: Allow UPI & card payment for medicine purchasing through integrated platform in secured manner.

3. Testing

-Unit Testing: Test individual modules applicable to other parts such as real time ambulance tracking, hospital finder, and first aid guidance.

-Integration Testing: Makes it easier to ensure correct interaction between modules, that is if during updating user location, make a change at ambulance or hospital recommendations.

-User Testing: Use usability testing with a sample group to check accessibility, functionality and ease of use to the app.

4. Deployment

-Hosting: When it's time to deploy the application to cloud platforms such as AWS, Google Cloud, or Azure, doing so with Docker lets us achieve a seamless reproducibility.

-Data Backups: Automatically back up user data, location data and transactions for maximum reliability.

-Monitoring: You will need to use tools like AWS CloudWatch to monitor the application's performance as well as pin point bottlenecks.

5. Maintenance and Updates

-Bug Fixing: Fix bugs as soon as possible, to keep system stabilized.

-Feature Enhancements: Handling your alarm clock application through their entry, you can also introduce more advanced features like suggestion to change diet, exercise, etc. For personalized healthcare recommendations, optimized geolocation services, and multilingual support.

-Performance Optimization: Use load balancers to ensure the better queries for the database and enable auto scaling to accommodate good traffic.

By sticking to this structured approach, we will be assured that our app is developed, deployed, and maintained with its functionality being core to attention as well as user experience and scalability. By prioritizing these key aspects—

functionality, user experience, and scalability—we create a robust and the user satisfaction.

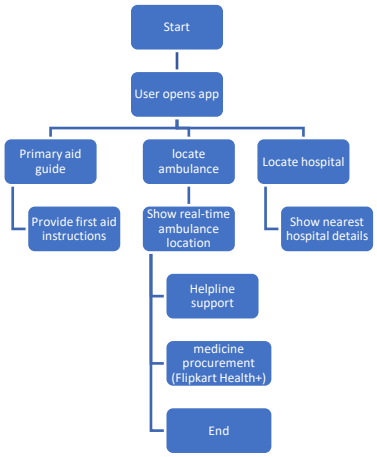

Fig: Flow chart of Medical Emergency Handling

V. METHODOLOGY

Our medical emergency handling application aims to use reliable technologies to ensure timely assistance and improve healthcare accessibility, and to develop it with a user cantered design approach. The following steps outline the methodology adopted:

1. Requirement Analysis: Needs to be able to satisfy users' primary needs of access to first aid, ambulances, hospitals or any medication during medical emergencies.

Novel design features based on user feedback and existing gaps in emergency response systems was done.

2. Design of System Architecture: Primary Aid Instructions: Curate a static database of first aid guidelines coming from verified medical sources. An intuitive interface allows users to access step by step instructions for common emergencies.

-Ambulance and Hospital Location Services: Integrate google maps API to get real time geolocations to nearby ambulances and hospitals. Optimize the search quires they use to obtain a correct and reliable result.

-Helpline Support: Direct helpline feature should be incorporated that supports contact with emergency responders or guidance services, directly.

- Flipkart Health+ Integration: Connect seamlessly through a WebView interface to Flipkart Health+ such that the consumers can get medications.

3. Feature Implementation: This will also mean you have to leverage from APIs such as Google Maps for your location tracking and navigation.

-This will also mean you have to leverage from APIs such as Google Maps for your location tracking and navigation.

Implement a user-friendly interface so ease of navigation and ease of access to a diverse audience.

-You integrate Flipkart Health+ platform (with integration) of Flipkart Health+ within app, so that user can effortlessly browse and purchase medicines.

By adopting this methodology, the result is an application that is robust, reliable, and user focused, filling major gaps in medical emergency response systems, and offering an efficient and supportive healthcare tool.

V1. Problem Definition

1. Lack of Timely Medical Assistance:

Access to ambulances, hospitals and first aid during emergencies can delay, and sometimes dangerously so, because resources or guidance is not immediately available during an emergency.

2. Inaccessibility to Healthcare Facilities:

The people in remote areas or unknown locations usually have a hard time to find the nearest medical facilities or the emergency services. Hence, the response time can be dragged due to a long list of critical times.

3. Limited Knowledge of Emergency First Aid:

Many people do not know what basic first aid treatment is, which could make a big difference in stabilizing a patient's condition until professional help shows up.

