LITERATURE SURVEY

1. **Prakriti Agarwal et al (2020):** The purpose of this device is to facilitate the guardian or parents in locating their child with ease and ensuring its well-being. The basic mechanism of this system involves monitoring the environment through sensor nodes, acquiring real-time data and transmitting this data to a cloud server. The data can be accessed by users through a web-based interface present on this cloud server. The wearable also functions to send alerts to the user through a mobile application in case an emergency condition is detected by it. The design of this model involves developing a medium for communication between the parent/guardian and the child's wearable device. The child's location is tracked using GSM mobile communication to specify the location of the child in real-time. We have surveyed relevant papers and have discussed about the different methodologies that have been used to achieve similar but different results. We later also compare these papers using their advantages and disadvantages and we try to bring out the uses from their results. This device uses an SMS as the communication medium. The motivation to develop this device was to secure the safety of little children that could get lost or go missing in crowded areas.

2. **Archana Kalyanrao Kale et al (2021):** The main objective of this system is to provide the safety to child which is lost in major crowded area. Now a day, Childs are not secured they are facing many issues regarding their security. There are number of security systems for the child security purpose. In order to overcome such problems, the child safety wearable system is implemented. This system is not required any expensive technology and it is user friendly for both educated and uneducated people. There are many wearable devices are available in the market to track the child using wi-fi and Bluetooth but the wi-fi and Bluetooth are the unreliable medium for the communication between parent and child. In this system we use the text SMS as a mode of communication between parent and child there is minimum chances of failing communication as compared to wi-fi

and Bluetooth. It also includes SOS light and BUZZER to provide security to the child in real time situations and it helps to parents to check the condition of child using android application.

3. **Angeline Reeba Karkada et al (2021):** The main aim of the project is to provide security to the child. For this to be achieved, we use wearable device which help the parents to get notified if the child faces any unusual situation. It instantly reacts for child's safety until the parents arrive or it could apprise the parents and help to locate them. It is implemented using a Raspberry Pi3 and the sensors. Sensors collect data and store in the server which can be sent to parents through android application. It includes bright SOS light and distress alarm buzzer. The aim of this project is to provide security to the child in real time and also helps parents to observe the child's condition using android application.

4. **Sadhana B et al (2022):** the major goal is to create an IoT based Child Monitoring System that will allow parents to watch and detect their children & activities even when they are away from home. It is an innovative, smart, and protected Child Monitoring System designed to efficiently nurture a newborn. This approach takes into account all of the minor elements necessary for the child & care and protection at the institution and elsewhere. The usage of technologies/methodologies such as the Internet of Things (IOT), Live Video Monitoring System, Cloud Computing (Data Storage), and User-Friendly Web Application helps to build smartness and innovation (for User Controls). Different Sensors/Modules are fitted to the child in order to detect each and every activity. All data collected from sensors/modules will be kept in the cloud and examined on a regular basis.

5. **Ms. S.Sorna valli et al (2018):** It working devices, SMS based solution using magnetic sensor to identity the child position in real time using for temperature sensor. This work for physically analysis of body temperature, happy, pressure etc. The daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the devices, but to be an unreliable medium of

communication between child and parent, so communicate enable to be SMS service. i.e., a child going home, school, dance class the daily activity programmed the devices some of time these children go unknown location for automatically send alarm or SMS on parent mobile. This is followed some characteristics of high reliability, short response time, high accuracy. The requirements enable to children's safety.

6. **Kaushik Gupta et al (2022):** The project aims to create a system that allows the parents to keep a track of their children when they are out of their sight. This is done using a concealed WFPS-enabled device worn by the child which is connected to the parents' smartphone using a mobile network. This Child Monitoring system helps monitor or track the child and their activities from anywhere in the world. This system plays an important role. It tracks whether the children are safe. Some prominent features of this system are Geo-fencing, Discrete Panic Button, Long battery life, Real-Time Tracking. Keywords: Raspberry Pi, Wi-Fi Positioning System, Internet of Things, Real Time Tracking.

