Fakulti Teknologi Kejuruteraan Elektrik dan Elektronik (FTKEE)
Senarai Penawaran Tajuk PSM 1 Sem 2 Sesi 2020/2021
BEEC

BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
1	ADAM WONG YOON KHANG	BEEC	DEVELOPMENT OF CONTACTLESS DOOR LOCK	IoT is a collection of sensor and actuator enabled physical devices connected to the internet, that can exchange the data between them without the person's involvement. Prior to this the main objective is to develop a smart door lock system where owner of the premise can see thru camera security system and manage to allow the guest to access or not. So, this project will use the IoT technology for elite private premise that never apply any security protection on the door lock which burglar can break the door. The method is to build mobile application to ease the user to lock and unlock the door control by the rasperry pi. It is also equip with thermal face detection for fast and secure access for the owner. The preliminary expected outcome is where users will be able to reduce the manpower and provided more	PRACTICE ORIENTED	BEEC_T01
2	AHMAD FAIRUZ MUHAMMAD AMIN	BEEC	Development of Smart Street Light System Using NodeMCU	The current system used has a timer for the light to turn on and off at dark or bright which is not that suitable as the weather is unpredictable. Sometimes it may get dark earlier than the set time especially during rainy day and get bright earlier than usual day. Hence, the billing of the street lighting energy consumption is high. Moreover, the current street lights replaced by LED street light system which reduces the use of electricity. The characteristics of LED is that the intensity can be controlled easily. Despite that, the light turns on when: dark and turn off when bright automatically. It is such huge waste of power consumption when the street lights in "on" condition when the road is empty. Street light will only glow if there is darkness and someone is passing through the street. The main objective of this project is to reduce the power consumption by glowing the Street light only when it is needed.	PRACTICE ORIENTED	BEEC_T02
3	AHMAD FAIRUZ MUHAMMAD AMIN	BEEC	Design and development of an Automatic Hand Sanitizer with Door Control System Using NodeMCU	In enforcing this hand sanitizing action before letting people into wherever they intend to enter as some people are not willing to collaborate, some look at it as a wastage of their time, and sometimes security guards can let some people in without sanitizing and without check body temperature just because they are their friends or family or relatives, which is very dangerous. Therefore, the smart hand sanitizer is stationed at the entrance door and it is connected to the door in such a way that it controls it. When a person(s) wants to access the entrance door, they must first sanitizer their hands or else the door will remain locked. The entry time, date and body temperature data will be updated in a database	PRACTICE ORIENTED	BEEC_T03
4	AHMAD FAIRUZ MUHAMMAD AMIN	BEEC	Design an IoT Based Smart Agriculture Using ESP32	Agriculture is done manually for ages. As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. IoT plays a very important role in smart agriculture. IoT sensors are capable of providing information about agriculture fields. An IoT and smart agriculture system using automation is proposed. This IoT based Agriculture monitoring system makes use of wireless sensor networks that collects data from different sensors deployed at various nodes and sends it through the wireless protocol and saved it in a database for data analysis. This smart agriculture using IoT system is powered by ESP32, it consists of a temperature sensor, moisture sensor, water level sensor, DC motor. When the IoT based agriculture monitoring system starts, it checks the water level, humidity, and moisture level. It sends an alert to the phone about the levels such as the level of water if it goes down, and it automatically starts the water pump. All these monitoring systems can also be browsed through the web.	PRACTICE ORIENTED	BEEC_T04
5	AHMAD FAIRUZ MUHAMMAD AMIN	BEEC	Development of Smart Healthcare Monitoring System in IoT Environment Using ESP32	Healthcare monitoring system in hospitals and much other health centre has experienced significant growth, and portable healthcare monitoring systems with emerging technologies are becoming of great concern to many countries worldwide nowadays. The advent of the Internet of Things (IoT) technologies facilitates the progress of healthcare from face-to-face consulting to telemedicine. This project proposes a smart healthcare system in an IoT environment that can monitor a patientâ€™s basic health signs as well as the room condition where the patients are now in real-time.	PRACTICE ORIENTED	BEEC_T05
6	AHMAD FAIRUZ MUHAMMAD AMIN	BEEC	Design Voice-Activated Home Automation using NodeMCU	This project is to design and implement a new voice-controlled home automation system that uses Google Assistant for giving users voice commands as input. Smart home automation is most useful and beneficial for handicap or aged people which can only use voice to activate or deactivate any home appliances and provides low-cost and flexible home automation and monitoring system. The system solves the problem of switching on/off electrical appliances because when a user just has to give a voice command to control the appliance or electrical loads. The system is designed in such a way users can control all appliances at once or can control each separately. The system works by interfacing the on/off switches of electrical appliance or loads by using a relay or solid-state replay, after connecting relays in the system the electrical switch works as a two-way switch. The voice command is sent by using an app for controlling the system. A micro-controller (ESP32) is implemented in the system, the microcontroller receives an input signal from the user device and sent a signal to the respective relay for turning on/off electrical appliances connected with the system such as bulbs, fan, air conditioner unit, etc.	PRACTICE ORIENTED	BEEC_T06
7	AHMAD NIZAMUDDIN B MUHAMMAD	BEEC	Development of low-cost handmade potentiostat using Raspberry-Pi.	This study developed a new design of a low cost potentiostat circuit device. This deviceis an alternative electrochemical instrument applied for monitoring aqueous solution using mobile phone. It was developed to alleviate the cost burden of equipmentprocurement and due to the requirement for in-situ application since the existingcommercialize devices are bulky and expensive. The main component of the device consist of electronics configuration of operational amplifier and Raspberry-Pi. The potentiostat enables student to learn electroanalytical techniques and characterize energy conversion devices such as solar cells. The mothod is to improve the current compliance and frequency ranges in order to enable the current, voltage, and time resolution needed for the most common experiments in electroanalysis and electrochemical energy conversion.	PRACTICE ORIENTED	BEEC_T07
8	AZMAN BIN AWANG TEH	BEEC	Development of Smart attendance system using offline qr code and face recognition for student attendance	*To develop an offline QR code attendance system for schools as for post COVID implementation. *To develop a attendance system with remote database synchronization to store records of student attendance in a database by using MySQL. *To detect the occurrence of students fabricating others' attendances by using Face Recognition method. *To develop a mobile application that could scan user information from a QR code and cross reference with information stored inside the mobile device. *A mobile application and local web based server that could synchronized attendance data without requiring internet connectivity.	PRACTICE ORIENTED	BEEC_T08
9	AZMAN BIN AWANG TEH	BEEC	Development of Smart lock fingerprint door	The lock will integrate fingerprint, password, mobile phone via Bluetooth, ID and key. The rechargeable batteries will be used to power up the system. The battery will be charged using USB charging from power bank.	PRACTICE ORIENTED	BEEC_T09
10	AZMAN BIN AWANG TEH	BEEC	Development of Integrated car bulbs failure detection and tyre's pressure monitoring.	Student will come out with device integrated with car electronic system to monitor and alarm the car driver all six side markers light of the car, and also monitoring all 4 tyres pressure.	PRACTICE ORIENTED	BEEC_T10

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11	AZMAN BIN AWANG TEH	BEEC	Development of Automated light, fan and air conditioning using voice commands.	Student will come out with the device integrated with home ac electrical circuit to control light on/off, fan on/speed variable/off and air conditioning on/temperature control /timer/off.	PRACTICE ORIENTED	BEEC_T11
12	AZMAN BIN AWANG TEH	BEEC	Development of Water leakage detection of house water pipe system.	Student will come out with the device to monitor water system in the house and alarm the owner if the early stage leaking occur. The water pipeline leakage detection device will enable to monitor the water pipeline (in house compound) 24 hours, 7 days a week witout the presence of a human leak detector. When the leak occurs, the system will detect abnormal sound changes in the pipeline and send the the recorded sound to a cloud server for further analysis.	PRACTICE ORIENTED	BEEC_T12
