Date	29/08/2022
Project Name	**IoT Based Safety Gadget for Child Safety Monitoring and Notification**
Team id	**PNT2022TMID49661**

The overall percentage of child abusements 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 abusements, 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 condition and aims 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 makes 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.

In the system, we have developed a smart watch that can be used to locate missing or lost children and also track the child movements outside from the home as well as for facilitating women safety. Here the user itself can create his own circle in a mobile app with some radius of distance according to their comfort. When the person is out of the location, which means out of the radius, immediately the message has been sent to the emergency contacts which are already selected before by the user in the mobile app. This process can be controlled by end user. If the user hurts in any case, it will send the alert messages to the pre-elite contacts. GPS (Global Positioning System) is employed to urge the position of a widget in terms of latitude and meridian. Latitude and meridian values are extracted from NMEA sentences. In our system, GPS helps to send the latitude and meridian values to the list of contacts elite by the user, once the user is not within the range of the circle. This can also be used for children as well, but when it comes to children, the complete process will be done by their parents. The app will be under parental control and they create the radius of their children

to know his presence or location. This device gives the solution for knowing their location faster and facilitates to take the necessary action immediately.

Safety of children is of utmost importance in any home environment. IoT when combined with machine learning is found to offer tremendous benefits in creating smart and safe homes to the society. The aim of this research is to, apply machine learning models, in order to detect the anomaly on the dataset gathered from three IoT devices. The environmental parameters for which the anomaly is detected are smoke emission, light illumination, LPG gas emission, CO emission, motion detection, humidity changes and temperature-level changes. The research makes use of three machine learning models namely K-Means clustering, Isolation Forest and Inter-Quartile Range to detect anomalies. In addition to that, it also uses Facebook Prophet Model to predict the daily trends in the data predicted by the three models. The evaluation of performance shows that the accuracy of predicting anomaly is greater for the Inter-quartile range model when compared with that of the remaining two machine learning models. The accuracy obtained by the IQR model is 99% whereas the models K-means and Isolation Forest render an accuracy of 94% each. The study also provides a scheme of a hardware as a part of the future work that could be implemented in order to implement child safety in a better way

Child care has become a significant challenge with the emerging modern work culture, where both men and women are ever occupied with their work schedules. On the other hand, digital technologies are revolutionizing our day-to-day activities and this technological advancement can also play a significant role in the field of child care. This research work intends to design and develop an IOT based child monitoring system to monitor the child from any location. The proposed system has been designed to identify any strange activity and send either text messages or snapshots of the child to the monitoring parent. The proposed Internet of Things (IoT) based child monitoring system is a well-organized low-cost system for monitoring the child in real-time. It allows parents to easily monitor their children by continuously tracking their activities.in the near future.

Internet of Things (IoT) has made its imprint on every part of the globe today. Offices, households, factories, industries, agriculture, and day cares, among other places, have all upgraded to their innovative version. It has propounded great potential in various real-world applications. The topical trends in the adoption of IoT have also highlighted the challenges associated with the performance of IoT devices. IoT devices require continuous monitoring for any performance degradation. A bibliometric analysis of 587 papers is undertaken on the Scopus database to spot the increasing interest of researchers in fault detection in IoT. A smart system's or an IoT-based space's usability, efficiency, and performance are all built on a fault-tolerant approach and interruption-free smooth operations. The investigation was carried out based on the literature to determine the need for a pro-fault detection system in an IoT-enabled day care. Kids' security and safety are highly dependent on the hassle-free working of smart devices. It's overhead to carry out device tracking manually

along with demanding kids. This issue needs to be addressed to uphold the smart day care's trustworthiness. A pro-fault detection approach can be applied to resolve the aforementioned issue to enhance the smart day care's performance and efficiency. This paper proposes SWOT, a novel hybrid hardware-based approach in an IoT-based day care to safeguard the proper working of all IoT devices deployed. It screens every single appliance associated with a smart day care to detect the faulty appliance beforehand. The solution will assist the day care staff in providing the best care and security to their kids without any overhead. SWOT evaluation proved that it is an economical and efficient approach in detecting faults, accurately, swiftly, and with a low false alarm ratio.

Artificial intelligence (AI)-powered autonomous vehicles (AVs) are one of the most highly anticipated technological advancements of our time, with potentially wide-ranging social implications in terms of driver/passenger safety, equity and environmental aspects. However, most consumers feel reluctant towards the adoption of AI-powered AVs. To analyse user acceptance of AI-powered AVs, we need to understand the related psychological, social and cognitive factors. To do so, we established a conceptual model based on the technology acceptance literature and considered how performance and effort expectancy, social recognition, hedonism technology security and privacy concerns influence both technology trust and user well-being as mediators that subsequently influence the behavioural intention of the use of AI-powered AVs. We used user innovativeness as a moderator, and we performed a survey in France. Our results from the structural equation modelling largely support the positive relationship between the behavioural intention to use AI-powered AVs and performance-/effort expectancy, social recognition, well-being, hedonism and technology trust, as well as security. On the other hand, privacy concerns negatively influence technology trust.

Safety of children is of utmost importance in any home environment. IoT when combined with machine learning is found to offer tremendous benefits in creating smart and safe homes to the society. The aim of this research is to, apply machine learning models, in order to detect the anomaly on the dataset gathered from three IoT devices. The environmental parameters for which the anomaly is detected are smoke emission, light illumination, LPG gas emission, CO emission, motion detection, humidity changes and temperature-level changes. The research makes use of three machine learning models namely K-Means clustering, Isolation Forest and Inter-Quartile Range to detect anomalies. In addition to that, it also uses Facebook Prophet Model to predict the daily trends in the data predicted by the three models. The evaluation of performance shows that the accuracy of predicting anomaly is greater for the Inter-quartile range model when compared with that of the remaining two machine learning models. The accuracy obtained by the IQR model is 99% whereas the models K-means and Isolation Forest render an accuracy of 94% each. The study also provides a scheme of a hardware as a part of the future work that could be implemented in order to implement child safety in a better way in the near future.