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# MAAK – A smart security device for women and children's safety

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## ABSTRACT

***In Today's world, many women and children are abused on a regular basis. BBC (British Broadcasting Corporation) says that about four children are being physically or sexually abused every hour and India is said to be the most dangerous country for women. Hence, our objective is to develop a device using sensors that get activated if women or children get in a dangerous environment and sends an emergency signal via Short Message Service (SMS) to the programmed contacts which reveal the location using Global Positioning System (GPS). In addition to that, it also reveals the nearest Police station for the user.***

***Keywords—*** *GPS, Sensors, IoT, Android Application, Package-SMS*

## 1. INTRODUCTION

The rate of sexual and physical abuse against women and children have increased recently. Sexual abuse is the fourth most common crime against women in India. Even if technology has evolved, the safety against women and children is still unevolved. To ensure the safety of women and children, a security Software will be installed to the smartphones of women and children since smartphones contain many Sensors and also a GPS which will be activated if a dangerous environment is detected and sends the location to the emergency contact using SMS.

## 2. KEY CONCEPTS

### 2.1 GPS

GPS (Global Positioning System) is a global navigation system initially used by the United States AirForce.Nowadays, it is used by almost every civilian around the world. It provides the location of the device containing a GPS receiver from the GPS satellite and also offers the navigation options to the user. Almost every smartphone contains a GPS receiver and location services are provided to the smartphones. The Global Positioning System does not need the Internet for its operation. Therefore, it is used for locating the device with absolute accuracy. The proposed system uses GPS for positioning the live location of the user.

### 2.2 Sensors

A sensor is a device which is used to detect changes in their environment and used to send the information about the changes to the programmed user or the electronic device. Every smartphone contains a diverse variety of sensors like Accelerometer sensor, Biometric Sensor, Proximity sensor, Light sensor. In a hostile environment, the sensors detect the changes in the environment of the user such as increased heart rate, changes in the movement of the device using accelerometer senor and pressure using Pressure sensors. The Proposed system uses accelerometer sensor adxl335 since it is the most common available sensor in smartphones.

### 2.3 SMS

Short message service is a text messaging service used in all mobile phones. In this device, the SMS is sent to the emergency contact when the device gets activated. The SMS contains the location coordinated of the device which is sent to the emergency

 

contact and on the other hand, the device receives an SMS containing the location of the nearest Police Station. The proposed system uses Short Messaging Service to send the latitude and Longitude coordinates of the Device.

## 3. EXISTING SYSTEM

The existing device contains a hardware processing unit such as Arduino processor along with GPS, GSM and sensor modules. Pressure sensor and temperature sensor LM35 is used. The Device is activated by a remote which works when the device is within range to the remote and sends a Distress signal to the emergency contact using the GSM (Global System for Mobile communication) device attached to it and finds the Geo-location of the device using the GPS module. The device uses the concept of IOT (Internet of Things). The device also contains a fingerprint sensor to avoid false alarm and an alarm which buzzes when activated

## 4. DISADVANTAGES OF EXISTING SYSTEM

- The existing system is big and cannot be concealed in plain sight
- The device uses a diverse variety of sensor which can be fragile and easily broken
- All the elements of the device must be connected properly in order to work effectively

## 5. PROPOSED SYSTEM

The Proposed system combines the elements of IOT and Mobile Application since smartphones are used by most of the people and contain the elements required for the device such as the sensors, GPS and Messaging services. The Security Software of the device will be installed into the Smartphones using the Android Application Package (APK). The device will send the location to the emergency contact when activated by a simple click and also shows the user the location of nearest police stations.

## 6. ADVANTAGES OF PROPOSED SYSTEM

- The main advantage of the Proposed system is that it can be concealed in plain sight and is portable
- The device is costless as most people own a smart-phone and a variety of sensors are present in smart-phones
- the device can be activated instantly by a mere touch and also shows the location of the nearest safety site to the user

## 7. MATERIALS REQUIRED

- A Smartphone: Smartphones are used as a hardware component of the device as it contains all the sensors required for the device, GPS and GMS
- Eclipse software: The software is coded in Eclipse in Java and XML

## 8. CONCLUSION

The Main goal of this project is to combine the elements of IOT and Android application to create an effective security device that ensures the safety of women and children in the country which acts as an initial stage against the abuse to women and children

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