CODE	TITLE	APPLICATION / DESCRIPTION
VTES01	Bluetooth Low Energy based Indoor Positioning System using ESP32	**Application:** Global Positioning System, Indoor Positioning System **Description**: Proposed model prefers to use Bluetooth Low Energy-based positioning system. It focuses on implementing BLE based indoor positioning using ES P32-Node MCU
VTES02	Active Collision Avoidance Control Based on Vehicle Emergency Braking	**Application:** Vehicle Automation **Description:** When a vehicle is braking because of collision avoidance under the extreme conditions, such as braking on the lower adhesion coefficient road with high-speed, vehicle stability is difficult to be obtained. In order to take active collision avoidance during the emergency braking with high-speed on the lower adhesion coefficient road, a controller is built based on vehicle lateral and longitudinal dynamic coupling.
VTES04	Monitoring System for Quarantined Persons	**Application:** Bio-Medical **Description:** To streamline the measure of isolation at home or quarantine centers. Persons affected by this measure must not leave the quarantine area in any form within the time limit set by the authorities
VTES05	Smart Monitoring System using Smart Glove	**Application:** Smart Home Automation, Bio-Medical **Description:** Automating home devices and converting the gestures into speech using a smart wearable known as the smart glove, which is capable of monitoring the health parameters such as heart beat, body temperature, ECG monitoring, providing home automation, converting gestures into speech and also capable of sending location in case of emergency
VTES06	Arduino Based Advanced Energy Efficient Home Automation System	**Application:** Smart Home Automation **Description :** To reduce the power usage in home by cutting off the unnecessary equipment's running in the home by sensing the human activity in the house
VTES07	Automation Tool for Home Fire Safety Check	**Application:** Smart Home Automation **Description:** Sensors are adopted to automatically build an environmental model and reduce the labor burden of exploiting fire simulation tools for a fire safety check.
VTES08	Smart irrigation and Crop health prediction	**Application:** Irrigation Automation **Description :** Crop Irrigation playing a major role in agriculture, automation of irrigation is a need to help the farmers with technology. Creating a controlled device to collect the data and sent to the server through MQTT
VTES09	Use of Gesture Recognition for Differently Abled Persons	**Application:** Home automation, Human assistance **Description:** We have used the concept of computer vision to recognize hand gestures and perform the function of operating devices. Each hand gesture is assigned with a predefined function to execute a certain task.
VTES10	Performability Assessment and Sensitivity Analysis of a Home Automation System	**Application:** Smart Home Automation **Description:** A modeling approach based on stochastic Petri nets (SPN) for the performability quantification of domotics architectures. SPN performability models are developed following the architecture of a home automation system consisting of several IoT sensors/devices to evaluate the trade-offs between performance and availability of home automation services.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES11	Exploiting RFID technology for Indoor Positioning	**Application:** Smart Home Automation **Description**: Synchronization is done using the RFID standard protocol features. RFID tags included in the emitter and sensor circuitry are synchronized each other via the RFID reader interrogation pulse
VTES12	Smart Trash Can System with Ultrasonic Sensor and Flame Detector using Arduino	**Application:** Green House **Description:** Garbage monitoring system is developed to prevent mismanagement of waste and to increase cleanliness in society. The production of the Smart Trash Can System using the Arduino ultrasonic sensor and lire detector
VTES13	A Mobile Application for a Smart Home Ecosystem	**Application:** Green House **Description:** A system to support end user interaction with smart home ecosystems. Users can monitor sensors and devices, define their routine preferences and view data on energy consumption
VTES14	Surveillance and Obstacle Avoiding Autonomous Robot	**Application:** Robot Surveillance **Description:** To propose a design for intelligent work automation that's able to avoid obstacles. These types of robots are used in the applications like patrolling robot where it is used in industries both for surveillance and obstacle avoidance
VTES15	Brain-Computer Interface Based Home Automation System Using Eye Blink Detection for Paralyzed People	**Application:** Smart Home Automation **Description :** This paper deals with the brain neural signals. The message produced by brain was acquired by the brain detector. These messages are split up into data packets and this packet data will be conveyed to transmission channel. This system is employed with a person brain assumption and voluntary blinking of eyes which controls the home appliance ON/OFF condition.
