RVS COLLEGE OF ENGINEERING AND TECHNOLOGY

Kumaran Kottam Campus, Kannampalayam (Po),Coimbatore – 641 402

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)

NAAC Accredited and ISO 21001:2018 certified Institution

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

List of students undertaking Project work for the ACADEMIC YEAR 2022-2023

Participant List

S.No	Register No.	Name of the Candidate
1.	712819106001	ANTONY VITHURSON R
2.	712819106002	ARUN MANIKANDAN R
3.	712819106003	DURAI PANDI R
4.	712819106004	DURGA D
5.	712819106005	JEEVANANTH T
6.	712819106006	JEEVIKA M
7.	712819106007	KAMALESH R
8.	712819106008	LOKKESH B
9.	712819106009	MAMTHA S
10.	712819106010	PRABHAKARAN M
11.	712819106013	SENTHIL KUMAR M
12.	712819106014	SENTHILKUMARAN K
13.	712819106015	SITHARTHAN V
14.	712819106016	UDHAYA KUMAR S
15.	712819106017	VIJAYAN R
16.	712819106018	VIMALRAJA S
17.	712819106301	ARUN KUMAR A

18.	712819106302	PRAVEEN M
19.	712819106303	VASANTHARAJ V
20.	712819106501	RAMAN V(SANJANA V)
21.	712819106701	ANUPRIYA J
22.	712819106702	PRADEEP KUMAR S
23.	712819106703	MADHAVA SHANMUGAM D
24.	712819106704	VASUKI V
25.	712819106705	BOOPATHI D
26.	712819106706	SUDALAI M
27.	712819106707	SOUNDARRAJAN R
28.	712819106708	AKSHAY K
29.	712819106709	ARUL KUMAR R
30.	712819106901	KARTHIKA RANI A

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ACADEMIC YEAR : 2022-2023 **Batch:2019-2023**

Sl.No	Register No	Name of the Canditates	Project Title	Guide Name	Outcomes
1	712819106002	ARUN MANIKANDAN R	Innovative Intelligent Outdoor Jacket for Health and Safety Mointoring system using IOT	Dr.D.Jeyakumari	To monitor the health and safety of the human in outdoor using a IoT with the help of jacket
	712819106301	ARUN KUMAR A			
	712819106006	JEEVIKA M			
	712819106901	KARTHIKARANI A			
2	712819106001	ANTONY VITHURSON R	Smart VLC design lighting and communication for visible light network	Mr.C.Dhamotharan	To improve Vehice to Vehicle Communication on rash driving using LIFI technology
	712819106007	KAMALESH R			
	712819106013	SENTHIL KUMAR M			
	712819106015	SITHARTHAN V			
3	712819106705	BOOPATHI D	Solar Power based E-Vehicle charging station	Mrs.K.P.Shanmuga Priya	To develop a model that combines a solar power station and EV s to reduce pollution.
	712819106008	LOKKESH B			
	712819106003	DURAIPANDI R			
	712819106017	VIJAYAN R			
4	712819106004	DURGA D	Smart Glove for Monitoring Visually Impaired	Dr.B.Suganthi	To design and develop a smart glove for monitroing visually impaired people.
	712819106501	RAMAN V			
	712819106009	MAMTHA S			
	712819106018	VIMALRAJA S			
5	712819106701	ANUPRIYA J	IoT based Smart Helmet and alchol detection system	Dr.N.Shanmugavadivu	To reduce the accidents the smart helmet is structured
	712819106703	MADHAVA SHANMUGAM D			
	712819106704	VASUKI V			
	712819106706	SUDALAI M			
6	712819106702	PRADEEP KUMAR S	Automatic LPG Booking, Leakage Detection and Real Time Gas Measurement Monitoring System	Dr.R.Kannan	To reduce power consumption and less efficient using Solenoid valve
	712819106005	JEEVANANTH T			
	712819106016	UDHAYA KUMAR S			
7	712819106010	PRABHAKARAN M	Density Based Traffic Control With IOT	Mr.V.Venkateswaran	To reduce waiting time for an emergency vehicle
	712819106014	SENTHIL KUMARAN K			
	712819106708	ARUL KUMAR R			
	712819106707	SOUNDERRAJAN R			
8	712819106709	AKSHAY K	IOT based smart fault detection and monitoring system for industrial power distribution using Blynk cloud server	Mr.L.Mohana Kannan	To automate the industrial powerdistribution using the IOT devices and creates alrets to the administrator.
	712819106302	PRAVEEN M			
	712819106303	VASANATHARAJ V			

