Drivers Drowsiness and AlcoholDetection with Alarm System

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ABSTRACT: The main objective of this project is to alert and avoid road accidents which are occurred due to negligence of driver not wearing the seat belt, drunk and drive and drowsiness due to fatigue. This might cause severe major accidents and often results in death. The drivers drowsiness and alcohol detection with alarm system consists of alcoholic sensor, Raspberry pi, seat belt sensor, gps and pi camera. The alcohol sensor detects alcohol and alerts the driver by using buzzer and stops the engine until the driver restarts the car again. The same process will happen if the driver do not wear seat belt and it is detected by using seat belt sensor. The major cause of accidents is drowsiness and it can be detected by using pi camera and same process happens as in the cases alcohol detection and not wearing seat belt. This information is given to the authorized person by using thing speak cloud and vehicle location by usinggps.

KEYWORDS: Alcohol detection, drowsiness detection, Raspberry pi, smart alarm system, seatbelt wearing detection.

I. INTRODUCTION

Drowsy driving or sleep-deprived driving occurs when a person operating the wheel is too tired to remain fully conscious and handle the wheel. This could lead to slower reaction timing and the driver might fall asleep. According to research, drowsy driving is riskier than texting while driving, distracted driving, or intoxicated driving combined. In 2017, 1,47,913 people were killed in road accidents, according to data released by the ministry of road transport and highways. According to statistics, drivers with a reduced level of vigilance are responsible for 10% to 20% of all traffic incidents. According to reports, 60 percent of adult drivers drove a car while drowsy in the year 2017-18. It is observed that young people aged 18 to 29 are the most vulnerable to sleep-related accidents. Each year, the National Highway Traffic Safety Administration estimates that driver fatigue causes around 100,000 accidents. One might face difficulty maintaining proper speed when drowsy driving. It is difficult to stay fully aware and the driver might slip into a brief state of unconsciousness. Sleep deprivation accounts for the majority of cases of drowsy driving affecting the driver's ability to pay less attention to roads. This, drowsy driving may happen due to various reasons such as sleeping disorder, alcohol consumptions and the time of the day, etc. One of the most common symptoms of fatigue is the dropping of eyes. Sleepiness causes the eyelids to become heavier and thus droop. This might lead to the driver falling asleep completely. Some visible symptoms of drowsiness include frequent yawning, increased blinking rate, and difficulty concentrating. When a driver's exhaustion level increases, so do their ability to steer. As a result, the negative impact of fatigue on driving efficiency emphasizes the significance of early fatigue identification.

This paper focuses on providing a radical solution to this problem. We use CV tools to identify facial landmarks and then extract facial signals that indicate drowsiness. Since eyes are one the most salient features that reflect one's current state, we use eyelids' drooping and excessive blinking as one the factors to predict drowsiness. We do so by adaptable Eye Aspect Ratio (EAR). Moreover, we also use the movements of the lips to detect fatigue using the Mouth Aspect Ratio (MAR) and counting and keeping a count of frequent yawns. Thus, the goal of this paper is to propose a system that monitors human operator's vigilance and warns them the risk of accidents.

The Indian Ministry of Statistics reported thousands of road accidents in 2016. Though the report

Design and Implementation of Vehicle Theft Detection Using IoT

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ABSTRACT: With an increase in technology and the manufacturing of new items in the market can easily improve the quality of human lives. One of the important sectors is the automobile sector. With an increase in the population and usage of the vehicle has also increased in demands. With the increase in these sectors the vehicle theft cases and the number of accidents, rash driving cases are increasing by day-to-day life. Our paper deals with a solution for vehicle theft cases and a decrease in accident or rash driving cases. The main feature which makes it preferable is its low cost and can be implemented and used by many leading manufacturing companies.

This system uses a GPS system, a buzzer, and a rash driving (mems) sensor for detecting rash driving. If anyone tries to start the vehicle without the permission of the owner, the vibration sensor will know the irregularity of the vehicle and send it to the microcontroller which will inform the owner via IOT and the buzzer will turn on. GPS tells us about the position like latitude, longitude, and height of an object. The mems sensor which is used in the system is used for finding the rash driving like if the vehicle falls then it will send to the owner that the vehicle might be fallen accidentally or met with an accident. Thus, this research work conclude that this system can be used in any vehicle like a car or bike and the system to intimate the owner about the theft of the vehicle and the owner can turn off the engine remotely by using a mobile phone.

KEYWORDS: Raspberry pi, GPS module, IOT, FLAME sensor, MEMS ADXL345.