VTES16	Prototype Smart Door Lock by Using Wireless Network Based on Arduino Uno	**Application:** Wireless Sensor Network **Description:** A smart door lock prototype that protects the home from strangers. We make an automatic house locking device using Fingerprint Sensor and other components.
VTES17	Design and Implementation of Smart Old Age Home	**Application:** Wireless Home Automation **Description :** The voice control switching system can do remote controlling of home appliance such as TV, light, fan etc. The health monitoring and location tracking system are used in clinical perspectives and intensive care
VTES18	A System for Energy Management and Home Automation	**Application:** Smart Home Automation **Description:** The fact is that sensors used in this light and fan automation work by consuming a sum of energy, this energy is something that can be saved by replacing the human presence sensing system by a piezoelectric sensor, which sense the pressure by generating certain sum of energy which changes the concept of providing energy to the sensors, for saving energy itself.
VTES19	A Novel Architecture Using Node MCU For Localization and Tracking of People for Women Safety	**Application:** Security **Description:** To design and develop a smart GPS watch that will trace the position of the person, monitors for a sudden fall and Irregular Attacks and alerts the authority of person crosses a given border line of a predefined zone.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES20	Smart Home Automation Using Intelligent Electricity Dispatch	**Application:** Smart Home Automation **Description**: The proposed technique automates the appliances in three main ways, a) locally automation, b) web-based, c) app-based automation. Using a microcontroller, appliances are locally controlled.
VTES22	A Review on Internet of Things Based Door Security	**Application:** Home Security **Description:** The door lock system with extra security features with a user-friendly cost. When a stranger comes at the door, he/she has to pass three security levels for unlocking the solenoid locks present at the door and if he fails to do so, the door will remain locked.
VTES23	Crop Water Requirement Prediction in Automated Drip Irrigation System using IoT	**Application:** Irrigation Automation **Description:** To automate the tedious process by proposing a micro-controller-based system for automatic smart drip irrigation and to predict the precise amount of water needed by the crop.
VTES24	Toward Home Automation: An IoT Based Home Automation System Control and Security	**Application:** Smart Home Automation **Description:** An IoT platform has been used for remote monitoring of appliances in a home and to interact with these appliances in the case of certain conditions being met, together with application
VTES25	Remotely Controlled Smart Home System using GSM and IOT	**Application:** Smart Home Automation **Description :** Smartphones and computers can be connected at every place with internet to control your homes, companies, factors, and markets. In this paper, A smart home system using GSM and IOT is developed
VTES26	Internet of Things Smart Farming Architecture for Agricultural Automation	**Application:** Irrigation Automation **Description:** We propose an Internet of Things (IoT) farming control system based on the concept of Wireless Sensor and Actuator Networks (WSAN) that provides ideal growing conditions for user-defined crops. This is achieved by utilizing the information provided by a series of sensors monitoring the environmental and soil conditions to control the deployed actuators.
VTES27	A Multi-sensor-based Method for Self-isolated Patient Monitoring	**Application:** Bio-Medical **Description :** Proposing a remote telehealth monitoring approach for infected subjects in self-isolation that is based on a multi-sensor fusion method
VTES29	Development of the indoor climate control system	**Application:** Weather Monitoring System **Description:** The system monitors and regulates temperature, air humidity, carbon dioxide concentration in the room autonomously or in the mode of scenarios set by a user. Ventilation adjustment is based on a number of people determined
VTES30	A Novel Cost-efficient Framework for Smart Home Creation	**Application:** Smart Home Automation **Description:** The proposed method will enable users to remotely control their home devices (to turn on and off), and track the status of these devices, in addition to some smart services

CODE	TITLE	APPLICATION / DESCRIPTION
VTES31	IoT based Door open or close monitoring for home security with emergency notification system	**Application:** Home Security **Description**: We can endlessly monitor the status of the door i.e. whether it is open or closed and based on the status further actions like alarming, sending an emergency notification are done to notify and alert the owner and to improve security
VTES32	Person Presence Detection and Control the Water Faucet Line in the Bathtub	**Application:** Smart Home Automation **Description:** In this smart bathtub system, sensors have been installed with a variety of appliances, the presence sensors monitor human occupations in the bathtub that would automatically initiate the automatic process.
VTES33	An IoT Based Smart Irrigation System	**Application:** Irrigation Automation **Description:** Development of prototype of smart irrigation system using IoT technology aiming to assist agriculture individual on reducing labor force and time to increase yield production as well as modernize traditional agriculture method.