13	AZMAN BIN AWANG TEH	BEEC	Development of Monitoring and reducing power consumption in the household.	Student will come out with the method/system that will able to monitor and reducing the power consumption in a house. The systems enables responsive management of a household's power consumption, storage and pricing. It provides unprecedented visibility and control over the household's energy usage and facilitates the adoption of renewables.	PRACTICE ORIENTED	BEEC_T13
14	DR SUHAILA BT MOHD NAJIB	BEEC	Development of e-Business Card based on Android application	Business cards are significant to the corporate and professional world. The usefulness of a business card is showing all of the contact details in a single and convenient location. A person will not carry his name card holder or past name cards around, but they will always have their phones with them. This is the significance of this project to ease people in dealing and making contact with others. This project is intended to develop a mobile application for interactive digital business cards. This application will be developed based on Android Studio and phpMyAdmin to manage the databases and perform dynamic content. The optical character recognition (OCR) will be utilized to scan the hardcopy business cards and save the information extracted using text recognition.	PRACTICE ORIENTED	BEEC_T14
15	DR SUHAILA BT MOHD NAJIB	BEEC	Development of Smart Traffic Light Controller System based on Computer Vision	As the number of the citizen, as well as the number of automobiles, are increasing daily, traffic congestion is gradually becoming a big issue in the city. In this project, the smart traffic light system based on computer vision techniques will be designed to control the traffic congestion which can improve the current traffic light control system to better accommodate this increasing demand. A Raspberry Pi is chosen to execute the automated traffic light system. A camera will be fixed at the four intersection road for real-time monitoring activity. The captured image of the road will be processed through a series of image processing techniques for vehicle detection. The number of vehicles that exist will determine the proper time duration for the green time.	INDUSTRY BASED	BEEC_T15
16	DR SUHAILA BT MOHD NAJIB	BEEC	Development of Inventory Management System based on Optical Character Recognition (OCR) technique.	Inventory mismanagement is widespread across the industry despite the best efforts of operations managers, employees, and companies. Mismanagement results in canceled orders due to inventory shortages, which in turn, leads to revenue losses. Developing a cloud-based inventory management system will offer to track the goods continuously. This system will be developed based on Android Studio and HTML website to manage this system systematically. phpMyAdmin and XAMPP will be utilized to manage the inventory data on a real-time basis. To shorten the tagging process, OCR technique will be implemented to ensure the inventory entries are precise.	INDUSTRY BASED	BEEC_T16
17	DR SUHAILA BT MOHD NAJIB	BEEC	Development of Ordering System for Restaurant based on Android Application	To increase the efficiency of the ordering time in the restaurant, a cloud-based system can be developed. A system can be assessed through two mediums which are mobile application and website. Android Studio can be utilized to program the ordering system for Android application in the mobile phone which will be used by the waiter or waitress. To manage the order, creating a menu, set the food price, etc, all of this can be assessed through the website by the admin	INDUSTRY BASED	BEEC_T17
18	DR SUHAILA BT MOHD NAJIB	BEEC	Develoment of Optical Tomography Instrumentation System using Image Sensor.	A tomographic system is a method used for capturing an image of an internal object section. Optical tomography is a method which widely used in the medical and industrial fields. An optical tomography based on Complementary Metal Oxide Semiconductor (CMOS) area image sensor will be developed to monitor the solid particle by non-invasively visualizing it inside the flow pipe. The optical tomography system consists of a lighting system, a sensing system that contains a flow pipe and CMOS area image sensors, a Data Acquisition System (DAQ), and an image reconstruction system based on MATLAB software. Tomogram images produced by the system resemble the actual concentration profile of solid particles inside the flow pipe.	INDUSTRY BASED	BEEC_T18
19	DR SUHAILA BT MOHD NAJIB	BEEC	Development of Smart Parking Lot with Real-Time Space Monitoring based on Computer Vision	In a normal shopping mall situation, the user needs to search for a free parking lot continuously and pay the parking at the kiosk near the mall. The management requires to provide convenient payment systems that ease the customer. Increase user satisfaction means increasing revenue and saved acquisition spend. A system needs to be developed to help the user in navigating directly to the empty parking lot. The system will be build based on Computer Vision on the Raspberry Pi controller to capture the vehicle plate number and also provide a real-time parking occupancy using a camera. The management can address user needs by using real-time parking occupancy data across their operation to understand space availability (including restricted spaces). The user can directly pay for the parking through their mobile application before they leave the area.		BEEC_T19
20	DR SUHAILA BT MOHD NAJIB	BEEC	Development of Smart Emergency Department Management System Based on Android Application	Overcrowding of the Emergency Department (ED) is often caused by the excessive number of patients waiting to be seen, undergoing assessment and treatment, or waiting for departure comparing to the physical or staffing capacity of the ED. To solve overcrowding and unmanageable situations, a system needs to be built to manage the patients coming in to and out of the ED. This Emergency Department Management System will be divided into two part which is Web Application for the admin and a Mobile application for the doctors. All patients' information including their history, current treatment, treating doctor, medication etc which has been updated by the treating doctor can be seen by the Admin on the web.		BEEC_T20

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21	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development and implementation of the system for test cases generation using JUnit library	Testing is a destructive task in which the goal is to find relevant defects as early as possible. It requires to reduce cost and ensure high regression, thus delivering determined quality in this section. The research questions aims at finding the software system generating the test cases on the basis of unit tests provided. This project will develop a software system that will allow to generate a test cases for a software modules on a basis of JUnit library. Unit tests are applied as the prototypes for test cases generation. Result - software system generating the test cases on the basis of unit tests provided.	PRACTICE ORIENTED	BEEC_T21
22	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development and implementation of decision making system using neural networks	There has been plethora of research activity into the application of neural networks in the construction industry. These studies have generally been focused on demonstrating the feasibility and usability of neural networks within the construction industry. However, transfer of this know-how to the businesses within the industry to increase productivity and effectiveness of the businesses is rare. Neural network technology has reached the stage of maturity that its real life implementation should be encouraged and facilitated. To achieve this objective, the project will develop a software system that will allow to support the decision making in an automated manner. Objective - develop a software system simplifying the decision making. Methodology - neural network is applied as a mechanism fostering the decision making. Result - information system (software) to support decision-making – regarding on a selection of products, the company's development strategy, etc."	INDUSTRY BASED	BEEC_T22
23	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development and implementation of handwritten text recognition system using OpenCV	In recent years there has been a growing interest in digitizing the in depth amounts of books and documents that existed preceding the widespread adoption of digital technologies. several of those digitizing initiatives trot out Brobdingnagian collections of written documents, that document image analysis techniques (page segmentation, keyword-spotting, optical character recognition (OCR), etc) don't seem to be however as mature as for written text. Thus, there's associate degree close ought to develop techniques to know, archive, index and search the manuscripts. Objective - develop a software system that will allow to conduct the recognition of handwritten text. Methodology - libraries encapsulating the image recognition functions are supposed to be utilized to recognize the handwritten text in an automated manner. Expected result - software system automating the recognition of a handwritten text.	PRACTICE ORIENTED	BEEC_T23