I. LITERATURE SERVEY

Nag raja, B.G.; Ramapo, R.; Mahesh, M.; Patil, C.M. (2009) states that, the design & development of a theft control system for an automobile, which is being used to prevent/control the theft of a vehicle. The developed system makes use of an embedded system based on GSM technology. The designed & developed system is installed in the vehicle.

D. Narendar Singh, K. Tejaswi (M.Tech), (2013) states that the proposed security system for smart cars used to prevent them from loss or theft using Advanced RISC Machine (ARM) processor. It performs the real time user authentication (driver, who starts the car engine) using face recognition, using the Principle Component Analysis (PCA) algorithm. According to the comparison result (authentic or not), ARM processor triggers certain actions. If the result is not authentic means ARM produces the signal to block the car access (i.e. Produce the interrupt signal to car engine to stop its action) and inform the car owner about the unauthorized access via Multimedia Message Services (MMS) with the help of GSM/GPRS modem. Also it can be extends to send the current location of the vehicle using the GPS modem as a Short Message Services (SMS).

Android Controlled Spy Robot with Night Vision Camera

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ABSTRACT: An android is a powerful operating system and it supports large number of applications in Smartphones. Smartphones interacting with peripheral devices such as motors, servos and sensors led to the creation of electronic interface boards. These applications are more comfortable and advanced for the users. This robot can be controlled with the help an app of Android phones. This robot can move to any place and perform smartly within specified Wi-Fi range. So Android application sends the signal to RF receiver which is mounted on robot by using Wi-Fi connection. The robot consists of night vision wireless camera which can transmit images or videos. The main objective behind this project is to develop a robot to perform the act of surveillance in domestic areas. Nowadays robot plays a vital role in our day to day life activities thus reducing human labor and human error. Robots can be manually controlled or can be automatic based on the requirement. The purpose of this robot is to roam around and provide audio and video information from the given environment and to send that obtained information to the user. In this project, one can control the robot with the help of mobile or laptop through Internet of Things (IoT) and also can get the live streaming of video both in daytime as well as at night with the help of wireless camera from the robot. The robot can be controlled both in manual with the help of Raspberry Pi. This robot also uses various sensors that collects data and sends it to the raspberry pi which controls the robot behavior. Along with the obtained live streamed video output. Thus the action of surveillance can be performed.

KEYWORDS: Raspberry pi, GPS, Pi camera, DC Motor, Motor Driver, Power Supply

I. INTRODUCTION

Robotics is a widely developed technology in branch of engineering and science that includes Information technology, Mechanical Engineering, Electronic engineering, computer science and others. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing. This robot can work by smartphones over Wi-Fi which can be used to interface between Raspberry Pi and smartphone. In smartphone an Android app is used to send data to the Raspberry Pi that works on given instructions. In this system has a night vision camera is also used. Night vision camera have the ability to see in dark night. So videos can be monitored from anywhere through mobile phone. The security problem is resolved by video surveillance system. The design of our project encourages developing a robotic vehicle for the remote operation connected with the wireless camera mounted on the robot for monitoring purpose. The Android application consist of the push buttons that send the commands to the receiving module for controlling the movement of robot either to right, left, forward, downward.

A dedicated application is created to control an embedded robotic hardware. The application controls the movement of the robot. The embedded hardware is developed on Raspberry Pi and to be controlled by a Smart phone on the basis of Android platform. Raspberry Pi is to receive the commands from the Smart phone and takes the data and controls the motors of the robot by the motor driver L293D. The robot can able to move forward, reverse, left and right movements. The Smart phone has been interfaced to the device by using Wi-Fi. A wireless camera is mounted on the robot body for spying purpose even in complete darkness by using infrared lighting

An android is a powerful operating system and it supports large number of applications in Smartphones. Smartphones interacting with peripheral devices such as motors, servos and sensors led to the creation of electronic

Smart Jacket for Industrial Employees

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ABSTRACT: The climatic conditions are varying from time to time effecting the environment. Extreme hot or extreme cold are very dangerous to the health. Excessive exposure to heat as well as keeping the body too cold causes serious health issues. In extremely hot environment, the most serious problem is heart stroke. At very cold temperature, the most serious problem is the risk of hypothermia or dangerous overcooling of the body. Sometimes, these unusual climatic conditions may cause unfortunate death of people. So we have designed a jacket, named as "Smart Jacket", which is aimed to give better protection to the people living in extreme weather conditions and also for Industry. The Smart-Jacket is very much useful especially for our industry workers, working in extreme weather conditions. By using this jacket, the user can control and monitor the internal temperature of the person. GPS & GSM modules are also used in this jacket to trace the location of the worker and to send the alert messages in dangerous situations. This jacket also monitors the health condition of the worker's body temperature, humidity, oxygen levels and heartbeat.

