

LITERATURE SURVEY

[1] Nandini Priyanka, S Murugan, K. N. H. Srinivas, T. D. S. Sarveswara Rao, E. Kusuma Kumari, 'Smart IoT Device for Child Safety and Tracking' International Journal of Innovative Technology and Exploring Engineering, Volume 8, Issue 8, June 2019

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.

[2] Akash Moodbidri, Hamid Shahnasser (Jan. 2017) 'Child safety wearable device', International Journal for Research in Applied Science & Engineering Technology, Vol. 6 Issue 2, pp. 438-444

This paper discusses the concept of a smart wearable device for little children. The major advantage of this wearable over other wearable devices is that it can be used in any cell phone and doesn't necessarily require an expensive smartphone and not a very tech savvy individual to operate. The purpose of this device is to help parents locate their children with ease. At the moment there are many wearables in the market which help track the daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the device. But Wi-Fi and Bluetooth appear to be an unreliable medium of communication between the parent and child. Therefore, the focus of this paper is to have an SMS text enabled communication medium between the child's wearable and the parent as the environment for GSM mobile communication is almost present everywhere. The parent can send a text with specific keywords such as "LOCATION" "TEMPERATURE" "UV" "SOS" "BUZZ", etc., the wearable device will reply back with a text containing the real time accurate location of the child which upon tapping will provide directions to the child's location on google maps app and will also provide the surrounding temperature, UV radiation index so that the parents can keep track if the temperature or UV radiation is not suitable for the child. The prime motivation behind this paper is that we know how important technology is in our lives but it can sometimes can't be trusted, and we always need to have a secondary measure at hand. The secondary measure used in this project is the people present in the surrounding of the child who could instantly react for the child's safety till the parents arrive or they could contact the parents and help locate them. The secondary measure implemented was using a bright SOS Light and distress alarm buzzer present on the wearable device which when activated by the parents via SMS text

should display the SOS signal brightly and sound an alarm which a bystander can easily spot as a sign of distress. Hence this paper aims at providing parents with a sense of security for their child in today's time.

[3] Dheeraj Sunehera, Pottabhatini Laxmi Priya, 'Children Location Monitoring on Google Maps Using GPS and GSM,' 2016 IEEE 6th International Conference on Advanced Computing.

In this modern and fast moving world, human safety and security has become an important issue. In the past few years, crime against school going children has grown rapidly. In this paper, a prototype Children Location Monitoring System (CLMS) is implemented using Global Positioning System (GPS) and Global System for Mobile communications (GSM) technologies. The system is built on ARM7 LPC2148 microcontroller board and uses a commercial GPS receiver to compute the position of the child continuously. The child's position information is periodically sent through GSM to the parent's smartphone (as a Google map link). A School monitoring system database developed using Visual Basic 6.0 is used to monitor a child's location from the school. Sample experimental results obtained from CLMS are presented here. This system can help the parents and the school authorities to monitor the children when they leave the school or they go missing.

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In the present scenario there are kidnapping cases drastically increasing in the real world. We designed an embedded concept in the project. By the survey of kidnapping kids in 2004, an aggregate of 5996 Children are missing, Out of these exclusive 4092 kids found by police. However 1904 youngsters are missed. GPS comprises of a system of 24 satellites in 6 distinctive 12-hour orbital ways dispersed so that no less than five are in perspective from each point on the globe. Short Messaging Service (SMS) is a component accessible on all cellular telephones which permits a little content to be sent message. In view of this if kid is captured or he/she is moved outside of characterize zone then ready message will be sent to separate guardian's enrolled number. The Child Guard system is structured into three parts and provides two main functions using the region safety feature, a guardian can be alerted if a child moves beyond a certain region. The Child Guard system is structured and provides two main functions. With the rapid development of urbanization and industrialization in China, the resident population in the countryside has gradually decreased, and a significant number of children are now living in or near cities. parents and guardians thus need ways to better monitor their children but typical security measures focus on preventing theft or other illegal action and aren't well suited for monitoring children for example, two typical measures include hiring manned guards or using video surveillance, but guards aren't practical or affordable when it comes to monitoring children and video surveillance systems usually blind zone. Furthermore, parents and guardians don't have permission to access surveillance videos to monitor their children. Child guard is a security method for monitoring children that uses ubiquitous computing devices such as wearable devices or smartphones. Which are growing in both popularity and performance. We exploit such devices to monitor the location and activities of the children and to proactively notify children and guardians of potential safety risks. So, IoT devices are applied in different fields such as agriculture, medical, industrial, security and communication applications

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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 utilizing 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.

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This paper is mainly streamed towards child safety solutions by developing a gadget which can be tracked via its GPS locations and also a panic button on gadget is provided to alert the parent via GSM module calling for help. Parental android app is developed to manage and track the device anytime. Smart gadget device is always connected to parental phone which can receive and make phone calls and also receive SMS on gadget via GSM module, also a wireless technology is implemented on device which is useful to bound the device within a region of monitoring range, if device is moving out of monitoring range then an alert will be triggered on binding gadget, this helps you keep a virtual eye on child. Health monitoring system on gadgets checking for parameters like heart beat/pulse rate and temperature is included which can be monitored on parental apps. Gadget also monitors whether it is plugged on hand or not using contact switch and alerts the parent as soon as it is unplugged.