7. **Dipali Badgujar et al (2019):** For sensing purpose we are using Waterproof Ultrasonic Obstacle Sensor which are placed in the simple locket that is given to the baby so that locket will give alert to the caretaker through the mobile and for battery backup we are using solar panel through which the energy will get stored in the care taker's shoes and this energy will be dependent on the steps covered by the care taker. In this proposed system a general method for rapid peak detection is used for depth/height measurement. First, the signals curve is equal divided and maximum and minima values in each segmentation are collected. The repeated maximum and minima values are removed and all fake peaks are merged in the case of ensuring true peaks remained. Experimental results showed that: compared with traditional methods, the proposed method is more accurate and faster in peak detection, and suitable for a variety of waveforms.

8. **P.Poonkuzhlai et al (2021):** 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 the 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 group face different difficulties. But the security for children's is very low. There is 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 the school children is very much difficult. In this project we are introducing the IOT based embedded system is used in this project. So, we propose a system to continuously monitor the parameters of the child and also their location for safety purpose. The system provides smart child tracking and monitoring system.

9. **Ninad Tanksale et al (2015):** This proposed system tries to ensure best possible safety of children using smart features which are additions in existing tracking system for better security. The proposed system consists of school bus unit, school unit and android application. The School-Bus Unit will note presence of child in bus using RFID. GPS module attached to this unit will track location and bus speed constantly. Alcohol sensor and tampering switch in this unit provide secured transport to child. Cloud connectivity and live video streaming facility is provided by Raspberry pi unit which act as slave controller to AVR in bus unit. The School Unit identifies the child in school using RFID scan and update child location on server using WIFI module. The Android Application is a user interface for getting the information of the child and the exact location of the bus.

10. **Mr. Raghavendrachar S et al (2022):** The main goal of this project is to create a smart wearable device for children that uses advanced technology to ensure their safety. As a result, this strategy is perceived as sending an SMS from the children's wearable to their parents or guardians. This project employs cutting-edge

technology to protect the youngster through the use of a GSM module, ensuring that the child does not feel abandoned while dealing with such social issues. An Arduino Nano, GSM, GPS, temperature sensor, heartbeat sensor, and a panic button will be included in the wearable. The heartbeat sensor detects the child's heart rate and delivers it to the guardian on a regular basis. If the child falls suddenly, the accelerometer detects it and alerts the parents. As a result, the parent has a sense of security.

11. **M Nandini Priyanka et al (2019):** 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. The above system ensures the safety and tracking of children.

12. **Shruti Anant Tiwarkar et al (2020) :** this paper proposes an Android based solution to aid parents to track their children in real time. Nowadays, most mobile phones are equipped with location services capabilities allowing us to get the device's geographic position in real time. The mobile application uses the GPS and SMS services found in Android mobile phones. It allows the parent to get their child's location on a real time map and its marked attendance at school. Also display the attendance of particular student to the teacher. The system consists of two sides teacher side and parent side.

13. **N. Manjunatha et al (2020**): Parental android app is developed to manage and track the device anytime. 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. Health monitoring system on gadget checking for parameters like heart beat/pulse rate and temperature is included which can be monitored on parental app. Gadget also monitors whether it is plugged on hand or not using contact switch and alert the parent as soon as it is unplugged.

14. **HM SABAA FATHIMA et al (2020):** The device will replay back with a text containing the real time accurate location of the child and will also provide the surrounding temperature, so that the parents can keep track if the temperature not suitable for the child. The secondary measure implemented was using a bright SOS Light and distress alarm buzzer present on the wearable device which can be activated by the parents via SMS text to display the SOS signal brightly and sound an alarm which a bystander can instantly react for the child's safety till the parents arrive or they could contact the parents and help locate them. Hence this project aims at providing parents with a sense of security for their child in today's time.

15. **V. Lavanya et al (2019):** The objective of this project is to safeguard the child from threads. Now a days the safety measures of children has been reduced in huge number. Thus, the violence against children increasing day by day. Not only kids even women are also abused both physically and mentally. We are taking small step towards violence against the kids. Our project mainly focuses on sensing the children's Temperature and Heartbeat. By monitoring the activities, the state of the child is analysed. By using GSM, if child reaches the critical state then the latitude and longitude of that particular location is sent as an alert message to the parents. In this system, it has a MEMS sensor which is used to detect the abnormal vibration and it is controlled by NodeMCU micro controller.