Women Safety Device

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Abstract- In this world, **even though we has super power and an economic development, but still there are many crimes against women. The atrocities against the women can be brought to an end with the help of our product "FEMME". This device is a security system, specially designed for women in distress.**

keywords- **security, Application, GPS Tracker, and Bluetooth access, Emergency, sensors, etc.**

Findings- **I've analysed that there are no security device for our total safety, the user has to carry multiple devices. I found an ALL-IN-ONE security device which has all the features in one click.**

Method/Analysis- **Using Arm micro-controller for the hardware device is the most efficient and it consumes less power. I use radio frequency signal detector to detect hidden cameras.**

Improvements- **In this paper we used ARM controller and android application in which both the device and the smart phone are synchronised using Bluetooth hence both can be triggered independently. We can record audio for further investigation and can give an alert call and message to the pre-set contacts with the instant location every 2 minutes and can be tracked live using our application. Hidden camera detector is also a distinct feature using which we can ensure our privacy.**

I. INTRODUCTION

Introduction of our "Femme" is a security device specially designed for women in emergency and in distress. It is simple and easy to use and carry with various functionalities. The numbers of smart phone users are turning into greater in amount all over the world. A smart phone has many applications which is useful to people in which our "Femme" will become one of those. It is a personal safety product designed to keep you and your friends safe **24/7**. It is packed with features for both everyday Safety and real emergencies, making it an ultimate tool for all. This **user-friendly** application can be accessed by anyone who has installed it in their smart phones as well as who has our device. Our

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intention is to provide you with fastest and simplest way to contact your nearest help. The basic approach (**single click**) is to intimidate the instant location and a distress message to the cops and the pre-set numbers, so that unfortunate incident can be averted and to provide real time evidence for the action against the perpetrators of crime against women. This device can also be miniaturised in future and can be embedded in jewellers, wrist watch, mobile phones etc., in order to make this device handy. This can also help police department to reduce the crimes, which are against women, and the evidence can be used to trace the crime.

"Femme" is a guide, which aids people to take preventive measures as soon as possible during - Being stalked while walking

- Attempted physical or sexual assault
- Unsafe neighbours
- Domestic violence
- Hidden camera detector

II. METHODOLOGY

A. Hardware Device

The device can be activated by just merely pressing the emergency button once. This device gets activated and sends instant location with a distress message to the police pre-set numbers through a GSM module. Fig.4 shows the triggering button and how the device looks like and when the emergency button is double clicked, the device sends both the distress message with instant location and records the audio of the incident. When the same button is long pressed it activated call to the police and sends message to the police instant location. The location is located using GPS (UBLOX). The audio is recorded using audio recorder and call is made from GSM modem respectively. This GSM Modem (sim 900) can accept any GSM network operator SIM card and act just like a mobile phone with its own unique phone number. The plus point of using this modem will be that you can use its RS232 port to communicate and develop embedded applications. It can be used to send and receive SMS or make/receive voice calls. The hidden camera detector can be used anytime to find whether if there is any hidden camera in the surrounding to help our privacy. The hidden camera detector works with the help of RF signal interface. When the RF signal is interrupted, camera can be detected. We can also connect the device with our mobile (through Bluetooth HC05), to find our location even if our mobile is lost which can be activated by clicking tracking your mobile button and the location of the mobile is sent to the pre-set number.

B. Android Application

The general methodology of the application. When you click on the application, there is a thread and then it leads title main page, which consists of simple user interface. Depending upon the problem, we can choose the icon, which will guide the user during emergencies. When you click on the Following icons the following pages like hidden camera detector, women Security, SOS message, video recorder pages will be opened.

In our application, the user gives the input either manually or by the volume button. First the user starts the application by going inside it by clicking on the application icon. Then a thread of 2 seconds is rendered which displays the name of the application. Then after this process ends, the user interface where the user can interact with the application is displayed. This page lets the user interact with our application. When the user clicks on the each icon, it leads to that respective page. The 4 different icons used in our application is the woman safety, SOS message, video recorder, hidden camera.

