IBM – NAALAIYA THIRAN

lot based safety gadget for child safety monitoring and notification

LITERATURE SURVEY

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1.

Design and Development of an IOT based wearable device for the Safety and Security of women and girl children

Author : AnandJatti, MadhviKannan , Alisha RM, Vijayalakshmi P, ShresthaSinha

https://ieeexplore.ieee.org/abstract/document/7808003

The aim of this work is to develop a wearable device for the safety and protection of women and girls. This objective is achieved by the analysis of physiological signals in conjunction with body position. The physiological signals that are analyzed are galvanic skin resistance and body temperature. Body position is determined by acquiring raw accelerometer data from a triple axis accelerometer. Acquisition of raw data is then followed by activity recognition which is a process of employing a specialized machine learning algorithm. Real-time monitoring of data is achieved by wirelessly sending sensor data to an open source Cloud Platform. Analysis of the data is done on MATLAB simultaneously. This device is programmed to continuously monitor the subject's parameters and take action when any dangerous situation presents itself. It does so by detecting the change in the monitored signals, following which appropriate action is taken by means of sending notifications/alerts to designated individuals.

2. Smart IOT Device for Child Safety and Tracking

Author : M Nandini Priyanka, S Murugan, K N H Srinivas, T D S Sarveswararao, E Kusuma Kumari.

https://www.ijitee.org/wp-content/uploads/papers/v8i8/H6836068819.pdf

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.

3. APPLICATION OF INTELLIGENT AGENT AND RFID TECHNOLOGY FOR INDOOR POSITION: SAFETY OF KINDERGARTEN AS EXAMPLE

Author : CHUN-JUNG LIN,TSUNG-LIN LEE, SHIANG-LAN SYU, BO-WUN CHEN

https://ieeexplore.ieee.org/document/5580867

This research combines Radio Frequency Identification (RFID) with multi-agent technology, it apply to children's safety of care in kindergarten. It use RFID to position, first, child-care worker will help children put on Tag, and reader receive signal to get RSSI, and through the system to get the children's location. The Tag's data not only include signal, quality of signal, time of reach reader, but also have children's temperature. The message makes care staff to know children's physical condition. Our system composed by multi-agent. After agent communicate to decide to send warning or not. If the message is wrong, system can through user's feedback to self-regulated learning. It not only increase processing efficiency of unexpected event and system, but also decreases probability of human negligence. Besides, the agent's features use autonomy and logic makes system can continuous monitoring and automated analysis to determine the current status. So system can improve the contingency measures, and make care staff can handle unexpected condition immediately and provide a perfect kindergarten.

4. Child Safety & Tracking Management System

Author : Aditi Gupta , Vibhor Hari

https://ieeexplore.ieee.org/document/7546695

Today, technology is growing rapidly and providingall essential and effective solutions for every requirement. Nowa day's child security is an important area of concern. Thismodel is developed to rectify the worries of parents regardingtheir child security. In this scenario, Our system ensuresmaximum security and ensures live tracking for their kidsbecause parent worries are genuine. This paper proposed amodel for child safety through smart phones that provides theoption to track the location of their children as well as in caseof emergency children is able to send a quick message and itscurrent location via Short Message services. This proposedsystem is validated by testing on the Android platform.

5. Kids' Health Monitoring System at Day-Care Centers using Wearable Sensors and Vocabulary-based Acoustic Signal Processing

Author : **Abhishek Basak, Seetharam Narasimhan and Swarup Bhunia**

https://ieeexplore.ieee.org/document/6026744

Wearable sensors for healthcare and wireless health monitoring are rapidly becoming ubiquitous. They enable remote, accurate and low-cost health monitoring and can provide personal healthcare with timely detection of health issues. In this paper, we present a novel integrated system for monitoring children at day-care centers in order to facilitate proper care of health issues and overall wellbeing, including early detection of symptoms for various diseases, posttreatment monitoring as well as encouraging healthy habits and activities. The proposed "Kids Health Monitoring System", referred to as KiMS, is built around a wearable acoustic sensor with embedded digital signal processing capabilities in order to detect various audio signals of interest, such as coughs, sneezes, and cries. It is also equipped with wearable body temperature and pulse rate sensors, along with on-site processing and a Bluetooth unit for communicating alerts and activity on a timely basis. The record of a child's activities can be used by daycare specialist, parents or the healthcare provider for understanding the probable cause or time of onset of symptoms and encouraging healthy habits. This paper also presents a signal processing framework for feature detection and classification of various audio signals, under varying Signal to Noise Ratios (SNR).