KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

POLITEKNIK MALAYSIA
KUCHING SARAWAK

BUKU KOMPILASI

POLIKU Research & Innovation Exhibition

PRIEX

Sesi 1 2024/2025

Edisi 2

Bulan INOVASI PERKHIDMATAN AWAM SARAWAK 2024

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e ISBN 978-629-7638-45-4

Data Pengkatalogan-dalam-Penerbitan

Perpustakaan Negara Malaysia

Rekod katalog untuk buku ini boleh didapati dari Perpustakaan Negara Malaysia

eISBN 978-629-7638-45-4

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Session I: ***2024/2025***

Prakata

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

السلام عليكم ورحمة الله وبركاته

Bersyukur saya ke hadrat Allah SWT kerana dengan limpah kurnia-Nya, Program Poliku Research and Innovation Exhibition (PRIEx) Sesi I 2024/2025 dapat direalisasikan sekali lagi di Dewan Jubli Perak, Politeknik Kuching Sarawak (PKS).

Pendidikan merupakan wahana terpenting dalam pencapaian matlamat dan pembangunan negara. Keberhasilannya amat bergantung kepada perancangan yang strategik dan teliti, pengurusan yang berkesan dan efisien serta komitmen yang tinggi di kalangan warga pendidik. Begitu juga dengan program ini, ia dirancang bagi mengasah kreativiti dan inovasi para pelajar sekaligus menarik minat khususnya pelajar-pelajar Politeknik Kuching Sarawak untuk melanjutkan pelajaran di peringkat yang lebih tinggi, di Institut Pengajian Tinggi Awam.

Inisiatif ini adalah selari dan selaras dengan hasrat Kementerian Pendidikan Tinggi (KPT) yang mana ianya melibatkan penyertaan pelajar dalam membudaya penyelidikan dan inovasi berdasarkan Teras 6 dalam Pelan Strategik, Jabatan Pendidikan Politeknik dan Kolej Komuniti.Di samping itu pihak Politeknik Kuching Sarawak berbesar hati untuk bersama-sama Kerajaan Sarawak untuk menjayakan Sambutan Bulan Inovasi Perkhidmatan Awam Sarawak (SCS) Tahun 2024. yang bertemakan 'Kecemerlangan Penyampaian Perkhidmatan berteraskan Integriti dan Inovasi'

Sekalung tahniah dan syabas kepada ahli jawatankuasa PRIEx, para penyelia dan peserta pertandingan serta semua pihak yang terlibat secara langsung atau tidak langsung dalam menjayakan PRIEx kali ini. Saya percaya, dengan usaha gigih, kerjasama dan semangat kerja berpasukan yang ditunjukkan oleh semua pihak untuk mencapai objektif program ini iaitu memperkasakan budaya penyelidikan dan inovasi dalam kalangan pelajar mahupun warga staf PKS. Sebanyak lapan kategori PRIEx yang dipertandingkan antaranya ialah Internet of Things, Information Technology, Engineering Technology, Engineering Environment & Renewable Energy, Services & Product dan Research yang menekankan penyelidikan berasaskan pembangunan lestari dan mampan demi mencapai matlamat Sustainable Development Goals (SDGs) negara.

Akhir kalam, sekali lagi saya ingin merakamkan ribuan terima kasih kepada semua pihak yang terlibat di atas segala usaha yang telah dicurahkan dalam penganjuran PRIEx ini demi mengembangkan pengetahuan baharu menerusi penyelidikan dan inovasi dengan mengaplikasikan kemajuan teknologi untuk pembangunan ekonomi, kualiti hidup dan perubahan sosial masyarakat dan negara.
Sekian, terima kasih.

Tahniah
kepada semua.

EN. SAMSUDIN BIN MOHD. SALEH
Pengarah
Politeknik Kuching Sarawak

Abstrak

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

POLIKU Research & Innovation (PRIEx) Sesi I : 2024/2025 merupakan sebuah program anjuran Jawatankuasa Projek Pelajar bersama Unit Penyelidikan, Inovasi dan Komersialan yang diketuai oleh semua jabatan pengajian di Politeknik Kuching Sarawak. Sehubungan itu, Jabatan Kejuruteraan Awam diberi tanggungjawab untuk menjadi penganjur pada sesi kali ini.

PRIEx diadakan setiap semester bagi mempamerkan projek akhir serta berkongsi pengalaman sepanjang tempoh projek akhir dilaksanakan. Program ini dilaksanakan sebagai platform untuk pelajar dengan seliaan pensyarah memaparkan hasil kerja kursus projek semester akhir dan idea baharu.

Selain itu, program ini juga bertujuan untuk mempromosikan hasil inovasi pelajar dan membolehkan agensi luar lebih memahami kemahiran yang dipelajari oleh pelajar khasnya dalam bidang kejuruteraan, teknologi maklumat dan perdagangan. Dengan adanya program seperti ini diharap ianya dapat menghasilkan para graduan yang inovatif, kreatif dan graduan yang mempunyai ciri - ciri holistik sekaligus meningkatkan kebolehpasaran graduan.