24	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development and implementation of face recognition system using neural networks	Face recognition, as one of the most successful applications of image analysis, has recently gained significant attention. It is due to availability of feasible technologies, including mobile solutions. Research in automatic face recognition has been conducted since the 1960s, but the problem is still largely unsolved. Last decade has provided significant progress in this area owing to advances in face modelling and analysis techniques. Although systems have been developed for face detection and tracking, reliable face recognition still offers a great challenge to computer vision and pattern recognition researchers. There are several reasons for recent increased interest in face recognition, including rising public concern for security, the need for identity verification in the digital world, face analysis and modelling techniques in multimedia data management and computer entertainment. Objective - develop a software system that will allow to conduct the faces recognition on a basis of given photos. Methodology - libraries encapsulating the face recognition functions are supposed to be utilized to recognize staffers in an automated manner. Expected result - software system automating the recognition of staffers.	INDUSTRY BASED	BEEC_T24
25	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development of computer system for road sign recognition to be implemented on mobile platforms.	The effective approach to road sign detection and recognition based on mobile devices. Detecting and recognizing road signs is a challenging matter because of different shapes, complex background and irregular sign illumination. The main goal of the system is to assist drivers by warning them about the existence of road signs to increase safety during driving. Expected result - mobile application automating the recognition of road signs. The development of the system for the recognition of signs is based on two main modules: 1) Detection: It is used to detect the signs from a whole image frame. It includes the modules: data-image acquisition, image pre-processing and sign detection. This phase greatly reduces the amount of information to be processed later. 2) Recognition: It identifies road signs by comparing the information provided by the previous phase with the sign pattern stored in a database.	INDUSTRY BASED	BEEC_T25
26	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Development of â€œSmart homeâ€•computer system on the basis of Arduino platform	Smart Home is technology to make a house to become intelligent and automated. Usually, that technology has automation systems for lighting, temperature control, security and many other functions. Smart Home is the term for determining residence using the control system to integrate home automation system. The system allows integrating electronic devices controller with only a few buttons that are connected with the simple telecommunications system. Smart Home includes communications, entertainment, security, convenience, and information systems. The system will have designed by having several blocks, namely: input/output block, the microcontroller block, networking block and controlling/monitoring devices block. Objective - develop a computer system maintaining the smart home scenarios. Methodology - use Arduino platform as the basis for algorithms (implemented as a software) execution. Result – a computer system implementing the “Smart home” infrastructure on the basis of Arduino platform; this project will develop a computer system leveraging the “Smart home” IoT scenarios on the basis of Arduino platform.	INDUSTRY BASED	BEEC_T26
27	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	DEVELOPMENT OF SMART DOORBELL USING RASPBERRY PI WITH AWS IOT PLATFORMS	we are going to build an IoT doorbell using Raspberry Pi with the help of AWS IoT platform. Once the visitor pressed the doorbell, it will publish and an alert will be sent using AWS SNS service by Email or SMS, so I know someone is knocking my door no matter where I am. Visitors no longer need to call me and simply let the IoT doorbell to do the job, deafness people also benefit using it so they can alert from vibration of their phone. To make it more advanced, PI camera or USB webcam was added so our IoT doorbell will take a picture of visitor, upload it using FTP (or can use AWS service for storing the image) and attach the link in the email or SMS message sent. Objectives 1.To be able to remotely authorize anyone who is at their door and needs access 2.To notifies the smartphone or other electronic device of the owner when a visitor arrives at the door 3.To make more secure of the house Smart doorbell uses microcomputer, Raspberry pi, PI camera or webcam, PIR sensor, Buzzer. This paper signifies the steps towards the smart home and living. In today's day to day life there is inconvenience in trends if delivery is faced by customer and delivery person if the concerned one is not present at his home. It gives the idea about the same doorbell which is helpful for the friends and relatives who visit our place unannounced. Using the microcomputer, 'Raspberry pi', the smart doorbell, it solves the problem of visitors remaining unattended in case the concerned person is not available. This smart doorbell alerts you when the bell is rung and lets you see and speak with visitors from your smartphone, anytime and anywhere. The implementation of the proposed work results in implementation of a standalone device. The proposed project is also cost efficient when compared to the other projects with similar objective. It can also be noticed that facial recognition is integrated in this project which provides more security over the other projects. Visitors no longer need to call me and simply let the IoT doorbell to do the job.		BEEC_T27

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28	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Devlopment of IOT BASED SMART FARMING IN SMART AGRICULTURE MONITORING SYSTEM	Agriculture is a necessity in every country from ages and it is the science and art of cultivating plants. Agriculture was the key development in the rise of sedentary human civilization and it is done manually from ages. As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. In the meantime, consideration of the building structure which can be accommodate every possible situation, overall expenditure and benefits, geographical factors and parameter must be priories in order to make agriculture system more precise. IOT plays a very important role in smart agriculture. IOT sensors are capable of providing information about agriculture fields. Thus, I have proposed an IOT and smart agriculture system using automation. This IOT based Smart Farming in Smart Agriculture monitoring system makes use of wireless sensor networks that collects data from different sensors deployed at various nodes and sends it through the wireless protocol. This smart agriculture using IOT system is powered by Arduino, it consists of Temperature sensor, Soil Moisture sensor, LDR sensor, water level sensor, DC motor and GPRS module. When the IOT based agriculture monitoring system starts it checks the water level, light intensity, humidity and moisture level. It sends SMS alert on the phone about the levels. Sensors sense the level of water if it goes down, it automatically starts the water pump. If the temperature goes above the level, fan starts to operate. All these are displayed on the LCD display module and it will be also seen in IOT where it shows information of Humidity, Moisture, Light and water level with date and time, based on per minute. Temperature can be set on a particular level as it is based on the type of crops cultivated. If we want to close the water manually on IOT there is button given from where water pump can be forcefully stopped. In a nut shell, this project is useful to everyone out there other than farmers who are interested in farming as their passion or as an additional income especially during this COVID 19 pandemic outbreak. This could create a greener planet which is healthier for us and also the future generation. Besides that, creating our own formation for farming is save to be consume as it's organic and fresh.		BEEC_T28
