

An Android Application for Emergency Situations with Location Tracking

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ABSTRACT: There is rapid increase in the usage of the smart phones by people nowadays. Smart phones are used for various purposes starting from effective communication to personal security. There are many heinous accidents happening all around the world and it is necessary to provide security against such incidents. To provide security, a safety Android application is proposed in this paper which will be activated on a single click, whenever it is needed. The application will be installed on the smartphone, which is linked to the watch via Bluetooth. Whenever a click on the watch is made, it triggers the Smartphone application which sends the exact location of the person in danger via GPS. It also sends a message to the registered contacts, audio and also calls on the first registered contact to help the one in dangerous situation.

KEYWORDS: GPS, Wrist watch, Android, Bluetooth, Registered contacts.

I. INTRODUCTION

In today's world, people encounter with various heinous accidents. All the countries are moving towards providing security to their citizens against such incidents and to provide safety to the people. In most of the situations, such incidents will not come to light due to lack of security or lack of technology. So, this paper presents an easy way to track and avoid such outrageous incidents. The security is been provided by an Android application which is linked to the wrist watch using Bluetooth.

The best way to minimize chances of becoming a victim of violent crime is to identify and call on resources to help you out of unsafe situations. The Android application can be activated by a single click, whenever need arises. This application requires numbers of trust worthy people known to the victim to be registered to intimate on the unsafe situations. Those numbers can be of Police, family and friends.

This application includes three buttons “save”, “start” and “stop”. Save button is used to save the registered contact numbers, “start” button is used to activate the app installed on the hardware. On a single click of the button on the watch, it communicates with the smart phone application via Bluetooth. The smart phone sends the location of the victim to all the registered contact numbers via GPS. It also makes a call automatically to one of the saved registered contacts.

The unique and main feature of this app is that it continuously sends the location of the victim to the registered numbers via GPS in every five minutes, which becomes helpful in tracking the victim to provide protection.

II. RELATED WORK

[1] Real Time Metropolitan Bus Positioning System using GPS and GSM

This system enables the tracking device to obtain GPS data of the bus locations, which will then be transferred to a centralized control unit by using GSM and then transmitted to a bus stop and the following message will be displayed on the GLCD as per the passenger's request. It consists of bus stop unit, inside bus unit, central control unit. These units are connected through GSM communication.

[2] Anuti - An Application to Aid during Emergency

Anuti is a project intended to help the general public in emergency situations where there is no help. It has two components namely: The User tracker portal to track the current location of registered users and the Android Application which sends SMS, Whatsapp alerts and communicates to the user tracker portal with the user's current

location. The android application also communicates with the GPS to retrieve the current location coordinates of the user.

[3]Abhaya: An Android App for the Safety of Women

Abhaya, an Android Application for the Safety of Women and this app can be activated this app by a single click, whenever need arises. A single click on this app identifies the location of place through GPS and sends a message comprising this location URL to the registered contacts and also call on the first registered contact to help the one in dangerous situations. Continuous location tracking information via SMS helps to find the location of the victim quickly and can be rescued safely.

[4]Safety Is In Your Hand

This paper suggests a perspective to use technology to protect women and kids who have to step outside for their daily scheduled work. The best way to curtail your probability of becoming a dupe of violent crime is to recognize, and look up resources to help you out of hazardous situation. Here a system is proposed to have a device which is the integration of multiple devices, hardware which comprises of a wearable “Band” which resembles a watch due to which the attackers will not be alerted.

III. METHODOLOGY

A. DESIGN

The hardware used in this system consists of an Android smart phone and a Wrist watch. The application is installed on the smart phone and the watch consists of an emergency button. As illustrated in Fig 1 the watch and smartphone are linked together via Bluetooth such that when the emergency button on the watch is triggered the application on the smart phone is turned on automatically and functions.