Isi Kandungan

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

KATEGORI **PELAJAR**

INTERNET OF THINGS *(IoT)*

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

INTERNET OF THINGS *(IoT)*

BIL	NAMA PROJEK	JABATAN
1	**THE IOT FELINE SNACK CAM VIA WIFI** ARFAN BIN ABDUL AZIZ MUHAMMAD ADLI FAHIM BIN ATAN MUHAMMAD FUADDIL BIN NOR AHAD (PENYELIA)	**JKE**
2	**IOT BASED HEADWATER DETECTION SYSTEM** LUQMAN NURHAKIM BIN AHMAD SYARIMALLAH PETRUS MOSES ANAK DAMPA SITI SUNAIDAH SUKMA BINTI SUBRI (PENYELIA)	**JKE**
3	**DESIGNING A WI-FI INTEGRATED TIDE GAUGE** DARRIEN NATHANIEL BIN PETER JOSHUA JOY ANAK JUBILANT MOHAMAD RIZMAN BIN AZUDIN MOHD FADLI BIN CHE ADENAN (PENYELIA)	**JKA**
4	**DOOR SENSOR** AINA FARHANA BINTI ABDUL HADI CLAYMENTINE EZEBEL CLEMENT RICHARD ELLAI NURUL ADILLA QISTINA BINTI MOHAMMAD ZAINI @ JOHNNY REDZUAN SAFRI BIN ABDUL RAHMAN (PENYELIA)	**JKA**
5	**IOT-BASED MUSHROOM CULTIVATION** MOHAMAD HAZIM BIN HUMUR WAN SITI AISYAH BINTI WAN IBRAHIM (PENYELIA)	**JKE**
6	**FORTRESS IOT PROSHIELD** JOHN THIVIANESAN EVELINA KUMANG ANAK FRANKIE MUHAMMAD AZIZAN BIN AINI TANG SI KING (PENYELIA)	**JTMK**

INTERNET OF THINGS *(IoT)*

BIL	NAMA PROJEK	JABATAN
7	**VEHICLE SAFETY ALERT SYSTEM (VSAS)** MUHAMMAD SAFWAN BIN HABIB AUSTINE MARCEL NOOR ASHRULMIZAN BIN HILZAN SAFINAH BINTI NAWAWI (PENYELIA)	**JTMK**

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
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<tr><td></td><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
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2. Nama: Arfan Bin Abdul Aziz
No. Pendaftaran Pelajar: 05DEP22F1007</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Muhammad Fuaddil Bin Nor Ahad</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Elektrik, Elektronik dan Perisian (IoT)</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">-</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i) To automatically prepare cat food appropriately according to the schedule set in the system. ii) To increase direct monitoring of cat from distance, given access to see the cat's current activity. iii) To indirectly signal and notify that your cat might be near the feeder and potentially needs food. iv) Provide automatic laser entertainment for cat to play when the owner is not there
Skop Kajian/Projek:	The IoT Feline Snack Cam project scope encompasses several key aspects aimed at enhancing cat care and owner interaction. Focuses on the designated feeding area to observe cat interaction with the dispenser and food, ensuring timely and appropriate feeding. The project includes the functionality of sending notifications to the Blynk platform when the cat is near the cat food, allowing owners to promptly attend to their pet's feeding needs. Enables remote monitoring and control of the IoT Snack Cam through a user-friendly mobile app, which is Blynk, offering convenience and peace of mind to pet owners. By encompassing these scopes, the IoT Feline Snack Cam project aims to revolutionize cat care by providing comprehensive monitoring and interaction capabilities, tailored to the needs of modern cat owners.

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Identify the appropriate use of sensors to cater the cat behavior. 2. Design and develop a prototype cat monitoring system. 3. Design and develop a prototype for cat feeding apparatus. 4. Write and test the code to monitor, feed and entertain the cat. 5. Write and test the code to integrate the prototype with a mobile device. 6. Perform simulations to test the efficiency of the system in detecting normal and abnormal conditions. 7. Implement improvements based on testing results and feedback. 8. Prepare a full report that includes the design, implementation, and evaluation of the system. 9. Produce a user guide for the developed system.
Abstrak Kajian/Projek:	The IoT Feline Snack Cam project introduces an innovative Smart Cat Care System combining automated feeding, interactive laser play, and real-time monitoring to enhance pet care. By using ESP32, Blynk, and IoT technology, the system allows owners to control feeding schedules and monitor their cats remotely via the Blynk platform. The integrated **camera and treat dispenser** provide real-time notifications and live footage, offering peace of mind for owners away from home. Through extensive testing and refinement, the project aims to achieve its objectives of automating cat feeding schedules, enhancing direct monitoring of cats from a distance, and providing timely notifications to owners when their pets are near the feeder. Overall, the IoT Feline Snack Cam project seeks to redefine pet care practices and strengthen the bond between owners and their feline companions.

Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik (DEE)			
Jabatan:	Jabatan Kejuruteraan Elektrik (JKE)			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	IoT-Based Headwater Detection System			
Jenis Kajian/Projek:	Kategori Internet Of Things (IoT)			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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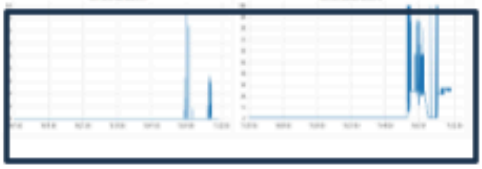
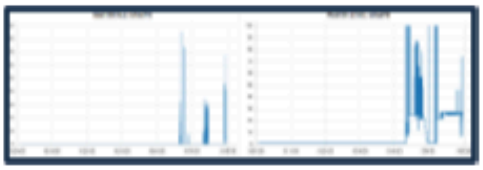
Penyelia:	Nama: Siti Sunaidah Sukma Binti Subri			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To design monitoring water velocity and water level system. 2. To design an alert system using node-red to alert the communities. 3. To design an alarm system by using a buzzer to warning the communities.
Skop Kajian/Projek:	The proposed Headwater Monitoring System seeks to transform existing monitoring techniques by overcoming their limitations. There are several limitations that be classified in this project which are: i) Water level conditions: a) Normal condition - percentage below 15%, b) Abnormal condition - percentage above 15%. If the water height is abnormal, a buzzer will sound and a warning notification will be immediately sent to the owner's mobile device. ii) Water velocity conditions: a) Normal condition - percentage below 15%, b) Abnormal condition – percentage above 15%. If the velocity of the water is abnormal, a buzzer will sound and a warning notification will immediately be sent to owner's mobile device.