29	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	Design a shoes charger using piezoelectric material effect	In this modern era, people always rush in doing job and due to our hectic and torpid lifestyles, health has been on the receiving end. Time never stop and wait for us and we can hear most people says that "no enough time". Herein, we need find out a method to save time each and every day. New smart technologies and electronic devices play a main role in our daily life routine. Usually user needs to connect charger to power supply to charge their gadgets, which user need to wait and spend more time for the gadget to fully charged. Therefore, user also cannot go anywhere to do other work because need to wait until the electronic device fully charged. This project design to develop a combination sports with technology. In this project I mainly focus to design a shoes charger that generates electricity to charge gadget while moving, by using piezoelectric material effect where it generates electricity to charge gadgets during walk. The increase in energy consumption of portable electronic devices and the concept of harvesting renewable energy in human surrounding arouses a renewed interest. Herein mainly focus to generate power while walk and the power could be used to charge cell phone. By using piezoelectric and it will be connecting to power storage so that it could be easier to charger cell phone. Besides that, using servo motor and it will connect to Arduino to make it function will create a simple program, this circuit create for auto lacing system. In this project, additional step counter tally added this must able to counter every step walked and the amount will be insert to the app to display the burnt calories and the total distance travel.		BEEC_T29
30	DR. JAMIL ABEDALRAHIM JAMIL ALSAYAYDEH	BEEC	DEVELOPMENT OF SMART HOME SYSTEM USING ARDUINO	This project helps to supervise the home when there is no people thus it also saves electricity at the same time. Besides that, this project also protects the home from gas leakage in the kitchen by alerting the owner. For this project we are designing and constructing a microcontroller-based system that effectively controls and monitors devices in the home system. Thus, develop a sensor controlled system in the house enables data transfer through wireless transfer medium. In order to develop this program Arduino is used as the open-source electronics platform based on easy-to-use hardware and software. This will read the input be it light on a sensor and turn it into an output and transferring it to the GSM module will be used to connect the electronic device to the owner's phone and the information will be transmitted and alert the owner. Next, sensors such as PIR sensor is used to detect the motion to turn on electricity whereas LM35 works as a temperature sensor to detect the temperature or gas leakage in the kitchen. When there is any sort of motion or increase in temperature it will alert the owner via the GSM module which connected to the owner's phone. This "Development of Smart Home System" researcher have planned include motion sensors to activate the electrical appliances when the owner enters the home and also with some aspects such as the temperature or brightness in the house accordingly. As a safety measure a fire alarm system is also added into it to alert the owner in case of any emergencies of. This is connected via a gsm module to an app in the owners' phone where it alerts the owner in case of any emergency. This way the electricity consumption is also saved and the home will be safe monitored by the owner using their mobile phones.		BEEC_T30
31	DR. NORHASHIMAH	BEEC	DEVELOPMENT OF VISION BASED DEFECT DETECTION SYSTEM USING MACHINE LEARNING TECHNIQUE FOR BEVERAGE MANUFACTURING INDUSTRY	Vision-based quality inspection emerged as important in the beverage manufacturing industry. It functions to control the product quality for the large scale industries; not only to save time, cost, and labor, but also to secure a competitive advantage. It is a requirement of the International Organization for Standardization (ISO) 9001, to appease customer satisfaction in terms of frequent improvement of the quality of products and services. It is totally impractical to rely on human inspector to handle a large scale quality control production because the human has a major drawback in their performance such as inconsistency and time-consuming. In this project, a development of software on how to determine the foreign materials inside the bottle by building image processing algorithms and using Matlab. IP Camera as an input for the first step to capturing beverage in a moving conveyor then transfers it into the Matlab to compute under cloud computing (IoT) in order to control and monitor the system wirelessly.	INDUSTRY BASED	BEEC_T31
32	DR. ROSTAM AFFENDI BIN HAMZAH	BEEC	DEVELOPMENT OF NUMBER PLATE RECOGNITION SYSTEM BASED ON SOBEL EDGE DETECTION, BOUNDING BOX AND TEMPLATE MATCHING	Number Plate Recognition (NPR) became a very important in our daily life because of the unlimited increase of cars and transportation systems which make it impossible to be fully managed and monitored by humans. This system is approach based on simple but efficient Sobel Edge Detection, Bounding Box and Template Matching are used to localization, segmentation and recognition of characters. This system is implemented on MATLAB software. The concentrate is given to locate the number plate region properly to segment all the number and letters to identify each number separately.	PRACTICE ORIENTED	BEEC_T32

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33	DR. ROSTAM AFFENDI BIN HAMZAH	BEEC	DEVELOPMENT OF IMAGE COMPRESSION BY USING SINGULAR VALUE DECOMPOSITION WITH MATLAB SIMULATION	Image compression is needed in the development of various multimedia computer services and applications for telecommunications such as teleconferencing, digital broadcast codec and video technology. Image compression is a process of digital image efficiently coding to reduce the number of bits needed for image representation. It aims at reducing the cost of storage space and transmission while maintaining good quality of image.	PRACTICE ORIENTED	BEEC_T33
34	DR. ROSTAM AFFENDI BIN HAMZAH	BEEC	DESIGN OF DEPTH MAP RECONSTRUCTION ALGORITHM FROM STEREO IMAGES USING LOCAL-BASED TECHNIQUE	This project provides a method for solving the issue of correspondence when matching the stereo image using local based technique. This techniques is Sum of Absolute Differences (SAD). MATLAB software provides the tool. A map of disparities is produced through the block matching algorithm Sum of Absolute Differences (SAD). There are four basic steps in a stereo vision method for imaging the reconstruction. There are typically four phases of this The distortion of the captured images from the camera lens is extracted first in the undistortion step. The next step is to adjust the distance and the elevation angle between the two camera images to determine the focal length and the epipolar axis, as presumed beyond. The comparisons inter the left and the right image will be calculated in the correspondence stage and used to measure the map of disparities. This method is often known as being interoperable. This project was able to develop stereo matching algorithm using sum of absolute differences to do the depth map reconstruction from the proposed algorithm and a simple stereo algorithm compute results comparable to current state-of-the-art on Middlebury benchmark.	PRACTICE ORIENTED	BEEC_T34
35	DR. ROSTAM AFFENDI BIN HAMZAH	BEEC	DEVELOPMENT OF IMAGE COMPRESSION FUNCTION USING ADAPTIVE DISCRETE COSINE TRANSFORM	Image compression is a vital technology in transmission and storage of digital images because of huge data associated with them. It can be defined as process to remove the redundant information from the image so that only essential information can be stored to reduce the storage size, transmission bandwidth and transmission time. The essential information is extracted by numerous transforms techniques such that it can be reconstructed without losing quality and information of the image. This project proposes a new image compression scheme with pruning proposal based on discrete cosine transformation (DCT). The effectiveness of the algorithm has been reasonable over some real images and the performance of the algorithm has been compared with other common compression standards. Matlab software is an important platform for this project in order to write a program and perform the progress of project phase by phase to achieve the expected result.	PRACTICE ORIENTED	BEEC_T35
36	DR. ROSTAM AFFENDI BIN HAMZAH	BEEC	DEVELOPMENT OF OPTICAL CHARACTER RECOGNITION (OCR) ON IMAGES USING TEMPLATE-MATCHING AND IMAGE CORRELATION	Optical Character Recognition (OCR) has become a demand as the high usage in images that converted images into editable machine-coded text within multimedia or digital field. Optical Character Recognition (OCR) techniques is a process to extract the text by improving the quality of the digital image. OCR system includes Pre-processing, Segmentation, Feature Extraction and Classification. For classification, template matching and correlation used to identify the font and extract the text. For this template, 6 fonts have been chosen which are Cambria, Lucida Sans, Dubai Medium, Microsoft YaHei, Malgun Gothic and Lato through 4 various sample to match the template and analyses the accuracy based on the correct recognition (%). This OCR system will be implied in MATLAB software with Image Processing Toolbox. The purpose of this project is to obtain the text within the images that contain crucial important information where the text will be output through notepad.	PRACTICE ORIENTED	BEEC_T36
