Advanced Women Security System Based on IOT

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Abstract—It is the country where women are considered as most respected and safer and . Safety of women matters a lot whether at home or outside the home or working place. Last few crimes against women especially most common crimes against women are rape, dowry deaths, sexual harassment at home or work place, kidnapping and abduction, cruelty by husband, relatives, assault on a woman, and sex trafficking and are very dread and fearful. Because of such crimes, women security in India has become a doubtful and critic topic. This paper represents an Android Application for the Safety of Women .This application simply includes safety hardware device and main cloud server which manage all synchronized control over system This app recognize the location through tracking service i.e. GPS and sends a message comprising this location coordinates to the registered contacts and also send messages to near by mobile which are having this app.

Keywords- WiFi , Bluetooth, Smart Phone ,Security, GPS, Safety, Women, Audio-Video Recording.

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I. INTRODUCTION)

Women in India-a better half of Indian society. we come across many headlines reporting cases of sexual assault, molestation, sexual harassment, rapes, trafficking, ill treatment of women in houses, violence against women in remote areas etc .As responsible and good citizens, we have a most fundamental duty to contribute towards bringing an order to make sure that respect and dignity for women so that she can also enjoy her human fundamental rights and rights with sense of pride, freedom and confidence.

News stories of women from all over India being beaten, killed are discover across us day after day and we all are aware of it. Because of crime women safety has become doubtful topic. Although the lack of effective police services , lack of properly working helpline number are available, many of already developed apps and devices via smart phones for women security currently available beside these crimes happens. So,our contribution to this is we provide a security by using android applications .Attacks on women are at an all time high and even highly safe cities aren't safe anymore. At any such unfortunate time, your smart phone can be your best friend and protector. Loaded with security apps for women, your smart phone can help you send emergency alerts to chosen people and also let people know about your whereabouts if anything goes wrong.

We provide you with some of the best applications that helps you send out a alert signal, book some safe cabs .Have them handy in your phone because security is not a longer an alternative, it is really needed. Secure system takes your GPS location and lists the nearest police stations surround you. It is extremely useful in emergencies such as theft or other such problems. Get information about Nearby Police station for your phone from here. The motto is "Never Walk Alone".Lets you create a net of 'Guardians' who will receive your message. The SOS message also includes your location through GPS. Most safty applications offer a distress message service. What makes Women Security different is that you can record a voice recording which is sent without your active interaction. The user can send continuous alerts to a chosen group of emergency contacts as well.

II. LITERATURE SURVEY

Some of the benefits that have been reported by those using the women safety audit tool include changes to the physical environment to improve safety for women and the community as a whole; changes in local programmers and policies that enhance their promotion of safety for women and the community in general; more funding and positive publicity for organizations and communities involved in women safety audits.

A women safety is an main issue of now-a-day. Safety audit groups generally work best when members are diverse and therefore represent a variety of safety concerns .Unsafe spaces might include a shopping center parking lot, a pathway between locality development. After the safety audit group has chosen an unsafe space, they go together to that space and note the factors or characteristics that they think make it unsafe .Factors or location, places where feel unsafe Once a safety

audit has been completed, the group makes a series of recommendations to their local government and other community members to try and improve the space .The safety condition always change as changed environment.

As a result of these adaptations, the kinds of recommendations that have been made by women safety audit groups have varied substantially from the recommendations made when the tool was first created. These recommendations include, for example such as A heavy focus on physical environmental changes

It is very necessary to obtain information from women and girls about what environment make them feel insecure. This information as different as different experiences, so it is important to counsel from variation of different women. The government's has been focused on promotion precautionary policies for women that, tend to support the preview social tendency to put the liability of their safety on women themselves, rather than give address which cause them to feel unsafe.

There are three main idea which guide women safety audits:

- Women are considered specialist on their own environment and safety;
- Safety audits motivate local and context-specific solutions to issues of insecurity;
- Safety audits assist partnerships and joint resolution between women and their local governments.

The full awareness of all human principle and fundamental freedoms of all women is essential for the authorisation of women. While the significance of national and regional particularities and various historical, civilization and reverent backdrop must be carry in mind, it is the duty of States, nonetheless of their political,commercial and cultural systems, to nurture and protect all human integrity and fundamental freedoms. To this end, Governments, the international group and civil society,including non-governmental organizations and the private sector, are called upon to take strategic action in the following critical areas of concern:

- The determined and increasing burden of penury on women.
- Imbalance and insufficiency in and different access to education and training.
- Imbalance and insufficiency in and unequal access to health care and related services.
- Brutality against women

III. EXISTING SYSTEM

The existing systems surveyed ,available can be categorized into three ways as follows:

A Magesh Kumar S and Raj Kumar M, "iprob –emergency application for women" They have implemented an emergency reaction scenario identifiable Application names IPROB with an intension to provide safety for women even during scenarios like attack of terrorist or any natural disaster, the user can try to save herself by shaking the phone more than the normal threshold value, this automates and activates the application. it raises an alert and if the end user fails to reply in a defined time interval   then   the predefined message is broadcast to the stored phone numbers. If the receiver at the other end approves a emergency service like ambulance, fire engine and so on then they are alerted. If the receiver approves a hear able alert, then it mechanically alerts and enable the speakerphone of the victim.