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Identify the appropriate use of sensors to measure water level and water velocity through various methods to obtain information. 2. Design and develop a prototype of a water head monitoring system. 3. Write and test code to provide warnings via buzzer and integrate the system with Node-RED by providing notifications to mobile devices. 4. Perform simulations to test the efficiency of the system in detecting normal and abnormal conditions. 5. Analyze the performance of the system in various water scenarios such as different levels and velocities. 6. Implement improvements based on testing results and feedback. 7. Provide a full report that includes the design, implementation, and evaluation of the system. 8. Produce a user guide for the developed system.

Abstrak Kajian/Projek:	The tragic event at jeram air putih in Kemaman, Terengganu, which resulted in the loss of 10 lives, has prompted authorities to identified 39 waterfall and river recreation areas nationwide as high-risk zones for water-related accidents. At present, the monitoring of headwaters relies heavily on manual observation methods, which are considered ineffective and unable to provide real-time data. This proposal introduces a cutting-edge headwater monitoring system that utilizes internet of things (IoT) technology to address these shortcomings. The main goal of this system is to swiftly detect headwater incidents and issue timely alerts to reduce potential risks. Through the use of IoT technology, this solution offers proactive monitoring, ensuring that individuals in high-risk areas receive immediate notifications to help them take necessary precautions and potentially prevent future tragedies. The headwater monitoring system will consist of sensors placed strategically along rivers and waterfalls, continuously collecting data on water levels, flow rates, and other relevant parameters. This data will be transmitted wirelessly to a central monitoring station, where it will be analysed in real-time to detect any anomalies or potential dangers. In the event of a sudden increase in water levels or other signs of danger, the system will automatically trigger alerts to local authorities, emergency services, and individuals in the vicinity. By providing early warnings and real-time information, the headwater monitoring system aims to improve response times and ultimately save lives in water-related emergencies. This innovative solution represents a significant step forward in enhancing safety measures at popular recreational water sites, helping to prevent tragic incidents like the one that occurred at Jeram Air Putih.

Infografik Kajian/Projek:	        

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Geomatics (DGU)			
Jabatan:	Jabatan Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Designing A Wi-Fi Integrated Tide Gauge			
Jenis Kajian/Projek:	Kategori Internet Of Things (Iot)			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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Penyelia:	Nama: Mohd Fadli Bin Che Adenan			
Penyelia Bersama:	-			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	I. To design a wi-fi integrated tide gauge. II. To observe the tide consistently and conveniently. III. To compare the conventional method and modern method.
Skop Kajian/Projek:	Hardware, software and area of research
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	**Hardware** **Ultrasonic Sensor** The ultrasonic sensor has a "transducer" that emits a high-frequency sound wave (typically above the range of human hearing, around 40 kHz). This sound wave travels through the air. The emitted sound wave travels outward from the sensor until it encounters an object or surface (in the case of a tide gauge, the surface of the water). When the sound wave hits the object or surface, it reflects back towards the sensor. The time it takes for the sound wave to travel from the sensor to the object and back is   measured. The sensor has a receiver (or the same transducer can be used for reception) that detects the reflected sound waves (echo).

Wi-Fi module

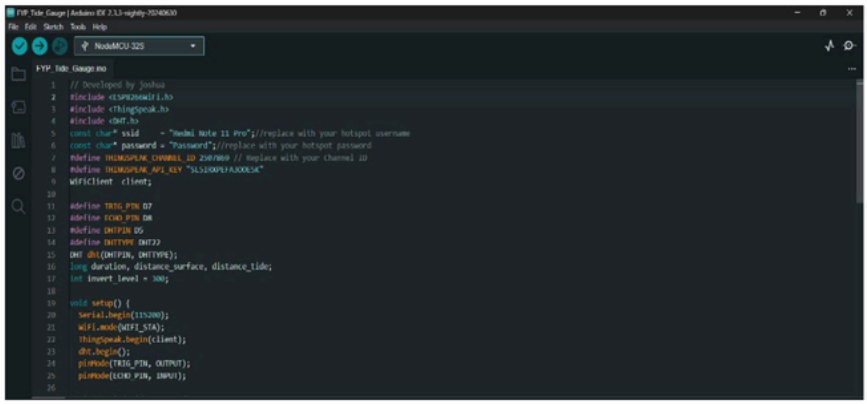
A Wi-Fi module for a tide gauge allows it to connect to a local Wi-Fi network and send data wirelessly. To use it, choose a compatible Wi-Fi module like the ESP8266 or ESP32, connect it to the tide gauge's data logger, and configure it with your network's SSID and password. The module will format the tide gauge data and send it using protocols like HTTP or MQTT. Ensure it has a stable power supply and secure data transmission by using encryption. Regularly

test the connection and perform maintenance to ensure reliable data transmission.