37	ELIYANA BINTI RUSLAN	BEEC	Development of intelligence submission box with apps notification through IOT to the recipient	The project is about the intelligence submission box that can be used for students submit their report. The idea is where the students can submit report and the lecturer will get the notification. Sender/student need to key in the matric number at the keypad outside of the box, the display will show the full name of the student. The student need to verify the data showing and once verification done, the door/hole of the box will open and the student can put the report inside. Once the sensor detect the item pass trough or the weight of the item in the box, the door will close automatically. Then the lecturer will receive apps notification of sender details for next action. For this project, the student need to design the database for the students information, apps for recipient notification through IOT, the HW and SW implementation to make it the system fully automated.	PRACTICE ORIENTED	BEEC_T37
38	KHAIRUL AZHA BIN A AZIZ	BEEC	Development of CAD System for EEG Signals Epilepsy Diagnosis Using Artificial Neural Network	Develop EEG signals epilepsy diagnosis using Neural Network with Graphical User Interface (GUI). Dataset from well-known university such as University of Bonn will be used for training, testing and validation process. As for real data, the acquired data from neuro sensor will be used to compare with the trained system. The aim is to do analysis and display results on a window or GUI. The project will be develop using Matlab. (EEG Brain sensor will be provided by supervisor)	PRACTICE ORIENTED	BEEC_T38
39	KHAIRUL AZHA BIN A AZIZ	BEEC	Development of CAD System for CT Lung Cancer Analysis and Diagnosis Using Graphical User Interface	Develop a CT (CT scan image) lung cancer analysis and diagnosis with Graphical User Interface (GUI). Using DICOM image from LIDC dataset, the CT images will be going thru pre-processing and segmentation process. The aim is to do analysis on the segmented lung cancer region. Results will be displayed on a window or GUI. The project will be develop using Matlab.	PRACTICE ORIENTED	BEEC_T39

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
40	LIM WEE TECK	BEEC	Development of a car plate location detection system using machine vision.	In car plate detection system, one of the problem faced is when similar car plate object or images can lead to mistaken car plate detection. The objective is to correctly identify and locate the car plate. Given an picture that consist of car plate and misleading object in the same frame, able to detect and highlight the actual car plate location. Method by using MATLAB and a suitable machine vision algorithm. The expected result is a program that will automatically crop and resulting a zoom-in image consisting only the car plate.	PRACTICE ORIENTED	BEEC_T40
41	LIM WEE TECK	BEEC	Development of a car plate number recognition system using machine vision.	The efficiency of number identification varies under different angle and shade effects. Based on a given image (car plate focus), the objective is to identify the number of a car plate. Method by using MATLAB and a suitable machine vision algorithm. The expected result is a program that can read and change the number into a digital record.	PRACTICE ORIENTED	BEEC_T41
42	LIM WEE TECK	BEEC	Development of a car plate number recognition system using neural network.	The efficiency of number identification varies under different angle and shade effects. Based on a given image (car plate focus), the objective is to identify the number of a car plate. Method by using MATLAB and a suitable neural network algorithm. The expected result is a program that can read and change the number into a digital record.	PRACTICE ORIENTED	BEEC_T42
43	LIM WEE TECK	BEEC	Development of a carpark management system by prediction of entry and exit time using neural network.	Whenever a car enter or exit the carpark, its car plate number will be recorded. Instead of the normal searching algorithm that might takes a long time to search through the whole database. The objective of using neural network to help reduce the data retrieval time by predicting user behaviour based on the usual entry and exit time. Method using MATLAB and a suitable neural network algorithm. The expected result is a faster search algorithm.	PRACTICE ORIENTED	BEEC_T43
44	LIM WEE TECK	BEEC	Development of a carpark security system by detection of unusual entry and exit time using neural network.	Whenever a car enter or exit the carpark, its car plate number will be recorded. The objective of using neural network to alert the carpark management whenever unusual user behaviour is reported. Method using MATLAB and a suitable neural network algorithm. The expected result is a alert message that will inform the carpark management when any strange behaviour is observed.	PRACTICE ORIENTED	BEEC_T44
45	MA TIEN CHOON	BEEC	Development of educational robot to teach kids programming using Arduino	Programming skill is one of the important skills needed for most of the job in the future. Studies shown that early exposure of programming learning in kids not only sparks interest in STEM among the kid but also improve their logical thinking abilities. However, teaching younger kids programming might be much challenging compare to youth. Good teaching aids are important to attract kids attentions and to ease the understanding of the programming concept. The aim of this project is to develop an robot which can be programmed easily by kids so that they can have fun while practicing when has learnt. Objectives 1. To investigate methods to teach kids programming. 2. To develop an educational robot to teach kids programming. 3. To analyze performance of the product developed.	PRACTICE ORIENTED	BEEC_T45

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
46	MA TIEN CHOON	BEEC	Development of Greenhouse Horticulture Automation for Crops Protection using Arduino	Due to the climate change widespread all around the world brings the effects to environment. Unpredictable weather condition such as global warming, floods or even the drought are resulted decreasing of the crop production in agriculture. In order to maintain the quantity and quality of crops and minimize the risk of loss. Besides, there are some people who interest in growing their plants and feed themselves as food. Since they like to eat the food source which is organic. While, growing plants acquires the full attention and manpower of the farmer to water and monitor the health condition also the secure of the crops all the time. Then, there are some unskilled beginner which interest the gardening but they do not have enough time fully concerned their plantation all the time. The invention of automated greenhouse has created the comfortable surrounding for grow plants and maintaining its quantity and quality. The automated system will watering the plantation when the moisture level of soil is low. Besides, security system provides the alarming system which been invoked as intruder been detected. In short, this invention will particularly according to plant's need also protect it from been stolen and destroyed. OBJECTIVES The objectives of the project: i. To investigate the horticulture automation system in market. ii. To develop a greenhouse horticulture automation system for crops protection. iii. To analyze the performance of the system developed. METHODOLOGY A) Controlling and Monitoring		BEEC_T46
47	MA TIEN CHOON	BEEC	Development of IoT based Smart Parcel Receiver	Problem Statements: Nowadays, online shopping has become a better choice and a new trend among people especially youngsters. Items bought online will be sent to address provided by the buyer via courier service. For safety purpose, the parcels are generally needed to be directly handover to the customer or the resident of the address provided to guarantee that the parcel is safely delivered. This has also result in the parcel to be undelivered when there is no one in the house. It is unavoidable for some group of individuals who are away from home during office hours, such as office worker and students. This causes inconvenience to the customer as he has to request for second delivery or head to the courier office to collect the parcel. Besides, there are also some delivery men that just leave the parcel in front of the house. The safety of the parcel could not be guaranteed as it may be stolen or damaged before it received by the customer. In order to increase the convenience and safety of the parcel delivery, this project is to develop a parcel receiver with a combination of technology which enable user to receive parcels safely even when there is nobody at home. Besides, the convenience is improved as the user will be notified once the parcel is received. Objectives: • To design and implement a parcel receiver that enable user to receive parcel safely when there is nobody at home. • To notify user the status of the parcel receiver box. • To analyze the performance of the product developed. Methodology: The expected users for this smart parcel receiver are individuals who are away from home and not able to receive the parcel during office hours. For example	PRACTICE ORIENTED	BEEC_T47
