



Android Personal Safety App

S. ARTHI¹, Mr.K.Nirmal, M.C.A, M.Phil.,(Ph.D)²

¹PG student, ²Assistant Professor

Master of Computer Application at Krishnasamy College of Engineering & Technology,Cuddalore.

ABSTRACT:

With the help of ever-evolving internet technology, we can now stay connected with anyone and from almost any corner of the world. The same widely spread internet network can be utilized to help people in need of emergency. This android based safety application proposed here aims at raising alerts & send notifications if anyone is facing any emergency in the form of any threat from someone, health emergency, accidental emergency, etc.

Keywords— SOS app, personal safety app.

1.INTRODUCTION:

The occurrence of street crimes is mostly unpredictable and can happen to anyone in a blink of an eye. When a person is alone and has fallen victim to assault, robbery or kidnapping and may be too wounded to move or has gone missing, it is usually only after a significant amount of time that their close contacts realize something is a miss and it might only be awhile before they decide it is serious enough to act on it.

A few examples of this could be snatch-theft, smash-and-grab incidents, physical or sexual assault, bump-and-rob cases involving vehicles and robberies that are visible to the public [1]. These crimes can range from petty crimes to violent crimes like kidnapping or even major assault as offenders grow increasingly brave and creative. Often, these crimes are committed under the influence of alcohol or drugs. Although it is quite risky for crimes to be committed in a public area due to the many potential witnesses, it may also be easier for the offender to hide by dissolving into the crowd [2].

According to the Malaysian Police, despite their overwhelming efforts to reduce the occurrences of these street crimes, the public still has insecurities and often perceive that the crime rate is still high. People remain fearful due to unpleasant crime experiences or through the spread of crime news through media coverage, especially social media.

It is not an easy task to find a measure to prevent or decrease the percentages of urban crimes. The concerns from Government to reduce crime are shown through National Key Results Area (NKRA) when it has been selected as one of the six. A Crime Lab was established in 2009 by the Malaysian government bringing together agencies from across the criminal justice system and from wider government such as Ministry of Home Affairs,

The People's Volunteer Corp (Jabatan Sukarelawan Malaysia, RELA), Royal Malaysia Police (PDRM), Attorney General Chambers, Federal Courts, National Anti-Drug Agency etc [3].

In Malaysia, petty crimes are quite common while violent crimes can be considered less common, however the threat is still there. The most common targets of snatch-theft are women with children but there are also cases where men walking alone have been targets. Smash-and-grab thieves often target lone drivers on the road. This usually happens when a pair of thieves on a motorcycle identify a potential lone victim with visible valuables and smashes their window to grab the valuables and speed off [4]. There have also been cases where a woman walking alone are targeted and taken hostage in kidnappings. Just recently in June 2018, a Grab driver was murdered a parking lot in Kuala Lumpur and one of the items found in his possession is a mobile phone [5].

2.Existing System:

Kavalan (meaning Police in Tamil) is an SOS app developed by the Tamil Nadu Police as part of the Tamil Nadu State Police Master Control Room initiative.

3. Proposed System:

This Application adds safety to the users by providing them the emergency information of their areas through timely notifications in their apps through an Admin portal which is also an android application.

Users of Safety app can send threat alerts to the admin and the contacts added in the app. Admin when receives the threat then addressed the threat of the user which helps users of Safety app to reach for help and alert its contacts.

4. Literature Review:

Android is a java-based operating system which runs on the Linux 2.6 kernel. It's lightweight and full featured. Android applications are developed using Java and can be ported to new platforms easily thereby having huge number of useful mobile applications. This paper describes about a Safety Triggering application being developed and its successful implementation with tested results. The application has target users those sections of the people who surprisingly fall into a situation

Where instant communication of their whereabouts becomes indispensable to be informed to certain authorized persons at remote end.

This application main purpose is for women's safety. When we feel that we are in emergency, for example travelling along in the Auto/Cab at nighttime we can use this application so that on one click we can send our location to our family members and to any police stations continuously until we stop with password-based button.

5. Modules Description:

- Login
- Add Emergency Alerts
- View Threat Alerts by Users
- View Unattended Threat Alerts in Dashboard
- View User

Admin: An administrator in the field of education is responsible for managing and supervising school faculty, education program and staff development.

