**IOT BASED SAFETY GADGET FOR CHILD SAFETY**

**MONITORING AND NOTIFICATIONS**

**INTRODUCTION:**

The internet of things, or IoT, is a system of interrelated computing devices, mechanical and

digital machines, objects, animals or people that are provided with unique identifiers (UIDs)

and the ability to transfer data over a network without requiring human-to-human or

human-to-computer interaction.A thing in the internet of things can be a person with a heart

monitor implant, a farm animal with a biochip transponder, an automobile that has built-in

sensors to alert the driver when tire pressure is low or any other natural or man-made object

that can be assigned an Internet Protocol (IP) address and is able to transfer data over a

network.

**LITERATURE REVIEW :**

**[1]** 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 systems. 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. **Advantages:** IoT-enable smart child tracking digital system to assist with the safety

of a child during public events. The proposed model includes a number of technologies from

the digital ecosystem such as IoT, Cloud, Mobile and GPS

**Disadvantages:**There are a number of options for customizing the architecture such as the

use of a tracking pin, which can be easily clipped onto the child’s clothing. Thus, future

research can be conducted to analyze alternate tracking options and architecture design

patterns that could replace GPS with low cost RFIDs or iBeacons.

**[2]** 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

a dangerous situation presents itself.

**Advantages:**The concept of using Galvanic Skin Resistance to ascertain levels of emotional

Stress is promising. Under stressful conditions the blood flow increases and the amount of

electrolytes present on the surface of skin also increases thus increasing conductivity and

decreasing the skin resistance (AzianAzamimi Abdullah et al, 2012). This proposed work

draws focus towards combining physiological signals and Activity recognition.

**Disadvantages:**Incorporate the advancements made in the field of wearable electronics to

develop a more compact device that could possibly be integrated into clothing. Tackle the

Concern that arises because of the requirement of the internet at all points

**[3]**Now-a-days attacks on children are increasing at an unprecedented rate and the victims

are in dangerous conditions, where they are not allowed to contact the family members. The

key idea planned in this research work is an advanced technology that offers “Smart Child

Safety” for the children. 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. Thus, the planned method will be highly effective when

compared to the other existing techniques in helping the victims.

**Advantages:**The protection of children is a concern of largely improving urgency in India

and other countries. Nowadays, even though technology is mounting at a wild pace,

computerized vehicle tracking techniques are available and are being used in a variety of

ways to track and display the locations of vehicles instantaneously.

**Disadvantages:**The system may be enhanced by adding a camera application. Since the

proposed system can detect the violence with good accuracy, for better performances,

In the future it can be implemented with raspberry pi and lily pad can also be added.

**[4]**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 crowd sourced 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.

**Advantages:**In the monitoring mode, theCCMF framework can prevent young children from

being taken away by strangers/people with bad intentions.

**Disadvantages:**In particular, the feasibility and superiority of our framework are further

verified through the implemented iOS-based crowdsourced children monitoring

and finding prototypes with Arduino wearable devices and mobile/static iBeacon nodes.

**[5]**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”.

**Advantages:**major advantage of this proposed system over other wearable

devices is that, it does not entirely depend on manual alerting by the victim, but can detect a

distress situation automatically.

**Disadvantage**s**:** Usage of machine learning has improved the accuracy and made the

system intelligent for a general case compared to a threshold detector when tested on

different sets of subjects.

**[6]**Vestures are essential for babies, All things considered; many ages of posterity have

overseen without them. Observing wellbeing parameters of toddlers, for example, breath

designs, oxygen level, rest movement is mandatory and so forth is important to guarantee

eupepsia of their wellbeing.

**Advantages:**Seamen need to deal with their family and in the meantime handle the work

pressure. Hence, newborn safekeeping has turned into a challenge to numerous

families in their everyday life. Mother dependably stresses over the prosperity of her infant

while working.

**Disadvantages:** The continuous administration is given by the framework. Also, the

framework can lessen the correspondence gap amongst mother and the infant.

**[7]** Smart education is the constituent of smart cities. Smart education is the use of computers in the classroom. However, there are many other factors to improve a child’s quality of education. One part is the amount of time a child spends on a bus from traveling to home. with currently available technologies as the Internet of Things

(IoT) and Android, we will be able to track school buses from home or anywhere.

**Advantages:**Our main contribution is to develop a system which shows all bus tracking

modules with sensors, it shows the real time tracking of buses.

**Disadvantages:**Real time data can be now displayed to the user through web servers. An

RFID technology are also added for providing information on the number of passengers in a

bus at any time and provides information on the number of vacant seats.

**[8]**In the real world, children's safety is a huge question mark in everyone’s mind. Parents

always expect their children should live in a secured place where they can spend their time

and mind without any problem. But, typically half of them are facing so many issues.

**Advantages:**The IoT, it is the most familiar and buzz word in technical society to solve

different life issues by applying this technology. The IoT is made up of different wireless

sensors, boards, LEDs, and devices as per the required application area for designing the

solution effectively.

**Disadvantages:**composition of more different purpose sensor may improve the abilities

of required system design on the given problem domain.

**[9]**With the emergence of the Internet of Things (IoT) technology, in addition to Radio

Frequency Identification (RFID), developing such systems became feasible and

cost-effective. In this paper, we present the design and implementation of a comprehensive

low-cost system based on IoT that allows schools, parents, and authorities to track the

movement of children while in school buses or being transported in private vehicles in real

time.

**Advantages:**evolution of the Information and CommunicationTechnologies (ICT)

through ubiquitous computing and It led to a plethora of intelligent systems. These systems

offer robust, real time, and fast communication services for sharing information and data

over the cloud such as the scenario of smart cities.

**Disadvantages:**The scope of the work can further be improved by incorporat-

ing diverse machine learning tools for better tracking, more flexibility, and additional useful

features.

**[10]** 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.

**Advantages:**device can detect the child’s approximate location , it can detect the

body temperature and the surrounding temperature to approximate the child’s physical

condition. If a child has some allergy in high humid conditions then it can send an

alert to notify the situation by measuring the humidity.

**Disadvantages:**Filtering of interference signals is required for better effectiveness. It will

send data to the parents in a regular interval as well as on trigger based like

when the parent requests for data and when the data exceeds the particular threshold value.

**[11]**The proposed system provides a more secure alert mechanism and facilitates the user's

at school and during mobility to the school or home. The proposed system evaluates in

terms of data delivery, time, and response alert parameters .

**Advantages:**There are many challenges associated with the development and

implementation of smart school systems such as cyber-attacks, user’s privacy, and security.

Physical security of kids is one of the priority concerns start from home to school and inside

the schools. Schools have been always the main target of terrorists and other violent

attacks.

**Disadvantages:**hese traditional and existing systems have not been designed for security.

This paper proposed an S-IoST system as a security solution and considered all

stakeholder’s concerns including parents, security, and transportation.

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