Software

IDE

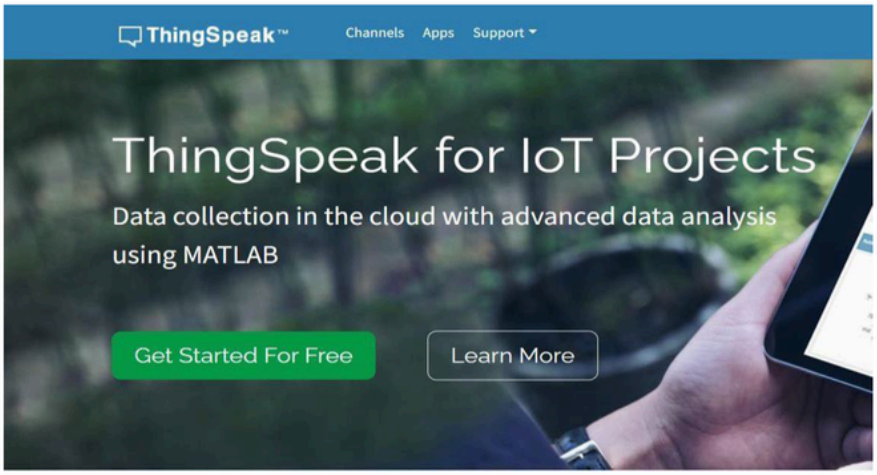
The Arduino Integrated Development Environment (IDE) is used to write and upload code to the Arduino board. The code is written in a simplified version of C/C++.Users write code in the Arduino IDE, which is then compiled and uploaded to the board. The code tells the microcontroller how to interact with connected components. Arduino can be used to interface with various sensors (e.g., temperature, humidity, ultrasonic) and actuators (e.g., motors,



LEDs). Data will be collected and store from sensors for later analysis.

IoT Platform

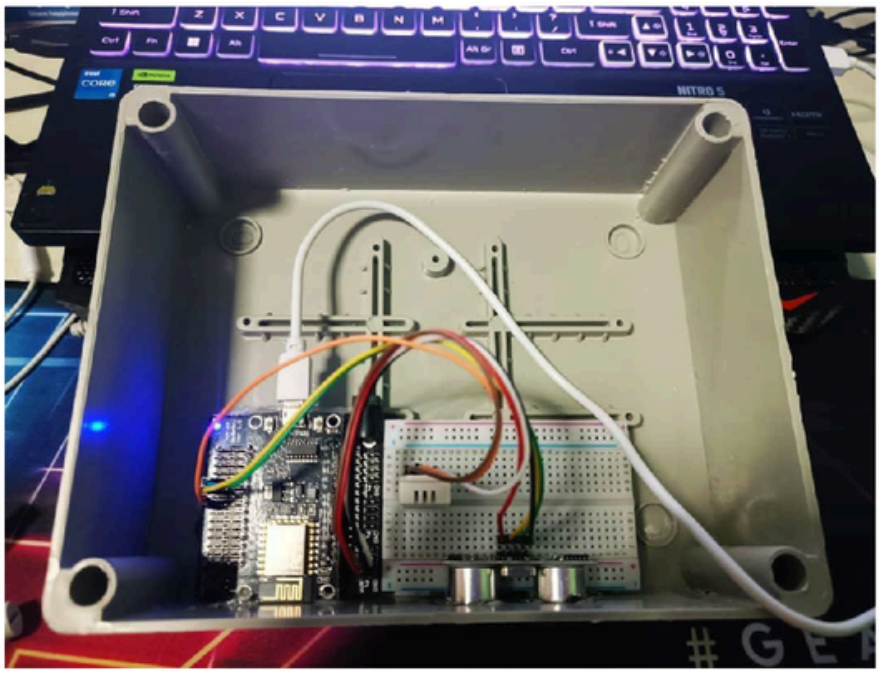
ThingSpeak is an open-source Internet of Things (IoT) platform that allows users to collect, store, analyze, and visualize data from IoT devices in real-time. It is particularly popular for small-scale IoT projects, academic research, and prototyping due to its ease of use and integration with other tools like MATLAB.



Area Research

This project will be tested at Telaga Air's jetty because survey camp has been held over there before this. The location was practical and challenging and it is suitable to test the durability and the function of the tide gauge bracket.

	 Location: Kampung Telaga Air
Abstrak Kajian/Projek:	The accurate monitoring of sea levels is critical for coastal management, navigation safety, and environmental preservation. Traditional methods of measuring water levels, such as using leveling staff, are labor-intensive, prone to human error, and difficult to execute under certain environmental conditions. This research focuses on the design and development of an advanced, Wi-Fi-integrated tide gauge, utilizing an ultrasonic sensors to continuously measure water levels and transmit data wirelessly in real-time. The new system addresses the limitations of conventional methods, including manual effort, data collection delays, and inaccurate readings due to environmental factors. By comparing traditional and modern tide gauge technologies, the study evaluates their respective accuracies, costefficiency, and long-term applicability. The modern design integrates IoT technology to allow remote monitoring via smart devices, improving data accessibility and usability for coastal infrastructure planning and environmental protection. The system is tested in field conditions at Telaga Air?s jetty, highlighting its portability, ease of use, and potential for enhanced precision in

	tidal observations. Results demonstrate that the Wi-Fi-integrated tide gauge can significantly improve the consistency and accuracy of sea level data collection, providing a valuable tool for both geomatics professionals and academic training
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Perkhidmatan Bangunan (DPB)			
Jabatan:	Jabatan Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Door Sensor			
Jenis Kajian/Projek:	Internet Of Things			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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Penyelia:	Nama: Redzuan Safri Bin Abdul Rahman			
Penyelia Bersama:	-			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To design a door sensor model using the latest technology. 2. To build a door sensor model that makes it easy for users. 3. To test the effectiveness of the door sensor model.
Skop Kajian/Projek:	This project will be built by using Arduino and the model will be implemented on a door frame for example at classrooms. There will be one (1) sensors for one (1) doors for comparison and proof that it works. i) RFID door lock size (34cm x 25 cm) ii) LED lights (green and red) iii) RFID Personal Card iv) Time estimates the card can be accessed (3 seconds)
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	This project only focuses on the Sarawak Kuching Polytechnic area.
Abstrak Kajian/Projek:	Door Sensor is a smart access system that uses RFID and IoT technology for secure and convenient room access. Authorized users can enter with RFID cards, while unauthorized individuals are blocked. The system connects to the Blynk application to track room occupancy and user entry in real time. LED lights on the door frame provide a clear visual signal: green for access granted and red for access denied. The goal of this project is to design a user-friendly door sensor model using the latest technology. It aims to simplify access control, improve security, and allow real-time monitoring. The effectiveness of the system will be tested based on response time, accuracy, and ease of use. The Door Sensor system provides a reliable and secure solution for managing room access. Its easy-to- use design, visual indicators, and real-time monitoring make it effective for improving both security and user convenience. Testing confirms that it meets the objectives of being practical, secure, and user-friendly.

