LITERATURE SURVEY

IoT Based Safety Gadget for Child Safety Monitoring & Notification

M Benisha et.al [2021] has proposed a method is to send an SMS from children's wear tool to their parent or guardian. The planned method will be highly effective when compared to the other existing techniques in helping the victims. Moreover, it doesn't need any manual operation. This paper recommends a newfangled technology for child protection by using GSM so that the children will not feel abandoned while facing such social problems. The problems overawed here using Arduino UNO, GSM, sensors, MEMS, temperature and panic button by using IOT. In such case, Heartbeat Sensor track the best rate for children and sends the emergency message by using the GSM to save contacts.

Ganesh Jambuka et.al [2022], This method proposed the idea of a safety band to help women and victims in critical situations. The Bluetooth module will help to connect hardware with software. We used a band for hardware and a mobile software application. Our technology will help women who have been sexually harassed, as well as victims of accidents or other crises, by tracking and communicating their real-time location, to the family and the police via Short Message Service (SMS) using the Global System for Mobile Communications (GSM) module and Global Positioning

System (GPS) module while the victim is in the process of being tracked. Our method helps them remember the coordinates of where they pressed the push button. All data will be stored on Firebase and analyzed before reporting to law enforcement and government agencies. Based on the investigation's findings, the police may take further actions to help the victims.

Dileep Reddy Bolla et.al [2018], Now a days, we see a lot of children along with their parents standing on the roads waiting for their respective school bus, in this aspect they needs to communicate from and to home and school daily. Secondly, in recent days, safer transportation of school children has become a serious issue as it is often observed that child is forgotten to exit and enter the respective stops. So this paper proposes the solution for this issue by developing a bus safety system which controls entry and exit of the student by sending SMS to the parents via tracking exact location of school bus. The system consists of RFID (Radio Frequency Identifier) card. To identify which student has entered or exited the bus, GSM (Global system for mobile communication) to send the notification, GPS for the exact location of the bus. Fire sensor, if any fire ignition and Panic switch if any emergency.

S. Rajalakshmi et.al [2020],In this paper, we discuss the concept of child safety device based on Internet of things. This device can be used to monitor the temperature and

motion of the child. If any problem persists, the GSM mobile communication module automatically sends a text message to the parent as SMS. The other features of the device are emergency light and alarm buzzer which are activated when the button is pressed by the child in a distress situation to seek the attention of the bystanders. The accelerometer and vibration sensors are used to detect the motion of the child. The camera is used to capture the environment of the child. The image taken is processed using convolutional neural network (CNN) which predicts the background like play area, railway station, beach, road, or classroom. The GPS module is used to record current location of the device which is used to track the device if the child is missing.

James N Gilmore et.al [2019], This method provides a critical analysis of the child wearable Jiobit, a locational tracking device that is designed to allow parents to monitor how children move through space. Emphasizing the device's incorporation of geofencing features, which allow users to program 'fences' on a paired smartphone application and receive notifications when a Jiobit wearer enters and leaves the 'fenced' areas. This artifactual analysis is paired with a discursive analysis of the company's policy documents, which readily acknowledge Jiobit's inability to serve as a fully reliable security system, while also detailing the ways in which the extraction of data is stored indefinitely and, in some cases, disclosed to third parties. Through this case study of Jiobit, I argue for critical studies of wearable

technologies to attend to the ways in which their producers promise ‘security’ and the ways in which ‘security’ acts as an alibi for continuous data collection.

Shweta N. Shah et.al [2022], With the development of the Global Positioning Sys-tem and other Navigation Satellite Systems, it is possible to locate position coordinates precisely. The growth of smart devices and high-speed data connectivity has also supported the development of applications using location information. Geofencing is a major field of location-based services that enables remote monitoring of pre-defined boundaries. This paper describes various applications of geofencing and presents a novel approach to child safety application using geofencing. A hardware setup is designed to send position coordinates of a child in real-time. A mobile application is developed for parents to monitor their children remotely. They can set up a geofence in the app and receive alerts when the child goes out of bounds. The geofencing application utilizes NavIC at its core.

M. Izham Jaya etal [2021],Geofence Alerts Application with GPS Tracking for Children Monitoring (CTS) is a mobile application that helps parents to track the location of their child. It provides the parents with the route and real-time

location of the children. The first objective of this paper is to obtain a latitude, longitude, and time information of a child's location in real-time using GPS tracker. The second objective is to develop a smartphone application that capable to track the location of children in real-time. The third objective is to evaluate the functionality of the developed smartphone application in tracking children's location. Features, advantages, and disadvantages of three commercialized application are compared to collect requirements for the CTS application. The requirements are then used to design and develop the interface of CTS application using Rapid Application Design (RAD) framework. Three main modules, which are the View Current Location module, View History Route module and Setup Geofence module are proposed for the application. Additionally, a GPS tracker based on Arduino Uno board is developed to provide the longitude and latitude of children's current location. The functionality of the CTS application and the GPS tracker is then evaluated to determined bugs and its usability. It was discovered that CTS is in helping parents to track the location of their child in real-time, view the past route taken by the child, set up geofence area, and receive notification when their child enters or leave the geofence area within the scheduled time.

N E Indrayana et.al [2021],we implementing an application to monitor children's movements using virtual borders. This geofence is used to mark which areas can be occupied by the child. This child monitoring application with geofence

facilities was built using the unified software development process (USDP) method. USDP is divided into 4 stages, namely Inception, Elaboration, Construction, and Transition. This application is designed to assist parents in monitoring children's movements in realtime. This child monitoring application with geofence facilities begins with an investigation of system requirements, followed by a system architecture design and a use case diagram design. Children use smartwatches and parents use Android smartphones. The latitude and longitude positions of the child and parent are stored in the Firebase database. Geofences are set by parents and are used to restrict children's movement in certain areas. In designing this system, the haversine formula is used to calculate the distance between the child's position and geofence to find out whether the child is still in the permitted area. When the child leaves geofencing, a response will appear to the parents.