IoT Based Safety Gadget For Child Safety Monitoring & Notification

ABSTRACT :

Child safety and tracking is a major concern as the more 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.

INTRODUCTION :

Internet of Things (IoT) plays a major role in every day to day life. The major difference between IoT and embedded system is that a dedicated protocol/software is embedded in the chip in case of embedded system, whereas, IoT devices are smart devices, which are able to take decisions by sensing the environment around the device. The development of sensors technology, availability of internet connected

devices; data analysis algorithms make IoT devices to act smart in emergency situations without human interventions. So, IoT devices are applied in different fields such as agriculture, medical, industrial, security and communication applications. IoT systems are useful within a system to do deeper automation, analysis, and integration. IoT contributes to technology by advances in software, hardware and modern tools. It even uses existing and upcoming technology in the fields of sensing, networking and robotics. IoT brings global changes by its advanced elements in the social, economic, and political impact of the users.

Internet of Things (IoT) :

Internet of things (IoT) refers to networked interconnection of objects featured with ubiquity intelligence. In IoT, objects are connected via internet for communication, interaction, exchanging data and making decisions automatically at anywhere and anytime. Thus, introducing the hyper connectivity concept meaning individuals and organizations able to communicate with each other effortlessly and remotely. Revealed by and, IoT is a revolution in advancing technology causing transformation in information technology, humans'

lifestyle, and in businesses processes. The advancements of IoT make it possible to be used in organizations for automating and monitoring business processes. In term of society, IoT can be used for simplifying daily tasks, creating smart homes, smart cities, devices or application which improves the quality of life. However, security and privacy are the main challenges of IoT which need to be solved as it gathers much personal data capable of revealing sensitive information.

Sensor :

Child safety and tracking is a major concern as the more 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.

Cloud :

Cloud computing means shared computing resources (networks, servers, storages, applications, services) are delivered as a service over the Internet from cloud to customer. According to, cloud is an interconnected network of servers providing services for

people or businesses. In fact, cloud supports real-time operation, processing, analyzing, connecting, managing and securing IoT devices as well as applications. In addition, it reduces cost since users are paying based on usage without building the physical infrastructure. Furthermore, it allows developers to create projects faster. Organizations can also access Big Data from the cloud. Discovered by, the core concept of cloud is to reduce processing burden on users. Consequently, different devices like PC, laptop, smart phone able to access various utility programs, storage and application development platform over the internet

Safety Device :

The safety device protects individuals from potential harms and dangers. A research done by proposed the child safety wearable device using raspberry pi 3. The raspberry pi 3 gathers data from pi camera, pulse sensor and sound sensors. Then, send collected data to parents' smartphones by SMS using GSM shield. Images captured from pi camera and children's location detected by GPS will also be sent to parents' devices. In another study, designed a wearable smart watch for women security. Sensor inside the smartwatch senses the

heartbeat of a child or woman who wears it. When he/she is exposed to attacks, heartbeat rate will be high. When this is detected, alarm sound will be triggered. It will then automatically make calls to registered contact and to the nearest police station. Based on the location provided by GPS, police will arrive soon at the correct destination.

CONCLUSION :

Through this, child safety can be ensured and crime rate will be reduced. However, the proposed device is not robust enough and does not contain sufficient functions to operate. Hence, the future enchantments will be adding more features, software, applications, hardware to make the proposed system capable of working more intelligently, meanwhile guarantee the safety of children.