Infografik Kajian/Projek:	 

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik (DEE)			
Jabatan:	Jabatan Kejuruteraan Elektrik (JKE)			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	IoT-Based Mushroom CUltivation			
Jenis Kajian/Projek:	Kategori Internet Of Things (IoT)			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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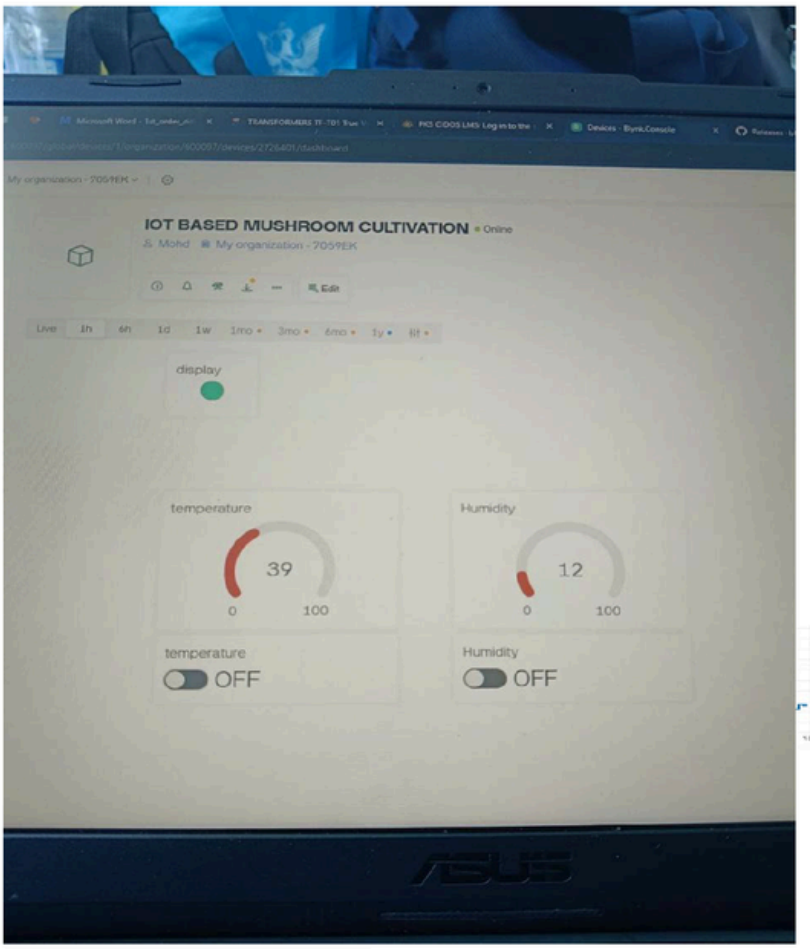
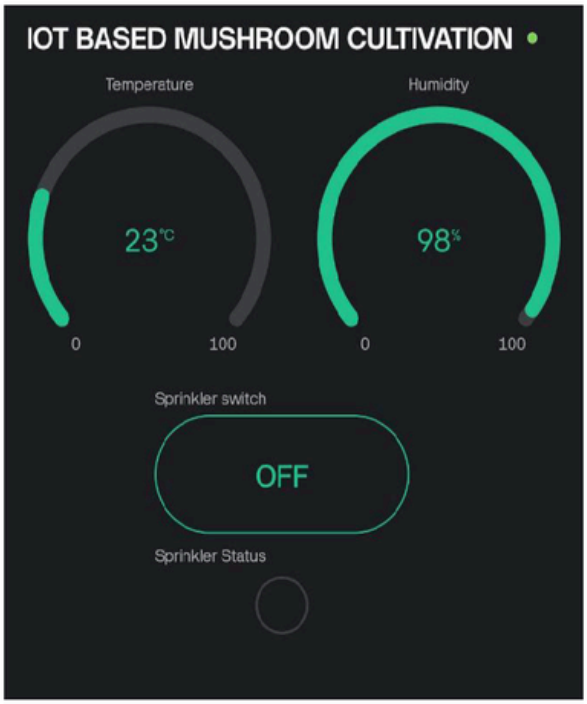
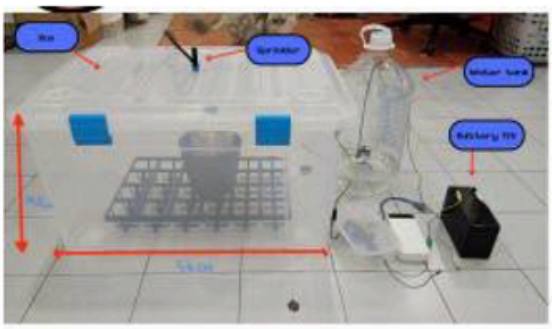
Penyelia Bersama:	-			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	-			

