Emergency Tracking Using Wearable Device

Abhinaya.P[#1] , Aishwarya.J[#2] , Anandha Arthi.S[#3] , Fathimus Zahireen.A.B[#4,] Vaidhehi.M[5]

B.E. Student, Dept. of Computer Science and Engineering, Saranathan College of Engineering, Venkateshwara Nagar,

Panjapur, Trichy, Tamilnadu, India[1, 2,3,4]

Assistant Professor, Dept. of Computer Science, Saranathan College of Engineering, Venkateshwara Nagar,

Panjapur, Trichy, Tamilnadu, India[5]

ABSTRACT: The paper is aimed at developing an application for any emergency situation like women safety, bank robbery. Android Wear provides consumers with a more personal interaction with their devices. We use wireless wearable devices and smart phones to monitor the wellbeing of individuals.In order to protect oneself when we are in danger by intimating the friends/relatives, the smart watch (compatible with the android phone) developed with the application is used for giving alerts. The notification from the application will be given to the smart phone enabled with the GPS for every 1 minute interval. The smart phone automatically alert pre assigned caregivers by sending text message and also post the message in social networking like Facebook, WhatsApp along with the location information.This paper is developed with JAVA for frontend and SQLite for backend.

KEYWORDS: Android, GPS, Social Networking, Smart Phone, Smart Watch.

I. INTRODUCTION

The purpose of the paper "EMERGENCY TRACKING USING WEARABLE DEVICE", the use of mobile phone makes the process more challenging rather than providing safety. In order to avoid this use, Wearable watch is proposed, where the individual's safety in the society is managed efficiently. It intends to help fast in sending the notification to the predefined contacts.App logging should be able to update their personal and caregiver's contacts information. The Application notifies the caregivers by sending emergency message with the current location information. The location information is tracked by enabling the GPS in the Smart watch. If the GPS is not available in the Smart watch then we can access the GPS of the mobile phone via Bluetooth.

Smart Watch: A smart watch in Fig.1 is a computerized wristwatch with functionality that is enhanced beyond timekeeping. While early models can perform basic tasks, such as calculations, translations, and game-playing, modern smart watches are effectively wearable computers. Many run mobile apps, using a mobile operating system**.** Like other computers, a smart watch may collect information from internal or external sensors. It may control, or retrieve data from, other instruments or computers. It may support wireless technologies like Bluetooth, Wi-Fi, and GPS. For many purposes, a "wristwatch computer" simply serves as a front end for a remote system, communicating by various radio technologies.

Fig.1 Smart Watch

II. RELATED WORK

The existing system describes the features of the previous working model and their drawback. Existing system does all process in mobile phone. Once the Application is installed, it asks users to set the time interval for GPS and to add the required contact numbers to alert the location details in an exigency situation. This is tedious and time consuming, thus provides lack of security. This process is so difficult during the emergency situation. Because each time the user has to take their phone and need to the process by which they may be easily caught by the strangers.

III. PROPOSED SYSTEM

The aim of the proposed system is to develop a system with improved facilities by using Smart watch. The proposed system can overcome all the limitation of the existing system, such as it automatically sets the time interval for GPS, it intimates large set of population by social networking such as Facebook post, text and WhatsApp messages. The message contains latitude and longitude values and address of the current location. It notifies for every 1 minute of time interval.

Scope:Our paper has a big scope to do. The main objective of Emergency Tracking System is to accomplish the needs based on the situation, the smart watch can automatically alert pre assigned Caregivers or ambulance or police via Text Message, WhatsApp, and Facebook post with the current location.

Applicability:This paper "Emergency Tracking Using Wearable Device" is applicable for the individual users for the situations like Women Safety, Bank Robbery, and Health Monitoring and reduces the complexities involved in it to the maximum possible extent.

Emergency Tracking using Wearable system provides the modules like

* User Login
* Mobile Number register
* GPS Locator
* Bluetooth Sharing
* Alert Module

A. *User Login:*

 In this module, Registration of User is done in an application by giving the details like username, password, Email-id. Thus the user account is created. With the help of the valid Username and the password the user can enter into the application. It is shown in Fig.1.

