

WOMEN SAFETY APPLICATION

Women safety application is built in android studio based on android platform

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Abstract

The security of women is a critical issue faced by society. Crimes against women such as eve teasing, sexual assaults, domestic violence are increasing in number day by day. When it comes to security concerns, a smart phone can be one the easiest way of gaining help. This project strives to create an android app which can help to protect women in any situation she might face in her day-to-day life. We have created a simple Android application which comprises various safety measures which can be used by women with a few clicks on the screen, to get quick and easy access to help or to avoid and escape a harmful situation. It uses GPS location tracking to provide a simple and fast way for the registered contacts to know that the user is in trouble and for them to reach the user easily. It also provides safety features such as a voice recording which can help a woman or the police for identification or situational evidence , a siren to alert the public of any misbehavior, emergency helpline numbers which can be used to directly connect via call to emergency services according to the situation faced by women for their safety. Continuous location tracking information via SMS helps to find the location of the victim quickly and can be rescued safely. This application aims to ensure women safety. This is achieved by addressing the circumstances that compromise the safety of women in today's day and age. This app ensures women are not put into such situations through various features offered by our system.

Key Words: GPS, Text message, Click to Call, Firebase Real Time Database, Reverse Geocoding, Google Maps API.

I. INTRODUCTION

The Project entitled as "Android App for Women Security System" is developed by Android as front end and SQLite as back end. This is an application built for android handheld devices. It is an application that uses services of SMS, contacts, GPS to enhance the security feature. The application is built using the Android SDK as it is very effective in the development of the app, user friendly to both programmer and the user.

The purpose of creating this program was to provide a safe environment through smart phones, as most people now carry smartphones with them everywhere they go. A message is immediately sent to the register number, containing the user's geographical location as well as the contact details of a pre-selected list of contacts. This page describes the application, its development, and technical implementation.

This is user-friendly application that can be accessed by anyone who has installed it in their smart phones. Our intention is to provide you with fastest and simplest way to contact your nearest help. In this system user needs to feed three contact numbers, in case of emergency on moving the phone up and down thrice, the system sends SMS and calls on one of the numbers feeded into the system with the location. The phone starts vibrating and siren starts ringing. This features for both everyday safety and real emergencies, making it an ultimate tool for all.

II. PROBLEM STATEMENT

At any emergency situation people get panicked and in that situation, they may not be able to operate their smart phone applications, and cannot immediately defend the attacker and protect themselves.

Considering the present situation of women and how they are objectified, molested, abused and violated ruthlessly by insensitive men, it is high time that some steps are taken to make the women of our world safer and stronger.

Most of the time women face such atrocities in the most unexpected place and time where it is really difficult to ask for help and even if they do so by the time help reaches them, the deed is done. The most difficult thing is to send her current location as soon as the victim senses some danger. Moreover, sometimes such incidents are so sudden that there is hardly any scope of collecting the evidence

against the criminal and the guilty escapes punishment just because of lack of evidence. This is the reason why women are still vulnerable and scared to raise their voice and fight for justice.

III. EXISTING SOLUTION

The proposed system can be useful for woman and children for security purpose. It consists of wearable safety device having sensors which when activated sends an alert message with location information and call will be connected to the victim's family and selected contact's.

IV. MOTIVATION

A woman is a symbol of love, purity, knowledge, sacrifice, etc. peace and prosperity lie in the society where a woman is happy and honored. Remembering the goddesses you bow down to in the same house where you raise your hand at the actual goddess your home. The universal truth is that in a house, all the deities are pleased, where women are honored and no meritorious deed will not yield any result where they are based. Crime against women is a crime against humanity. One-third of the women may suffer from abuse and violence in her lifetime.

V. MOTIVATION

The existing system describes an equipment which consists of a GPS module by which one can get the geographical location via SMS. In case of any emergency conditions, she can press a button once, and then the location will be tracked and sent to police and relation so that they will know the exact location of the individual, so that the incident could be prevented and the culprit is apprehended. There are also several kinds of applications developed in the market for women's safety and security. These applications allow the users to register themselves on the app by creating their account.

After making an account, users would be qualified to use all the services intended to protect and empower them. Services include an automated distress SOS to the nearest police station and her emergency contacts. These applications can share the location only to a maximum of a single contact. Also, one needs to constantly press the button to share the location at various intervals while saving herself from emergency situations.

There are some applications through which one can send pictures. When activating the camera or video option automatically on button click, sometimes an offensive photograph can also be taken, which may rarely lead to suicidal issues.

VI. PROPOSED METHODOLOGY

The proposed system is implemented with the help of android application. In this application, whenever victim in emergency, by single click she can able to activate the GPS and data connection.

Whenever victim facing emergency, during that time only she going to on. Before that, data and gps is in off state. So that it will consume more battery as compared to Existing system.

