

To Protecting women's safety with location tracking system on android mobile terminals and SMS alerting through GPS and GPRS using Euclidean distance algorithm

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Abstract-In recent years, the usage of smart phones equipped with GPS navigation unit have increased rapidly.Hence, a smart phone can be used efficiently for personal safety or various other protection purposes especially for women.However, the exponential increase in assault, violence and attacks against women in the past few years, is posing a threat to the growth and development of women.To aid in the removal of these constraints this paper introduces a mobile application called Global and regional estimates to protecting women's safety and the use of smartphone apps in relation to domestic and sexual violence that provides women with a reliable way to place an emergency call to police,parents and relatives.This app can be activated by a single click when the user feels she is in danger.This application communicates the user's location to the registered contacts for every few seconds in the form of message.The key features of this application are along with the user's location, one of the registered contacts gets a call. Also, the registered contacts and GPS location are saved from time to time in a database.This paper describes the application, its development, and its technical implementation.

Index Terms-Gps module,Android,Women's safety

1.INTRODUCTION

Personal security has always been an important problem for

everyone,especially for women.A Woman is not much powerful when compared to men physically, in a crisis situation and needs a helping hand to relieve them. The best way to minimize chances in becoming a victim of violent crime (robbery, sexual assault, rape, domestic violence) is to identify and call on resources to help you out of unsafe situations. Whether you are in instant trouble or got separated from friends during night and do not know how to get home, having these apps on your phone can diminish your risk and bring assistance when you require it.Here, we introduce an android app that ensures the safety of women. It reduces the risk and helps us in need by identifying the location of person who is in danger.

The key features of our app that makes it different from other apps designed till now are as follows:

- ❖ Initially, we have to enter our Favourite list in to the application and click on save button.
- ❖ While the women is in Unsafety area then click your side button .
- ❖ As soon as "start" button pressed, it firsts make a messages,E-mail,and fake call.to the first saved registered contact number and also sends the message containing location URL of the victim to all the contact numbers.
- ❖ Unique feature of this app is message with location URL is sent continuously to the registered contact numbers for every five minutes until "stop" button is clicked. So, continuous location tracking of victim is possible with this application. This paper describes the development and

usage of the application, as well as its technical implementation and future prospects and proposals.

2.RELATED WORK

There has been prior work with the goal of improving women's safety, including work in mobile applications. Below are discussed briefly seven applications

1.GUARDLY: -This app is developed basically for womensafety intention, to put a phone call by your name, instantaneous location, and emergency hit to your selected friends. In this app you have to give your details in profile sheet e.g. birth date, tallness, weight, eye-colour, blood group, hair-colour, etc. This app is also used in I-Phone, I-Pad, BlackBerry, Windows Phone etc.

2.VANITHA ALERT: -This app is developed by ABC MobileLearning Communication click on "HELP" button on our mobile's home screen in an emergency situation can deliver a distress text message to the registered mobile number ,E-mail id, face book id seeking help and indicating the user's location.

3.STREET SAFE: -This application is developed on worldwide Women's day. It will call community to help woman in any situation and has four features for crisis which would be started by just clicking on the button. These features are as – First, it automatically updates on your Face book account with your recent location. Second, SMS will be sent to chosen associates with your locality.Third, an alarm is started with large volume on your mobile. Fourth, call is to be found to your chosen emergency number.

4. FIGHT BACK:-In earlier days ,this app was not complimentary incident, this app is on hand at no cost. This app sends a

message to your friend or contacts that “user is in trouble” through E-mail, SMS and GPRS. This app works on those mobiles that support Android Java Programming.

5.SECUREME BETA: -This app is developed by Think MPIConsulting Private Limited. It helps us to raise alert and we can get help in case of life threatening emergencies. After installing the app, initially we have to give a pin number for security purpose and then after emergency contacts mustbe registered in the app. By pressing a tap on secure button, it notifies the contacts with location co-ordinates.

6.RAKSHA – WOMEN SAFETY ALERT: -This app islaunched by BJP on May 15, 2014. By clicking on this app, it sends location of the user to the contacts registered and the user can also get the details of the location of the contacts. A distress signal just by pressing a single key sends out a loud buzzer to our near and dear ones. We can add multiple contacts to this app and when there is no data connection, this app alerts the contacts by sending SMS.

7.GLYMPSE-SHARE GPS LOCATION: - This is the recentapplication developed on January 28, 2015. This app is a fast, free and a simple way to share our location using GPS tracking in real time with friends and family. This app does not need any sign up and do not need any contacts to manage.

Although other applications that aim to provide safety to women exist,This app can be activated by a single click when the user feels she is in danger. This application communicates the user's location to the registered contacts for every few seconds in the form of message and a callAlso, the registered contacts and GPS location are saved from time to time in a database. In the addition to this family, parents can easily track and monitor her.Additionally we are added the Unsafety area Alertment with

Notification message.

II.PROPOSED SYSTEM

To develop a system for android users for keeping track through several applications. This application uses GPS for identifying the location of the person in trouble and the system can be divided into Four modules:

- 1.First module can be the mobile phone of registered contacts either police or friends or family members which receives the message containing URL of location of victim that is sent from the root device.
- 2.Second module can be the Unsafety area creation and it can be alert if you entering the unsafety area.
- 3.Then the third and fourth module contain the helpline and tips respectively.