Fig.1. User Login

B. *Mobile NumberRegister:*

In this module, after everyuser installs android app side will get our parents or guardian mobile number in this app to send a notification message with the current location Information. It is shown in Fig.2.
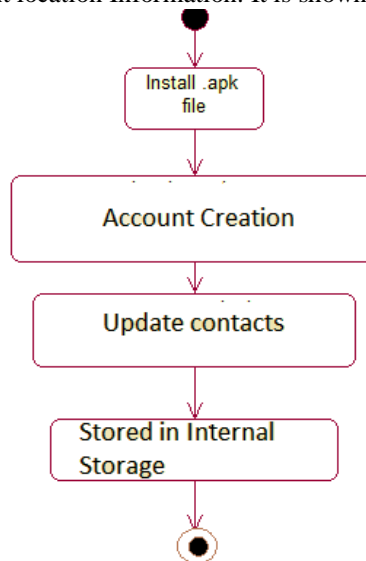

Fig.2. Mobile number Register

C. *GPS Tracker Module:*

In this module, user gets the current location in the world from the GPS interface and use this information in other parts of the application and that position information will be sent to the receiver. It tracks the exact location of the person in terms of latitude and longitude and also the address of the particular location is displayed and sent as a text message. It is shown in Fig.3.
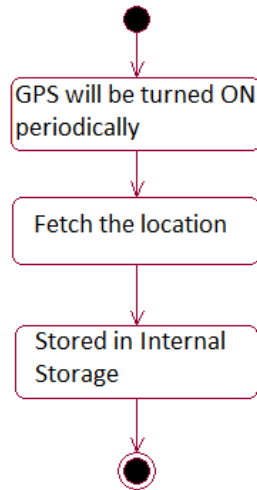
Fig.3. GPS Tracking

D. *Bluetooth Sharing Module:*

When the GPS is not available in the Smart watch, this module is implemented. Here the Bluetooth is enabled and paired between both Smart watch and mobile phone. So the current location GPS values of mobile phone will be used in the wear application. Bluetooth pairing is shown in Fig.4.
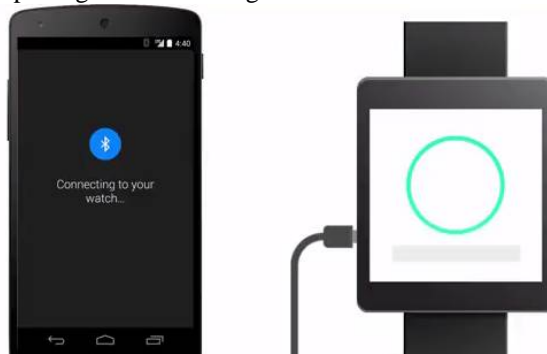

Fig.4. Bluetooth Pairing

E. *Alert Module:*

Once the ALERT button is pressed the location will be fetched and it will be sent along with the emergency notification"HELP" for every1 minute, to the set of contacts by WhatsApp and Text message, Facebook post. It is shown in Fig.5.

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)
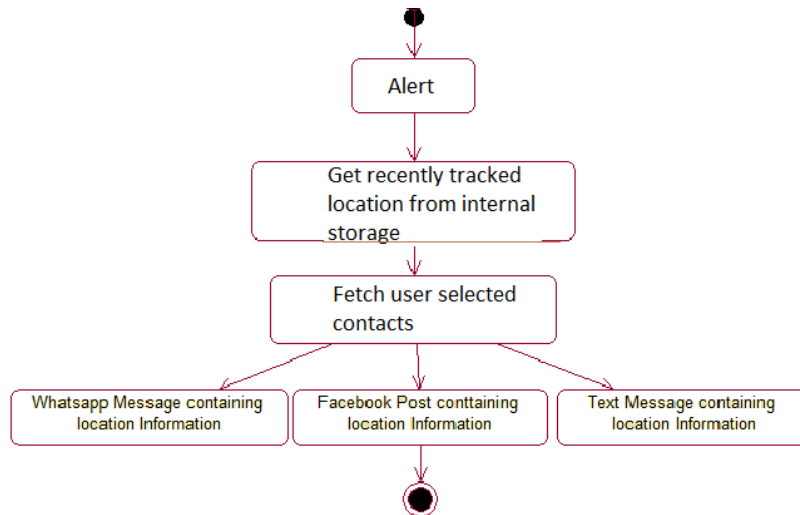
Vol. 4, Issue 3, March 2016