The disadvantage of this paper is that the receiver may be at far distance from the user location hence may not be in a position to rescue the victim and the other option provided in this paper is calling to the emergency system like fire or ambulance where there are possibilities of not able to accommodate such emergency service at a predefined time, by the time the receiver calls to police or a ambulance violent crime could have been taken place on the victim and

B A.Helen; M.Fathima Fathila; R. Rijwana; Kalaiselvi V. K. G.a smart watch for women security based on iot concept'watch me'

In this papers included ideas are When a women or child wearing this 'watch me' is exposed to sexual or vulnerable attack, the sensor present in it detects the heart beat rate of a person which will be high at the moment by the secretion of epinephrine hormone from axis and gets activated, also through GPS/GSM it will detect the nearby police station and make an ring there so it will be helpful for police to arrive soon at the spot by tracking the GPS , such a system will lead to safer and better environment.

The disadvantage of this paper is that the location of the user is not known so tracing out the location of the victim is hassle and doesn't help in reducing the crimes

IV. SYSTEM REQUIREMENTS

A. Software

NetBeans

NetBeans is written in java,it is a software development platform. Applications are developed from modules. Applications are designed on the NetBeans Platform provides integrated development environment (IDE), it can be extended by third party and other developers. Just like as visual studio gives developed environment for interfacing. and NetBeans gives an integrated development environment (IDE) for Java.

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Server(Glassfish 3.3.2)

using the GlassFish Server Open Source Edition, Oracle Glass Fish Server delivers a flexible, lightweight, application server. Glass Fish is an open-source application server project started by Sun Micro-systems for the Java EE platform and now sponsored by Oracle Corporation. The supported version is called also Oracle Glass Fish Serve. It is an open-source application server project by Sun Microsystems for the Java platform The most supported version is also known as Oracle GlassFish Server. GlassFish is, dual-licensed under two free software licences and free software.
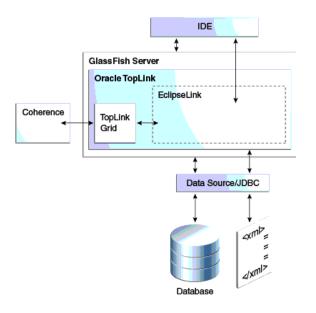

Figure 1 : GlassFish Server 3.3.2

RxTx -Serial Port Interfacing:

A special open source library called RxTx is to be used for serial port interfacing in java since this is now discontinued for latest versions of java.

Frontend

Java Advance (JSwing ,Applet)

Backend MySQL

B. Hardware

Micro-controller: AVR At mega32

The high-performance, low-power Microchip 8-bit AVR RISC based micro-controller combines 32KB ISP flash memory with read-while-write capabilities. AVR was one of the first micro-controller families to use on-chipflash memoryfor program storage, as opposed to one time programmable ROM used by other micro-controllers at the time.

Figure 2 : Micro-controller: AVR At mega32

Specification

- Memory Capacity:4-256 KB program memory
- Internal Package: 28–100-pin package
- instruction Set: Extended instruction set
- Compatible Devices :Extensive peripheral set includes computer,laptop.
- Multiple power-saving sleep modes
- Power saving mode: pico-Power devices

V. METHODOLOGY

The first step is that, the User is provided with their own Log-in. Next step is,the all related emergency contacts and nearby police station or secure helpful places information is stored in the database. In third step When emergency occurs then by using Algorithm GPS coordinates are matches with the current position of particular person plus automatic audio recording will start. After this using bluetooth and wifi connectivity the SOS message will send to nearby person who contain this app in their smartphone ,contacts or police station . Finally person will get help

- Register and Login
- Emergency contacts or nearby secure place like police stations information
- Detection of attacks
- Help person by tracking location
- Update the database everytime

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VI. PROPOSED SYSTEM

The proposed System designed for disadvantages of the existing systems. It concentrates mainly on the security issues To fulfill the need of providing safety.