INNOVATIVE INTELLIGENT OUTDOOR JACKET FOR HEALTH AND SAFETY MONITORING SYSTEM USING IOT

A PROJECT REPORT

Submitted by

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ARUN KUMAR A	(712819106301)
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of

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in

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MAY 2023

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ABSTRACT

Over the decades, there has been sustained effort to use fashion as a medium for delivering digital functionality. The goal is to integrate information technology (IT) into clothing to provide users with functions to assist them in their tasks. Regarding the direction of previous efforts, developed a multifunctional smart outdoor jacket prototype that senses, recognizes, responds and manages various safety risks and potentially hazardous situations and identifies environmental factors that are difficult to predict the health issue. To determine functions that can practically assist users in outdoor environments and help ensure their health and safety, a user survey subject to expert evaluation was conducted. This project has proposed a system to monitor the health of the wearer by using 12v Battery. DHT 11 sensor is used to sense, Temperature and Humidity. Liquid Crystal Display It displays the values of DHT11. NIR Sensor is used to sense simultaneous function of heart and Blood Pressure. Peltier Crystal works with two basic processes are cool and hot. Motor driver is used to operate the Peltier Crystal. Finally, Blynk App is an IoT application which can pass the updated details through mobile phone to user and their relatives.

CHAPTER 6

CONCLUSION

Clothing has the potential to diversify wearable sensing and HAR functions. Based on this premise, the study investigated the convergence of knowledge and techniques in apparel design and engineering to achieve wearable sensing and HAR system functionality in a clothing platform that monitors users' health and their situation in outdoor environments. The resulting prototype factors in the range of movement of each body part, the electronic components' durability, and a suitable clothing platform during its construction to create a wearable system that interacts with the user's body and an accompanying smartphone app. As a result of this study, a smart outdoor jacket prototype and a smartphone application linked with the prototype's wearable system to provide it with extended functionality were developed. The system provides six functions to assist users in unpredictable outdoor environments, monitor their health status, and efficiently respond to emergencies: Bluetooth hands-free calling, heart rate monitoring, emergency calls, temperature-reactive heating, fall detection and automatic emergency calls, and UV monitoring. The evaluators tested the prototype's wearability and usability, the systems, and the smartphone application through the climbing activity.

SMART VLC DESIGN LIGHTNING AND COMMUNICATION FOR VISIBLE LIGHT NETWORKS

A PROJECT REPORT

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INTERNAL EXAMINER

23/5/23

EXTERNAL EXAMINER

ABSTRACT

The world has witnessed ideas which practically changed the way one lived on the basis of everyday technology. The interconnection between the things and making and making the system smart is one of them. Vehicles connected to the LiFi could be a level up in this game. This technology is known as Visible Light Communication (VLC) which removes the complexity of cable communication. LiFi has evolved over the past years and has been proven to be secure, efficient and can send data at very high rates. This paper showcases a new idea of a vehicle to vehicle (v2v) connection using the light, adding to the existing IOT connected vehicles solution. Vehicle-to-vehicle (V2V) communication's ability to wirelessly exchange information about the speed and position of surrounding vehicles shows great promise in helping to avoid crashes, ease traffic congestion, and improve the environment. But the greatest benefits can only be achieved when all vehicles can communicate with each other. This system could ensure data transfers between to vehicles as they come in range hereby sharing real time road information as well as ensuring a safer and better driving condition for everyone. Communication through LiFi has been developed.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 CONCLUSION

This system uses Li-Fi technology which includes many sensors such as MQ3, vibration sensor, ultrasonic sensor, and PC camera along with an Arduino board, LED light and a solar panel to communicate from one vehicle to another. This system proposes a solution to minimize road accidents, and in the future, it can ensure safety to the drivers along with co-passengers by integrating this system everywhere. LiFi is introduced as a communication system with its modulation techniques and complete architecture explained. The challenges and advantages of LiFi are outlined with its purpose to provide high speed data transmission being one of its biggest pros. The transmission of data from one vehicle to another is done in a very easier by Li-Fi technology by using led light. This technology helpsin preventing road accidents.

6.2 FUTURE SCOPE

In the future, it can ensure safety to the drivers along with co-passengers by integrating this system everywhere. The v2v communication system could potentially allow vehicles to collaborate on the roadway by moving closer togetherin a platoon with other vehicles traveling in the same direction.

