

A Literature Review on Emergency Help Application

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Abstract: When an emergency occurs, technology can be a helpful support for the resolution of the said incident. This paper proposes the development of an Android application for a quick access to the phone numbers of the emergency helpline services of the respective emergencies. In the recent years there is sudden advancement in the technologies which has made gathering and transmission of relevant information very simple. Modern mobile devices are now embedded with latest features and sensors such as Wi-Fi, GPS Sensors etc. In this system the user can make an emergency call and can also send an emergency help SMS notification to their trusted contacts in case of an emergency. The system also includes the feature to find out the nearest hospital based on the current location of the user. This application proves to be useful for the targeted users who surprisingly falls into a situation where instant communication is required.

Keywords: Web Development, Mobile App development, Location Based Engine (GPS), SMS Notification, Phone Call System.

I. INTRODUCTION

The system is code-named Emergency Help App. It is a system operable on Smartphones. Mobile Application development is done using Android Studio. The software system comprises modules: login, coding, sending emergency notification, and information module respectively. The welcome screen as may be presented on mobile displays such as smartphones.

II. LITERATURE SURVEY

The systematic literature review (SLR) was conducted by searching databases of Google Scholar, Web of Science, PubMed, IEEE Xplore Digital Library, PsycInfo and ScienceDirect using the search terms (“Emergency Application”) to identify relevant literature. The search strings were run against the title, keywords, and abstract, depending on the search

platforms. The searches were conducted between January 1, 2020, through January 31, 2021. Further inputs were also taken from relevant preprints and technical reports. Previous studies have used similar methods to conduct an SLR. To achieve the objectives of extensively reviewing the most relevant studies and answering the research questions. We conducted the SLR under the guidance published. According to Kitchenham and Charters, a Systematic Literature Review is “a form of secondary study that uses a well-defined methodology to identify, analyse and interpret all available evidence related to a specific research question in a way that is unbiased and repeatable”. The SLR allows us to implement the three phases of planning the review, conducting the review, and reporting or documenting the review. Each phase of the SLR is outlined below: Planning the review involves the following steps: •Identification of the need for an extensive literature review.

A. Paper Name: Medical Emergency Caller Android App Project

Author Name: Badreddine Benreguia

Description: In case of any emergency patient may not be a state of speaking with anyone or searching through the contact list and calling the desired person, hence we are making an application to solve this problem.

The Emergency Caller Android App is needed in case of a medical emergency. The user can make an emergency call to the nearest hospital. The user of the application needs to configure the application for the first time use where the user will fill in a short medical survey (that will help to generate a medical history of the patient).

In case of emergency the system will find out the nearest hospital based on the current location of the user and the call will be initiated also the medical details about the patient will be sent to the hospital.

B. Paper name: Android Based Emergency Alert Button

Author name: Rupam Sharma

Description: Android is a java based operating system which runs on the Linux kernel. It is lightweight and full featured. Android applications are developed using Java and can be ported to new platform easily thereby fostering huge number of useful mobile applications. This paper describes about a SOS application being developed and its successful implementation with tested results. The application has target users those sections of the people who surprisingly falls into a situation where instant communication of their whereabouts becomes indispensable to be informed to certain authorized persons at remote end.

C. Paper Name : Emergency Web App for Accessing the Medical Emergency Services

Author name: Beatriz Gómez, Carlos Juiz

Description: Nowadays, accessing emergency services and customer healthcare, in Spain, is done only by traditional phone calls to the number 061. In order to facilitate interaction between the emergency users and the emergency service system, we are improving and expanding new channels of personal communication. Given that the use of smart mobile devices is widespread in our society, we are developing a mobile application for emergency management, providing the same assistance as phone calls and adding some brand new features. We have developed requirements design and a functional specification of our new mobile application aimed at improving user interaction with the traditional emergency systems. The functionalities of the Web application are focused on providing a direct communication service, complete and effective, allowing quick and accurate intervention of the emergency services. Our purpose is to define a platform fully accessible to all users, regardless of their language and/or technological knowledge. Thus, the focus of this paper is mainly devoted to explain how to extend traditional applications based on emergency phone calls, to modern mobile applications considering not only web technologies, but also social networking behavior.

