1.Child Safety Monitoring System Based on IoT

Authors:

Senthamilarasi.N, Bharathi. N, Divya, Ezhilarasi. D,Sangavi. R.B.

Abstract:

The overall percentage of child abuse filed nowadays in the world is about 80%, out of which 74% are girl children and the rest are boys. For every 40 seconds, a child goes missing in this world. Children are the backbone of one's nation, if the future of children was affected, it would impact the entire growth of that nation. Due to the abusement, the emotional and mental stability of the children gets affected which in turn ruins their career and future. These innocent children are not responsible for what happens to them. So, parents are responsible for taking care of their own children. But, due to economic conditions and aims to focus on their child's future and career, parents are forced to crave for money. Hence, it becomes difficult to cling on to their children all the time. In our system, we provide an environment where this problem can be resolved in an efficient manner. It allows parents to easily monitor their children in real time just like staying beside them as well as focusing on their own career without any manual intervention.

Conclusion:

The word Future resembles the word Children. As Dr. A.P.J Abdul Kalam’s words “Youngsters are the future pillars of one’s nation", today's children are tomorrow's youngsters, preserving their dreams and life for a better future is necessary. Therefore, each and every parent should take care of their own children, without letting them fall into the dark world of abuse, which entirely ruins them physically, mentally and emotionally, destroying our future. Hence, considering the importance of our future, our project makes it easy for parents to track their children and to visually monitor them on regular basis, which makes them ensure the safety of their children and reduces the rate of incidents of child abuse.

2.IoT based Child Security Monitoring System

Authors:

Lai Yi Heng, Intan Farahana Binti Kamsin

Corresponding Author:

Lai Yi Heng

Abstract:

Nowadays, the crime rate associated with children keeps increasing due to which draws peoples' attention regarding child safety. This research is conducted to propose a child security smart band utilising IoT technology. Online questionnaires and semi-structured interviews are methodologies used to collect data. The online questionnaire gains feedback by sending questions electronically, where answers need to be submitted online. In the semi structured interview, researchers meet and ask respondents some predetermined questions while others being asked are not planned in advance. Through information obtained, a smart band has been proposed to monitor the safety of children. By this, parents know what is happening remotely and can take actions if something goes wrong. The future improvements of this device will be adding functions and software to make it works like a phone such as messaging, gallery, Google, YouTube, meanwhile, adding more child security features so that child safety is guaranteed.

Conclusion:

Nowadays, the crime rate associated with children keeps increasing due to which draws peoples' attention regarding child safety. This research is conducted to propose a child security smart band utilising IoT technology. Online questionnaires and semi-structured interviews are methodologies used to collect data. The online questionnaire gains feedback by sending questions electronically, where answers need to be submitted online. In the semi structured interview, researchers meet and ask respondents some predetermined questions.

3.Smart IOT Device for Child Safety and Tracking

Authors:

1.M Nandini Priyanka
2.S Murugan
3.K N H Srinivas
4.T D S Sarveswara Rao
5.E Kusuma Kumari.

Abstract:

Child safety and tracking is a major concern as the number of crimes on children are reported nowadays. With this 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 the work is that the system automatically alerts the parent/caretaker by sending SMS, when immediate attention is required for the child during an 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.

conclusion:

This research demonstrates Smart IoT devices for child safety and tracking helping the parents to locate and monitor their children. If any abnormal values are read by the sensor then an SMS is sent to the parents mobile and an MMS indicating an image captured by the serial camera is also sent. The future scope of the work is to implement the IoT device which ensures the complete solution for child safety problems.