KEYWORDS:Raspberry pi, Heart and Pulse Rate Sensor, Temparature sensor

I. INTRODUCTION

The Industrial growth is increasing with the needs for the society. In this competition of production, a huge number of industries are facing problems with employee health and safety. As many of the workers are losing their life at work place, due to unawareness of their health conditions and also due to industrial hazards and accidents. Industrial workers are the key parts for running the industries, so their health and safety should be considered by any organization. As contribution to the industrial employee health and safety with emerging technologies such as internet of things a new concept is proposed with invention of smart jackets into the industries. A smart jacket is implemented with connected sensors for reading the employee health. As technology is improving in industries with the fourth revolution with IIoT (Industrial Internet of Things). Where the worker is in a connected network while wearing this smart jackets. As the smart jacket is equipped with different sensors such as heart and pulse rate sensors, temperature sensor, smoke and gas sensor, flame sensor. The heart and pulse rate sensor, temperature sensor which will monitor the health conditions of the employee from time to time on report to the higher authorities through the GSM and GPS modules. So using this information the managing team of the industry will be aware of health conditions of the employee and certain immediate measures are taken if any worker is affected with any health issues.

The health of the sensors for every second is monitored without any interruption to them. For the prevention of any accident from the work place different safety precaution sensors such as smoke and gas sensor, temperature sensor are also attached with the smart jacket in such a way that if any of the worker is about to be affected with any of the hazard this will sense beforehand and the several immediate measures are taken as of giving an alert to the worker by the buzzer, so that he and his co-workers will be aware of it and will be saved from the hazardous situations before they leads to the accidents

Design and Implementation of Free Space Optical Communication System Using Hardware

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ABSTRACT: Free Space Optical (FSO) communication offers the advantages of compact terminals and very high data rates without using scarce radio frequency spectrum. Unfortunately cloud and fog together with scintillation caused by small temperature variations in the atmosphere, can result in significant attenuation and highly variable amplitude fluctuations that degrade the link availability. FSO modem and codec design, that includes a suitably large interleave and strong channel coding scheme using a low-density parity check code, plus synchronization algorithms to provide reliable communication over a 12km optical channel. FSO link offers high data rate and low system complexity but suffers from atmospheric attenuation where communication have lower data rates but are relatively insensitive to weather conditions. A hybrid FSO/RF communication is implemented to combine the advantages of both the systems for providing reliable communication link. By the design of FSO/RF transmission module and highlights the experimental verification of outdoor FSO communication system in combination with the redundant RF application. It provides high availability of uninterrupted communication during link misalignment and also over adverse weather conditions. An image of different data rates has been transmitted successfully under different links. Present communication era demands a communication link with high bandwidth, maximum performance, minimum errors and good channel capacity. All these can be well achieved by using free space optical communication system. Because of FSO system does not require any license for its establishment and the working. In FSO system no. of modulation techniques used to modulate information signal at source side like each FSO system uses towards destination and receiving side high sensitivity receiver used. But the atmospheric attenuation is major challenge for faced by FSO system which affect the performance of the link. The other factors which can affected the FSO are humidity, water vapors, signals absorption, smoke, beam scintillation, spreading and wandering are some of the factors. Performance of FSO link with different wavelength and different aperture area of optical detectors has been analyzed. Effects of different wavelengths on visibility range and quality factor of optical receiver is simulated to find the performance of FSO link. It is concluded that due to reduction in scattering loss at higher wavelength; as wavelength increase quality factor of receiver improves. Quality factor of optical receiver is also improving with increment in aperture area of detector due to increment in sensitivity of receiver due to large aperture area. The link availability calculation was made based on the power budget analysis of FSO link and on the statisticalanalysis of visibility data. Four different cities were selected across different geographical of FSO link for different cities of India is calculated. The visibility of data to the cities throughout the year is found from the website Wundermap. The performance of FSO link is not similar for all the geographical areas as the visibility conditions are different. It is shown that the availability and reliability of FSO link can be improved by making survey of the geographical area where the link has to be established. These data are varying seasonally and with location of particular area. Scattering and attenuation may be caused low visibility condition. The mean and variance of this visibility data should be calculated to find the average visibility of BER performance can be achieved.