48	MA TIEN CHOON	BEEC	Implementation of Automatic Light and Air Purifier for Meeting Room using Arduino	Project Background This project employs a mechanism with which room lights switch on when a person enters the meeting room and switch off as the person leaves the room. In addition, it also displays the number of persons entering or leaving by means of LCD. With this automatic operation, electrical energy can be saved. In this system, two sets of IR LED and IR sensors are connected to the microcontroller to detect the persons exiting and entering the room. The microcontroller is programmed in such a way that by receiving the signals entering from the IR sensor, it turns the lamp with a relay and increments the counter. Similarly, for the exit sensor signal, it turns off the lamp and decrements the count which is also displayed in the display. The system also include the air freshener which will automatically spray more when the temperature in the meeting room rise to the maximum limit. The system detects how many people in the meeting room by the increase of temperature using temperature sensor. From the literature review that has been done by reading the articles and journal, there is no one include the air-freshener into the system. The system makes less use of the button to reduce the confusion to operate and control the system. The system also detection of the liquid level of air-freshener in the bottle using ultrasonic sensor. Objectives 1. To investigate the current lighting control and method of liquid level detection. 2. To develop a lighting control and air-freshener spray system in meeting room. 3. To analyze performance of the proposed system List of Equipment 1.Arduino UNO Module 2.Temperature sensor 3.IR Sensor 4.Bluetooth Module		BEEC_T48
49	MA TIEN CHOON	BEEC	Development of IoT based fire alert system	Fire Alerting system are very common in banks, offices and homes. They usually detect fire and alert people with a siren. However, what happens when nobody is there to listen to Alarm. Thus, this project is to design and develop fire alert system where it will alert the owner in case of any emergency. It is IoT based and connected via gsm module to mobile application in the owner phone and notifies owner in case of emergency. To addon, this project will comes out with automatic fire extinguish where it detect the fire and put out fire before getting worst. The result from this project is useful to be implemented in residential and industrial building to help reduce risk of death or injuries and also financial losses. Objectives i) To develop a fire alert system to detect smoke and fire and send notification to owner through IoT. ii) To develop an automatic fire extinguisher system to prevent the fire getting out of control and damage the property. iii) To analyze the effectiveness of the developed system.	PRACTICE ORIENTED	BEEC_T49

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
50	MUHAMMAD IZZAT ZAKWAN	BEEC	Development of Web Based Flood Victims Management System	In 2010, Malaysia experience serious flooding which had a negative impact on several states especially on the economy and to society in general. The average rainfall for all states in Malaysia is approximately 2,500 mm a year, making it one of the countries with the heaviest rainfall in the world. In addition, most people in Malaysia are less concerned about environmental issues especially disasters, because they think that the issue is a trivial issue which should be resolved by the district or local authority, and they expect the government to be the sole provider of flood protection when the flooding occurs. Presently, the delivery system in flood management was predominantly an official strategy based on a technology-centred approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organization will provide effective relief machinery for recovery following a flooding disaster. However, due to lack of communication and coordination during a disaster situation has led inefficiencies in mitigating adverse. Therefore, a project is proposed to develop Web Based Flood Victims Management System that will provide a guide for the administration of flood management for decision making on preparedness and mitigation damages and deaths, recovery, and development in post-disaster situations in Malaysia. The proposed system will be developed using MySQL database and Firebase plugin.	PRACTICE ORIENTED	BEEC_T50
51	MUHAMMAD IZZAT ZAKWAN	BEEC	Development of Web Based Flood Contributor and Transaction Fund Management System	In 2010, Malaysia experience serious flooding which had a negative impact on several states especially on the economy and to society in general. The average rainfall for all states in Malaysia is approximately 2,500 mm a year, making it one of the countries with the heaviest rainfall in the world. In addition, most people in Malaysia are less concerned about environmental issues especially disasters, because they think that the issue is a trivial issue which should be resolved by the district or local authority, and they expect the government to be the sole provider of flood protection when the flooding occurs. Presently, the delivery system in flood management was predominantly an official strategy based on a technology-centred approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organization will provide effective relief machinery for recovery following a flooding disaster. However, due to lack of communication and coordination during a disaster situation has led inefficiencies in mitigating adverse. Therefore, a project is proposed to develop a Web-Based Flood Contributor and Transaction Fund Management System that will provide a guide for the administration of flood management for decision making on fund management and development in post-disaster situations in Malaysia. The proposed system will be developed using MySQL database and Firebase plugin.	PRACTICE ORIENTED	BEEC_T51
52	MUHAMMAD IZZAT ZAKWAN	BEEC	Development of Web Based Flood Volunteer, Stock and Asset Management System	In 2010, Malaysia experience serious flooding which had a negative impact on several states especially on the economy and to society in general. The average rainfall for all states in Malaysia is approximately 2,500 mm a year, making it one of the countries with the heaviest rainfall in the world. In addition, most people in Malaysia are less concerned about environmental issues especially disasters, because they think that the issue is a trivial issue which should be resolved by the district or local authority, and they expect the government to be the sole provider of flood protection when the flooding occurs. Presently, the delivery system in flood management was predominantly an official strategy based on a technology-centred approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organization will provide effective relief machinery for recovery following a flooding disaster. However, due to lack of communication and coordination during a disaster situation has led inefficiencies in mitigating adverse. Therefore, a project is proposed to develop a Web-Based Flood Volunteer, Stock and Asset Management System that will provide a guide for the administration of flood management for decision making on preparedness and mitigation damages and development in post-disaster situations in Malaysia. The proposed system will be developed using MySQL database and Firebase plugin.	PRACTICE ORIENTED	BEEC_T52
53	MUHAMMAD IZZAT ZAKWAN	BEEC	Development of Web Based Flood Disaster Management System	In 2010, Malaysia experience serious flooding which had a negative impact on several states especially on the economy and to society in general. The average rainfall for all states in Malaysia is approximately 2,500 mm a year, making it one of the countries with the heaviest rainfall in the world. In addition, most people in Malaysia are less concerned about environmental issues especially disasters, because they think that the issue is a trivial issue which should be resolved by the district or local authority, and they expect the government to be the sole provider of flood protection when the flooding occurs. Presently, the delivery system in flood management was predominantly an official strategy based on a technology-centred approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organization will provide effective relief machinery for recovery following a flooding disaster. However, due to lack of communication and coordination during a disaster situation has led inefficiencies in mitigating adverse. Therefore, a project is proposed to develop a Web-Based Flood Disaster Management System that will provide a guide for the administration of flood management for decision making on flood disaster management and development in post-disaster situations in Malaysia. The proposed system will be developed using MySQL database and Firebase plugin.	PRACTICE ORIENTED	BEEC_T53