4.Smart and Secure IoT based Child Behaviour and Health Monitoring System using Hadoop

Author:

Binu P K, Akhil V, Vinay Mohan

Abstract:

IoT is becoming very relevant and getting popular in the field of medical diagnosis nowadays. In this paper, we are bound to limelight in this field which focuses briefly over child health monitoring. In this work, we implemented a smart and secure health care monitor application that personifies the monitoring of total health and mind status of the children. As part of which we are adopting the use of wireless sensors that will keep the child to get monitored. Our system enables the child to get involved with some android games which will make him/her think and act dynamically. The game scores and the sensor readings obtained from the child will be monitored and analysed by the system and actions will be taken accordingly. Since the data generated by the system is humongous, we adopt Hadoop in the background to effectively map the data and to reduce it into elementary. As this data needs confidentiality in transmission, Apache Ranger is being used for the secure transmission and for the classification of the child behaviour, C4.5 decision algorithm is used in the system. While testing with the medical dataset, C4.5 proved to be more accurate than the ID3 algorithm.

Conclusion:

This work provides a strong foundation and a unique method in the enhancement and future of behavioural and health monitoring of children. From all the existing systems, we put forward a new method of using the games data along with bodily parameters in analysing the health. By using Hadoop for data management, there is a large scale data comparison and data processing done. Which will greatly help us in arriving at accurate disorder prediction. However, using Hadoop further more functions could be included. Integration of all these together was a tough task as there were many compatible issues but we were able to

solve it. As single node implementation in windows server was a tough task. This idea could be taken for further classification of disorders that may affect the growing up of infants. Thus, inclusion of more health-related parameters could make this a great application to be fit in the medical check up. This application could be enhanced with the addition of more mind related games. With this, much more disorders could be detected in children. Including more health based sensors in the system will help in the health monitoring and guided with medicinal care in case of any abnormality. This manner of a child's psychological and physical state could be monitored in much early stages, guiding the children for their fruitful career.

5.Smart and Secure IoT based Child Monitoring System

Authors:

1.Dipali Badgujar
2.Neha Sawant
3.Prof. Dnyaneshwar Kundande

Abstract:

IOT is getting upgraded day by day and its security is also upgraded. In this proposed system, we are mainly focusing on child remote monitoring system also we are using the radar devices as well as obstacle sensors which will detect the alert when the child enters the danger zone or else he/she is approaching towards harmful object then alert will be given to the caretaker through the mobile using an alarm or notification. For sensing purpose we are using Waterproof Ultrasonic Obstacle Sensor which are placed in the simple locket that is given to the baby so that locket will give alert to the caretaker through the mobile and for battery backup we are using solar panel through which the energy will get stored in the care taker’s shoes and this energy will be dependent on the steps covered by the caretaker. In this proposed system a general method for rapid peak detection is used for depth/height measurement. First, the signal curve is equally divided and maximum and minimum values in each segmentation are collected. The

repeated maximum and minima values are removed and all fake peaks are merged in the case of ensuring true peaks remain. Experimental results showed that: compared with traditional methods, the proposed method is more accurate and faster in peak detection, and suitable for a variety of waveforms.

Conclusion:

For implementing the IOT devices which ensures the complete solution for baby safety problems. A new idea to implement an automatic system for baby monitoring to remove the anxiety of the parents. This project proposes Smart IOT Devices for child safety and tracking helps the guardian/parents to locate and monitor the baby. If any abnormal values are read by the sensors then an SMS is sent to the guardian/parents mobile.

6.IoT-Based Smart Band For Tracking Position And Monitoring Conditions Of Children

Author:

Lathifah Arief;Taufik Fadhlul Hadi;Tri A. Sundara;

Abstract:

Supervision of children on a 24-hour basis is not easy, with parents who are often busy always coming and going, making children often not always be supervised directly by parents. One way to always supervise the children directly is by making sure the child is always near the parents. But this method is not good because children need to establish a connection with the outside world and interact with other children. With the development of technology, a device is made to enable parents to monitor their children. This device is made along with the mobile application as a display the information about the children and their situation by collecting data from the database, transmitted by the device. Using a pulse sensor to capture children's heartbeat with accuracy up to 85% with 5 data comparison between sensor and

stethoscope and 15 device’s location data with average deviation as far as 14.2 metres.