SOLAR POWER BASED
E-VEHICLE CHARGING SYSTEM

A PROJECT REPORT

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INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

The vehicle population is increasing day by day and is expected to exceed the human population in the upcoming years. This would also result in the consumption of fossil fuels and in the extinction of the non-renewable resources. Hybrid and electric vehicles are gaining popularity, making the improvement in charging station infrastructure a necessity. Superchargers and mega- chargers have set a benchmark for fast charging of high-capacity vehicle batteries. Commercial charging stations are available but only at places with high EV expectancy regions. India's mobility mantra of "Shared. connected and Electric" with 100% EV by 2030 seems to be quite ambitious, but with increased awareness among the consumers and aiding government policies, this goal can be achieved. Ministry of power and Dept. of Heavy Industry Ministry has invited proposals with a target of 1000 EVCS and Tata power has proposed to build around 500 EVCS by 2020. In mega-cities, multi-level parking stations, malls, multiplexes are available with large parking capacity for vehicles. These places are most likely to be parked with EVs in upcoming days and automated parking and charging stations can be implemented there with the proper infrastructure to support their charging. Even rooftop can be utilized to install solar generation plants of suitable capacity to ensure dc fast charging. India receives around 5000 trillion kWh per year energy with an average of 4-7 kWh sq. per day. A grid connected solar enabled automated charging station will simplify the charging of autonomous vehicles. The driverless cars will function as pickup cars taking the user to the desired destination with additional features such as carpooling. A rooftop solar installation for domestic purpose can be utilized for charging EVs and can also serve as commercial stations.

CHAPTER -6

CONCLUSION AND FUTURE SCOPE

6.1 CONCLUSION

Due to the development of the charging stations this effect was also neglected hence the charging station is very efficient. They should be placed in larger cities where there is a concentrated population of EV drivers so stations can also be used by local residents. The planning for fast charging stations should be coordinated at the State level and attempt to align with regular routes for government or private fleets of EVs. Electric vehicle smart charging station which is the promising alternative and environmentally sustainable solution to meet up the energy crisis.

To reduce pollution, a battery powered electric vehicle that uses solar arrayto recharge will be the promising alternative to the existing system. Combining the organic solar cells with electric vehicles and developing Renewable Charging Stations at places will improve the overall efficiency. And moreover this will act as a widespread promotion for clean energy at a global level.

In this paper, a new recharging mechanism for electric vehicles is proposed using solar and wind energy. The usage of EV is directly affected by the present charging technique. Recharging stations are necessary for longer drive vehicles and it is commonly used in few countries. The traveling distance depends on the capacity of energy storage present in the vehicle. The recharging stations are needed for long distance travel. In this paper, we have introduced a new hybrid renewable charging mechanism for EVs. The solar and wind energy has been used for electric vehicle charging. At last, we conclude that this approach reduces the pollution and increases the usage of EVs as a result creating pollution free environment.

A SMART GLOVE FOR ASSISTING BLIND PEPOLE

A PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

In this project, we introduce a smart Glove system for assisting blind people. The smart Glove comes as a proposed solution to enable visually impaired people to find difficulties in detecting obstacles and dangers in front of them during walking and to identify the world around. The system is designed to act like an artificial vision and alarm unit the system consists of three sensors: ultrasonic sensor, Temperature sensor, and pulse sensor, microcontroller (ESP32) to receive the sensor signals and process them to short pulses to the ESP32 pins where buzzers and voice alarms are connected. We seek in our project to provide a smart stick affordable and suitable for most blind people, and also it is light in weight. It can be ma de available to all segments of the society and their families who need them.

CHAPTER 5

CONCLUSION & FUTURE WORK

The project proposed the design and architecture of a new concept of Smart Electronic Guiding glove for blind people. The advantage of the system lies in the fact that it can prove to be very low cost solution to millions of blind person worldwide. The proposed combination of various working units makes a real time system that provides feedback making navigation more safe and secure.

FUTURE WORK

It can be further enhanced by using VLSI technology to design the PCB unit. This makes the system further more compact. The use of active RFID tags will transmit the location information automatically to the PCB unit, when the intelligent stick is in its range. The RFID sensor doesn't have to read it explicitly.

