LITERATURE SURVEY

ON

IOT BASED SAFETY GADGET FOR

CHILD SAFETY MONITORING & NOTIFICATION

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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. 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.

Book/journal	Author's name	Inference
Children Security and Tracking System Using Bluetooth and GPS Technology	Mohammad Zulhafiz Md Isa, Muhammad Mahadi Abdul Jamil, Tengku Nadzlin Tengku Ibrahim, Muhammad Shukri Ahmad, Nur Adilah Abd Rahman, Mohamad Nazib Adon	The child detector device has 2 main units which is for parents and children. The child's units function as a transmitter that transmits a GPS signal, while the parent's units will receive the signal which will determine the position and distance of their child using their own smartphone. This child detector technology will contribute to child safety so that parents will feel more secure to let their kid out in public.

Children location Detection in School Zone	Young-Jun Song, Nam Kim, Dong-Woo Kim, Jae-Hyeong Ahn	This paper proposed a real-time children location detection system using combined GPS module and Zigbee module. When the systems detect child's presence, they have to transmit the alarm data to a remote center, connect to CCTV system. This paper shows the experimental result whether the children is, or not, in school zone.
Implementation and Evaluation of Child's Location History Transportation Device for Potentially Dangerous Area Detection	Kazunori Omura Hiroyuki Nonomura, Katsuhiro Naito Tadanori Mizuno Katsuhiko Kaji	Driven by the explosive spread of smartphones and Bluetooth Low Energy (BLE) beacons, systems that combine these devices are being used to manage the location of people and things and commercialize child monitoring systems. The information obtained by a parent or guardian in existing monitoring systems, however, indicates only that the child and a monitoring person have passed each other and the time and place of that pass-by.
Employing speech and location information for automatic assessment of child language environments	Maryam Najafian, Dwight Irvin , Ying Luo, Beth S. Rous , John H. L. Hansen	This paper explores an approach for intelligent language environment monitoring based on the duration of child-to-child and adult-to-child conversations and a child's physical location in classrooms within a childcare center. The amount of

		child's communication with other children and adults was measured using an i-vector based child-adult diarization system (developed at CRSS). Furthermore the average time spent by each child across different activity areas within the classroom was measured using a location tracking system. The proposed solution here offers unique opportunities to assess speech and language interaction for children, and quantify location context which would contribute to improved language environments.
Design of a Dual Camera Children Monitoring System based on Motion Tracking Technology	Weiyang Zhang, Ziqiang Cui, Dapeng Zhang, Huaxiang Wang	In this paper, a dual camera based monitoring system has been presented, which employs motion tracking technology and production system principle. The system can monitor and track the children's state, evaluate the danger level of the children and make proper reaction to the dangers, i.e. by triggering the alarm and launching something necessary to avoid the bad consequence. The OpenCV library is employed for image and video processing and obtain the information on the motion, location and situation of the children.

		Experimental results show that this monitoring system can recognize the basic motions of the children and make proper actions according by the rule base.