KEYWORDS: FSO, channel model, Atmospheric Turbulence, Probability of fade

Tracking System using LoRa Technology

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ABSTRACT: It is difficult to track the children, aged persons, dementia patients, animals, pets. During grazing, some animals would go missing. It is a tedious process to find the missing persons or animal manually. Persons or Animals can be tracked individually with the use of available technologies like RFID, Wireless sensor networks, Low Power Wide Area Network (LPWAN). RFID technology gives a very good battery usage which long last for upto 15 years but gives the location of the RFID reader and not the RFID tag. Hence, the real time tracking is lost. In Wireless sensor network, it sends the information through sensor node but the power consumption is very high and every node has to have a GSM module and must be recharged along with battery. LoRa is a wireless technology developed for low power wide area networks. This technology is an exciting development of low power, long range wireless transmissions. The proposed project uses the LoRa technology to create low-weight and low-cost tracking devices that can be safely deployed on persons and animals. The main aim of this project is to present the solution implemented to track the persons and animals. LoRa end node transmits the GPS data to the user through wireless link. User can track the persons and animal and can monitor its surrounding location using android application.

KEYWORDS: LoRa, Low Power Wide Area Network, RFID, GPS.

I. LITERATURE SERVEY

Monitoring of animal or pet has always been a subject of great interest. Monitoring of animals by farmers is a difficult task due to the difficulties of tracking and classifying their actions. Nowadays, technology allows designing low cost systems that make these tasks easier to carry out, and some of these systems produce good results; however, none of them obtains a high-accuracy classification because of the lack of information. Monitoring the animal or pet is a hard technological task to implement.

II. METHODOLOGY

Objective of this project is to present the solution implemented to track the Persons, animals and pets using LoRa technology in the wide land. LORA module tied to the collar of animal transmits the information to the user or Receiver. Data received is displayed on the monitor.

Various works have been carried out on the animal tracking system. Due to rapid advancement in technologies, animal tracking system can be achieved using one of these different technologies.

Advanced Footstep Power Generation System Using RFID for Charging

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ABSTRACT: Day by day, the population of the country is increasing and the requirement of the power is also increasing. At the same time the wastage of energy is also increasing in many ways. So, reforming this energy back to usable form is the major solution. So, in this footstep power generation project, we are generating power with the help of humans footsteps either by walking or running. It uses the piezoelectric sensors. To generate a voltage from footstep the piezo sensors are mounted below the platform. Also, it consists of a USB mobile phone charging point where a user may it connect cables to charge the mobile phone from the battery charge. The current is distributed using (Radio-Frequency Identification) RFID cards so that only an authorized person can use the generator for charging. Thus we charge a battery using power from footsteps, display it on LCD using a raspberry pi circuit and allow for mobile charging through the setup

KEYWORDS: Raspberry pi 3, Force sensor, Piezo Sensor,RFID cards.

I. INTRODUCTION

Our project model cost is effective and Easy to implement and also it is green and not harmful to the environment. This system can be installed at homes, schools, colleges, where the people move around the clock. It can be used for charging devices e.g. laptop, mobile, etc. To generate maximum output voltage the sensors are placed in such an arrangement. This is then forwarded to our monitoring circuitry. The circuit is the raspberry pi based monitoring circuit that allows users to monitor the charges and voltage a connected battery to it and this power source has many applications. It also displays the charge generated by our footstep and displays on an LCD. The main aim of the project is to generate power from renewable energy sources; system makes use of Piezo. The system monitors the parameters coming from the piezo sensor, energy from piezo sensor values displayed on the LCD. The energy from the piezo sensors is used to charge the mobile. Using RFID technology to charge the mobile phone battery with the help of USB point. It is useful only authorized persons. A piezoelectric sensor is a device that uses the piezoelectric effect, to measure changes in pressure, acceleration, temperature, strain, or force by converting them to an electrical charge. The prefix piezo- is Greek for 'press' or 'squeeze'.

II.METHODOLOGY

The main working criteria for this project is the piezoelectric effect which is achieved by using piezoelectric sensors that develop electrical energy by converting applied pressure. The source of pressure can be from the weight of the people walking over it. The output obtained from piezoelectric material is not stable and its not direct current. Hence, we are using rectification circuits to convert the generated voltage into dc voltage for the constant voltage / constant current. We will use lithium charging module and this module is made for charging rechargeable lithium batteries. The raspberry pi will monitor all the activities of power generation. The details of the battery power ON and OFF are

IoT Based Saline Level Monitoring System

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ABSTRACT: In the process of medication, it is a common practice to treat patients with saline for dehydration and other medical ailments to improve the health condition of the patients. When fed with saline continuous observation of nurses is mandatory in monitoring the level of the saline. There are many cases where patients are being harmed due to the staff inattentiveness, as their absence does not notice the completion of saline level in the container. This arise the problem of back flow of blood immediately after the completion of saline in container. Hence to protect the patient from getting harmed an IOT based saline level monitoring system to be developed. The proposed model incorporates a sensor which continuously detects the saline drops. Whenever the sensor does not detect the drops for a certain interval it alerts the staff of the hospital with the buzzer and SMS alert. In this work, implementing IOT Based Saline Level Monitoring system to detect the level of the Saline bottle and send the SMS alert to the nurse and doctors and also it make a buzzer sound.