The main important goal of the proposed system is that the user can get quick and immediate help in any emergency situation .Many of alternatives can also provide the help to trace out the attackerin order to reduce the crimes. This system simply make use of GPS technology. The System refers the Global Positioning System to trace out the position of the person and uses the Messaging service to send the message to get the help.All the entire flow of operations are control and manage by the mail Glassfish server.The message is sent to the emergency contacts into the application.

The main feature of the proposed system is it includes the both hardware and software implementations. existing system either creates the software application or hardware embedded devices. But in our system we synchronize the both hardware devices and software application through Wifi connectivity with main cloud server.

VII. SYSTEM ARCHITECTURE

The following diagram represents the architecture of the proposed system. The main three components needed to run this application are Internet on the user smart phone, GPS to track the location of the nearby police station and messaging service which enables to send data through messaging system.
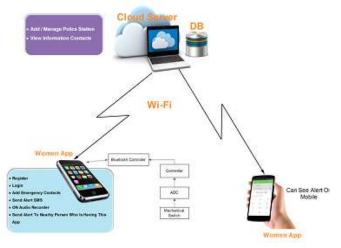

Figure 3 : Detailed Architecture of the proposed model

The above stated Figure shows the detailed structureof the proposed model .The user needed to register himself at the beginning to use the application.Many of options are provided to user which based on the person situation

GPS System

This module is used to provide two alternatives such as Not Safe . GPS System The GPS tracks the coordinates of geographical areain order to find out the current position of the person and sends the pre-stored message by using message service.

Database (DB)

It stores the all related emergency contacts and nearby police station in order to get argent help.
Communicating and control system:
ATMEGA32 Micro-controller and Power Supply Unit used in system architecture .Nearby police station information Provided to enables the user to view the nearest police stations according to the current position of the person.

VIII. ALGORITHM

A. SOAP ALGORITHM

Transmitting data over the wired network in any standard format makes it easier for a malicious user to access your important data should it be intercepted. Transmitting data using XML and SOAP could not only potentially compromise the data, information about the internal workings of your Web service devices might be discovered based on the XML scheme By using an appropriate and correct encryption algorithm, this data and message structure can be fully protected. Encryption is simple to process of performing a reversible algorithm to transform the very sensitive information using a special keys so that the data cannot be read without being changed.

B. KNN ALGORITHM

It work based upon on minimum distance from the query instance to training sample to determine K-nearest neighbors. We sorts the distances of whole training samples to query instance and find out the k-th minimum distance.

Usage of KNN Algorithm

- For data analysis
- In Data mining and machine learning
- Benefits of KNN Algorithm
- Ease to interpret output
- Calculation time
- Predictive Power
- KNN algorithm can also used for regression problems. Only difference from the discussed methods will be using averages of nearest neighbors instead of voting from nearest neighbors.
- It runs through the whole data set computing between and each training observation. We'll call the K points in the training data that are closest to the set .

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- It then estimates the conditional probability for each class, that is, the fraction of points in with that given class label.

Steps:

- Define the K value i.e. we are finding only your nearest neighbor.
- Now assume any random set of location values for all users.
- Read each location value that stored in database.
- Take person location coordinate .i.e. current position of attacked person.
- Compare person current position with the k value i.e. values stored at database.
- Using Euclidean distance formula calculate the most nearest person position for help
- Find the appropriate location to help the person in emergency situation.

IX. CONCLUSION

Our main goal of this project is to ensure every woman in a society to feel safe and secured Implementing real time application and a upgraded device, we can solve the problems to an extent. With further research and innovation, it can be used safe guard the women in critical conditions. It is useful for the vehicles under theft detection. Smart system for women security is an upgraded version of security device which works with both hardware and software. Even by using cloud computing it uses client server based model by which it will communicate with anyone who used this app. It is very relevant and easily accessible system model. The innovative idea is that it lead with nearest neighbor technology by which we can contact with our nearest person at emergency time.

security is an upgraded version of security device which works with both hardware and software. Even by using cloud computing it uses client server based model by which it will communicate with anyone who used this app. It is very relevant and easily accessible system model. The innovative idea is that it lead with nearest neighbor technology by which we can contact with our nearest person at emergency time.

X. FUTURE SCOPE

Recently security concern is the major problem. Some applications like android application, smart finger ring etc. Women security system topic has been chosen by considering so many issues, aspects, areas, need & problems .Women security system has considered for providing solution to

different problems. Communication through GPS & GSM technology is the supplementary part to have help to the person. In future to have legal process video information can be sent to the cops, State & Central Govt. to have immediate punishment to the criminal. Also the system will be helpful to all people those who are in remote area for their protection against criminal, atmospheric problems like heavy fog season etc. This system can overcome the fear that scares every woman in the in city about her security and safety.

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