A Life Saver Project

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ABSTRACT: This project describes an android application which will be available in user's device and his/her wrist watch and both the devices will be connected to each other via Bluetooth [1]. Using this application the user would be able to directly call for medical assistance nearby where the user is a victim of an accident and is not in the situation to use his/her cell phone to call the nearest hospital as he may be out of his/her hometown and don't know the nearby hospitals or he/she may be badly injured. User can use the application by pressing the button of his/her wrist watch only [2][3]. After pressing the button a message would be sent to all the hospitals nearby, this message would include the user's current location, his/her name, age, previous medical history, contact number of family members. The nearest hospital from the user's current location will send an ambulance at his/her present location and send a message to his/her family members telling that their family member has encountered an accident and he/she would be admitted to the hospital whose ambulance was sent to user's current location. In addition to the wrist watch this application would be completely network independent to help the victim in a location where no mobile coverage is available and if he/she intends to help others who have met an accident he may also help them by giving his present location as the place for accident but he would not be the victim at that time [4].

Keywords: Mobile coverage, Wrist watch.

1 INTRODUCTION

We encounter many situations in a day to day life where people face accidents and are in need of medical assistance as soon as possible. We also get stuck in situations where we are in a hurry of attending colleges or arriving for jobs on time but at the same time we want to help someone who is in need of medical assistance and sometimes that person would be in such critical situation where every second means a lot. So to overcome such situations we are making an android based mobile application which will be available on our cell phone and our wrist watch and both the devices would be connected to each other via Bluetooth, using this wrist watch the user who has just met an accident can directly send message for medical assistance nearby directly where he/she might not be in situation to use his/her cell phone to do it themselves, by just a single click of the button on the wrist watch. In addition to the wrist watch this application would be completely network independent to help the people who suffer accidents in a location where no mobile coverage is available. This application will be totally implemented for public help but some time people may misuse this application. To ovecome this disadvantage we give the login process first so that only needy person would get help at right time. If the user want to help any other person he/she may help that person by clicking the help someone button present in the mobile application. This button will share the user's present location as the place for the need of medical assistance which he/she is sharing to all the hospitals nearby for helping other person.

2 Mobile Coverage

A mobile network is a communication network where communication takes place wirelessly. The network is distributed in small-small areas called as cells, consisting of a fixed transceiver system known as a cell site or base station. This base station provides the cell with the network coverage which can be used for transmission of voice, data, messages etc. In a cellular network each cell uses different set of frequencies from neighboring cells, to avoid interference and provide guaranteed bandwidth within each cell. When joined together these cells provide radio coverage overa wide geographic area. This enables a large number of portable transceivers (e.g., mobile phones, pagers, etc.) to communicate with each other and even if some of the users are moving through more than one cell during transmission. The main disadvantage of this system is that it is mainly dependent on the infrastructure on which the antennas are encorporated and the transmission power of those antennas are directly propotional to distance so the more the distance the weaker the signal will be received by user and there may be dead zones between two cells where the user won't get mobile coverage so at time of disaster or natural calamities if these architectures are damaged then users won't get proper signals or reception.

3 Wristwatch

Wristwatch was invented for human convenient as a Time keeping device.

3.1 What is the smartwatch

A smartwatch is a computerized wristwatch with enhancement of functionality which is beyond timekeeping only.Smart watches which were launched early (Early models) in the market could perform basic tasks, such as calculations, and game-playing, modern smartwatches are effectively wearable computers. Many run mobile applications, using an operating system. Some smartwatches function as portable media players, offering playback of FM radio, audio, and video files to the user via a Bluetooth headset. Some models, also called 'watch phones', feature full mobile phone capability, and can make or answer phone calls. Internal hardware changes from watches to watches depending upon brand and price of that watch. Most have a rechargeable battery, a graphical display and a touch screen. They may also include camera, thermometer, accelerometer, altimeter, barometer, compass, GPS receiver, speaker and SDcard (memory card) that is recognized as a mass storage device by computers. The watch may communicate many devices using WI-FI, Bluetooth, Infrared technologies. Smartwatches may collect information of user to provide

him essential information such as total steps walked by user, user heart rate etc.

3.2 Features And Application

Many smartwatches manufactured in the 21st century are completely operational as standalone devices. Some are used as sport watches, which mainly assists users to concentrate on their health which uses Bluetooth, WI-FI or similar technologies. For example, after a workout, data can be uploaded onto a computer or online for the user to check his daily workout results. Some watches can serve as full GPS watches, displaying maps and current coordinates, and recording tracks. Users can "mark" their current location and then edit the entry's name and location which they want to travel, which enables navigation to those locations from their location. "Sport watch" functionality often includes activity tracker features (also known as "fitness tracker") as GPS watches are made for Training, and Outdoor sports, Functions may include training programs (such as intervals), Lap times, speed display, GPS tracking unit, heart rate monitor compatibility, etc. Other watches can work with an app in the smartphone to carry out their functions. They are paired, usually by Bluetooth, with a mobile phone. Some of these only work with a phone that runs the operating system, others use a unique watch OS. When paired, the watch may function as a remote to the phone. This allows the watch to display data such as calls, SMS messages, emails, etc. and any data that may be made available by similar phone applications.