Login: Admin can login into his account using id and password.

Add Emergency Alerts: Admin can add emergency notifications from his android application for Safety App Users which helps Users stay alert of any emergencies in their area or city. This emergency information can be sent in form of a text, photo, video or a link from admin app.

View Threat Alerts by Users: Admin can view and address the alerts sent by app users by marking the threats as attended/resolved/false alarm.

View Unattended Threat Alerts in Dashboard: Admin can view, and address today's unattended threat alerts sent by app users directly on his dashboard.

View User: Admin can view all the Users profile related information including their current location.

User: The people or organisation that will use the project's product or services. Users are not necessarily the customer, project sponsor, or project team, as they may not use the final product or services,

Register: User can register and obtain credentials for logging into Safety User app.

Login: User can login into personal account using email and password.

Profile: The user keeps his profile up to date any time from his profile section of the app. Here the user can also change the account password from his app.

Forgot password: The user can recover his password on his registered email address.

Add contact: The user can add his friends, family and acquaintances into his Safety app contact list using the generated OTP. These contacts must be the registered users of Safety app. Whenever the user sends a threat through his app. His added contacts will also be notified of the same.

My Contacts: Added Contacts can be viewed under My Contacts. Contact Details and their real-time location can also be seen. User can also see their sent threats logs.

View Admin Emergency Alerts: All the Emergency alerts for his city or area can be viewed under this section.

Send Threat alerts: When the user is in a threat situation, he can alert the Safety body (Admin here) to get help and notify the contacts to send the threat with just one click.

Dashboard: All the User threat alerts sent by your added contact can be viewed on user app dashboard.

App Notifications: All the Emergency alerts for his city or area will be notified to the user with app notifications for real time alerts. User threats are also received by their contacts through app notifications. This ensures that your contacts are always alerted and Admin being the concerned body can address the situation quickly.

6.RelatedTechnology:

Different technologies are used to develop this application. The technologies are GPS, Android, XAMPP, PHP and MYSQL. Familiarization of these technologies is given below:

A. Android:

The Android operating system is made-up of a virtual machine that runs on the Linux kernel, plus APIs and built-in applications. The open-source code under the Apache License is released by Google. Additionally Android has a large community where developers write application in a customized version of the Java programming language primarily [Meier and Reto (2012)].

B. XAMPP:

XAMP P Contains Cross platform(X), Apache(A), MariaDB(M), PHP(P) and Perl(P). In both a full and a standard version, self-contained and multiple instances of XAMPP is offered. Without any access to the internet XAMPP is used as a development tool and web server solution stack package to allow website designers and programmers to test their work on their own computers [Dvorski and Dalibor (2007)].

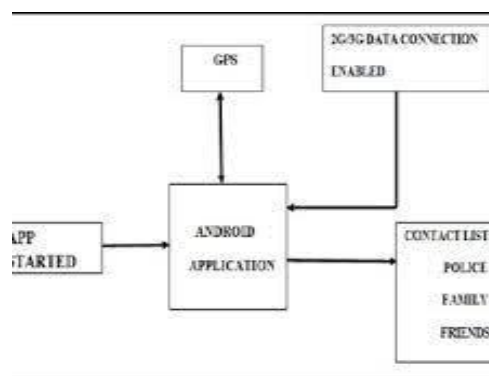
C. PYTHON:

Python is a high-level, interpreted, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. Python is dynamically typed and garbage-collected [Guido van Rossum (1991)].