When you click on the emergency button (volume key+ power button), the application gets opened automatically then sends an emergency message and audio is recorded and sent to the pre-set contacts.

III. INTERNAL WORKING

3.1. SOS Message:

This emergency message consist of our current location tracked by Global Positioning System (UBLOX) and sent to GSM module in which our location and our default emergency message is sent to our pre-stored contacts for every two minutes and a call is connected to the police with a recorded voice to seek help.

3.2. Hidden camera:

Hidden camera detector is a radio frequency receiver, which picks up electromagnetic signals that are broadcasted from electronic device such as spy camera. By moving this detector, we can able to alert the user about the hidden camera. it lights up when it receives a strong frequency.

3.3. Video recorder:

The video recorder is activated when "Femme" (application) is activated and records the whole incident and it is useful for the police to find the crime investigation.

3.4. Audio recorder:

The audio recorder is in the hardware device, when activated records audio and sends to the police for further investigation.

IV. EXISTING SYSTEM

In the existing system there is no monitoring system for girls it should create many problems for them and the no safety mechanism to protect the girls from the misbehaviour activities. In addition, in the existing system there is no alert mechanism for the girl's safety it should be done by manually only.

4.1. Disadvantages:

1) All the existing systems must be connected to the GPRS service to work properly, hence cannot be used during emergency if there is no internet connectivity.

2) There is no hidden camera detector which is portable to ensure our privacy.

3) Monitoring was tedious.

4) Mischance in arriving rate.

V. PROPOSED SYSTEM

Fig.1 represents the circuit diagram of the device which we proposed in this paper. Using the ARM controller the device is designed in which the GSM, GPS, Bluetooth and RF detector is connected. The whole device just runs with total of 12v in which 5v is enough for the ARM to process. [Figure 2] fig 2 represents the prototype of the device which we initially made and can be miniaturised in future for real time use.

In this System, an Android Application is used to find the location and send the location to the group of people stored in the phone, SOS Message, Track your phone and additionally we used a technique of clicking the volume button, if the button is pressed on time then message alert, second if button is pressed two times then message and audio and third if the button is pressed long time then calls to police, message and Audio. We implement the same part in the hardware side if the person use in case of hardware he/she can user hardware or if he/she want to use software use software.

5.1. Advantages of the Proposed System

1) It is an all-in-one system. Hence no need to carry multiple devices.

2) GPS tracking feature tracks the user when you are the move after triggering the emergency button.

3) It records audio, which can be used for further investigations.

4) When the battery is running low, it automatically sends the location the pre-stored contacts.

5) The second distinct feature is, it also detects the hidden cameras which helps in our privacy.

6) This device works without internet connectivity.

VI. HARDWARE AND SOFTWARE SPECIFICATIONS

GPS module(GY-GPS6MV2)
GSM (SIM9OO)
ARM 7 board with controller (LPC2129)
Bluetooth
Microphone
Voice recorderO
ther components
PCB design
Processor: Pentium IV
RAM: 512 MB
HDD: 80 GB
Platform: Windows Xp

Front End: Java JDK1.5

Back End: MS SQL server
Embedded Kit, Android Phone

VII. CONCLUSION

Our primary goal of this project is to ensure every woman in our society to feel safe and secured. According to the survey in India 53% of working women are not feeling safe, Women is working in night shift (Bangalore-56%, Chennai-28%, Hyderabad-35%, Mumbai-26%). In Overall 86% of working women in India, women facing hurdles are high in Delhi, Mumbai, Hyderabad, Kolkata, and Pune comparatively to other places. FEMME can play a major role by providing women a safe environment in all situations for example (detecting hidden camera, physical threatened, harassed, robbery, stalked. Implementing real time application and a device, we can solve the problems to an extent. With further research and innovation, this project is used as a small wearable device like watch, pendent etc.