VTES34	Implementation of communication aid using ZigBee technology	**Application:** Wireless Data Transfer **Description:** The robot is operated by human commands, which are sensed by a speech recognizer, processed by the microcontroller, and sensing loads are organized according to the programmer's instructions to the microcontroller
VTES35	Securing in Building Automation Systems	**Application:** Home Security **Description :** This paper starts with a security threat analysis and identifies the challenges of providing security in the building automation domain. Afterward, the security mechanisms of available standards are thoroughly analyzed
VTES36	Home Security System using Raspberry PI with IOT	**Application:** Home Security **Description:** Framework built in this project comprises of PIR sensor, IR sensor, Piezoelectric sensor and Sound sensor which not only alerts an intruder action but also captures the images and recordings through a camera from the scene
VTES37	Smart Garden Monitoring and Control System with Sensor Technology	**Application:** Green House **Description :** To increase the plant yield and produce by improving the plant growth conditions through low water consumption by providing an automatic watering system, thereby saving a good amount of energy and resources as well.
VTES38	Enhanced Smart Waste Management System with Incinerator Compartment	**Application:** Green House **Description:** The enormous measure of waste products is additionally a major danger to the environment. Disposing the Waste like wet, dry or biodegradable and non-biodegradable which are getting dumped together are being the big deal in India right now.
VTES39	MedRobo: Medicine Delivering and Patient Parameter Monitoring Robot	**Application:** Bio-Medical **Description:** We propose a robot named MedRobo with some functionality of providing medicine as well as to measure the vital parameters of the patient. During the current scenario, reducing the human-to-human contact in hospitals is required.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES40	Design and Implementation of Temperature and pH Monitoring Tools in Fish Pond Based on Arduino	**Application:** Aquaculture **Description**: A monitoring system to know the water quality in ponds at low cost because the system will be implemented in SME with small capital
VTES41	Design and Implementation of ZigBee base Low-Power wireless sensor and Actuator Network (WSAN) for Automation of Urban Garden Irrigation Systems	**Application:** Wireless Sensor Network **Description:** A WSAN is designed and implemented for controlling drip irrigation of urban garden that can achieve long battery life, low cost, compactness with the sufficient range of communication.
VTES42	IoT for Smart City Lighting Maintenance Management	**Application:** Industrial Automation **Description:** We propose management of city lighting maintenance that is not only able to monitor remotely but is also able to predict the condition of the lights and the capacity of batteries filled by solar cells.
VTES43	Low-Cost Contact Thermometry for Screening and Monitoring During the COVID-19 Pandemic	**Application:** Bio-Medical **Description:** A low-cost, contact thermometer solution based on a silicon bandgap temperature sensor that allows for personal screening is described using a Proof-of-Concept solution.
VTES44	Smart Cooling System for Milk Transportation in Rural Areas	**Application:** Industrial Automation **Description :** A small scale solar powered intelligent cooling system was developed. This system was designed to make use of thermoelectric cooler as a viable cooling unit and operating it intelligently with a programmable logic controller.
VTES45	Pulse Rate and Blood Oxygen Monitor to Help Detect Covid-19: Implementation and Performance	**Application:** Bio-Medical **Description:** Pulse rate and blood oxygen are two parameters that doctors use to diagnose and measure Pneumonia and Bronchitis. An Atmel ATmega 328P MCU and MAX30100 sensor kit-based pulse rate and blood oxygen monitor Hardware prototypes incorporated with embedded software and IoT have been developed
VTES46	Securing Smart Meters Through Physical Properties of Their Components	**Application:** Consumer Electronics **Description :** Our strategy uses physical properties from these components (smart meters) to create secure identities for the meter.
VTES47	Driver Behaviour Monitoring and Warning with Dangerous Driving Detection Based on the Internet of Vehicles	**Application:** Automation **Description:** We design a driver behavior monitoring and warning (DBMW) framework to detect dangerous driving for enhancing road safety through the Internet of Vehicles (IoV).
