**IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING &NOTIFICATION**

**ABSTRACT**

As more crimes against children are being recorded today, child protection and monitoring are key concerns. A smart IoT device for child safety and tracking is created with this purpose in mind, assisting parents in finding and keeping an eye on their kids. A child tracker makes it easier for parents to keep an eye on where their child is at all times. They can simply set up a geofence around a specific location and leave their children at parks or schools. If the child crosses the geofence, notifications will be generated by continuously checking their location. Depending on where the child is, notifications will be sent to their parents or guardians. The database will hold all of the location data.

This paper focuses primarily on child safety solutions by developing a device that can be tracked via its GPS locations and incorporating a panic button that calls for help via a GSM module to alert the parent. The Android parental app is designed to manage and monitor the device at any time. 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.

*Keywords: GSM, GPS, Parental Monitoring, wireless.*

**LITERATURE REVIEW**

**[1]** **Smart IOT Device for Child Safety and Tracking**

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

This research demonstrates Smart IoT device 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 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 emergency. The parameters such as touch, temperature &heartbeat of the child are used for parametric analysis and results are plotted for the same.

**[2]** **IoT Based Smart Gadget for Child Safety and Tracking***Author: N. Manjunatha, H. M. Jayashree, N. Komal, K. Nayana*

This research demonstrates Smart IoT device for child safety and tracking, to help the parents to locate and monitor their children. If any abnormal readings are detected by the sensor, then an SMS and phone call is triggered to the parent’s mobile. Also, updated to the parental app through the cloud. The system is equipped with GSM and GPS modules for sending and receiving call, SMS between safety gadget and parental phone. The system also consists of Wi-Fi module used to implement IoT and send all the monitored parameters to the cloud for android app monitoring on parental phone. Panic alert system is used during panic situations alerts are sent to the parental phone, seeking for help also the alert parameters are updated to the cloud. Boundary monitoring system is implemented on safety gadget with the help of BEACON technology, as soon as the safety gadget moves far away from the BLE listener gadget an alert is provided to itself.

**[3] Child Safety Monitoring System Based on IoT**

*Author: N. Senthamilarasi, N. Divya Bharathi, D. Ezhilarasi, R.B. Sangavi*

Proposed system consists of Raspberry Pi microprocessor in which all other sensors, GPS and GSM are integrated. The users are required to register using their credentials to use the application. The device will be given to the children for monitoring them regularly. We will feed the boundary value while writing code for the system and we control it using GPS for that device which is also known as Geo Fencing. These data are stored in the server. It will show the temperature and humidity values notifies the user based on the predefined value abnormal fall or rise scenarios.

**[4] IoT-based Child Security Monitoring System**

*Author: Lai Yi Heng, Intan Farahana Binti Kamsin*

This research is conducted to propose a child security smart band utilizing IoT technology. Online questionnaire and semi-structured interview are methodologies used to collect data. The online questionnaire gains feedbacks by sending questions electronically, where answers need to be submitted online. In the semi structured interview, researcher meets and asks respondents some predetermined questions while other being asked are not planned in advanced. Through information obtained, a smart band have 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.

**[5] Smart IoT Device for Child Safety and Tracking**

*Authors: M Nandini Priyanka, S Murugan, K. N. H. Srinivas, T. D. S. Sarveswararao, E. Kusuma Kumari* *Published in 2019 IEEE*

The system is developed using Link-It 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 emergency. Merits: The parameters such as touch, temperature & heartbeat of the child are used for parametric analysis and results are plotted for the same. Demerits: To implement the IoT device which ensures the complete solution for child safety problems.

**CONCLUSION**

The child will remain protected by this wearable security device, and child abuse will also decrease. The child's parent will receive regular updates on the child's condition so that they won't have to worry about their child when they aren't there. People involved in harassment and child trafficking will feel some fear as a result of this. This application will stop the child from being harassed and taken away, in the same way that the well-known proverb states, "Prevention is better than cure."