Initially, when we click on the power button, Then the application communicates the user's location to the registered contacts for every few seconds in the form of message,E-mail and Fake call.Now, at the received device, by clicking on the URL in the message, it spots the exact location of the victim. Also, as the message containing victim's location is sent for every five minutes from the root device, the victim can be tracked wherever she goes and can be rescued safely and quickly.

III.EVALUATION RESULTS & UNIQUENESS

The total evaluation can be done in following steps which are described individually

The first major step is to enter the Favourite list details in the application created. Those Favourite list can be our relatives, friends and chief cop of the particular city the person we live in. When the application is installed in the smart

phone for the first time the above contact details should be provided. The application will save the given information.

The second major step is to send the GPS information to the registered contacts at danger times or when the person is needed to be rescued. This step is followed only when the rescue button is pressed in application. The whole process of this step is done only when the device is connected to the proper mobile network and location service in the device is switched on (GPS).

The third major step comprises of work done in sending the message containing location Therefore the exact location of the person can be tracked by the application and the person can be rescued.

A.UNIQUENESS

In the existing systems, we have mentioned many Android applications having similar feature to my application..In all those applications,the location is sent when the app is clicked or touched in the mobile phone but we introduce a Long pressing a power button to activate the application,and the location is sent to the registered contacts in different forms like SMS, EMAIL etc.Also,all the contacts will be receiving a fake call, sometimes there may be chance for people not seeing the SMS, but after receiving the call they get alert and can look at the SMS and can identify that their near ones is in danger quickly.

In all situation women switch on the mobile phone and touch or click the application because we add this feature into our application and additionally we introduce the unsafety area finder and send the notification message with alertment bell.

B.RESULTS

The following figures are the screen shots of Women safety application initially from the starting of it.



Fig1. represents screen shot of the application immediately after opening the Women safety app.

It contains the Login ID and Password. Initially you have to Login the Women safety app with Id and password. Also the Layout contains the Enter button to entering the next settings of Women safety application.

Fig2. represents screenshot before entering the contact details in Women safety



Fig1. Screen Women App just opening the application.

Shot of safety after

Application. After clicking the Add button you have to add your favourite list from your contacts and you always search the contacts and add the E-mail Id of our contacts.

Fig3. represents screenshot of entering the details of unsafe area with pincode number. After entering the area name with pin number then you have to click the Get location button then it goes to the map

Fig2. Screenshot before entering the contact details in Women safety Application

And select the accurate location in terms of latitude and longitude then you have to click the save button to save that location



Fig3. Screen shot of entering the Unsafe area and location

Fig4. represents the SMS received by one of the contact numbers that are entered in the Women safety Application. The SMS contains a message of I am in Danger

and my current location URL.

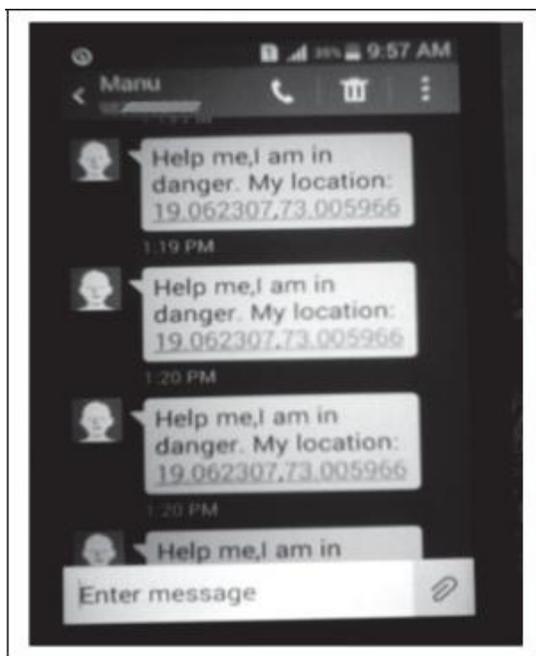


Fig4.Screen Shot of SMS received by one of the registered contact Numbers.

Fig5.depicts the image of location after opening the URL in the message depicted in fig 4.



Fig5.Screen shot after opening the URL in the message

The main advantage of this app is single or long pressing the power button to activate the women safety application so we don't want to go to the mobile screen and touch that application and sent the SMS,E-mail to our favourite list and additionally the fake call always go to our contacts.Also the unsafety layout sends the alertment message with notification when you entering the saved unsafety area.

IV.CONCLUSIONS&FUTURE ENHANCEMENTS:

This mobile application is very much helpful for any woman. Because when a woman is in danger position then she simply touch this mobile app and alert their guardians that the woman is in danger. By simply pressing the power button and it sends the call for the favourite list and sends the message that she was in danger and sends the location message to the victim through GPS along with one of the registered contacts receives a call from the root device. Through this mobile app we can alert the people at home that a woman belonging to their house is safe or not.

Future Enhancements:

As a future scope, this application can be integrated with the law enforcement database, which includes all the phone numbers of regional cops. Some use cases such as rescuing victim, when the mobile network is not available, after initial alert or switch off condition. Further, it can be developed for IOS and Windows mobile platforms. Thus, this application can help the women in a big way from unsafe conditions.

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