KEYWORDS: IoT, Saline Bottle, Buzzer.

I. INTRODUCTION

As the world population is increasing, the need of health prevention is also increasing day by day. Hence, it is mandatory for everyone in this world to take care of their health properly. The monitoring of the patient wirelessly is a major improvement in the medical domain. In recent years, there is a rapid progress in medical care due to the technological advancements in the various fields of sensors, raspberry pi and computers for assuring fast recovery of patients in the hospitals. The major and fundamental requirement of the hospitalized patients is that every patient should be provided with a better treatment and observation and should be supplied the correct quantity of vital nutrition at the correct time. Among the various treatments, the saline therapy is the most important treatment that many patients receive from the hospitals. In recent developments, the internet of things (IOT) creates an interconnected network for all things. The healthcare sector has improved with this technology. Health problems in cardiovascular failure, lung failure and cardiovascular diseases are increasing day by day. These problems require a lot of health monitoring from time to time. A modern concept of patient health oversees wireless devices. This is a big improvement in the field of medicine. A doctor can constantly monitor the patient health without physically interact. Health specialists and technocrats have developed a wonderful, with a low expensive healthcare monitoring system for whom is bearing with several diseases using popular technologies such as wearable devices, wireless channels, and other remote instruments. As per that, doctors can diagnose the patient's disease with the doctor's device screen about his / her health condition from the patient's device, thus eliminates the number of the patient's presence in the hospital, also it provides the time for better treatment. Therefore, doctors are able to save human lives by providing quicker services to them. IOT has become the best platform for various application servicesInternet of Things (IOT) is the network of physical objects comprising of all the devices, vehicles, buildings and the other items embedded with electronics, software and sensors which enables these objects to collect and exchange data amongst each other. The Internet of things has evolved due to convergence of multiple technologies, commodity sensors, and embedded systems.

Detection of Fire Using color Image Processing Technique

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ABSTRACT: Fire Detection is important in nowadays in order to prevent humans and property loss. For such a fire detection, we proposed an effective color model based system for fire detection. Each and every pixel of the fire images which are captured and recorded by the camera and is checked with reference images present in the database for the presence or absence of fire using color characteristics, and periodic behaviour in fire regions is also analyzed. This method is used to detect Dynamic boundary checking is also done to detect the edges of the fire Region of Interest (ROI). Candidate fire regions are detected using the chromatic and dynamic measurements. The fire detected information will be displayed on LCD and also sends fire image to user mail.

KEYWORDS: Fire Detection, Open CV, Raspberry Pi,Background Subtraction, Image Processing.Introduction.

I. INTRODUCTION

The process of oxidation of any material in the exothermic process of combustion, releasing heat and light as by products, is called Fire. This system uses the fire parameters and the color of the fire helps in detecting fire. Based on Fire detection using color information has many applications in computer vision and other domains. In order to enhance the performance of our system, we used parameters of fire for flame detection based on a live video stream; we proposed an effective color model based method for fire detection. Each and every pixel of the fire images which were captured and recorded by the camera is checked with reference images in the database for the presence or absence of fire using color features, and periodic behaviour in fire regions is also analyzed. Dynamic boundary checking is also done to detect the edges of the fire Region of Interest (ROI). fire regions are detected using the chromatic and dynamic measurements.

The main advantages of this Image Processing based Fire Detection System is the early warning benefit. This system can be installed just about anywhere in commercial building, malls and at many more public places for fire detection. The proposed system uses camera for capturing the images to detect fires. So, we do not need any other sensors to detect fire. System processes the camera input and then processor processes it to detect fires. The heat signatures and fire illumination patterns are detected in images to determine if it is a fire and take action accordingly. On detecting fire the system enters into emergency mode and alerts the user as sound alarm. Also displays the status on the LCD display informing about the system. Our color model based method used for fire detection has many advantages over conventional methods of smoke detection such as simplicity, feasibility and understand ability.

Fire is a serious threat to life and property worldwide. It is usually caused by combustion of materials which releases heat and light in large amounts. Fire detection systems have been designed to detect fire via sensing different fire related change. Two types of fire detectors have been used so far, namely: traditional/sensor-based and vision-based systems. Former responds against smoke, heat, temperature and pressure, whereas later rely on the light detection. Among these two systems were used. Traditional detectors have several disadvantages associated with them. These include high cost, slow response time and limited detection range. Additionally, these systems are not feasible as outdoor detectors due to excessive sunlight and wind pressure.