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This research inspects the monitoring of pregnant women and children using the Internet of Things in the modern healthcare system. The main focus is to ensure the safety of pregnant women and their children. Through our current project, we put forward a system that can firmly influence the standard of living for pregnant women and children positively. Our IoT-based device can monitor temperature & humidity, stress, and fetal heart rate. We can also use this device to monitor a child's health parameters. The microcontroller collects all the data of these parameters with the help of sensors and sends these data to the ThingSpeak server via Wi-Fi module ESP8266 and further analyzes it. This system is fully automated to be able to notify the user and an emergency contact in case of emergency whenever any sensor threshold value crosses. Our second device, which incorporates fall detection along with the monitoring of the pregnant woman's heart rate and SpO2, is integrated with a vaccination reminder system that will notify the user about the immunization dates and the vaccine to be provided on a particular day. Through the different sensors incorporated in the devices, we can get all the specific

health-related parameters of the pregnant woman and her child. The motive is to unobtrusively obtain crucial information about the health status of pregnant women and their children.

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Today in introduce universe of advanced innovation and worldwide figuring each individual is associated with each other in a number of ways. In current worldwide figuring world, the youngsters and ladies provocation, chain snatchings, hijacking, lewd activities, eve prodding, and so forth are expanded step by step, winding up more perilous and powerless. At the point when these risky circumstances happen there must be an inclining innovation to be agreeable to deal with. So we are proposing a framework that takes a shot at the debate of youngsters utilizing IOT. In this venture we proposed a gadget which is incorporated with different gadgets, containing a wearable "Action Tracker Wristband" which is modified with all the required information which incorporates the conduct of the human responses like outrage, uneasiness, anxiety and dread. At the point when these circumstances are looked by the casualty, the different sensors produce the crisis signals which are to be transmitted to the advanced cell. The framework adequately screens the kids nearness inside the normal zone. At the point when the individual crosses the checking zone, at that point in light of IOT Monitoring framework, GSM sends help by sending messages to the closest police headquarters, guardians and the general population in the close sweep.

[9] Chaudhary H, Zinjore R, Pathak V (2020) Parent-hook: a child tracking system based on cloud url. In: 2020 International conference on smart innovations in design, environment, management, planning and computing (ICSIDEMPC). IEEE, pp 219–224

Child kidnapping, missing child and child harassment are the world-wide problem related to child safety. The children of age group 4 to 8 years are innocent and subject to kidnapping in frequent cases. Parents are always worried regarding their children's security mainly when they visit crowded public places and travel in widely physically located places. Number of applications are being developed to guard children in every manner. This paper introduces a Parent-Hook product which is designed for child tracking if the child is lost. The Parent-Hook is a safety band without the sensor or any chip harmful for the children can be put on the wrist of the children. This band is easy to carry which is made up of soft cotton webbing with parent contact information with QR Code and Cloud URL.

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This article provides a critical analysis of the child wearable Jiobit, a locational tracking device that is designed to allow parents to monitor how children move through space. Emphasizing the device's incorporation of geofencing features, which allow users to program 'fences' on a paired smartphone application and receive notifications when a Jiobit wearer enters and leaves the 'fenced' areas, I demonstrate how the operations of this device are part of a cultural politics that values the tracking of children through a variety of technological and infrastructural processes. Through an artifactual analysis of the device itself and its smartphone application, as well as an examination of the company's promotional language, I demonstrate how the logic of 'securitization' is used to encourage parents to delegate some of the work of monitoring children to this device. This artifactual analysis is paired with a discursive analysis of the company's policy documents, which readily acknowledge Jiobit's inability to

serve as a fully reliable security system, while also detailing the ways in which the extraction of data is stored indefinitely and, in some cases, disclosed to third parties. Through this case study of Jiobit, I argue for critical studies of wearable technologies to attend to the ways in which their producers promise 'security' and the ways in which 'security' acts as an alibi for continuous data collection.

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With the rising measurements of traffic accidents and child abduction, there is a requirement for a robust framework that empowers steady tracking for a huge number of children in transit driving from and to schools. With the rise of Internet of Things (IoT) technology, notwithstanding Radio Frequency Identification (RFID), growing such a framework is plausible. This framework gives total perceivability children tracking. In this paper, we propose a total minimal expense plan and execution of an IoT-based framework that permits schools, guardians, and power to follow the development of the children during their essence in the school bus, which ensures solace for guardians and safety for children. The framework depends on a minimal expense Nano RFID per user and a GPRS module both interfaced with Arduino microcontroller. The Nano RFID per user is utilized as an interface for giving the per user with an intent to get to the internet over 3G/4G organization. We assemble Mysql information base and convey it on Heroku's cloud stage, which makes building applications and sending them quick, secure, simple and adaptable. By taking these necessary steps, the child's safety throughout the fleet is achieved.

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In this modern and fast moving world, human safety and security has become an important issue. In the past few years, crime against school going children has grown rapidly. In this paper, a prototype Children Safety Monitoring using IoT is implemented using Global Positioning System (GPS) and Global System for Mobile Communications (GSM) technologies. The system is built on a nodeMCU ESP2866 microcontroller board and uses a commercial GPS receiver to compute the position of the child continuously. The childrens position information is periodically sent through GSM to the parent's smartphone (as a notification containing latitude and longitude value). At the school end a website is developed to monitor children's location. This system can help the parents and the school authorities to monitor the children when they leave the school or they go missing.