

IMPLEMENTATION OF ANDROID APPLICATION-ROAR

Arpitha Chengappa¹, Divyashree.C², Rajesh .N³, Maria Viji Rashmi⁴, Megha B.R⁵

^{1,2,4,5}Dept. of Information Science, National Institute of engineering, Mysore.India

³Assistant Professor, Dept. of Information Science, National Institute of engineering, Mysore.India

Abstract— The status of women has been subjected to many great changes over the past few millennia. However, women in India continue to face atrocities such as rape, acid throwing, dowry killings, and the forced prostitution of young girls. According to a global poll conducted by Thomson Reuters, India is the fourth most dangerous country in the world for women. From the above description, we see that, India's women need a solution to protect their dignity. It is important to provide protection to an individual's life. In this paper, we propose ROAR, an android application. In this application, when the user feels helpless or detects danger he/she can vigorously shake the phone and the app will automatically open. This is facilitated through an accelerometer. ROAR app contains two modules, the first module will enable the user to contact his/her friends when in danger by pressing a button on the app which will send an auto generated message to the user's contacts. The user's location along with a text message will be included in the auto generated message. The location will be tracked using a GPS tracker. In case, the button is accidentally pressed, a counter of 5 seconds is started to ensure that the button is genuinely pressed. The contacts will be stored on a server and on a local database. The second module provides options to use calling services, messaging services and access to WhatsApp. In addition to the above feature, the application also provides safety precautions and guide to the user on how they should react to danger. This will help victims to avoid attack and it also helps their friends to reach that place as fast as possible to offer aid.

Keywords- GPS Tracker, Accelerometer, Whatsapp.

I. INTRODUCTION

Over the recent years, we have witnessed numerous attacks on people in various forms, which include theft, murder, rape and bullying. Due to this, people are afraid to travel in insolated areas. It is sad to see how we need to fight and struggle to protect ourselves when in danger.

In this paper, we present Roar, a personal security android application for smart phones. The name Roar expresses our voice raised against rape, brutal attacks on women, kidnapping and other such heinous crimes. When anger and frustration levels cross a certain threshold, just as a tiger roars, we scream our lungs out and fight against these crimes. The prevalent functionality of the application is to provide safety for women with a mobile user interface to send emergency request so that people who get the request can rush to the location and protect the victim.

The rest of the paper is organized as follows. Section II presents some of the related work. In Section III, the unique functionalities of Roar are explained in detail. Subsequently, the working of Roar is discussed in Section IV. Finally, Section V concludes the work of this paper.

II .RELATED WORK

As part of our initial research, we decided to investigate applications that offer the same or similar services for android and other platforms. The aim is to see how these applications work and to see how they can be improved. It is identified that the following Android Applications offer the relatively similar service.

1. SCIWARS - Android Application for Women Safety

This Application can help the person detect a Spy camera to maintain their privacy. At first, the user has to save some details that contain the contact numbers of friends, families etc. Then initialize the application as a "widget", so that a finger touch is enough to alert your recipient. It will also record voice in the region of surrounds for 45 seconds and then save this recording. The application uses some GPS terminology for location mapping and tracking the restricted zones.

2. Cheeka - Mobile Application for Personal Safety

If the user feels he is in danger, the application reports the location to the user's trusted contacts for every few minutes unless the user feels he is safe.

Our application Roar does not target specific test group or activity. Instead, it focuses on common usage by everyone irrespective of the age groups and also irrespective of the activities like sports or fitness. We've included certain features to overcome certain disadvantages in the above applications for security. These features include, accelerometer, which will help the victim to open the application without consuming much time. A counter is included to prevent unwanted alerts to be sent to the contacts. Safety precautions and measures are provided, which will help the user to tackle emergency situations.

III. ROAR AS A SECURITY APPLICATION

In contrast to other similar applications, Roar consists of 4 unique functionalities

1. Accelerometer

The Roar application makes use of an accelerometer which is a built in electronic component that measures tilt and motion. It is capable of detecting rotation and motion gestures such as shaking. In the time of emergency, instead of searching for the application the user can just tilt their phones to open the application.

2. Emergency Button

This application enables the user to contact his or her friend when in danger by pressing a button which will send an auto-generated message to the user's contacts. The user's location along with a text message will be included in the auto-generated message. To avoid accidental clicks of the emergency button, a counter of 5 seconds has been incorporated within which the user can cancel the process, otherwise the message will be successfully sent.