Besides, vision-based detectors can respond flame quickly and can analyzed location of fire. In these detectors, flame which is the vision part of fire can be analyzed via its color, shape and movement based on spectral and spatial models. Although vision- based detectors have several advantages. however, false detection limit their utilities. Therefore, there is still dire to design new models that are more efficient and can solve problems associated with

Development of Smart Medicine Box Using Raspberry Pi PICO

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ABSTRACT: In our day to day life, due to busy schedule and workload, people often forget to take their medicines on time. Especially, old aged people having illnesses and who are illiterate have problem while taking the medicine and also there exists one more problem i.e., tracking the medicines with poor eyesight and also consumption of that medicine leads to errors such as mis-dosage which leads into trouble. Sometimes it's not possible for the family members togive them medicine at prescribed time. In this project the development of smart medicine box system using Raspberry Pi Pico.Here the proposed design is based on a smart and safe medical box that assists patients in taking their pills on advised time. When switch is on then after 30 sec the corresponding LED's will be ON and message will be displayed on the LCD inorder to indicate the patient &also there are some alerting systems to take pills on time. Hence this project gives effective results.

KEYWORDS: Raspberry Pi Pico, LCD, LED, Buzzer.

I. INTRODUCTION

The autonomy of patients is a hot topic nowadays. Researchers are working toimprove, not only this factor, but also the easy monitoring of the patient. Thus, the proposed system consists of a safety-related medical box that can alert the patient via aphone application, about the time to take his medication and if the correct medicine dose was taken, the number of remaining pills in the box and auto-locks the box to keep the medicine out of reach of children. This system is for sure, not the first one that helps monitoring and assisting patients. Several previous published works have proposed suchsystems as the design of smart homes fully equipped by sensor, the monitoring of patients walk and fall, the telemedicine systems that monitors patients from home, and muchmore added to that, as mobile phones are playing an important role in today's life theconnection of such medical systems to mobile devices is increasing dramatically due to theease monitoring and alarm generation. As a human-related system is proposed, the safety and reliability issues are to be considered.

These features must be provided mainly when transmitting data whether by making sure of the correct data delivery or the exact receiving part. These terms were already defined by IEC (International Electro-technical Commission) in 1977, then in 2007 for medical devices. It is defined as being any device connected to a patient in order to monitor, analyze and/or treat them. Even though medical boxes systems were presented in several previous works, none of them has integrated safety and reliability to the system neither system duplication nor hardware failure measures were proposed by the developed systems. Thus, this system deals with these inquiries: although it is a low-cost device, it isable to communicate through a phone application and to remind patients to take theircorrect medication dose on time. All these features are integrated while keeping a special attention on the systemsafety and failure safe state. According to Health Facts 2015 in Hospital Kuala Lumpur (HKL), the number admission of the patients for 2015 are 131, 639

Accident Detection and Tracking of Vehicle

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ABSTRACT: Transportation has great importance in our daily life and it's development has made many of our chores much easy. In recent years there have been numerous road accidents due to careless driving of the drivers. Due to this many lives has being lost. IoT based vehicle accident detection system using Raspberry Pi and GPS has gained attention. When accident occurs this system sends short message to a mobile number via internet. Message will tells about the location where the accident occurred. This message will also give the information to the nearby health care centers and rescue Department Team. Mainly in our project proposal vehicle is monitored by accelerometer. When accident detected it sends signal to raspberry pi and controller sends message and gps location to concerned numbers. Then we can easily save the persons so then easily death rate due to accidents also reduces

KEYWORDS: Raspberry pi 3, Accelerometer sensor, GSM and GPS, Push Button Switch, DC Motor.

I. INTRODUCTION

As the usage of vehicles is increasing drastically, the hazards due to vehicles is also increased. The main cause for accidents is high speed, drunk and drive, diverting minds, over stress and due to electronic Gadgets. This paper deals with accident detection system that occurs due to carelessness of the person who is driving the vehicle? This introduces accident alerting system which alerts the person who is driving the vehicle. If the person is not in a position to control the vehicle, then the accident occurs. Once the accident occurs to the vehicle this system will send information to near by hospitals.