VTES48	Air Pollution Monitoring System by using Arduino IDE	**Application:** Green House **Description:** The proposed model is regulated by an Arduino mini control. Air pollution observance system is intended to trace and evaluate air quality in real time.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES49	Digital Fuel Monitoring System for Automobiles	**Application:** Automation **Description**: The proposed device can be primarily used in all cars to measure fuel consumption. To indicate the amount of fuel in the tank, this research work has employed two types of sensors in the digital fuel indicator: an ultrasonic sensor and a flow sensor
VTES50	Arduino Powered Smart Weather Monitoring System	**Application:** Green House **Description:** This paper integrates a two-dimensional control system with information acquisition methods, and builds based on the symbols, sensors are the primary attributes to create the device for live weather monitoring.
VTES51	Arduino based LPG Leakage Detection and Prevention System	**Application:** Smart Home Automation **Description:** An IoT-based safety system is proposed, which may reduce accidents caused by electricity during LPG leakage which will automatically cutoff the ac mains if there is any leakage of LPG is detected by the sensor MQ5
VTES52	Design of Low-Cost Women Safety System using GPS and GSM	**Application:** Security **Description:** We proposed a device which will send an SMS to the registered mobile numbers when a button is pressed or when the women fall and save voice recording of that situation as proof.
VTES53	Automated Waterfall Water Level Monitoring for Warning Phenomena	**Application:** Automation **Description :** The design system is based on IoT System for Waterfall Water Level Monitoring where water level sensors are used to detect high-level water. The ultrasonic sensor was used in this system where the minimum time delay of the sensor was detected compared with other sensors
VTES54	Physical Distancing Violation Detector Using Arduino - Based Grid - EYE Sensors in Rail Transit Stations	**Application:** Automation **Description:** This study used a Grid-EYE sensor to detect physical distancing violation in a controlled setup that simulates a rail transit station platform. This study also determined the effective angle and height of the Grid-EYE sensors for the best coverage area
VTES55	RFID Aided Intelligent Shopping Trolley with Child Care Unit	**Application:** Consumer Electronics **Description :** The primary objective of this research is to optimize the payment process which is placed on the trolley with the help of RFID. The child care section will contribute to ensuring the safety of children visiting shopping malls with their parents
VTES56	Design and implementation of water quality Monitoring system (temperature, pH, TDS) in Aquaculture using IOT at low cost	**Application:** Consumer Electronics **Description:** To produce a monitoring design system. That has been used to measure water quality (water temperature, pH and TDS) in aquaculture with low cost of implementation and fish farming. To make the operators easier to monitor water quality in real time, which can impact on the success of aquaculture.
VTES57	Design of intelligent irrigation and soil loosening system for Agricultural Internet of things	**Application:** Smart Irrigation **Description:** The microcontroller analyzes and processes the humidity value detected by the soil humidity sensor, and displays the data on the LCD screen.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES58	Design and Development of Smart Cart System using Artificial Intelligence	**Application:** Artificial Intelligence **Description**: This paper presents the development of smart billing cart system designed for shopping in supermarkets. The cart is intended to generate the bill automatically as well as follow the customer by itself.
VTES59	A Fire Prevention/Monitoring Smart System	**Application:** Security **Description:** Two main tasks will be addressed; the first one is to detect fires, smokes, and/or gas leaks, to notify the authorities, while the second one is to provide real-time monitoring and control of the entire hazardous buildings or areas that are under fire.
VTES60	Implementation of Child Safety Alert System in Automobiles	**Application:** Automation, Security **Description:** The Child Safety Car Alert System by Arduino is an integrated device that sends alerts to the driver if a child is left unintendedly in the car. The system is developed using the Arduino board which incorporates the integration between sensors and GSM module. This system uses pressure and motion sensors to detect the presence of a child located at the back seat of the vehicles
VTES61	Low-Cost Sensor Based Hand Washing Solution for COVID-19 Prevention	**Application:** Bio-Medical **Description:** We employed an Arduino based microcontroller as processor and ultrasonic based distance sensors to implement a touch-free hand washing mechanism.
VTES62	Automatic Irrigation System Using GSM Module	**Application:** Smart Irrigation **Description :** To achieving the automation in the fields with irrigation we require GSM for wireless communication, sensors to check the status of the soil and Arduino etc. The arranged framework which considers detected information alongside the climate conjecture boundaries like precipitation, air temperature, stickiness, and UV for the not-so-distant future.