VIII. FOR FUTURE RESEARCH ON THIS WEARABLE PRODUCT

To design this product, to be accessed in remote areas where there is no availability of internet.by using Mini Cellular GSM+ GPS for Arduino controller(Atmega32u4 chip) whose size is ("42mm in diameter") and both iOS and android application and the gadget are synchronized utilizing Bluetooth, subsequently both can be activated autonomously. Once the victim press button, the Mini Cellular GSM+ GPS which has a mini sim card in it, to track the GPS location and to send text using GSM for the near by police station (by the concept of google map's) so that police will keep tracking the person who is in-danger in his smart phone usnig an android application and another text of this GPS cordinates will be sent to the (Incase-emergency-contacts) for their references. For every five seoconds the GPS will track the location and keep sending the cordinates through text so that the path travelled can be tracked and located easily. We utilize signal jammer to freeze shrouded cameras. I've broke down that there are no security gadget for our aggregate wellbeing. We can record sound for further examination and can give a ready call and message to the ICE(In-case-of-emergency-contact) and to the nearby police station from which the police can track down the victim with the moment area at regular intervals and can be followed live utilizing our application. Shrouded camera freezer is additionally an unmistakable component utilizing which we can guarantee their protection.This device is made as a Gadget which can be a werable device for woman and are made as more smarter that can be accessed by android and iPhone.

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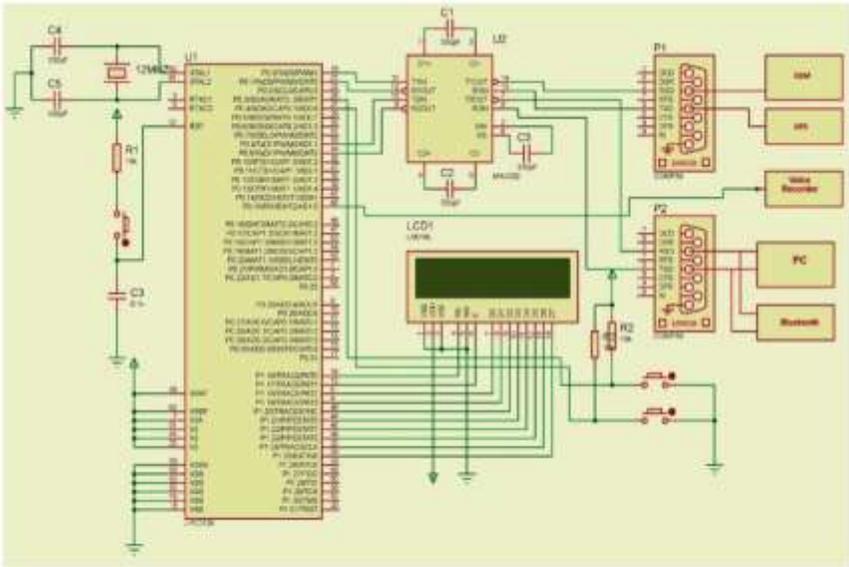
Fig 1: Complete circuit diagram