4 Objective

- Our main objective is to help those people who face accidents and they would be in a critical situation where there is no coverage availability at the spot of accident and due to that they are not able to communicate to hospitals and also not able to inform their family members .
- To save the lives of those who have just met with an accident or suffering from natural health problems and may be in situation where he/she would be unable to use their cell phones.
- This software will help also those people who face severe accident but they do get help with few people at the spot at that time the user using this application can help the victim of accident by pressing the help someone button sharing his/her present location as the place for need of medical assistance.

5 Working

This application is basically implemented at the time of critical situation such as accidents, heart attacks etc. The first part of this application is user login. First of all the end user will be required to login this application after that user will be able to use this application, this login process is given for safety purpose as people may misuse this application for fun. The best part of this application is that we can use this application irrespective of the availability of mobile coverage, as we or any other person would require medical assistance where we don't get mobile coverage and are unable to call nearby hospitals and our family members for helping us. We can connect our wrist watch and cell phone together making them as one of our best companions for helping us in critical situations by just a single click of the button of our wrist watch. All the hospitals nearby will get the message of containing the user's current location, his/her name, age, previous medical history, contact

numbers of his/her family members. The hospital would be selected on the basis of firstly the distance, secondly the specialist availability at that particular time such as heart specialists, surgeons etc. the reason for this type of search is that the user may be suffering from any other previous disease rather than an accident his/her previous medical history will come into picture as hospital can make themselves ready to treat the person as soon as that person arrives at the hospital. All the time required to diagnose that person's current health state and running tests on that person to find the cause of the persons current health state would be saved as doctors may receive their previous medical history which is beneficial as at time of emergencies every second is crucial and thirdly bed availability in that hospital. One message would be send to the family members of that person telling that their family member is being taken to so and so hospital as he/she has met an accident or need urgent medical assistance. We can also help other people using the help someone button in the application sharing the users current location as the place for the need of medical assistance. In such situations the user's family members won't get message from the hospitals and the user can save other person's life.
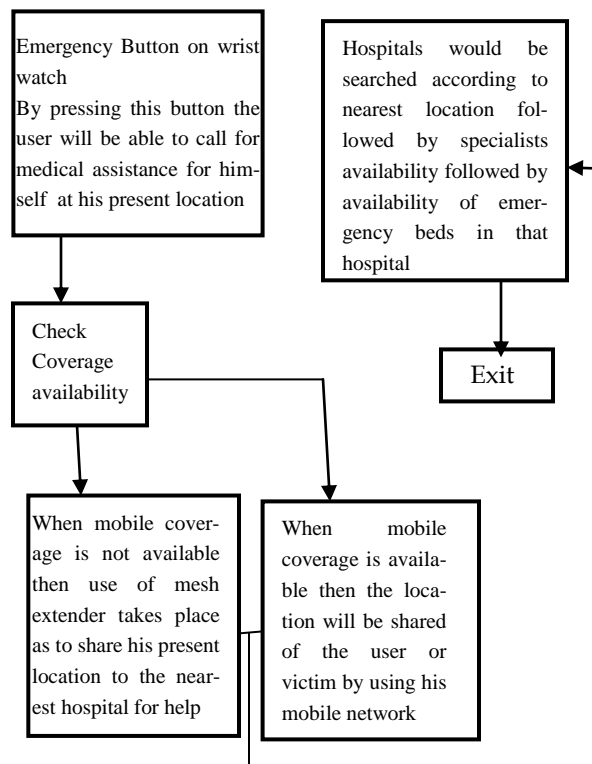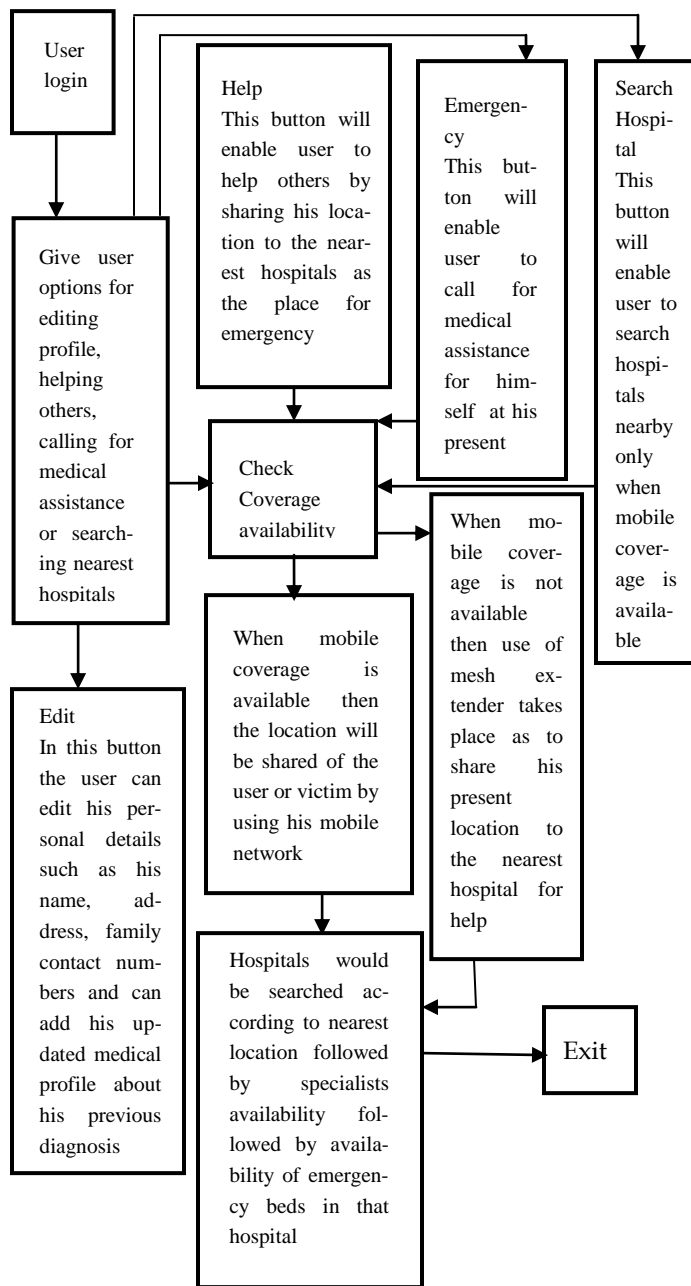
5.1 Workflow Diagram