IOT BASED SMART HELMET AND ALCOHOL DETECTION SYSTEM

A PROJECT REPORT

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ABSTRACT

Today in India, every four-minute one individual passes on because of street mishaps. Out of all mishaps, 25% record for 2-wheeler mishaps. As per ongoing investigations, 98.6% of bikers who kicked the bucket, was not wearing a cap. A savvy head protector is a creative method of building a cap with the most recent innovations. The standard objective of this venture is to structure a shrewd system that will shield a drunkard individual from driving and besides recognize setback accepting any. This framework is fit for giving security and well-being to the bikers against street mishaps. The circuit is structured so that the bicycle won't start without wearing a protective cap. The savvy protective cap is fixed with sensors that can identify whether the individual is wearing a head protector or not.

CHAPTER 8

CONCLUSION

Accident cases occur due to motorcycles. The major accidents are increased by drinking alcohol and this is due to the absence of a helmet. In this we have developed an electronic intelligent helmet system, which efficiently check wearing of helmet and drunk -driving. By implementing this technology, the rate of accident due to alcohol consumption can be significantly reduced. The proposed research work has introduced advanced sensor technologies and radio frequency during this project to enhance its efficiency.

Our Smart Helmet is an intelligent system which will aid more secured bike riding. Regarding the poor condition of our roads, wearing a helmet is imperative while riding a motorcycle because it can save the rider from severe injury to the head in the case of an accident. So, this is where the sharp IR sensor will come into action. It will ensure that the rider must wear the helmet to start the bike. Drunk driving is also an important issue to consider nowadays. Because drunk driving can cause more accidents in the case ofbikes than cars. So, the alcohol sensor will check if the driver is drunk or not. Smart helmets are very popular in Western and European countries, but the concept is not familiar in Bangladesh yet. If we can make our design more full-proof and get a sponsorship, then we will be to mass produce it. A smart helmet maybe a little bit more expensive than a regular helmet but its benefits certainly outweigh the costs.

AUTOMATIC LPG BOOKING, LEAKAGE DETECTION AND REAL-TIME GAS MEASUREMENT MONITORING SYSTEM

A PROJECT REPORT

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INTERNAL EXAMINER

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EXTERNAL EXAMINER

ABSTRACT

The automatic LPG booking, leakage detection, and real-time gas measurement monitoring system is an advanced solution designed to enhance the safety and convenience of LPG (liquefied petroleum gas) usage in residential and commercial settings. The system integrates various technologies to automate the LPG booking process, detect gas leaks promptly, and provide real-time monitoring of gas levels. The system starts with an automated LPG booking feature, where users can register their LPG requirements through a mobile application. Gas sensors are installed in strategic locations, such as the kitchen or storage area, to monitor for any gas leaks. The system can alert the user through a mobile app or SMS, allowing them to take immediate action and mitigate the risk. Weight sensors equipped with IoT (Internet of Things) capabilities are installed on the LPG cylinders or storage tanks. Users can access this data through the mobile application or web portal to keep track of their gas consumption and plan their refills accordingly. Overall, the automatic LPG booking, leakage detection, and real-time gas measurement monitoring system offers a comprehensive solution to enhance the safety, efficiency, and convenience of LPG usage. By automating the booking process, detecting leaks promptly, and providing real-time gas monitoring, the system aims to minimize the risk of accidents, improve supply chain management, and empower users with better control over their gas consumption.

CHAPTER 6

6.1 CONCLUSIONS

A cost-effective gas leakage detection system was proposed, designed and successfully implemented in this paper. Along with gas leakage detection, this system gives a fully automated approach towards the gas booking. Real time weight measurement of the gas and its display on LCD makes it an efficient home security system and can be used in industries and other places to detect gas leaks. The cost involved in developing the system is significantly low and is much less than the cost of gas detectors commercially available in the market.

6.2 FUTURE AND SCOPE

The automatic LPG booking, leakage detection, and real-time gas measurement monitoring system is an advanced solution designed to enhance the safety and convenience of LPG (liquefied petroleum gas) usage in residential and commercial settings. The system integrates various technologies to automate the LPG booking process, detect gas leaks promptly, and provide real-time monitoring of gas levels. The system starts with an automated LPG booking feature, where users can register their LPG requirements through a mobile application or a web portal. The system maintains a centralized database of registered users and their consumption patterns to streamline the supply chain and ensure timely delivery of LPG cylinders. To address safety concerns, the system incorporates a leakage detection mechanism. Gas sensors are installed in strategic locations, such as the kitchen or storage area, to monitor for any gas leaks. These sensors continuously measure the gas levels and trigger an alarm or notification in case of a leak. The system can alert the user through a mobile app, email, or SMS, allowing them to take immediate action and mitigate the risk.

