Internet of Things - B8-2A4E

1.)A hybrid model on child security and activities monitoring system using iot:

-R Kamalraj, M Sakthivel

2018 International Conference on Inventive Research in Computing Applications (ICIRCA), 996-999, 2018

In this Article:

- In the real world, children 's safety is a huge question mark in everyone's mind. Parents always expect their children to live in a secure place where they can spend their time and mind without any problem. But, typically half of them are facing so many issues.
- This issue can be monitored by using IoT components and sensors to check in the child environment whether people with unaccepted behavior are moving.
- If children close with them, then the system has to give an alert message that someone stands with the child.
- By tracing the locations of the children, the parents can locate where the problem is and how they can help the child from such issues.

2.)Child monitoring and safety system using WSN and IoT technology:

-P Poonkuzhlai, R Aarthi, Yaazhini VM

Annals of the Romanian Society for Cell Biology, 10839-10847, 2021

- This paper presents the design and implementation of a portable IOT-based safety and health monitoring system for children through a sensor embedded health monitoring device for safety and emergency services.
- It is known that technological advancements are increasing at a faster pace.
- But the utilization of technologies in various sectors is very low. We know that people of different age groups face different difficulties.

- But the security for children is very low. There are a lot of cases registered regarding child safety.

3.)IoT Based Shrewd Monitoring Framework for Children Safety:

-KP Revathi, T Manikandan

ECS Transactions 107 (1), 13967, 2022

In this Article:

- In the system, we have developed a smartwatch that can be used to locate missing or lost children and also track the child movements outside from the home as well as for facilitating women's safety.
- Here the user itself can create his own circle in a mobile app with some radius of distance according to their comfort.
- When the person is out of the location, which means out of the radius, immediately the message has been sent to the emergency contacts which are already selected before by the user in the mobile app.
- This process can be controlled by the end user. If the user hurts in any case, it will send the alert messages to the pre-elite contacts.
- GPS (Global Positioning System) is employed to urge the position of a widget in terms of latitude and meridian**.**

4.)Intelligent Child Safety System using Machine Learning in IoT Devices:

-Aparajith Srinivasan, S Abirami, N Divya, R Akshya, BS Sreeja

2020 5th International Conference on Computing, Communication and Security (ICCCS), 1-6, 2020

In this Article:

- Child safety and tracking is of utmost importance as children are the most vulnerable.
- With increasing crime rates such as child kidnaping, child trafficking, child abuse and so on, the need for an advanced smart security system has become a necessity.

- With this motivation, a self-alerting “INTELLIGENT CHILD SAFETY SYSTEM USING MACHINE LEARNING IN IOT DEVICES” is developed to aid parents to monitor and track their children in real time as an alternate to stay beside them.
- This system is intended as an everyday wearable device on the child, in the form of a wrist band, hand glove, arm band or a belt. The system is designed to continuously monitor the location and body vitals of children.
- The system is designed to continuously monitor the location and body vitals of children.

5.)Smart and secure IoT based child monitoring system:

-Dipali Badgujar, Neha Sawant, Dnyaneshwar Kundande

Int Res J Eng Technol (IRJET) 6 (11), 2019

In this Article:

- 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.

6.)Design of Wearable Device for Child Safety:

-M Benisha, R Thandaiah Prabu, M Gowri, K Vishali, M Anisha, Ponmozhi Chezhiyan, C Jim Elliot

2021 Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV), 1076-1080, 2021

In this Article:

- The key idea planned in this research work is an advanced technology that offers “Smart Child Safety” for the children. Therefore, the awareness of this method is to send an SMS from children's wear tools to their parents or guardians.

- In the prevailing structure, there is no monitoring method for children, it could create many problems for them and there is no protection mechanism to protect the child from misbehavior.
- In addition, there is no awareness device for the child's protection; it must be completed by hand only and must be completed by hand only.
- Thus, the planned method will be highly effective when compared to the other existing techniques in helping the victims.
- Moreover, it doesn't need any manual operation. This paper recommends a newfangled technology for child protection by using GSM so that the children will not feel abandoned while facing such social problems.
- The problems overlayed here using Arduino UNO, GSM, sensors, MEMS, temperature and panic button by using IOT.