Fig.5. Alert through SMS, Facebook, WhatsApp

IV.SYSTEM ARCHITECTURE

The user wears a smart watch, in case of emergency the user needs to press the virtual button in the smart watch. As soon as the button is pressed the location values are determined and it is sent as a text and WhatsApp message to the pre-assigned contacts. It is also posted as a status on Facebook.
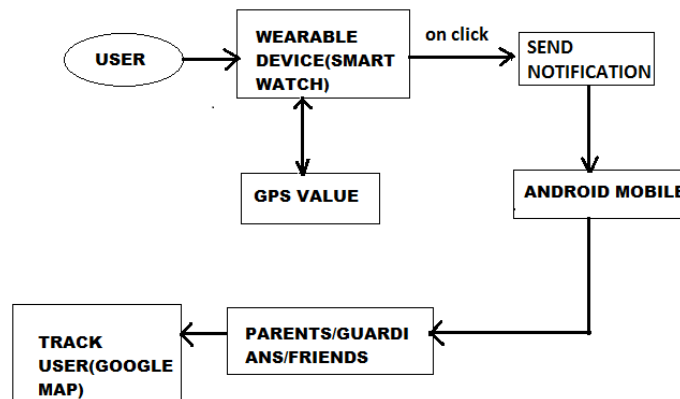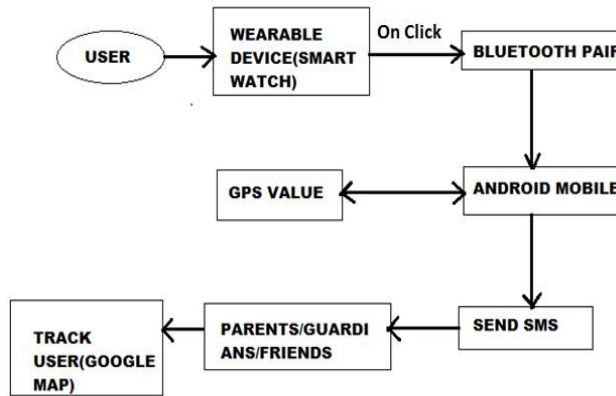

Fig.6. Smart Watch with GPS

Fig.7. Smart Watch without GPS

V. RESULTS AND OUTCOME

The Result is on a single click the emergency message with the current location values will be sent to the registered contacts in App via text message and WhatsApp messageand it will post the status on Facebook.
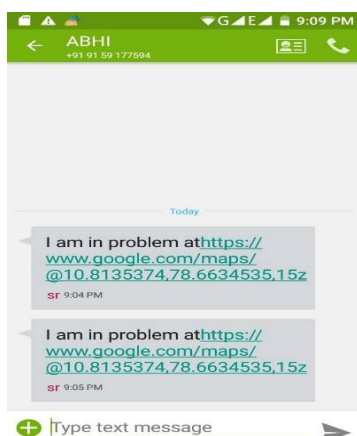

Fig.8. App in Smart Watch   Fig.9. After Clicking
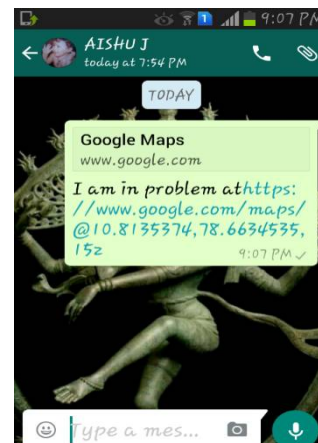

Fig.10.Notification through SMS   Fig.11.Notification through WhatsApp

Fig.12. Notification through Facebook

VI. CONCLUSION AND FUTURE WORK

In order to provide a physical security for a person on emergency situations, we have developed an android wearable application to help the users on need. As soon as the alert button is pressed, our application enables the user to automatically send a text and WhatsApp message, Facebook post containing current location details and help message to the set of contacts selected by the user on installation process. User can also change a setting on as and when they need. In future work, messages from mobile can be sent even without signal by registering it as an emergency number.

REFERENCES

1.Amit Kushwaha, Vineet Kushwaha, Location Based Service Using Android Mobile , International Journal of Advances in Engineering & Technology, Mar2011, Vol. 1 Issue, PP-14-20, IJAET ISSN: 2213-1963.
2.Ashokkumar Ramalingam, Prabhu Dorairaj, Saranya Ramamurthy, Personal Safety Triggering System on Android Mobile Platform, International Journal of Network Security & its Applications;jul2012, Vol. 4 Issue 4,P179.
3.Akshaan Behl, Nadesh R.K, Location Based SMS on Battery Drainage to the Cellular Networks-An Application   overview, International Journal of Engineering and Technology, Vol.No.5
4.Step by step Android user, application development, by Alex HO
5.Android Wearable Programming, Steven Daniel.
6. Pro Android Wearables, Building apps for smart watches, Wallace Jackson.
7. Professional Android wearables, David Cuartielles Ruiz and Andreas Goransson.