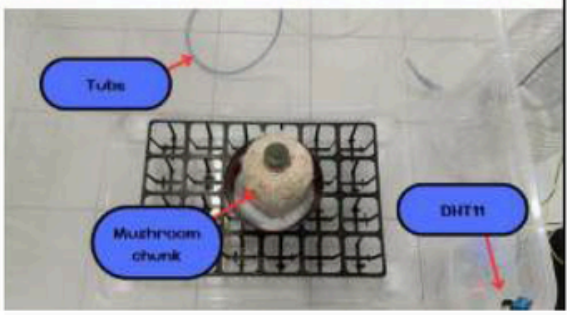
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To build the cubical mushroom oyster suitable for indoor use 2. To monitor temperature and humidity for mushroom oyster using blynk. 3. To implement an automatic water sprinkler for mushroom oyster
Skop Kajian/Projek:	The IoT-based mushroom oyster cultivation system proposed utilizes real-time monitoring and automation to create ideal growing conditions for mushroom oysters. With the utilization of ESP8266 as a microcontroller and DHT11 for temperature and humidity detection, this system effectively manages and regulates the indoor environment for mushroom oyster cultivation. Tailored for home-based cultivation, it allows precise control over growing conditions and can be seamlessly integrated into various indoor settings. Through the incorporation of blynk, users can monitor and analyze data in real-time, gaining valuable insights to optimize yield and quality. In conclusion, this IoT-based system presents a cost-effective and efficient solution for indoor mushroom oyster cultivation, offering a user-friendly interface for easy management and monitor
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Mengenalpasti penggunaan sensor yang sesuai untuk mengukur suhu dan kelembapan udara. 2. Merancang dan membangunkan prototaip sistem pemantauan penanaman cendawan. 3. Menulis dan menguji kod untuk memberi notifikasi nilai suhu dan kelembapan menggunakan blynk-app kepada telefon mudah alih. 4. Melakukan simulasi untuk menguji kecekapan sistem dalam mengesan keadaan normal dan abnormal. 5. Menganalisis prestasi sistem dalam pelbagai senario suhu dan kelembapan supaya water nozzle berfungsi dengan betul. 6. Melaksanakan penambahbaikan berdasarkan hasil pengujian

	dan maklum balas. 7. Menyediakan laporan penuh yang merangkumi reka bentuk, pelaksanaan, dan penilaian sistem. 8. Menghasilkan panduan pengguna untuk sistem yang dibangunkan.
Abstrak Kajian/Projek:	This project aims to improve the traditional ways in mushroom cultivation implementing indoor mushroom houses that equipped blynk to monitor data online in real-time. The blynk platform is necessary to Monitor environmental conditions that allows for quick adjustments and ensures that the mushrooms are always growing under optimal conditions. The hardware has been developed with DHT11, sprinkler, water pump and ESP8266. The DHT11 are applied as indicators to users to compare the temperature and humidity conditions for mushroom cultivation. Hence, the users can notify using Blynk that has been linked to ESP8266 using Arduino IDE. It can ease the user to monitor mushroom cultivation.

Infografik Kajian/Projek:	  



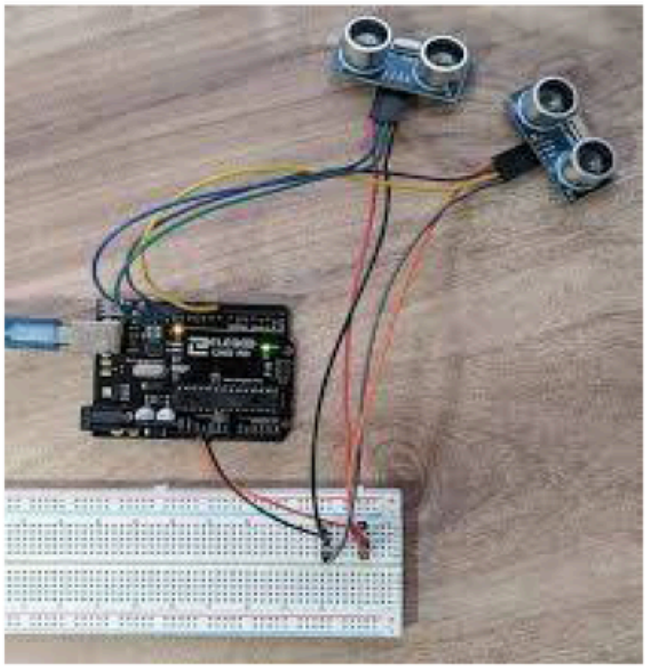
RESULT



BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Fortress IOT ProShield			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: John Thivianesan No. Pendaftaran Pelajar: 05DDT22F1028 2. Nama: Evelina Kumang anak Frankie No. Pendaftaran Pelajar: 05DDT22F1009 3. Nama: Muhammad Azizan bin Aini No. Pendaftaran Pelajar: 05DDT22F1999			
Penyelia:	Nama: Tang Si King			
Penyelia Bersama:	-			
Multi-Disiplin:	-			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To develop a smart IOT-based home security system that detects unauthorized activity using sensors. 2. To detect movement and send an instant notification to the homeowner for immediate action. 3. To create the impression that someone is home to prevent a potential intruders
Skop Kajian/Projek:	**User Scope** The Fortress IoT ProShield is designed for homeowners seeking a comprehensive, user-friendly security system that integrates with existing smart home devices and provides proactive protection. **System Scope** The Fortress IoT ProShield consolidates various security devices into a single, unified platform, allowing seamless management through one app. It provides real-time monitoring with live updates and alerts for unusual activities or potential threats, enabling immediate responses to security breaches
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	The Fortress IoT ProShield is an advanced smart home solution designed to enhance both security and convenience in residential and commercial settings. At its core, the system integrates a variety of cutting-edge technologies to ensure seamless operation and user-friendly access control. The system includes a keypad for secure password authentication, an LCD display for real- time user feedback and a buzzer to alert users of unauthorized access attempts, enhancing security measures.