7.)Design and implementation of a children safety system based on IoT technologies:

-Leonardo D'Errico, Fabio Franchi, Fabio Graziosi, Claudia Rinaldi, Francesco Tarquini

2017 2nd International Multidisciplinary Conference on Computer and Energy Science (SpliTech), 1-6, 2017

In this Article:

- In this paper a system for increasing children's safety is proposed.
- The focus is on the daily route from home to school and vice versa, assuming the use of school buses.
- IoT paradigm is exploited together with different localization techniques i.e. RFID and GPS, in order to design a solution for parents willing to make certain of their child's following the main steps to school or home, i.e. taking the school bus and entering school or leaving school and entering the school bus.
- In this paper the applicability of RFID technology efficient tracking capabilities is tested in children's tracking and monitoring during their trip to and from school by school buses.
- The proposed solution is discussed in terms of technologies and architecture and the first prototype is presented.
- Finally a test phase is planned to verify the correct operation of the system.

8.)Smart School Bus Tracking: Requirements and Design of an IoT based School Bus Tracking System:

-Hina Gull, Dalal Aljohar, Reem Alutaibi, Dalia Alqahtani, Muna Alarfaj, Rahaf Alqahtani

2021 5th International Conference on Trends in Electronics and Informatics (ICOEI), 388-394, 2021

In this Article:

- In many countries, school buses are considered as easy options for parents to transport their children to their schools.
- However, the safety of children has always been a concern for parents, as most of them consider it a highly unsafe way of transportation. Nevertheless, with the advent of technology it has been observed that mobile computing and IoT has provided us profound solutions for safe transportation of school going children.
- Proposed IoT based Bus Tracking System, will introduce a tracking website and an android application for the school admin, drivers of the bus and the parents.
- Proposed system will provide the admin with the charge of adding a new bus driver and new student to the driver list. Furthermore, the application itself will generate a fixed QR code for each student that will be placed on a card that contains the student's personal information.
- Also, the proposed system will track the bus location through the driver's mobile.

9.)IoT Enabled Children Safety System:

-Mr Vinod Mane, Durgesh Musale, Rohan Joshi, Aditya Toney, Anand Pande, Shashank Kohade

In this Article:

- With the rising statistics of traffic accidents and child abduction, there is a need for a robust system that enables constant tracking for a specific child by there’re specific parents who are on their way commuting from and to schools.
- These things are possible with the help of the emerging Internet of Things (IoT) technology, in addition to Radio Frequency Identification (RFID), developing such systems becomes feasible.
- This system provides complete visibility of children tracking. In this paper, we propose a complete low cost design and implementation of an IoT based system that allows schools, parents and authority to track the movement of the children during their presence in the school bus, which guarantees comfort for parents and safety for children.
- The system is based on, a low cost Nano RFID reader and a GPRS module both interfaced with Arduino microcontroller.
- The Nano RFID reader is used as an interface for providing the reader with a means to access the internet over 3G/4G network.

- We build a Mysql database and deploy it on the cloud platform, which makes building applications and deploying them fast, secure, easy and scalable.

10.)IoT-Based Smart Band For Tracking Position And Monitoring Conditions Of Children:

-Lathifah Arief, Taufik Fadhlul Hadi, Tri A Sundara

2020 International Conference on Information Technology Systems and Innovation (ICITSI), 111-115, 2020

In this Article:

- 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.
- 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 meters.

11.)IoT Based Child Safety Locator From Water and Fire:

-Md Rony, Minhajul Islam, Sanjida Khanam, Sagar Gosh

Daffodil International University, 2021

In this Article:

- This project is an IoT based development project titled “IoT Based Child Safety Locator from Water and Fire”.

- For the past few years, the child date rate has been a major concern, particularly in our country.
- This IoT based development project is designed & built for general people who don't need any in- depth knowledge of using digital technology.
- This project is mainly focused to reduce the child death rate.
- Also, this can ensure the awareness of parents for the children.
- In this system we used node MCU, GPS module and many other components.

12.)IOT Based Smart Life Saver System for Kids and Objected Tracking:

-Diaa SALAMA ABD-ELMINAAM, Rasha ORBAN, Fatma SAKR

In this Article:

- Nowadays child security is an essential area of concern.
- Recently, crime against children is increasing at higher rates, and it is time to offer a safety system for the kids and objects.
- Tracking kids and individual objects remotely is the main goal for everyone for safety protection.
- There are various systems used for tracking the position of objects such as a car, but there is no such system made for tracking a human being.
- The paper provides a smart, inexpensive solution for preventing losing kids while going out alone or with their parents based on the Internet of Things (IoT).
- Our proposed system ensures maximum security and ensures live tracking for their kids.
- This paper proposed a model for child safety through smartphones that can track their children's location and give the exact coordinates of the child's location in real-time anywhere. In case of emergency, children can send a quick message and its current location via Short Message services.
- This proposed system is validated by testing on the Android platform. The correct operation of the system verifies the proposed system.

