A Literature Survey on IoT Based Safety Gadget for Child Safety Monitoring and Notification

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S.No	Title	Abstract	Reference
1.	IDENTIFICATION OF CHILD HEALTH STATUS USING A INTELLIGENT SYSTEM	Normally it is difficult to keep track on abnormalities in heart beat count for child itself manually. To give them timely and proper health first and want to continuous monitoring of child health. This project presents the development of an ARM 7 microcontroller based system for wireless heart beat, respiration and temperature monitoring using ZIGBEE. This work investigates the feasibility of using the zigbee embedded technology in heart related monitoring application. Selected vital signs of child are required using sensor nodes and readings are transmitted wirelessly using devices tha utilize the zigbee communication protocols. A prototype system has been developed and tested with encouraging results.	IEEE project work of ECE department students.
2.	SAFETY OF A CHILD IN A LARGE PUBLIC	Safety of a child in a large public event is a major concern for event organizers and parents. This paper addresses this important concern and proposes an architecture model of the IoT-enable smart child safety tracking digital system. This IoT-enabled digital system architecture integrates the Cloud, Mobile and GPS technology to precisely locate the geographical location of a child on an event map. The proposed architecture model describes the people, information, process, and technology architecture elements, and their relationships for the complex IoT-enable smart child safety tracking digital system. The proposed architecture model can be used as a reference or guide to assist in the safe architecture driven development of the various child tracking digital systems for different public events.	https://ieeexplore.ieee.org/abstract/document/9031524

| 3. | INTELLIGENT CHILD SAFETY SYSTEM USING MACHINE LEARNING IN IOT DEVICES | 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. This electronic system comprises of an Arduino controller, a Raspberry-Pi and sensors to detect the changes in parameters such as temperature, BVP (Blood Volume Pulse) and GSR (Galvanic Skin Response). The system also uses a GSM and GPS module. Decision Tree Classifier Algorithm is used to detect any distress situation with sensor values as inputs. The location of the victim is traced using the GPS module and is sent to the registered contact numbers as a text message using a GSM module. The novelty of this work lies in the autonomous decision making process with increased accuracy. | https://ieeexplore.ieee.org/document/9277136 |
| 4. | SMAER WEARABLE DEVICES FOR LITTLE CHILDREN | This paper discusses the concept of a smart wearable device for little children. The major advantage of this wearable over other wearable is that it can be used in any cellphone 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 | https://ieeexplore.ieee.org/document/7899531 |

| | | 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. | |