Figure1: working of wristwatch

Figure 2: *working of mobile phone application*

6 Applications

6.1 Hospital
At the time of accidents or medical emergency every second is important and decides the life and death of that person. While travelling away from our home town if the user require immediate medical assistance as he/she may get a heart attack or may encounter an accident at that time the user can call the nearest hospital for his/her help by pressing the button on the wrist watch.

6.2 Natural Disaster
The mobile coverage would be a great problem at the time of natural disaster such as earthquake, floods etc. at that time this application will help people as infrastructure required for regular communication devices would take large amount of time to set up and stat communication using this application they can call for help directly.

6.3 Medical Emergencies
The user's family member may be suffering from a prolonged disease or may be in bad a condition and in immediate requirement of medical assistance at that time the software will help them to search their nearest hospital, the specialist availability and the bed availability of that hospital.

7 Experimental Setup of Software Requirement

7.1 Android SDK
A software development kit that enables developers to create application for the Android platform, along with this the Android SDK includes sample project with source code, development tools, an emulator, and required libraries to build Android applications, debugger, Relevant documentation for the Android application program interfaces (APIs).

7.2 ADT Toolkit
The Application Development Toolkit (ADT) is used to develop android compatible software which can be runnable on android devices. The objective of Application Development toolkit (ADT) is used to provide developers a user friendly tool. Ultimately, this lets the developers focus on what they want to develop. This includes a platform-independent cross-compiler tool chain, debugging and profiling tools and support scripts. These capabilities allow the developers to start work on the target architecure.

7.3 JDK 7.1
JAVA programming language was introduced in 1995 which was used to connect users with information whether that information comes from web servers, databases, information providers or any other sources. JAVA has everything a good language, a high quality execution environment and a huge library provided.

7.4 Android OS (2.2 Froyo and above)
The Android OS is an open source operating system majorly used in android device. Android operating system which is runnable on any android device is consisting of a specified android version of 2.2 of froyo (Frozen yogurt) which is minimum requirement of this app. We have to set up this version primarily when a new project has been created.

7.5 MySQL
MySQL is a freely available open source Relation Database Management system (RDBMS) that uses structure query language (SQL). SQL is the most popular language for adding, accessing and managing content in a database. It is most noted for its quick processing, proven reliability, Ease and flexible of use.

8 Conclusion
Hence we can conclude that this application will help people in situations such as:
* People encountering accidents or any medical emergency situations, People wearing the wrist watch connected to their cell phones via Bluetooth using the application can call for medical assistance directly without touching their

cell phones by just pressing the button on the wrist watch as he/she may not be able to use their cell phones for calling their nearby hospitals or family members.

- We can also help other persons who are in critical situations and require urgent medical assistance using the mobile application.

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