13.)Crowdsourced children monitoring and finding with holding up detection based on internet-of-things technologies:

-Lien-Wu Chen, Tsung-Ping Chen, Hsien-Min Chen, Ming-Fong Tsai

IEEE Sensors Journal 19 (24), 12407-12417, 2019

- In this paper, we propose a crowdsourced children monitoring and finding (CCMF) framework to detect holding-up behaviors and find missing children using wearable devices and surrounding smartphones based on Internet of Things (IoT) technologies.
- In the monitoring mode, the CCMF framework can prevent young children from being taken away by strangers/people with bad intentions.
- In the finding mode, the CCMF framework can cooperatively find missing children equipped with wearable devices consisting of mobile iBeacon and 3-axis accelerometer modules through crowdsourced sensing networks formed by smartphone users with outdoor GPS and indoor IoT localization.
- According to our review of relevant research, CCMF is the first children monitoring and finding solution that can detect holding-up postures of a target child and provide the guiding path to a lost child through crowdsourced sensing networks.

14.)Design and development of an IOT based wearable device for the safety and security of women and girl children:

-Anand Jatti, Madhvi Kannan, RM Alisha, P Vijayalakshmi, Shrestha Sinha

2016 IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), 1108-1112, 2016

In this Article:

- The aim of this work is to develop a wearable device for the safety and protection of women and girls. This objective is achieved by the analysis of physiological signals in conjunction with body position.
- The physiological signals that are analyzed are galvanic skin resistance and body temperature. Body position is determined by acquiring raw accelerometer data from a triple axis accelerometer.
- Acquisition of raw data is then followed by activity recognition which is a process of employing a specialized machine learning algorithm.
- Real-time monitoring of data is achieved by wirelessly sending sensor data to an open source Cloud Platform.
- Analysis of the data is done on MATLAB simultaneously. This device is programmed to continuously monitor the subject's parameters and take action when any dangerous situation presents itself.
- It does so by detecting the change in the monitored signals, following which appropriate action is taken by means of sending notifications/alerts to designated individuals

15.)Multi-sensor Wearable for Child Safety:

-Ushashi Chowdhury, Pranjal Chowdhury, Sourav Paul, Anwesha Sen, Partho Protim Sarkar, Shubhankur Basak, Abari Bhattacharya

2019 IEEE 10th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON), 0968-0972, 2019

In this Article:

- Now-a-days we can see that human life is becoming very fast.
- Moreover, city life is getting very busy day- by-day. So in the daily busy schedule it is becoming very difficult for the parents to monitor their children closely.
- This paper discusses a smart wearable device like a wristband which tracks the child from time to time to ensure their safety. If any problem occurs it would alert parents through the cell phone so that they can take immediate action.
- This paper focuses on SMS text enabled communication. Parents can send SMS with some keywords and the device replies back.
- The device can detect the child's approximate location, it can detect the body temperature and the surrounding temperature, humidity and also the heartbeat of a child.
- For the emergency situation, the device would have some measures like an alarm buzzer, SOS light which will notify the bystanders to help the child.
- So this paper is all about the safety and security of a child to help them to recover from any type of difficulty.

16.)IoT based Child Safety Management using Raspberry Pi and RFID Technology:

-Mohammad Jabirullah, M Amru, D Raviteja

IOP Conference Series: Materials Science and Engineering 981 (4), 042079, 2020

In this Article:

- The protection and welfare of children is becoming more necessary to create a society that is greater and stronger.
- Therefore, the protection measures of kids must be strengthened to eliminate difficulties for kids. With this in mind, several tools and systems are employed to maintain the child's safety environment. Improving intelligence agencies in this field, in this paper a system for children's safety is proposed for children safety purposes. We develop anIoT based child safety using raspberry.
- Students having RFID based cards which are used for authentication. Whenever a student enters the school bus the Raspberry sends a message notification to parents and the principal.