Infografik Kajian/Projek:	

KATEGORI **PELAJAR**

INFORMATION TECHNOLOGY

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

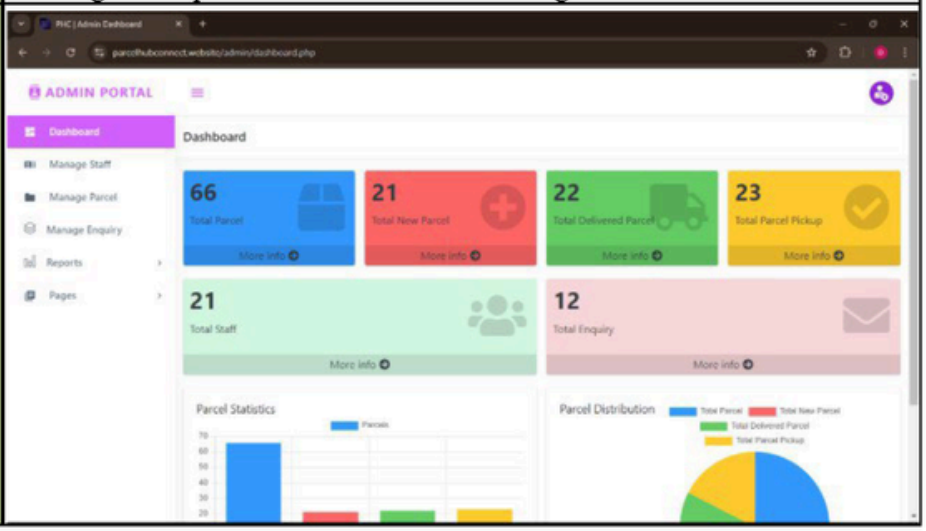
INFORMATION TECHNOLOGY

BIL	NAMA PROJEK	JABATAN
1	**PARCEL HUB CONNECT** NU'AIM HAIKAL BIN MUHAMMAD ABIL HAFIZ NATHANAEL DIVINE TALENT HABEL RAIMUN NORAIMI BINTI MAHRAN (PENYELIA)	**JTMK**
2	**JTMK STUDENT PERFORMANCE SYSTEM (EPERF SYSTEM)** TIONG IN HUI ANGELYNNA LINDA ANAK BUNSU EMYLIA ANAK LADA NEELAM AMELIA BINTI MOHAMAD REJENI (PENYELIA)	**JTMK**
3	**INTERNAL TRAINING MANAGEMENT SYSTEM POLITEKNIK KUCHING SARAWAK (ITMSYSPKS)** MOHAMAD ALIFFDANIAL FIRDAUS BIN ZAINI MUHAMMAD DANIAL BIN ZAMRUS MOHAMMAD AZAM BIN RAMLI Dr. ZAKIR HUSSAIN BIN IBRAHIM (PENYELIA)	**JTMK**
4	**LAB EZ** MOHAMMAD HAFIZUDDIN BIN MERAN MOHAMAD SYAMIL BIN MAJURI NURFARZANA SHAEDAH SHAJHAH BINTI MOHAMMAD FARRAH WAHEDA BINTI ABDULLAH (PENYELIA)	**JTMK**

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Parcel Hub Connect			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: Nu'aim Haikal bin Muhammad Abil Hafiz No. Pendaftaran Pelajar: 05DDT22F1007 2. Nama: Habel Raimun No. Pendaftaran Pelajar: 05DDT22F1031 3. Nama: Nathanael Divine Talent No. Pendaftaran Pelajar: 05DDT22F1042			
Penyelia:	1. Nama: Noraimi binti Mahran			
Penyelia Bersama:	1. Nama: 2. Nama:			
Multi-Disiplin:	Tidak Berkenaan			
Kolaborasi: (Industri/Komuniti)	Tidak Berkenaan			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Develop a tailored online platform: Create an online application that is specifically designed for parcel tracking within an organization, providing a centralized solution for managing all parcel-related activities. ii. Enable complete parcel monitoring: Implement a system that allows recipients to continuously monitor their parcels using their respective tracking numbers. Package status will be shown whether it arrives or not. iii. Generate detailed tracking reports: Provide functionality within the platform to generate comprehensive reports and graphs on parcel tracking activities. The system will provide detailed information about the package status, the date of arrival, and the staff that manages the packets.
Skop Kajian/Projek:	System scope: i. Parcel Tracking: The system will allow add new parcel, update status of parcel, and track parcel information using unique tracking numbers. ii. Real time tracking: The system provides real time information, so students will always know exactly where their parcel is and when it's ready for pickup. iii. Staff management: The system will allow admin to create and manage staff account such as their respective unique id, email, phone number, password, and position. iv. Reporting: The system allow admin to generate reports and graphs by their date and the status of the parcel. User scope: i. Students: Students will be able to track the status of the parcel and give an enquiry if their having any problems with their parcel. ii. Staff: Staff members will have access to add a new parcel, update the status of the new parcel, delete parcel, view parcel detail, and read enquiries that the student asked. iii. Admin: Admin will have access to managing staff information, generate report and graph, add staff, delete parcel detail, staff permission to access the staff portal.