DENSITY BASED TRAFFIC CONTROL SYSTEM WITH IOT

A PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

Traffic congestion is biggest problem in many major cities and high traffic places across the world and it has become a nightmare for the commuters in these cities. The current system has fixed time given to each side of junction which cannot be varied as per varying traffic density. Junction timings allotted are fixed. When higher traffic density at which side then that side has longer green signal is allotted. The IR sensors are placed at the every 5 meters of road side which can sense the object. With the rapid development of road infrastructure, the volume of the vehicle on the road network increases which leads to traffic Congestion. This is mainly caused due to the rapid surprise in the number of vehicles in a short period. To overcome such an impact of traffic congestions, it is required to develop an IoT Based traffic control system.

The proposed system would be based on the measurement of the actual traffic density on the road. This would be achieved using real-time video and image processing techniques. Wherein the images captured and are stored in the server, which will be compared with the real-time image captured via camera to identify the density. The theme is to control the traffic by determining the traffic density on each side of the four roads and enabling a controlling option of the traffic signal to the user through a software application..

CHAPTER-5
CONCLUSION AND FUTURE SCOPE

In this design work, a density predicated traffic light control system was developed for traffic control at road intersection to minimize nonessential time wastage and minimize road traffic casualties which the subsisting conventional traffic light control system has failed to ignore traffic signals. Lastly, the objectives of the design were achieved Concretely, it demonstrates a working software solution for controlling traffic predicated on the density of traffic on each lane at the intersection. The proposed method focused on overcoming the traffic congestion scenarios experienced. The system would primarily focus on the image captured using the camera. The captured image would be cross-verified with a preset image loaded in the server to identify the density. Based on the density, the traffic movements are the trigger for the junctions. This reduces the overall waiting time and results in smoother traffic flow. The system would function automatically based on the collection of density images send from the location to the server. Future Recommendation: Many upgrades on the system are foreseen with more customization that could be adapted for various applications where remote monitoring and controlling is required. The system can have more integration like incident detection and failure notification etc. With the development of advanced technology, the platform can be used to integrate various devices like parking machines, Variable Message Signs, Traffic Count Stations, and City Surveillance Cameras, etc. Giving better control and monitoring on various devices remotely. This would lead the city to have an infrastructure which is smart, and technology-driven.

IOT BASED SMART FAULT DETECTION AND MONITORING SYSTEM FOR INDUSTRIAL POWER DISTRIBUTION

A PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this project report **"IOT BASED SMART FAULT DETECTION AND MONITORING SYSTEM FOR INDUSTRIAL POWER DISTRIBUTION"** is the bonafide work of **"PRAVEEN.M, VASANTHARAJ.V and AKSHAY.K"** who carried out the project work under my supervision.

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INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

The deployment of IOT technologies in the power distribution across the industry would significantly accelerate the detection and location of faults. Great importance to use LoRa and Digital Internet of Things systems to monitor the Power Distribution System in the industries would easily identify the occurrence of a fault on the power distribution area, thus enabling quick and immediate commencement of reparative action. In Proposed system, the following power quality parameters like Current and Voltage unbalance, Voltage dips, Short term overvoltage and total harmonic distortion will be monitored using an IOT devices and send alerts to the user in a periodical manner through the cloud services. If there is any change in variation in the following parameters, then immediately alerts will send to the users mobile or the personal computer. This will cause an efficientcontrol in the industrial operation and provides quick response resulting in less man power and time consumption.

CHAPTER 5

CONCLUSION

This system which can automatically monitor the power distribution, power factor, voltage and current fluctuation of the particular machine in industry by using ESP32 microcontroller development board. It can wirelessly send the data to assigned user or supervisor's Blynk mobile application and display the results in the form of alerts and notifications. The system is loyal, remunerative and comfortable for Industries. It is beneficial for Industries which operates on less man power. This system facilitates the Machines to run smoothly and effectively to perform their duties in an effective way and also providing alerts and notification in critical level variations of the voltage, current and power factors. By the notifications and alerts received by IOT in blynk from the machine, provides continuous and accurate statusof the power consumption and voltage variations it alerts the user immediately resulting in avoiding excess level of power consumption and also avoid the machine damage. This will result in efficient control in the industrial operation and provides quick response resulting in less man power and time consumption.