

A Safety Device Used For Protection of Child and Women

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Abstract— Now a days women and child are not secure and have several issue regarding their security purpose. Due to their safety purpose parents are often concerned about safety problem when children are playing outdoors games and womens are doing job far from their home. The good thing about this device is that it can be used in any mobile phone and doesn't necessarily require an expensive smart phone to operate. The purpose of this device is to help parents locate their children with is to help parents locate their children with ease. Therefore, the focus of this paper is to have an SMS text enabled communications medium between the child's wearable and the parents as the environment for GSM mobile communication is almost present everywhere.

Keywords: Microcontroller, Temperature sensor, GPS, GSM, buzzer

I. INTRODUCTION

The devices consist of a child safety. This device is programmed for daily activity in child. Any dangerous or go to unknown location for child when this device automatically send SMS on the parent mobile, because the device programmed for particular location on child daily activity. The devices very help to school children. It working devices, SMS based solution using magnetic sensor to identity the child position in real time using for temperature sensor. The daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the devices, but to be an unreliable medium of communication between child and parent, so communicate enable to be SMS service. i.e., a child going home, school, dance class the daily activity programmed the devices some of time these child go unknown location for automatically send alarm or SMS on parent mobile. This is followed some characteristics of high reliability, short response time, high accuracy.

In present time increase in number of kidnapping cases to child and rape. So we implement on "child safety wearable devices" using IOT. The Internet of Think (IOT) refers to the set of devices and system that stay interconnected with real-world sensor and to the internet. IOT using many type of project system likes as self-driver car, home automation system which are used to world. There are two types of aspects to the IOT the devices themselves and the server side architecture that support them. The devices motivation for increasing safety for children. The child to the parent via Wi-Fi and Bluetooth, but some time unreliable source to transfer information, so send SMS text enable communication between child and parent. Since children from ages 2 to 7 have weaker logical thinking skills, they have not fully developed their environmental, spatial, object-related, and behavioural cognitions. children playing in play areas often encounter accidents, anxiety, trips and falls, and other dangers. These problems not only worry parents, but also result in children's sense of insecurity,

dangerous situations, and crying. For children to have good playing experience in play areas, children must improve their crisis management abilities for when they encounter problems or danger, thereby improving their safety when playing. Children must be able to gain experiences and satisfaction from playing. Apart from children, it is also important to identify other people in the play areas that are also involved with the assistance requesting behaviour, device requirements, factors, and solving methods of children when they encounter danger in play areas. The relationships and service requirements of these related persons in play areas must also be identified. The logistics industry has begun using wearable barcode scanner gloves called ProGloves to simplify work that does not involve the use of hands and some insurance companies are promoting the use of wearable devices to encourage healthier eating habits and improve corporate wellness among workers. Furthermore, several wearable devices, such as fitness trackers are used by medical professionals to acquire physiological behavioral, and contextual data for the diagnosis, treatment, and management of chronic diseases. Although many studies are underway to determine how these devices can be best adapted to different industries, it is expected that the applications of wearable device technology will rapidly expand in the near future. Safety is the most wanted power for everyone in today's world. Rape is the one of the major crime in India practiced against Child and Women. The crime rate is growing steadily since last few decades. According to latest National Crime Records Bureau (NCRB) 2013 annual report, 33,707 rape cases are reported across only India. The number of reported rape cases has been steadily increasing over the past decade.

II. EXISTING SYSTEM:

Safety device with wearable which help track the daily activity of children and also help find the child using wi-fi and Bluetooth services present on the devices. Disadvantage of wi-fi and Bluetooth appear to be unreliable medium of communication between the parent and child.

A. Power Supply:

This section is meant for supplying Power to all the sections mentioned above. It basically consists of a Transformer to step down the 230V ac to 9V ac followed by diodes. Here diodes are used to rectify the ac to dc. After rectification the obtained rippled dc is filtered using a capacitor Filter. A positive voltage regulator is used to regulate the obtained dc voltage.

B. Microcontroller:

This section forms the control unit of the whole project. This section basically consists of a Microcontroller with its associated circuitry like Crystal with capacitors, Reset circuitry, Pull up resistors (if needed) and so on. The

Microcontroller forms the heart of the project because it controls the devices being interfaced and communicates with the devices according to the program being written.

C. Temperature Sensor:

Thermistors are a temperature sensing device. It is used to sense the temperature. In this project it depends on the value of temperature the exhaust fan will run.

D. LCD Display:

This section is basically meant to show up the status of the project. This project makes use of Liquid Crystal Display to display / prompt for necessary information.

E. LED:

A light-emitting diode (LED) is a semiconductor light source. LEDs are used as indicator lamps in many devices, and are increasingly used for lighting. Introduced as a practical electronic component in 1962, early LEDs emitted low-intensity red light, but modern versions are available across the visible, ultraviolet and infrared wavelengths, with very high brightness.

F. GPS Modem:

A GPS modem is used to get the signals and receive the signals from the satellites. In this project, GPS modem gets the signals from the satellites and those are given to the microcontroller. The signals may be in the form of the coordinates; these are represented in form of the latitudes, longitudes and altitudes.