54	MUHAMMAD IZZAT ZAKWAN	BEEC	Development of Flood Monitoring Sensor For Sg Melaka using Microcontroller	In 2010, Malaysia experience serious flooding which had a negative impact on several states especially on the economy and to society in general. The average rainfall for all states in Malaysia is approximately 2,500 mm a year, making it one of the countries with the heaviest rainfall in the world. In addition, most people in Malaysia are less concerned about environmental issues especially disasters, because they think that the issue is a trivial issue which should be resolved by the district or local authority, and they expect the government to be the sole provider of flood protection when the flooding occurs. Presently, the delivery system in flood management was predominantly an official strategy based on a technology-centred approach emphasizing the application of new technologies in flood control, forecasting, warning and evacuation systems. In Malaysia, the National Security Council (MKN) has responsibility for controlling the national disaster management system and this organization will provide effective relief machinery for recovery following a flooding disaster. However, due to lack of communication and coordination during a disaster situation has led inefficiencies in mitigating adverse. Therefore, a project is proposed to develop a Smart Flood Monitoring System that will provide a guide for the administration of flood management for decision making on flood disaster management and development in post-disaster situations in Malaysia.	PRACTICE ORIENTED	BEEC_T54
55	NIZA BINTI MOHD IDRIS	BEEC	DEVELOPMENT OF EASY CAR SEAT FOR OKU TO LOAD INTO THE VEHICLE	Carseat for OKU system can ease the transportation and can help the OKU when they want to enter or loading into vehicle. OKU will be place on the chair and with the help of this system, OKU will be easyly can be transfer into the vehicle. The prototype of this this car seat for this system will use arduino or rasbery pi controller to control the servo motor to move the chair and rotate. OBJECTIVE: 1. to design the carseat OKU electronic system. 2. To analyse the performance and functionality of the system.		BEEC_T55

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
56	NIZA BINTI MOHD IDRIS	BEEC	DEVELOPMENT OF IoT BASED HOME SECURITY SYSTEM	Nowadays, the increasing case of burglary is harming society. Thus, a home security system is needed to prevent the possibility of intrusion. Most people want their homes to be secure from the intruder. This project is a security system that can allow the user to monitor on their phone if there's an attempted break-in. The project consists of software and hardware. For the software, the student will use Arduino IDE to create the coding, Tinkercad to design the circuit, and Blynk App to develop to monitoring interface. For the hardware, the student will use Arduino Uno as a microcontroller, ESP8266 WIFI Shield will provide a WiFi connection to the Arduino board, the PIR sensor is the primary sensor for motion detection, and the Buzzer is used to provide an audio signal. The expected outcome is to design a system that will use IoT to notifying the user's smartphone when the PIR sensor detects any intrusion through the door/window/sliding door. At the same time, a buzzer will produce a sound to scare the intruder away. Thus, this project can help to save a fortune along with many people's lives. This system consists of Arduino Uno, ESP8266 WIFI Shield, PIR Sensor and Buzzer •To develop a home security system using IoT •To design a home security system that will send a notification to the user's smartphone •To create a system that uses a PIR sensor to detect movement		BEEC_T56
57	NIZA BINTI MOHD IDRIS	BEEC	DESIGN AND DEVELOPMENT OF AUTOMATIC FISH AQUARIUM WATER DRAINING AND REPLACEMENT WITH TIMING FISH FEEDER WITH IOT	TO DESIGN THE ELECTRONIC SYSTEM THAT CAN DRAIN AND REPLACE WATER IN THE FISH AQUARIUM. THIS SYSTEM ALSO EQUIP WITH TIMING FISH FEEDER. ALL THE PROCESS SHOULD BE DISPLAY ON LCD SCREEN OR CAN BE DISPLAY AND CONTROL ON THE SMARTFONE. THE SYSTEM NEED ULTRASONIC SENSOR, PUMP AND SUITABLE CONTROLLER (ARDUINO OR RABERY PI). OBJECTIVE; -TO DESIGN ELECTRONIC SYSTEM THAT CAN PERFORM THE REQUIRED FUNCTION, WATER DRAING, WATER REPLACEMENT AND FEED THE FISH AUTOMATICALLY. -TO ANALYSE THE TIME CONSUME TO DRAIN AND REPLACE THE WATER. -TO ANALYSE THE SUITABLE AMOUNT FISH FOOD DISPENSE DURING THE FEEDING TIME	PRACTICE ORIENTED	BEEC_T57
58	NIZA BINTI MOHD IDRIS	BEEC	DESIGN AND DEVELOPMENT OF BANANA SLICER WITH SMARTPHONE MONITORING and LCD display	The system equip with Internet of things . An LED to indicate warning for the user safety during slicing the banana. IOT makes user can control the machine functionality on their phone. The system operation control by Arduino. The is IR sensor to give signal for safety purpose beside that needs to be considered is the type of blade, motor, and power supply 1.To design the circuit for low cost banana slicer with dual control. Contorl using smartphone and contol using manual operation. 2.To produce suitable prototype for the banana slicer. 3.To analyse the time consuming to slice a banana depending on the length and size of the banana.	PRACTICE ORIENTED	BEEC_T58
59	NIZA BINTI MOHD IDRIS	BEEC	THE DESIGN OF IOT BABY CAR SEAT WITH UNFASTENED ALERT WITH IOT	The â€œBaby Car Seat with Unfastened Alert with IOTâ€•project is designed with a device and system that suitable to produce an alert system to the parents when their child is unfastened the seat belt of baby car seat which can cause their child is in risk of danger. This system contains a few modules such as reed switch sensor to be mounted inside seat belt buckle of baby car seat, force sensing resistor to be installed under the seat of baby car seat and voice alert to warn the parents if the seat belt is unfastened. Arduino Uno used in this project as a main controller for this system that will communicate each other with other components. LCD display show the information of the baby car seat and the speaker to produce voice alert. To design the electronic IOT baby carseat system equip with LCD monitor. To design the system compatible with IOT To analyse the system responsive and reliability.	PRACTICE ORIENTED	BEEC_T59
60	NIZA BINTI MOHD IDRIS	BEEC	Development of IOT Safety car window Emergency System	This project focuses on car windows used for children's and safety in an emergency. The rate of children being left in the car increases. There is also a situation where children are locked in cars. This project aims to build a sound and vibration detection system using 'Arduino Uno'. In this system a warning alarm will sound and at the same time emergency notification to parentâ€™s smartphone will be activated. The significance of using this system is it can alarm nearby people to help immediately when the child trap inside the car. The hardware parts involve power window, Arduino Uno, sound sensor, vibration sensor, speaker, push-button and 2-channel relay besides smartphone. To design the system safety ca window. To develop this system suitable with IOT using a smartphone. To Analyse the system responsive and reliability.	PRACTICE ORIENTED	BEEC_T60

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
61	NIZA BINTI MOHD IDRIS	BEEC	The design of Smart Doorbell Monitoring using IOT and camera ready view.	As doors are the entry point of houses, thus it is necessary to enhance the security of it. In this project, an idea to increase the safety measure to houses is implemented through a smart doorbell system. The system connects Wi-Fi Android devices with firebase server using Raspberry Pi which will send notification in form of vibrations and text messages when doorbell is pressed. The image of the visitor can be view through smarfone. To Design a doorbell system that will assist disabled people via vibration notification on their smartphones. To Integrate the doorbell with a camera to capture the image of person outside the entry area. To Use a smart application that can control and observe the doorbell system by creating several interfaces such as image viewing.	PRACTICE ORIENTED	BEEC_T61
62	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of shoe dryer using controller with iot	People have problem to dry their shoe when it is raining season but when they want to use th dryer it is tedious for the user to wait for the shoe to dry.Thus the proposed project to design a shoe dryer and can alert user when their shoe completely dry in the dryer.The dryer also connected with the data base so that the dryer owner can monitor the dryer machine status for maintainence. The dryer can alert user by using the notification (sms/android apps) and also user can control the dryer using the mobile apps.	PRACTICE ORIENTED	BEEC_T62
