LITERATURE SURVEY

IoT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION

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Description:

Child safety is a major concern in any society due to the vulnerability of a child and consequently, higher rates of crimes against children. With this issue on our hands, a smart wearable Internet of Things sensor network for monitoring the environment of a child can be developed to help parents ensure the safety of their children. It must also necessarily include a mechanism for tracking the child. An advantage of this wearable device is that, according to its design, it can be accessed from any mobile device and does not mandate a lot of technical knowledge from the user to operate. The purpose of this device is to facilitate the guardian or parents in locating their child with ease and ensuring its well-being. The basic mechanism of this system involves monitoring the environment through sensor nodes, acquiring real-time data and transmitting this data to a cloud server. The data can be accessed by users through a web-based interface present on this cloud server. The wearable also functions to send alerts to the user through a mobile application in case an emergency condition is detected by it. The design of this model involves developing a medium for communication between the parent/guardian and the child's wearable device. The child's location is tracked using GSM mobile communication to specify the location of the child in real-time. We have surveyed relevant papers and have discussed about the different methodologies that have been used to achieve similar but different results. We later also compare these papers using their advantages and disadvantages and we try to bring out the uses from their results.

Author name: M Nandini Priyanka, S Murugan, K N H Srinivas, T D S Sarveswararao, E Kusuma Kumari.

Description:

Child safety and tracking is a major concern as the ore number of crimes on children are reported nowadays. With thus motivation, a smart IoT device for child safety and tracking is developed to help the parents to locate and monitor their children. The system is developed using LinkIt ONE board programmed in embedded C and interfaced with temperature, heartbeat, touch sensors and also GPS, GSM &digital camera modules. The novelty of thew work is that the system automatically alerts the parent/caretaker by sending SMS, when immediate attention is required for the child during emergency. The parameters such as touch, temperature & heartbeat of the child are used for parametric analysis and results are plotted for the same. The above system ensures the safety and tracking of children.

Author name: Lai Yi Heng, Intan Farahana Binti Kamsin

Description:

Internet of Things (IoT) is a set of systems and devices interconnected with real-world sensors and actuators to the Internet, according to. It is able to make decisions via detecting the surrounding environment without human interaction. In this research, IoT is applied to propose a wearable smart band which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. Via the IoT smart band, children safety is guaranteed, and crime rate is reduced as immediate actions can be taken in case the child is in danger. Besides, unlike existing smart band, which is less focusing on child security aspect, the proposed system emphasizes in getting as much data as possible so that actual situation can be identified. The use of IoT in this device is motivated by the need of child security system in Malaysia due to child safety issues resulting from increasing cases on child related crime. The safety

device protects individuals from potential harms and dangers. A research done by proposed the child safety wearable device using raspberry pi 3. The raspberry pi 3 gathers data from pi camera, pulse sensor smartphones by SMS using GSM shield. Images captured designed a wearable smart watch for women security. Sensor inside the smartwatch senses the heartbeat of a child or woman who wears it. When he/she is exposed to attacks, heartbeat rate will be high. When this is detected, alarm sound will be triggered. It will then automatically make calls to registered contact and to the nearest police station. Based on the location provided by GPS, police will arrive soon at the correct destination.

Author name: Dheeraj Sunehera, Pottabhatini Laxmi Priya .

Description:

It provides an Android based solution for the parents to track their children in real time. Different devices are connected with a single device through channels of internet. The concerned device is connected to server via internet. The device can be used by parents to track their children in real time or for women safety. The proposed solution takes the location services provided by GSM module. It allows the parents to get their child's current-location via SMS. Merits: A child tracking system using android terminal and hoc networks. Demerits: This device cannot be used in rural areas. frequency. GSM network consists of mobile station, base station subsystem network and operation subsystem. The GPS module is provided for identifying the location of the child. GPS module receives the signals from satellites. The latitude and longitude of the location can be identified by the GPS module. The device sends the monitored parameters data such as temperature and pulse rate to cloud. If any abnormalities occurs in temperature or pulse rate readings, a SMS and call triggers to the parent/caretaker mobile phone immediately and also updated to the mobile app only for the registries mobile no. We can use mobile application, cloud and database as the back end of storing and retrieving information and also a device for monitoring.

Author name: Akash Moodbidri, Hamid Shahnasser

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Description:

The purpose of this device is to help the parents to locate their children with ease. At the moment there are many wearable's in the market which helps to track the daily activity of children and also helps to find the child using Wi-Fi and Bluetooth services present on the device. Merits: This wearable over other wearable is that it can be used in any phone and it is not necessary that an expensive smartphone is required and doesn't want to be very tech savvy individual to operate. As, this device's battery gives short life-time. High power efficient model will have to be used which can be capable of giving the battery life for a longer time This paper proposed a model for child safety through smart phones that provides the option to track the location of their children as well as in case of emergency children is able to send a quick message and its current location via Short Message services. Merits: The advantages of smart phones which offers rich features like Google maps, GPS, SMS etc.

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