G. GSM Modem Section:

This section consists of a GSM modem. The modem will communicate with microcontroller using serial communication. The modem is interfaced to microcontroller using MAX 232, a serial driver. The Global System for Mobile Communications is a TDMA based digital wireless network technology that is used for communication between the cellular devices. GSM phones make use of a SIM card to identify the user's account. Position- and Location-Tracking Sensors Location- and position-tracking sensors (i.e., GPS, altimeter, magnetometer, compasses, and accelerometers) are the most common type of sensors on wearable devices, such as activity trackers, smartwatches, and even medical wearables where they are used to check the physical activity and health of patients. A GPS module is a three-axis sensor used in spatial navigation that can determine location, altitude, and speed at any time and in most weather conditions. However, in the mining industry, there are few examples of the use of GPS (only in outdoor open-pit mines) modules for tracking purposes. Because signals needed for GPS modules are not available indoors, they are considered unsuitable for underground tracking systems. A compass is a simple magnetometer that defines the direction of the climatic magnetic field. A magnetometer sensor can be used to measure the magnetic field at a specific location. As it can detect ferrous metals, it can be used for tracking metallic vehicles and human body motions (when jointly used with accelerometer and/or smartphones). Another common type of inertial sensor is an accelerometer, which has an extended range of sensing capability. They are available in one-, two-,

three- or six-axis implementations, and have high capability in fall detection and safety management applications.

H. LDR:

The LDR is used to measure the light intensity.

Buzzer Section: This section consists of a Buzzer. The buzzer is used to alert / indicate the completion of process. It is sometimes used to indicate the start of the embedded system by alerting during start-up.

I. Smartwatch:

Smartwatches are computerized devices or small computers intended to be worn on the wrist, and have expanded functionality that is often related to communication. Most current smartwatch models are based on a mobile operating system. Some operate as smartphone-paired devices and provide an additional screen with which to inform the wearer of new notifications, such as messages received, calls, or calendar reminders. Manufacturers continue to develop their products and add features, such as water proof frames, global positioning system (GPS) navigation systems, and fitness/health tracking features. With the addition of reliable, sensitive inertial sensors on them, smartwatches can now be used to capture and analyze hand gestures, such as smoking or other activities.

J. Environmental Sensors:

Environmental sensors are used for measuring, monitoring, and recording environmental conditions or properties, such as barometric pressure, relative humidity, luminosity, temperature, dust, and water level. Light sensors that can be used to detect light are widespread in scientific applications and everyday lights, security lights, and traffic light sensors. Sound sensors or microphones are employed to determine the sound intensity of an environment. They come in multiple forms including condensers, ribbons, carbon, and dynamic microphones. The most common type consists of dynamic microphones that measure noise levels in decibels at frequencies to which humans are sensitive. A humidity sensor measures the relative humidity in the air for use in moisture and temperature measurements. These are sometimes referred to as humidity/dew sensors, and can be found in heating, ventilation, or air conditioning systems in buildings. Flame sensors are used to detect open flames or fire, and are more sensitive and accurate than commonly used smoke or heat detectors. Fume sensors perform a similar function in detecting smoke, alcohol, and other harmful airborne gases.

K. Biosensors:

The scope of biosensors has expanded with the increasing demand for health monitoring. These sensors allow people to be aware of their health status at all times, and are used by healthcare professionals in the early diagnosis and prevention of disease. Examples include body temperature sensors, heart-rate-monitoring sensors, electrocardiogram (ECG), electroencephalography (EEG), electromyography (EMG) sensors, blood pressure sensors, and glucose level sensors. A heart-rate-monitoring module can be used to measure the electrical activity of the heart, and is intended for use in extracting, amplifying, and filtering bio-potential signals to

generate the heart rate. Typically, heart monitors require the use of biomedical sensor pads and cables.

L. Position- and Location-Tracking Sensors:

Location- and position-tracking sensors (i.e., GPS, altimeter, magnetometer, compasses, and accelerometers) are the most common type of sensors on wearable devices, such as activity trackers, smartwatches, and even medical wearable where they are used to check the physical activity and health of patients. A GPS module is a three-axis sensor used in spatial navigation that can determine location, altitude, and speed at any time and in most weather conditions. However, in the mining industry, there are few examples of the use of GPS (only in outdoor open-pit mines) modules for tracking purposes. Because signals needed for GPS modules are not available indoors, they are considered unsuitable for underground tracking systems. A compass is a simple magnetometer that defines the direction of the climatic magnetic field. A magnetometer sensor can be used to measure the magnetic field at a specific location. As it can detect ferrous metals, it can be used for tracking metallic vehicles and human body motions (when jointly used with accelerometer and/or Smartphone's). Another common type of inertial sensor is an accelerometer, which has an extended range of sensing capability. They are available in one-, two-, three-, or six axis implementations, and have high capability in fall detection and safety management applications.

III. EXPERIMENTAL RESULTS:

- Parent sends an SMS using some keywords such as TEMPERATURE, LOCATION, SOS, BUZZ etc.;
- This results in knowing the location of their child.

IV. CONCLUSIONS:

This paper gives the result for the parent in two different ways. The first one is they get an alert message (SMS) for the registered phone number. The next one is they receive an graphical representation which shows the Latitude, Longitude, MEMS Sensor and Vibration sensor of the child's activities through "Thing Speak". From these notification the parents can find their child in critical state. By this device we can avoid violence against children. This is one step to reduce rape, violence, theft etc.

V. FUTURE SCOPE:

In future it can be developed the security devices using GPS. GPS is checking the location on each every movement. Which focuses on children safety, tracking of school bus and exact location of school bus with the help of longitude and altitude positioning of GPS and sending information through SMS.

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