Conclusion:

After conducting research, it can be concluded that: 1. When the device that the user uses on the wrist is within range of the Bluetooth connectivity of the Android application, the user will be in a zone called "Safety Zone", where the user can be considered to be in direct observation of the parents. But when a Bluetooth connection is lost between the Android application and the device on the user's wrist, the Android application will send a warning in the form of a message and vibration to notify parents that the user is out of reach of the Safety Zone and switch to Real Time mode. The success rate of sending a warning when the device is outside the Safety Zone is not 100% because the application sometimes cannot determine whether a Bluetooth connection has been lost or not. 2. By using firebase for storing latitude and longitude coordinate values, heart rate, and user time obtained from the device, the system can determine the user's position, and the user's heart rate in the Android application with a high enough success rate if the device gets internet service and connections to Which GPS satellite is needed to get the user's coordinates. 3. The historical data display system on the Android application will display the location data of the device coordinates, heart rate and time from one combined data.

7.An IoT-Based School Bus and Vehicle Tracking System Using RFID Technology and Mobile Data Networks

Author:

aJisha, R.; Jyotirindranath, A.; Kumary, L.S.: Iot based school bus tracking and arrival time prediction. In: International Conference on Advances in Computing, Communications and Informatics (ICACCI), pp.

Abstract:

The growing concerns of families about the safety and security of their children prompted a major interest in developing robust systems that offer efficient tracking and monitoring of children commuting between homes and schools. With the emergence of the Internet of Things (IoT) technology, in addition to Radio Frequency Identification (RFID), developing such systems became feasible and cost-effective. In this paper, we present the design and implementation of a comprehensive low-cost system based on IoT that allows schools, parents, and authorities to track the movement of children while in school buses or being transported in private vehicles in real time. The system is based on off-the-shelf passive RFID readers that are installed within buses, next to bus stations, and pick-up points at school entrances. We have implemented the system as an application connected to a MySQL database deployed over Heroku's versatile cloud platform. The different stakeholders (parents and school administrators) connect to the system through the Internet using a secure Java GUI. The parents can track their children along the bus route in real time. The system is built to integrate children monitoring within the buses, the tracking of the buses, and the tracking of private vehicles transporting children to/from school. The developed system provides additional security features such as access to safety records of bus/vehicle drivers and infringements. A variety of reports for different activities of buses and vehicles can be generated in real time at the school level. The system was tested successfully over the King Fahd University of Petroleum and Minerals large campus which includes several schools (kindergarten, primary, and secondary).

Conclusion:

Users can effortlessly track the bus and confirm its way shifting at safe speeds, preserve the authorities in charge of delays or deviations, be up thus far on the changes in agenda and speak to drivers or authorities if necessary. Admin will see the vicinity of all buses, see the list of passengers on-board, add new students, replace bus schedules and routes. The school bus app could be a person friendly tool for parents to visualise their wards and school management to observe the drivers. In summary,

8.Child Safety Wearable Device

Authors:

V .Lavanya , C.Meenambigai , M.Suriyaa , S.Kavya

Abstract:

The objective of this project is to safeguard the child from threads. Nowadays the safety measures of children have been reduced in huge numbers. Thus the violence against children is increasing day by day. Not only kids, even women are also abused both physically and mentally. We are taking small steps towards violence against the kids. Our project mainly focuses on sensing the children's Temperature and Heartbeat. By monitoring the activities the state of the child is analysed. By using GSM, if a child reaches the critical state then the latitude and longitude of that particular location is sent as an alert message to the parents. In this system, it has a MEMS sensor which is used to detect the abnormal vibration and it is controlled by a NodeMCU micro controller.