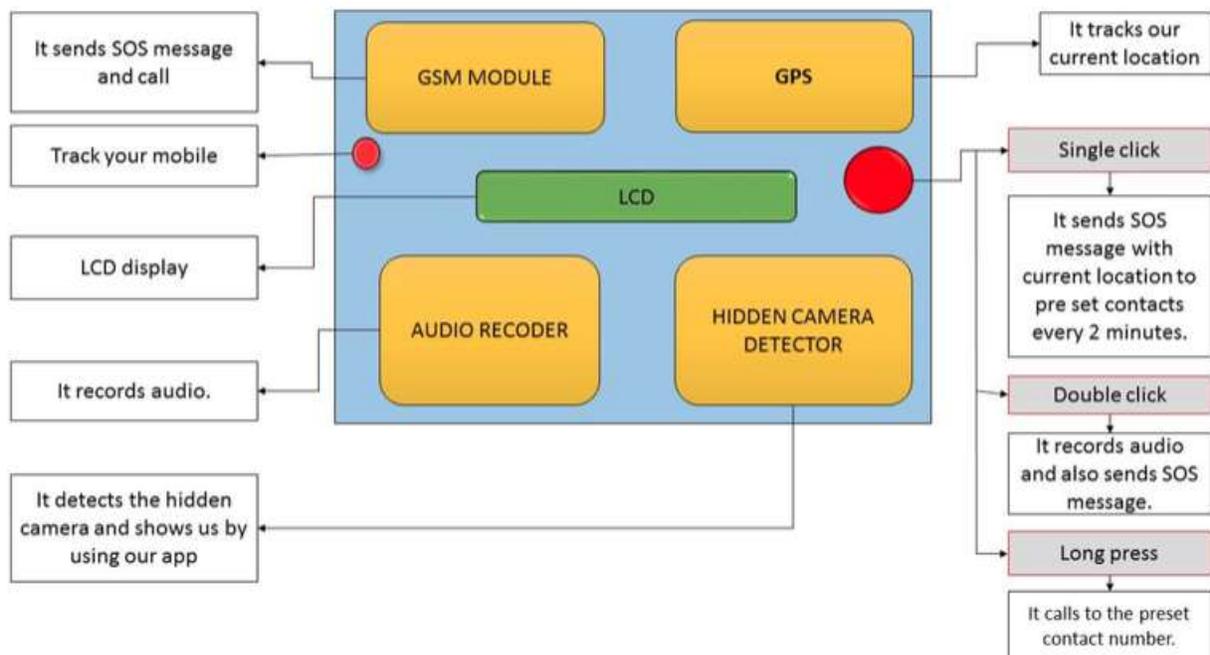Fig 2: Complete Prototype

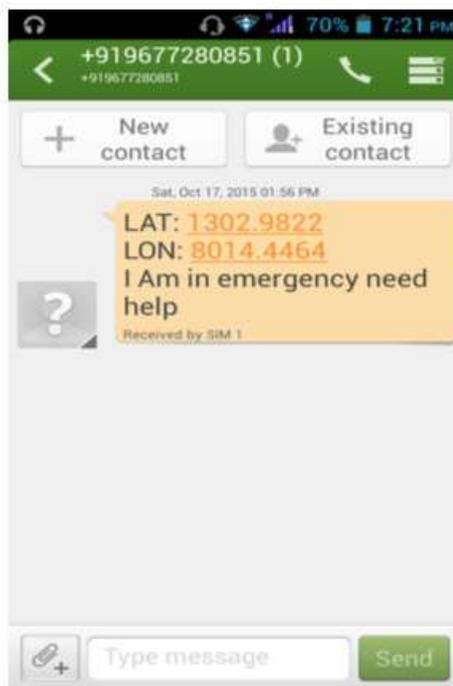Fig 3: Storing Numbers

Fig 4: structure of the device
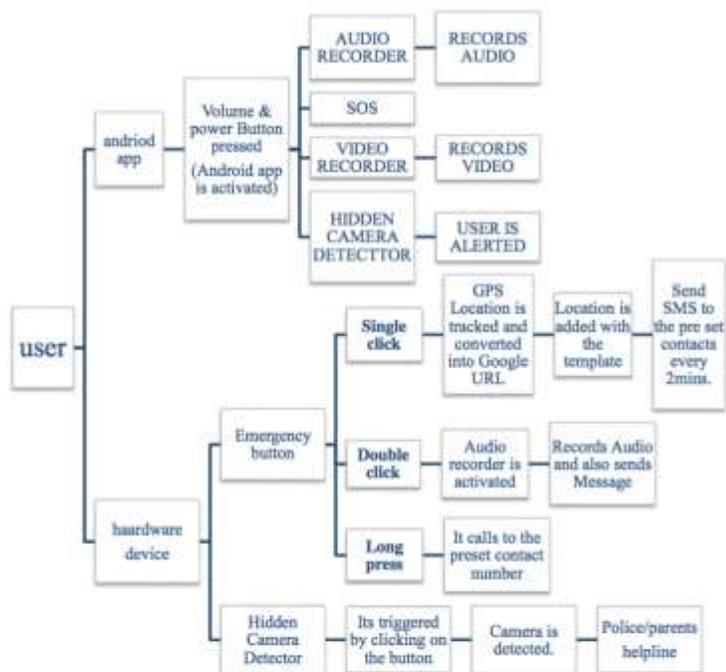
Fig 5: the output – message alert from the device when triggered.

fig 6: General methodology of the device and the application