4.Challenges in Procuring Medicines During Emergencies:

It makes things worse as there is no integrated system where people can easily and timely get medications.

5. Insufficient Support Channels in Crisis Situations:

When panic strikes, the lack of a good helpline or a complete emergency assistance system result in confusion and loss of valuable time in making sensible decisions.

These problems illustrate the shortcomings in the present health care and emergency management systems which the proposed app is designed to effectively fill these gaps.

VIII. OUTCOMES

1.Reduced Emergency Response Time:

This app drastically reduces time delays in getting ambulances, hospitals and emergency services by real time location tracking and tabulates navigation using Google Maps API.

2.Improved Access to First Aid Instructions:

Through detailed primary aid instructions, users get step by step guidance for managing emergencies and give them time to do same until professional help arrives.

3.Enhanced Healthcare Accessibility:

They bridge the gap between the users and medical services that offers easy access to hospitals, clinics, pharmacies and other medical services near them even if the current place is strange to the users.

4.Streamlined Medication Procurement:

Additionally, the app makes integration with Flipkart Health+ possible, allowing users to browse and buy important medicines from the app easily without a designated emergency, making the app useful for healthcare needs regularly as well.

5.Increased Reliability and User Support:

Such helpline feature offers users a reliable way to contact for the urgent help or guidance in case of difficulties, peers and stress.

It unifies these features to offer a thorough solution to such usual problems in medical emergencies and to guarantee improved healthcare results for individuals and the community.

IX.DISCUSSIONS

The medical emergency handling app proposed addresses deficit caused by the critical gaps in emergency medical care by utilizing technology as a means of providing timely and easily accessible solutions to emergency situations. The most difficult aspects of a medical emergency are waiting to get help on time. This problem is mitigated by the app that provides real time ambulance and hospital location services provided by google maps API, to help users with navigating to the nearest medical facility with less delay. Especially in life threatening scenarios time is of essence.

Primary aid instructions are included, to give users the ability to manage emergencies until proper help arrives. In addition, this functionality provides valuable information and a way to calm the panic by walking users through the steps they need to take shortly following the incident. And furthermore, an inclusion of the helpline support functionality to the app increases the application support by guaranteeing users have a connection to the emergency assistance when it is needed, creating a secure feeling to the users in the case of stressful occasions. Flipkart Health+ represents another dimension to the integration which makes it much more streamlined and simpler to locate and get medications. During the emergency, or popularly while one is running to a pharmacy to get an essential medicine, this feature is a life saver to the user as he can now easily procure this essential medicine without even moving from his couch. Apart from emergencies, this app is valuable for routine healthcare needs too. Additionally, the app's intuitive design and ease of navigation results in a positive user experience, providing all ages and technical ability users with access.

X. CONCLUSION

The proposed medical emergency handling app addresses the present-day medical handling problems to ensure that in an era when challenges of medical handling are increasing; the medical handling of medical emergencies is done more effectively. Its features such as primary aid instructions, real time ambulance and hospital location service, helpline support and integration with Flipkart Health+ for making medication purchases also suggest how the app can take emergency response systems to a different level. The app did more than shorten critical delays by giving users tools to act immediately and with confidence via reliable guidance — it enabled people to make the right decisions instantly in life threatening situations. Google Maps API is utilized for geolocation services to allow for accurate and timely navigation and is designed with a user-friendly interface that ensures maximum users across multiple demographics. It seals the gap between medical care givers and individuals attempting to receive care and ensures that medical assistance is within easy reach of patients irrespective of location or circumstance. Further, it focuses on giving first aid instructions, answering the critical need for immediate help in emergencies and the stabilization of crucial conditions moments before professional help gets to the scene. Though the app is vulnerable to unreliable internet in remote regions, its design and structure is a spring board for further versatility and scalability. This is more than just a tool, it's the light at the end of the tunnel towards a responsive, technology first (not last) health care system with a focus on human lives and well-being. In doing so, it serves as a proof point for the increased use of technology to solve real world problems and establishes a marker by which future innovations of emergency medical care can be set against. Lastly, the app is such a solution, which is dependable, inclusive, and impactful to the people and communities that are safe in this medical emergency.

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