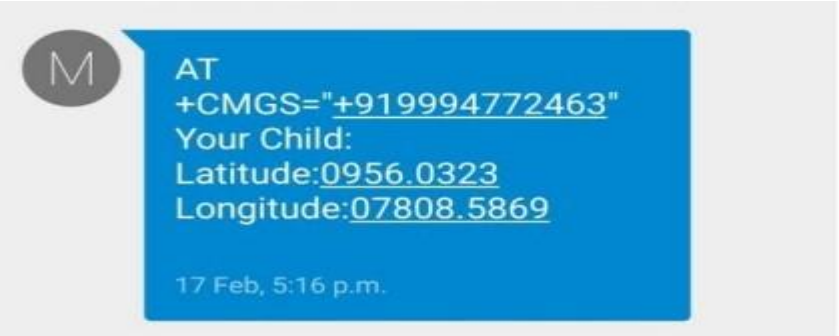
The child safety device is capable of acting as a capable IOT device it provides parents with the real time location, surrounding temperature, UV radiation index and SOS light along with distress alarm buzzer for their child's surroundings and the ability to locate their child or alert bystanders in acting to rescue or comfort the child. The smart child safety wearable can be enhanced much more in future by using highly compact arduino modules such as the lily pad arduino which can be sewed into fabrics. Also a more power efficient model will have to be created which will be capable for holding the battery for a longer time.

Conclusion:

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 that they receive a graphical representation which shows the Latitude ,Longitude, MEMS Sensor and Vibration sensor of the child's activities through "Thing Speak". From these notifications 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.

Result:



9.Survey on Child Safety Wearable Device Using IoT Sensors and Cloud Computing

Author:

Prakriti Agarwal,R Ramya,Rachana Ravikumar, Sabarish G, Sreenivasa Sett

Abstract:

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 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.

Conclusion:

IOT based safety wearable device that helps the parents or guardians to monitor the safety of their ward or children. The main aim is to provide an effective and convenient solution to the parents or guardians to keep track of their child's safety and in turn to reduce the increased occurrence of crime against missing children.

10.Multipurpose Safety Device for Women and Child Using IOT

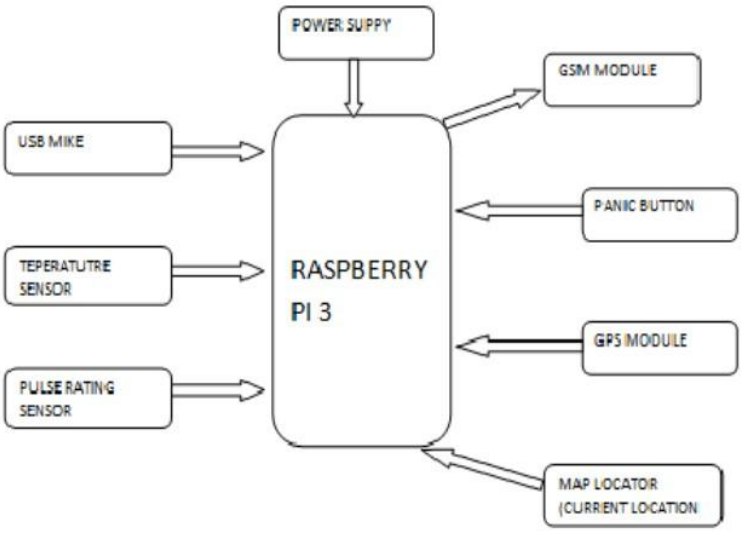
Authors:

Mr.S.Raghupathi,R.Anbarasan,K.T.ramasugan,M.Kaviyarasu , P.Mathankumar.

Abstract:

Nowadays there is a drastic increase in the number of child and women kidnapping cases. The crime against children between the ages of 14 years to 17 years is more popular, so parents are always worried about their children’s and women’s safety. This project will give voice against the parents' worry. As engineering students we have thought about a security system for women and children. This paper describes an intelligent security system. In case of any harassment, the women use the security kit that consists of four ways(voice board, button, two sensors) to protect them. This framework consolidates the two GPS and GSM. The GPS is utilised for distinguishing the areas. GPS receiver is a route framework. It works in light of satellite signs. It pinpoints the land area of itself. The GPS satellite pivots around the earth and transmits signs to the earth. These signs are gotten by the GPS beneficiary to compute the client's correct area utilising the techniques called “Triangulation”.

Block diagram:



Conclusion:

Being safe and secure is the demand of the day. Our effort behind this project is to design and fabricate a gadget which is so compact in itself that provides the advantage of a personal security system. This system is also useful for doctors who are overwhelmed with patient load and also beneficial for rural patients who have less access to health care facilities.

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