3. Safety Measures

Roar application provides periodic updates and notifications for women to protect themselves at the time of emergency. When safety precaution option is clicked the control is directed to the server where the precautions and suggestions are uploaded, and these are displayed on the screen.



figure 1. Server interaction

4. Social Integration

The fourth unique feature of Roar is the ability to connect with friends through applications like WhatsApp. This feature eases the user's way of sharing locations, pictures, audio and video. It enables the user to use the features of other applications to connect to their friends in a more convenient manner. In addition to this, it also provides options to call or message a friend. From Roar application, the control will be directed to Whatsapp, calling services or messaging services depending on the option that is chosen.

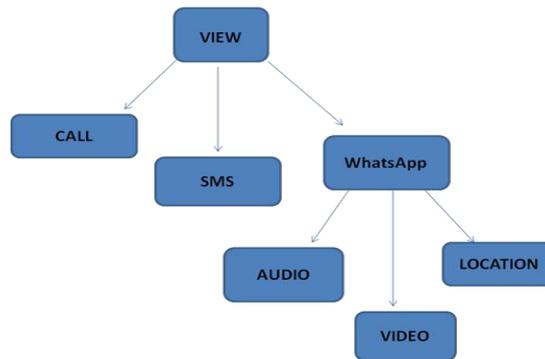


Figure 2. Connect with contacts through call, message and Whatsapp

IV. WORKING OF ROAR APPLICATION

The working of roar application includes an accelerometer which enables the user to open the application just by shaking the phone. This is followed by the registration of the user wherein the user’s name and his/her mobile number is stored on the local database as well as on the server. This registration will direct the user to the homepage which includes three user interfaces; the first interface is an emergency button which is pressed in time of emergency. A counter is started to avoid accidental click of the emergency button. If cancel is pressed user is back to the homepage, otherwise a message is sent to the contacts of the user which are stored in the database. The message includes the location of the victim. The second interface includes four features. These allow the user to call, send message, share location, and to use the features of WhatsApp. The third interface includes safety precautions which will be stored on the server and can be accessed by the user when he/she clicks on it. Another option is given which will guide a user on how the application works.

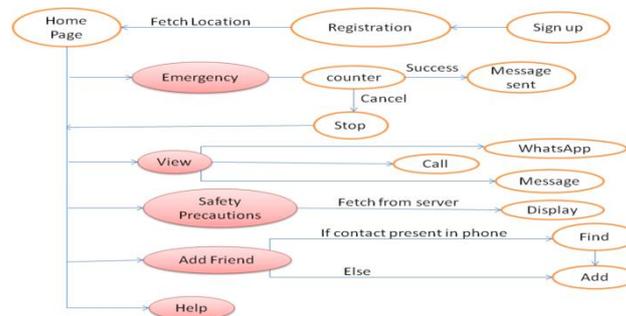


Figure 3. Algorithmic Execution

V. CONCLUSION

In this paper, the application Roar, having a lot of unique functionalities in contrast to similar applications in the market, is presented. Since everyone travel with a Smartphone, whether they travel alone or not, they can use their phone as a security guard for them. Majority of the people are feeling unsafe during travel. Thus Roar can ensure safe travel not only for the person who is travelling but also for the one who cares about the person.

REFERENCES

- [1] Review on: Spy camera and woman attack rescue system Ashwagandha. Y Moon1 , Prof.M.R.Shahade
- [2] Cheeka : A mobile application for personal safety
- [3] Doulamis, A.; Pelekis, N.; Theodoridis, Y., “EasyTracker: An Android Application for Capturing Mobility Behavior,” *2012 16th Panhellenic Conference on Informatics (PCI)*, vol., no., pp.357,362, 5-7 Oct. 2012
- [4] Saranya, J.; Selvakumar, J., “Implementation of children tracking system on android mobile terminals,” *2013 IEEE International Conference on Communications and Signal Processing (ICCSPP)*, vol., no., pp.961,965, 3-5 April 2013.
- [5] Android Developers, API Reference, Intent. URL: http://developer.android.com/reference/android/content/Intent.html#ACTION_SHUTDOWN (accessed: 20 Aug. 2013)
- [6] Wang, J.L.; Loui, M.C., “Privacy and ethical issues in location-based tracking systems”, *IEEE International Symposium on Technology and Society, 2009. ISTAS '09*, vol., no., pp.1,4, 18-20 May 2009.
- [7] Lyu, M.R.; King, I.; Wong, T. -T; Yau, E.; Chan, P.W., “ARCADE: Augmented Reality Computing Arena for Digital Entertainment”, *Aerospace Conference, 2005 IEEE* , vol., no., pp.1,9, 5-12 March 2005.