1.1 Existing System:

In the existing system, when an accident occurs. It won't specify the location or alerting message. Due to this it is difficult to find the location and also chances of rescuing a person are less. Nowadays the accidents are occurring due to the driver drowsiness and improper working of the vehicle and lack of knowledge of driving skills . So many of the peoples drive the vehicle by drinking the alcohol it is the one of the main reason for the occurring of the accidents. In the existing system, when an accident occurs. It won't specify the location or alerting message. Due to this it is difficult to find the location and also chances of rescuing a person are less. This introduces accident alerting system which alerts the person who is driving the vehicle. If the person is not in a position to control the vehicle, then the accident occurs. There is no these facilities in the existing system so To incorporate the these facilities we proposed this project. Nowadays the accidents are occurring due to the driver drowsiness and improper working of the vehicle and lack of knowledge of driving skills This project proposal gives the many advantages to resucue the injured person during the accidents.

IoT Based Weather Monitoring System

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ABSTRACT: This system can be used to monitor and update weather conditions over the internet. The system monitors following below parameters namely temperature, humidity and rainfall and smoke sensor and pressure sensor values these values are then displayed on LCD and also updated over the IOT thing speak cloud. By readings, the user can get a fair idea of the weather of a particular area on the monitor. This system proves to be useful for temperature increases the value gets updated. The user can observe the weather status of a particular area from any remote location.

KEYWORDS: Internet of Things (IoT),Raspberry Pi, Thing speak, Sensors.

I. INTRODUCTION

A weather station is a device that collects data related to the weather and environment using many different sensors.Weather station is also a facility that can use for measuring atmospheric conditions to provide information for weather forecasts and to study the weather and climate. Therefore, Weather station using Internet of Thing is proposed to help user access data about weather anywhere in real-time.

II. LITERATURE SERVEY

Effective and cheap methods to monitor the quality of the air and prevent it from a potential hazard. The author collects the data from the app and analyzes the Air Quality Index (AQI) at different time intervals. They correlate CO and NO2levels against humidity and temperature Created a wi-fi network by the client to get access the cloud services and microcontroller. The data is uploaded on the Thing speak. The system used by the author is cost effective as it cannot use the DHT11sensor which reduces the cost at a lesser extent. The author displays the result in the LCD display Developed a pressure monitoring system using BMP085 launch pad. The result obtained is compared with commercial thermometer and barometer. The sensors used are BMP085 (PressureSensor), CC3200 and AT&TM2(cloud Technology). The average error in pressure measurement is 0.035%. In temperature measurement, the average error is 2.02%. The measured parameters are sent to the cloud services. The author works on Raspberry Pi which is also combined with different sensors like temperature, humidity, pressure Gas and rain. The main advantage of this work is that it is low cost and less power consumption. It is installed any where to monitor the climatic changes. The system helps the user to select the best suitable environment. It uses various sensors like temperature, humidity, Pressure, and gas detector. Moreover, the data to be monitored on the website.

It uses repetitive data management to handle repeated data in IoT. RDMA algorithm is applied to data collected from different sensors like DHT11, pressure sensor, Smoke sensor and rain detecting sensor. In this work, comparison between the repeated data and non-repeated data is presented successfully. The proposed algorithm reduces the 44.83% network load and eliminates the data processing overhead due to repeated data generated by different sensors in IoT.It uses various sensors likeBMP180 pressure sensor, DHT 11 temperature and humidity sensor, rain module. This device is used for a particular place or surrounding Whenever the value is exceeding the threshold limit, it directly sends the alert SMS and emails to the owner about the alert that the level of the sensors is either above or below the predefined level.

It uses various python libraries like pip, python- dev, python-eeml, RPI.GPIO and so forth. In this paper, the author providemonitoring and controllingthe services in the remote areas and ad-hoc application which are usually not

Speaking Mute People Using Hand Gestures

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ABSTRACT: Hand gesture is one of the methods used in sign language for non-verbal communication. It is most commonly used by deaf & dumb people who have hearing or speech problems to communicate among themselves or with normal people. Various sign language systems have been developed by many makers around the world but they are neither flexible nor cost-effective for the end users. Hand Gesture recognition system provides us an innovative, natural, user friendly way of communication with the computer which is more familiar to the human beings. The problem existing at the moment is that most of the people are not able to comprehend hand gestures or convert them to the spoken language quickly enough for the listener to understand. In addition to this communication with sign language is not a very easy task. This problem demands a better solution which can assist speech impaired population converse without any difficulties.

The authors propose a non-vision based extended idea that will assist in removing or at least reducing this gap between the speech impaired and the able-bodied people. Our project objective is to analyses and translate the sign language that is hand gestures into text and voice. According to dumb people, every gesture is associated with a specific meaning and this is stored in a database. By frequently updating the database the dumb will communicate like a normal person using the artificial mouth. Thus, conversion of sign language into words by an algorithm or a model can help bridge the gap between people with hearing or speaking impairment and the rest of the world.