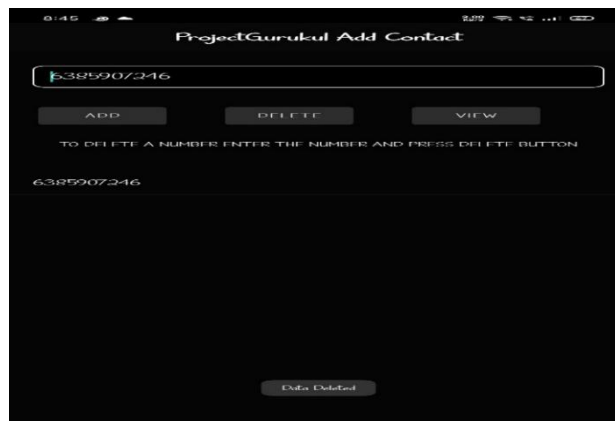
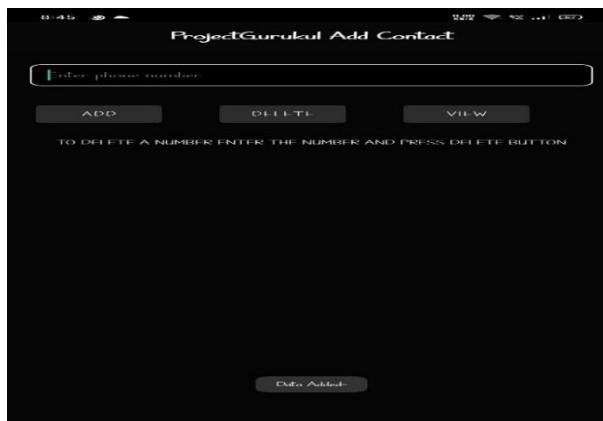
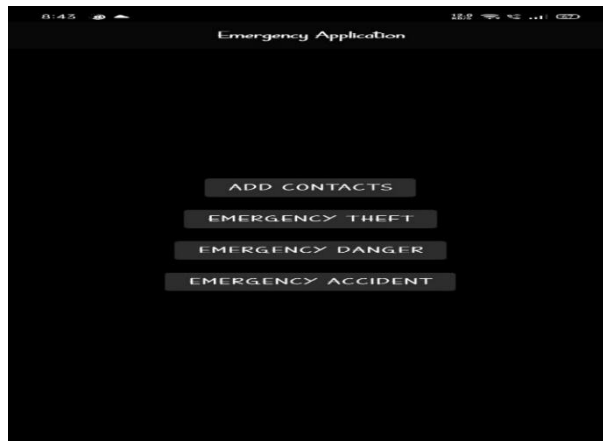
D. MYSQL:

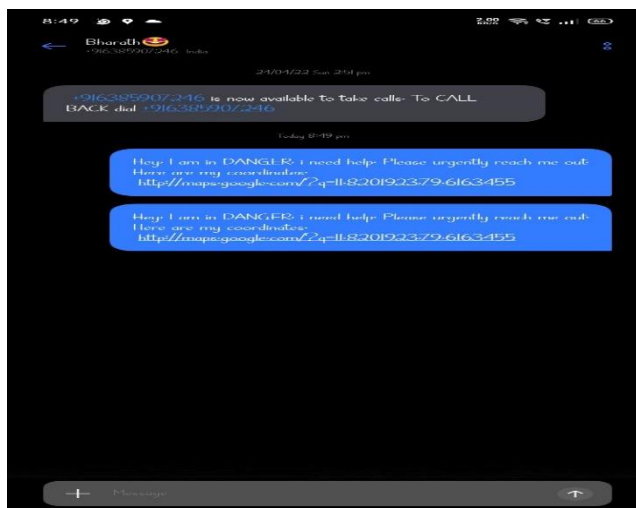
“My while SQL” is the shortening for structured query language. MYSQL is an open-source relational database management system (RDBMS) which is introduced in July 2013. It is the world’s second most extensively used RDBMS and most extensively used open source client server model RDBMS. [Meloni and Julie (2012)].

7.Data Flow Diagram:



8.Screenshot:





9.CONCLUSIONS:

After the first iteration of development done, My Guardian mobile application can allow registration of new users and successfully insert the information given by users into the database. It can then allow users to log in by checking if the set of email and password given as input already exist in the system. User's information can be displayed in the user profile just for reference and can be edited when need be.

Users can add up to four close contacts of their choice. Then, users can update their added contact's information or delete the contact altogether. The application will display the close contact information correctly according to any changes made. On the main page, users can view their current location on the map.

After successfully adding close contacts, users can send them an emergency text message along with their personalized message and location if needed. Besides that, users can trigger the loud alarm ring and share their current location with friends to any other mobile application on user's phone.

Most of the functions of My Guardian are up and running. In future, we plan to program, manipulate, and use the existing side buttons of smart mobile phones to trigger the personal alarm and to make emergency calls to the authority when clicked. Further research is still on-going in exploring the possibilities of doing so.

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