D. Blog Name: The Next Big Thing in School Bus Tracking Mobile App.

Author name: Sayantani Neogi

Description: One of the latest additions to the on-demand apps is the school bus tracking mobile App. School bus tracking mobile app has become one of the most utility apps, when it comes to the safety of school children. Owing to many recent accidents and mishaps with the school children, while they were travelling in their school buses and vehicles, the urgent need of such mobile apps have been increased all over the world. The school bus tracking system offers a number of advantages to the schools as well as to the parents.

III. PROPOSED SYSTEM

A. Problem Definition

Our main purpose behind pursuing this idea is to help the people to overcome an panic situation, to develop an application for users which will provide the necessary functionality such as SMS notification, Phone Call, Safety Manual and additional features like live tracking of hospitals in the nearby surrounding. The complete implementation of this project is explained in great detail in the further section of this paper..

B. System Architecture

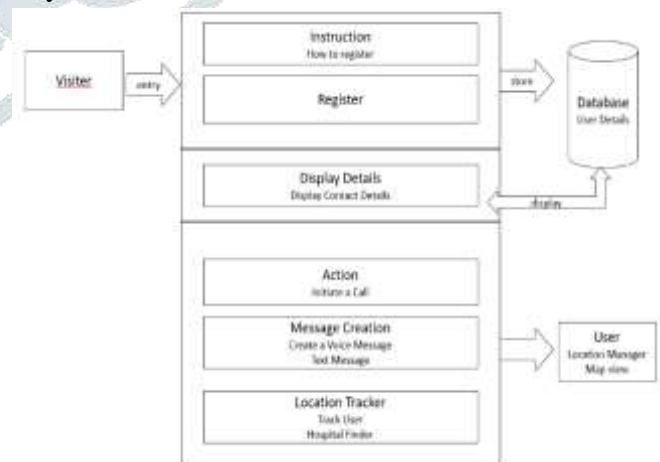


Fig: 1. System Architecture

C. Explanation of System Architecture :

A common layered architecture has been developed based on the client-server model as

shown in Fig. 1. On the client side, user agents are used for the presentation layer, business layer, and data layer. The security layer is shown as cross cutting because security issues are mandatory and common to all layers. The security cross-cutting layer of the purpose system. Supports operations like authorization, authentication, exception management, and validation.

1) Presentation layer

The presentation layer facilitates user interaction and consists of user interface components and presentation logic. This layer consists of three main components. all these component uses the services of access control, business logic and data manager from lower layer.

2) Business layer

The business layer works as a mediator between the presentation layer and data layer and implements the core functionality of our system. The business logic layer commonly consists of components like access control, business logic, data manager.

3) Data layer

A data layer essentially is a specific layer in our system that is used for reporting and collecting data. This data will be used for analyzing later to help make business decisions.

IV. Use Case Diagram of Propose System

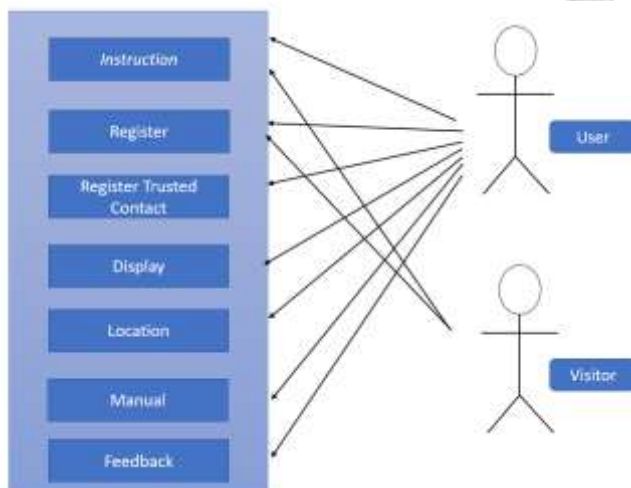


Fig. 2. Use Case Diagram

V. FUTURE SCOPE

The future of this industry lies with mobile applications. It's favorable for both business and customers as apps really make a difference in terms of cost cuts, helping to be competitive in the market

- Advanced Mobile Application
- Web Application

VI. CONCLUSION

As per the problem statement defined in earlier section, we proposed robust system to help in the panic situation. System implementation with one emergency type and their respective experiments shows the positive feedback on systems working model. Including the partial success scenarios as well as fully succeeded scenarios listed in experiments section proves that - Implemented system is real time system which helps the needy people in emergency cases.

VII. REFERENCES

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