Fig1: Smartphone with application linked to watch

When an emergency situation occurs, the victim can click the button on the watch and the android application is activated via Bluetooth. As soon as the button is pressed in the watch, the application starts and sends messages to the registered contacts with the location. If there is any network issue an emergency call will be activated automatically. Whenever the application sends the information it also sends the location which is tracked by using GPS as illustrated in Fig 2. Here Bluetooth is used as the mode of connection between Smart phone and the hardware such as watch.

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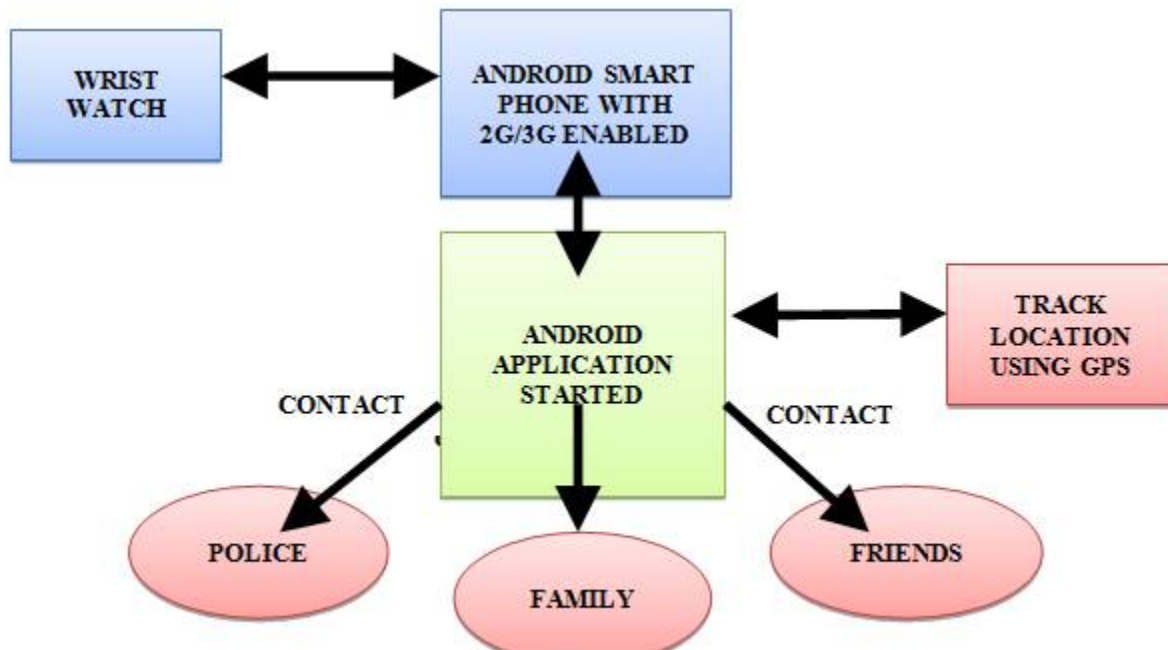


Fig 2: Working of the system

B. IMPLEMENTATION

The system can be divided into two modules. The hardware module which is the watch and the android application module that is already installed on the smart phone.

First the root device that is the victim's android smartphone which has 2G/3G enabled is connected to the wrist watch via Bluetooth. With a link established between the smartphone and watch, whenever the situation arises, the victim can activate the android application by clicking button on the watch. As illustrated in Fig 2, pressing the button activates the application and the emergency alert messages and location is sent to the respective registered contacts.

IV. CONCLUSION AND FUTURE ENHANCEMENTS

This paper describes an android application for the safety of people which helps in live tracking of the victim through GPS along with sending audio/messages to the registered contacts. The major advantage of this application is even when victim is not able to use the phone a single click on the watch will activate the application which will automatically send the messages to the registered contacts. Thus this application is a step towards the future which can help the people in various heinous encounters.

In future enhancements, the application can be further developed with more functionality for various other platforms such as IOS and Windows.

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