KEYWORDS: Hand gestures, Non-verbal communication, Speech-impaired people, non-vision based, Data base, Artificial mouth, Algorithm.

I. LITERATURE SERVEY

The objective of the paper is building up a framework that takes Gesture positions from Accelerometer as information and yield will be gotten as content and discourse. It intends to connect the hindrance by making an application that can change over gesture-based communication to voice and Displayable message content, and give them a communication medium Assistive Translators for the Deaf and Dumb people& quot; S.B Shroke et al. (2014) This article models communication between the deaf and the public. The project targets people through glove-based deaf-mute communication systems. Gloves are designed internally with five bending sensors, touch sensors and accelerometers. For each distinct gesture, the bending sensor develops a proportional resistance difference and the accelerometer reads the direction of the hand. The sensor output is analogous to the digitally converted value. The output from the sensor is analog values it is transformed to digital. The transform of these hand gestures is in ARM processor. Processor compares the input signal with predefined voltage levels reserved in memory. According to that required output sound is produced which is saved in SPI memory with the help of speaker. In such a way it helps for deaf and dumb too. Communicate with normal people. Pankaj Pathak (2012) proposed "Speech Recognition Technology: Applications & Future," paper discussed about: Voice or speech recognition is the used technology with the help of audio, words or phrases spoken by any person are converted into electrical signals, and these signals are transformed into coding patterns to which meaning has been assigned. Speech recognition technology has oppressed throughout many industries. Some companies have developed a robust system that performs as expected and sends the call to their intended destination. This technology would have to be suitable with all software and hardware. This technology would require the CPU to concurrently process voice input and data access. In this system the flex

Vehicle Anti-Theft and Cloud Based Tracking System

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ABSTRACT: Vehicle thefts result in a huge loss for automobile owners especially those who depend on them for their source of income. Most vehicles today have only theft alarms which can be easily disabled by thieves. An embedded car anti-theft system can provide automobiles with higher security thereby decreasing the probability of robbery. Methods like image processing are for authentication and can be very time consuming. The existing vehicle theft alert systems have a user mode and a theft mode. Vehicle theft can only be detected in theft mode. If the owner forgets to switch on the theft mode they will not be notified of the theft. The authentication methods used do not enable the system to work in different possible situations. Also in the existing system, we can prevent the vehicle from getting stolen but we cannot catch the person responsible for the crime. The aim of this project is to design an anti-theft system that uses GSM (Global System for Mobile Communication) to alert the user of possible vehicle theft and receive the user's commands to initiate the required actions. Once a theft is detected, the vehicle's GPS (Global Positioning System) location will be tracked and sent to the user. The location will be visualized on ThingSpeak. In ThingSpeak the latitude and longitude measurements are used to determine the vehicle location and visualization can be observed in the form of a map. Thingspeak can be accessed on mobile. The user does not have to explicitly set the vehicle in theft mode.

KEYWORDS: GSM, GPRS, GPS , Radio frequency transmitter and receiver , Central locking , ThingSpeak.

I. INTRODUCTION

In India in keeping with car robbery, housebreaking census from 2013,the car thefts are growing almost 8.47 %.The rate at which vehicle thefts occur every year is quite high.Since vehicles are a heavy investment,a huge loss occurs to the owners when their automobiles are stolen. On an average, for this case the generation to keep away from the robbery of the car needs to additionally be increased. Microcontrollers primarily based totally actual time car robbery detection and prevention gadgets offer answers for this problem. The Global system for mobile communication(GSM) is a globally well known for mobile communication.The car proprietor uses Subscriber Identity Module (SIM) inserted within his cellular telecel smartphone to send messages to GSM modem and GPS (Global Positioning System) gadget that's part of the car robbery prevention(gadget embedded into car).The foremost scope of this venture is to ship an alert message to the owner of the car whilst the car is stolen.This project consists of a GSM modem, GPS module, microcontroller and is an application of Internet of Things (IoT) . When a person attempts to steal the automobile, the microcontroller receives interruption and orders GSM Modem to send the SMS (Short Message Service).The owner gets an SMS that his vehicle is being stolen and also theprecise location of the car through the GPS system.The user and theft mode concept in the existing system requires the user to explicitly set the vehicle in theft mode.This project aims to design a system that does not require the user to switch to theft mode in order for it to operate.

II. STUDY ON EXISTING SYSTEMS

The motivation for doing this project and finding a new implementation for vehicle theft detection in a vehicle anti-theft system comes from the study on existing systems and the limitations that have been found. The new proposed