VTES63	Arduino Based System to Prevent Vehicle Accidents	**Application:** Automation **Description:** We use blinking sensors, smoke sensors (MQ2), ultrasonic sensors and other sensors. If any vehicle suddenly hits the road and the vehicle applies the brakes, the system will control the speed and prevent accidents
VTES64	Automatic System for Saving Cooking Gas	**Application:** Consumer Electronics **Description :** In LPG gas detection of leakage gas is done by gas sensor which is interfaced with ARM. When gas is detected motor will be turn on and it immediately turn off the gas regulator at the same time we inform the user about the gas leakage by sending the SMS, turning on the buzzer and also message displaying on LCD
VTES65	A Real-Time Patient-Specific Sleeping Posture Recognition System Using Pressure Sensitive Conductive Sheet and Transfer Learning	**Application:** Bio-Medical **Description:** Surveillance of sleeping posture is essential for bed-ridden patients or individuals at-risk of falling out of bed. Existing sleep posture monitoring and classification systems may not be able to accommodate the covering of a blanket, which represents a barrier to conducting pragmatic studies.
VTES66	IoT based Smart Shopping Trolley with Mobile Cart Application	**Application:** Consumer Electronics **Description:** The RFID shopping cart is used for the electronic store consumer for easy shopping. Upon placing an item in the shopping cart, the consumer can access the product information, Specifications, features, and combination deals with the other store products.

CODE	TITLE	APPLICATION / DESCRIPTION
VTES67	Design and Implementation of an IoT Based Firefighting and Affected Area Monitoring Robot	**Application:** Robot surveillance **Description**: The main function of this robot is to become an unmanned support vehicle, developed to search and extinguish fire. Our proposed robot is designed to be able to work on its own or be controlled remotely. By using such robots, fire identification and rescue activities can be done with higher security without placing fire fighters at high risk and dangerous conditions.
VTES68	Smart Wheelchair with Voice Control for Physically Challenged People	**Application:** Security **Description:** The proposed system describes a wheelchair which can be can be controlled using the voice commands from the user as well as smart phone. It is used to facilitate the movement of physically disabled people and elderly people who cannot move properly.
VTES69	Design of a Medical Prototype Robot for Nurse Assistance	**Application:** Bio-medical **Description:** According to the proposed method, an IOT-Based Medicine Reminding and Medicine Providing System, Automatic Hand Sanitizer and IOT-Based Physiological parameters observing system (Body Temperature, Pulse rate, and Oxygen saturation level) are developed including a direct one-to-one server-based communication method and an end user android app maintaining system.
VTES70	Takeout Service Automation with Trained Robots in the Pandemic-Transformed Catering Business	**Application:** Robot surveillance **Description:** In our MOTS system, we develop a bump-free schedule based on the Welsh-Powell coloring algorithm for grouping robots into several non-colliding moving batches. Simulation results show that our Mots solution can effectively improve takeout efficiency and promote service accuracy, boosting business profits.
VTES71	Development and Implementation of Kalman Filter for IoT Sensors: Towards a Better Precision Agriculture	**Application:** Green House **Description :** Sensors are a major data collection agents, they play a dynamic role in agriculture. Sensors are selected or designed according the problem to be addressed or needs identified by the farmers. Agriculturalists generally use sensors to sense the soil conditions, humidity, crop conditions, minerals, pH value, water levels, and sunlight, etc.
VTES72	Connected Sensors, Innovative Sensor Deployment, and Intelligent Data Analysis for Online Water Quality Monitoring	**Application:** Automation **Description:** This proposed system presents a comprehensive review of the sensors, deployment and analysis technologies for WQM. A network of networked water bodies could enhance the global data inter comparability and enable WQM at global scale to address global challenges related to food (e.g., aqua/agriculture), drinking water, and health (e.g., water borne diseases).
VTES73	Smart Agriculture Robotic System Based on Internet of Things to Boost Crop Production	**Application:** Green House **Description :** This system presents agriculture, field monitoring, automated system. The system designed in this work can monitor the humidity, moisture level, temperature, air quality and can even detect raining. According to the data received from all the sensors, the water pump and cutter get automatically activated or deactivated.
VTES74	Driver Assistance System using Arduino and Haar Cascade Classifiers	**Application:** Security **Description:** The design and development of driver drowsiness detection based on image processing using camera module sensor interfacing with Arduino UNO board are proposed in this Haar Cascade Classifier algorithm is implemented for eyes and face detection whereas for eyes blink (open and close) detection, the Eye Aspect Ratio (EAR) algorithm is employed.