

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

**ABSTRACT-** This paper is based on IOT (Internet of Things). As we know in the present era everything is based on digital technology. Human beings are going to connect to each other by using mobile networks. This paper proposes an SMS based solution to reduce parents' insecurity and schools to track children in real time. Different devices are connected with a single device through. The concerned device is connected to mobile via SMS. The device can be used by stockholders to track children and get real time data. The main Advantage of the proposed system is to send location by using a mobile network (GSM). Here a prototype model (device) is created which is hardware based. The work comprises ARDUINO UNO as microcontroller, along with GPS and GSM module. This device will also have the facility of different status of children by measuring the speed of hand movement of children.

**Keywords:** Child security system, Child monitoring system, Internet of Things (IOT), IOT device, Smart band

## **I INTRODUCTION**

Nowadays, crimes always occur. This scenario is not involving adults only, but also happens to children. Parents concern more about serious cases such as missing children, abduction and rape. The crimes also involving school children have been reported in newspapers. Although the school has guards that are posted on school grounds 24 hours a day, that simply is not enough to monitor the student. The use of IOT in this device is motivated by the need for a child security system in Malaysia due to child safety issues resulting from increasing cases of child -related crime. The happiness of the parents is caring and helping the child to grow well in the beautiful world. But children are facing so many problems from the outside world. It may affect the mind to avoid having friendliness with everyone. And parents cannot sit with their children for 24x7 hours to secure their children and monitor the children's activities. When a child is going to school, then her security and activities are assured by the school and the members of school only.

### **IOT in Child security**

Now the modern world needs to have advanced things through composing different technologies for helping to find solutions for their real life problems. The new technology Internet of Things (IOT) provides much support for making advanced devices and tools to design and

implement the solutions to real world life issues. Although some studies have looked into using personal monitoring methods for children based on wireless communication, .We exploit such devices to monitor the location and activities of children and to proactively notify guardians of potential safety risks. After sending children to school, the parents may get the SMS about whether the child reached the school or not . If the system fails in the school, then the parents have made a call to the teacher to confirm about their child present in the school. But this manual approach may not give 100% satisfied results on all occasions. Hence the tracking sensor may give a 100% perfect result to the parents" smartphone about the status and location of their child. Here we have taken one more problem that the level of people who are near to the child

## **II. LITERATURE REVIEW**

### **Child Safety Monitoring System Based**

The overall percentage of child abuse cases 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 abuse, 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 the aim 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.

### **Smart IOT Device for Child Safety and Tracking**

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 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 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.

## **Child Monitoring and Safety System Using WSN and IOT Technology**

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. Nowadays, the schools and the parents are very much worried about their school children for school transport and other places. So, the safety and monitoring of school children is very much difficult. In this project we are introducing the IOT based embedded system used in this project. So we propose a system to continuously monitor the parameters of the child and also their location for safety purposes. The system provides smart child tracking.

### **IOT BASED CHILDREN MONITORING SYSTEM**

Human beings are going to connect to each other by using mobile networks. This paper proposes an SMS based solution to reduce parents' insecurity and schools to track children in real time. Different devices are connected with a single device through. The concerned device is connected to mobile via SMS. The device can be used by stockholders to track children and get real time data. The main Advantage of the proposed system is to send location by using a mobile network (GSM). Here a prototype model (device) is created which is hardware based. The work comprises ARDUINO UNO as microcontroller, along with GPS and GSM module. This device will also have the facility of different status of children by measuring the speed of hand movement of children.

### **III. PROS**

Safety is ensured in every place and it can be monitored from anywhere. Easy to use, weightless, compatible and low in cost.

### **IV. CONS**

Parents cannot be able to trace if the band is missed and hard to track the children. If the parent is too far from the location they cannot able to monitor and save the child.