VII. SCHEMATIC TECHNIQUE

1. In this system user needs to feed three contact numbers, in case of emergency on moving the phone up and down thrice, the system sends SMS and calls on one of the numbers feeded into the system with the location.

2. whenever the button is pressed, the location is tracked, and the tracked location is sent to the emergency contacts through SMS and call will be connected, It sends the location through SMS to the emergency contacts for every 20 seconds.

3. User have to shake the device whenever she is facing trouble the call will be connected and location will shared to the register number.

4. In this system when, the alert sound is provided to the nearby people whenever the button is pressed.

VIII. RESULTS

This android application is useful when the user is in some problem or needs any help. When the user opens this application, can see a registration of user.

Upon installation of the application we can see a shortcut of the application on the device home screen as shown in fig 1 a.



Fig 5.1 a

After opening the application the user first needs to register number by completing the registration process as shown in fig 5.1 b.

once the registration process is completed we come upon the Home Page . Here the user can see all the features offered by our app and can use them according to the situation requirements as shown in fig 5.1 c.



fig 5.1 b



fig 5.1 c

First feature of the application is SOS. It sends an alert message to emergency contacts containing the GPS location of the user every thirty seconds it sends a predefined message to the pre-registered contact with the URL of their location as shown in fig 5.1 d , 5.1 e and 5.1 f.



fig 5.1 d



fig 5.1 e



fig 5.1 f

Second feature of the application is Siren. In these module there is one button panic. When we click on “panic” or shaking device then a siren which sounds like a loud police siren will start. This can alert the nearby people of the situation and in some cases may deter the assailant from proceeding with his malicious intentions.

IX. TESTING

Testing is an important phase in the development life cycle of the product. This is the phase, where the remaining errors, if any, from all the phases are detected. Hence testing performs a very critical role for quality assurance and ensuring the reliability of the software. During the testing, the program to be tested was executed with a set of test cases and the output of the program for the test cases was evaluated to determine whether the program was performing as expected. Errors were found and corrected by using the below stated testing steps and correction was recorded for future references. Thus, a series of testing was performed on the system, before it was ready for implementation.

There are many approaches to software testing, but effective testing of complex products is essentially a process of investigation not merely a matter of creating and following routine procedure.

Although most of the intellectual processes of testing are nearly identical to that of review or inspection, the word testing is connoted to mean the dynamic analysis of the product-putting the product through its paces. Some of the common quality attributes include capability, reliability, efficiency, portability, maintainability, compatibility and usability.

X. Types of Testing

Unit Testing - Individual component are tested to ensure that they operate correctly. Each component is tested independently, without other system component. This system was tested with the set of proper test data for each module and the results were checked with the expected output. Unit testing focuses on verification effort on the smallest unit of the software design module. This is also known as MODULE TESTING. This testing is carried out during phases, each module is found to be working satisfactory as regards to the expected output from the module.

Integration Testing - Integration testing is another aspect of testing that is generally done in order to uncover errors associated with flow of data across interfaces. The unit-tested modules are grouped together and tested in small segment, which make it easier to isolate and correct errors. This approach is continued unit I have integrated all modules to form the system as a whole.

Performance Testing - The performance testing ensure that the output being produced within the time limits and time taken for the system compiling, giving response to the users and request being send to the system in order to retrieve the results.

Acceptance Testing - This is the final stage of testing process before the system is accepted for operational use. The system is tested within the data supplied from the system procurer rather than simulated data.

This system uses native type of Mobile Application. At the backend SQLite is used as a database for storage of information. The proposed layout, shows the direct functioning of the android app. The database information such as the user's personal information, registered contacts and helpline numbers. Location links are sent to the registered user contact in the database.

Table 5.2.1 Unit Test Case 1

S1 # Test Case	UTC- 1
Name of Test	User registration.
Expected Result	The user makes the registration by entering the number.
Actual output	Registration successful.
Remarks	Successful

Table 5.2.1 Unit Test Case 2

S3 # Test Case	UTC-2
Name of Test	Add contact details.
Expected Result	The user should be able to add the contact up to maximum five and a notification should pop up
Actual output	A notification popped up.
Remarks	Successful

Table 5.2.1 Unit Test Case 3

S4 # Test Case	UTC-3
Name of Test	Send alert message.
Expected Result	Alert message should be sent to the predefined contact numbers and it should contain Help message along with current location URL.
Actual output	Alert message with current location URL has been sent.
Remarks	Successful

CONCLUSION AND FUTURE ENHANCEMENT

CONCLUSION - The project of women's safety app that is designed in android platform for safety of women with the aid of recent improvements in mobile technology. this project is to use which is useful for the user when he is in some problem or needs any help.

FUTHER ENHANCEMENTS - The future enhancement of this project to develop with help of voice recognition method to send the alert message along with the user's last call history to victims friend and family members.

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