63	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of portable cooler and warmer food carrier using peltier	Nowadays everyone is more comfortable to bring home -cooked food to school or to work. But some of them have difficulity to keep cool/preheat the food that they bring.Therefore the project is proposed to facilitate user to be able to keep cool the food at the same time can use the same carrier to warm the food without need another device. The source of the carrier is plan to use the peltier.	PRACTICE ORIENTED	BEEC_T63
64	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of Multi Equipment Cable Tester using microcontroller	Since there are many equipment in the lab that uses cable,it is tedious for the lab pic to check the functionality of the cable.hence this project to help the lab incharge person to verify/test the cable for equipment (multimeter/power supply/function gen.etc) in lab so that the cable in use is good by using the microcontroller.	PRACTICE ORIENTED	BEEC_T64
65	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of laundry notification system with iot	Nowadays there are alot of self servis laundry. but it is tedious for the user to wait for the laundry to complete.Thus the proposed project to alert user when their laundry has finished at the laundry bar.The machine also connected with the data base so that the laundry owner can monitor the washing machine status for maintainence. The machine can alert user by using the notification (sms/android apps)	PRACTICE ORIENTED	BEEC_T65
66	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of Ultrasonic Spectical for the Special Needs Person using GSM and bluetooth.	This project is to facilitate special needs person who have problem with their sight and need special tools in helping them to see.This project has two ultrasonic sensors connected to both sides of the lens. The first sensor is for front use if the buzzer is out of range, it will sound. The second sensor is for the bottom which is set between two distances. For example, 50-100, if below 50 means a hill or obstacle. , it is more like a drain.After that there is a gsm module with button .Which if any emergency occurs, by pressing the button, massage will be send to the mobile phone number which have been set earlier.This project consist a rechargeble battery .Can be used as a power bank too.The dislplay is to check the distance set correctly.The bluetooth is use to detact the spec with the phone.	PRACTICE ORIENTED	BEEC_T66
67	NURLIYANA BINTI ABD. MUTALIB	BEEC	Development of IoT based Parking Lot Identification System	Vehicle parking lot is a common issue in most places especially in the building.Therefore the managemant of the building is required to provide the system that can help the driver to minimize time to find a vacant parking lot in the building. The proposed system is using a sensor/monitoring approach to identify the vacant parking and display the info at each level of the parking entrance. The management also can extract the data from the data base.	PRACTICE ORIENTED	BEEC_T67
68	RADI HUSIN BIN RAMLEE	BEEC	Development of Hostel Complaints System For UTeM using PHP MySQL database.	The paper-based complaints system for hostel residences is a hassle for both the asmins and the student. Keeping up with the database and the repair respond time are suffering with delays. The objective of this project is to digitized the complaint system with a proper database, and hence to improved the respond time by the admins to resolves any issues that have been reported.This project will utilised the web application as the medium to replaced the paper based complaint form by using PHP MySQLA web application is expected to solved the problems mentioned with a database. This project will use the PHP MySQL as the tool od development.	PRACTICE ORIENTED	BEEC_T68
69	RADI HUSIN BIN RAMLEE	BEEC	Development of an Online Attendance Application for Home Learning Using MySQL database.	During the pandemic , face-to-face classroom environment has been replaced by the online classes. One particular problem arised is the logging attendance during the online class.The objective of this project is to build a MySQL database for online classes attendance in order to monitor the attendance.This project will utilised the web application as the medium to create the database for the attendance system using MySQLA web application is expected to solved the problems mentioned with a database. This project will use the PHP MySQL as the tool od development.	PRACTICE ORIENTED	BEEC_T69

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BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
70	RADI HUSIN BIN RAMLEE	BEEC	Development Digital AC Voltage Detector Using Mobile Application with Notification and Logging Capabilities	The conventional voltage detector used in testing has no logging capablities and hard to be monitored. The objective of this project is to build mobile applications that can connect to a digitized voltage meter dor monitoring and loggingThis project will utilised some wireless connectivity to connect the voltage meter to the mobile application.A voltage meter with the capablity of monitoring and logging reading data from a mobile apps. This project will use the wireless communication boards, IoT platforms and mobile applications.	PRACTICE ORIENTED	BEEC_T70
71	RADI HUSIN BIN RAMLEE	BEEC	Development of Smart Home Control System Using IoT with Energy Consumption Monitoring	The high energy usage has becoming more problems during the pendemic when everyone is working ar home. The objective of this project is to build monitoring to monitor electrical appliances for tis energy usage. The device will also has the capabilities to be able to controlled from the internet or a mobile device.This project will utilised some wireless connectivity to connect the energy consumption circuitry to the cloud via IoT platforms.A IOT platform with capablity of monitoring and logging energy usage for all tapped electrical devices. The usage is then can be monitored from a mobile apps or the internet. This project will use the wireless communication boards, IoT platforms and mobile applications.	PRACTICE ORIENTED	BEEC_T71
72	SHAMSUL FAKHAR BIN ABD. GANI	BEEC	Development of a Portable Automatic Number Plate Recognition System for Campus Security	Automatic Number Plate Recognition (ANPR) is a highly accurate system capable of reading vehicle number plates without human intervention through the use of high speed image capture with supporting illumination, detection of characters within the images provided, verification of the character sequences as being those from a vehicle license plate, character recognition to convert image to text; so ending up with a set of metadata that identifies an image containing a vehicle license plate and the associated decoded text of that plate.	PRACTICE ORIENTED	BEEC_T72
73	SHAMSUL FAKHAR BIN ABD. GANI	BEEC	Development of a Smart Checkout Assistant for Supermarket Products using Computer Vision	Computer vision is taking self-checkout one step further by eliminating the need for scanning barcodes. The automated system recognizes products and bills the customer accordingly. This means less waiting time for the shopper and a quicker service as compared to conventional shopping checkout lanes. Using auto-checkouts in stores is a win-win strategy for both customers and retailers. More staff can be employed to help customers shop, rather than spending the company's resources on cashiers' manual labor.	PRACTICE ORIENTED	BEEC_T73
74	SHAMSUL FAKHAR BIN ABD. GANI	BEEC	Development of a Wildlife Sighting Report and Alert System using Computer Vision	This project uses Raspberri Pi with YOLO and TensorFlow to detect sightings of wild animals by automatically classifying animals based on images from defined database. If wild animals are detected, the relevant authorities will be automatically notified by using an email with the related images of sightings included for further action	PRACTICE ORIENTED	BEEC_T74
75	SHAMSUL FAKHAR BIN ABD. GANI	BEEC	Development of an Air Quality Monitoring System using Raspberry Pi	This system involves monitoring the air quality by considering parameters like Suspended particulate matter(SPM), Carbon dioxide, Carbon monoxide, Smoke, temperature and humidity. Particulate matter being a very important parameter gives a clear indication of pollution in that particular time in the area. These pollutant data are extracted using sensors like MQ7, MQ135, MQ9, DSM501A, and DHT11. Most of these sensors produce analog output so an Analog to Digital converter is required before supplying the data to the Raspberry pi. The data is analyzed and a graph to show the changes in the locality and time in which the experiment is plotted.	PRACTICE ORIENTED	BEEC_T75
76	SHAMSUL FAKHAR BIN ABD. GANI	BEEC	Development of a Gas Leak and Fire Detection System for Kitchen Safety	This system is proposed to prevent loss of lives and properties which takes place due to gas leak and fire. It is engineered for safety in restaurants, kitchen areas and overall safety of people and products. The gas leak detector detects all common gases in households including natural gas and cylinder Liquefied Petroleum Gas (LPG). The system is small and compact and emits a loud alarm once it detects a potential gas leak or excessive smoke.	PRACTICE ORIENTED	BEEC_T76