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	With the surge in online shopping, parcel deliveries have increased, especially for students living on campus. However, many organizations still rely on outdated management systems, resulting in delays, misplaced packages, and dissatisfaction among students and staff. To address these issues, we developed Parcel Hub Connect (PHC), a user- friendly platform designed to facilitate parcel management and improve operational efficiency. PHC allows users to track their parcels in real- time and enables staff to manage workflows and generate detailed delivery reports. Ultimately, PHC aims to make parcel handling more transparent, reliable, and efficient for all involved, revolutionizing the parcel management process in institutional settings.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">JTMK Student Performance System</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Pembangunan Produk</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td>/</td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Angelynna Linda anak Bunsu
No. Pendaftaran Pelajar: 05DDT22F1006
2. Nama: Tiong In Hui
No. Pendaftaran Pelajar: 05DDT22F1012
3. Nama: Emylia anak Lada
No. Pendaftaran Pelajar: 05DDT22F1050</td></tr>
<tr><td>Penyelia:</td><td colspan="4">1. Nama: Neelam Amelia binti Mohamad Rejeni</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">1. Nama:
2. Nama:</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Tidak Berkenaan</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tidak Berkenaan</td></tr>
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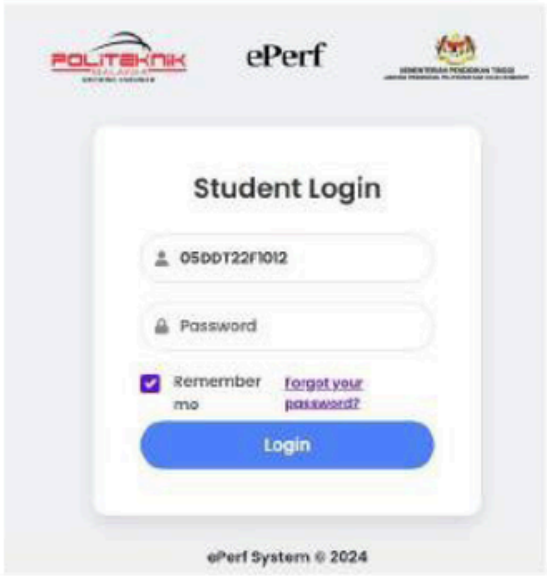
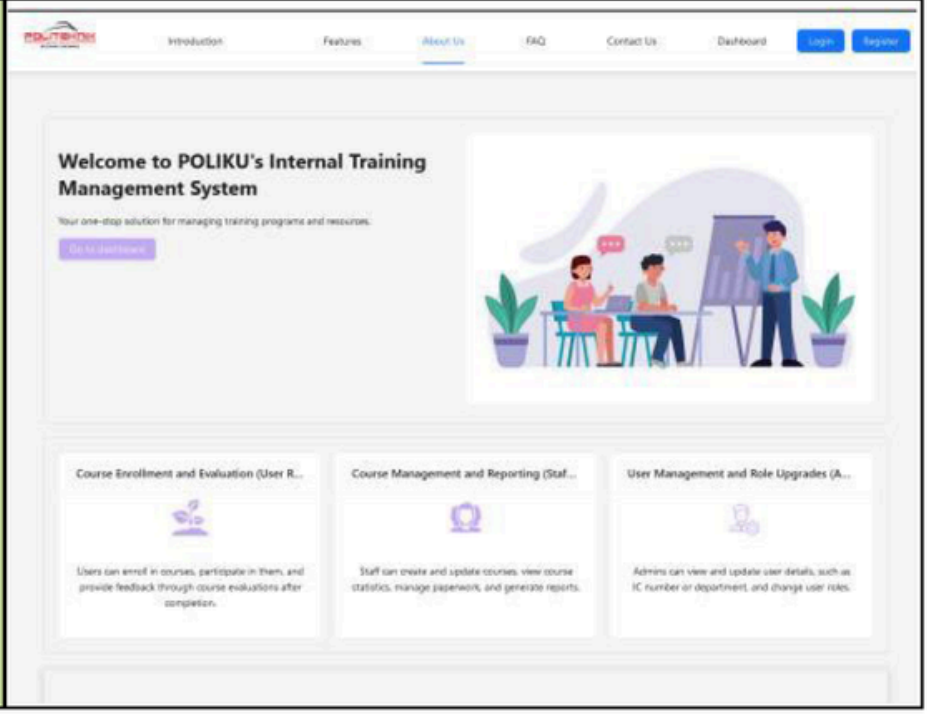
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To develop a web-based system that will track student performance records within the JTMK department. ii. To provide notification about important deadlines and progress updates to JTMK students via email. iii. To create a platform for storing and managing student e-Certificates.
Skop Kajian/Projek:	User Scope ▪ Profile Management ▪ Performance Monitoring ▪ Progress Reporting ▪ Platform for Achievements System Scope ▪ Software or development tool ▪ Notifications ▪ Data analytics ▪ Data security ▪ User authentication
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	The JTMK Student Performance System (ePerf System) is a web-based platform designed to streamline the tracking and monitoring of student performance within the JTMK department. This system addresses key challenges such as inconsistent achievement tracking, lack of timely notifications, and the need for a centralized repository for student e- Certificates. By providing real-time academic progress tracking, achievement submissions, and deadline reminders via email, the ePerf System aims to support students in managing their academic responsibilities effectively. Additionally, it enables lecturers and administrators to identify and assist underperforming students proactively. Developed using the Waterfall methodology, the ePerf System ensures a structured approach from requirements gathering through deployment, enhancing system reliability and user experience

Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Internal Training Management System Politeknik Kuching Sarawak (iTMSysPKS)			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: Mohammad Azam bin Ramli No. Pendaftaran Pelajar: 05DDT22F1070 2. Nama: Muhammad Danial bin Zamrus No. Pendaftaran Pelajar: 05DDT22F1081 3. Nama: Mohamad Aliffdanial Firdaus bin Zaini No. Pendaftaran Pelajar: 05DDT22F1076			
Penyelia:	1. Nama: Dr Zakir Hussain bin Ibrahim			
Penyelia Bersama:	1. Nama: 2. Nama:			
Multi-Disiplin:	Tidak Berkenaan			
Kolaborasi: (Industri/Komuniti)	Tidak Berkenaan			

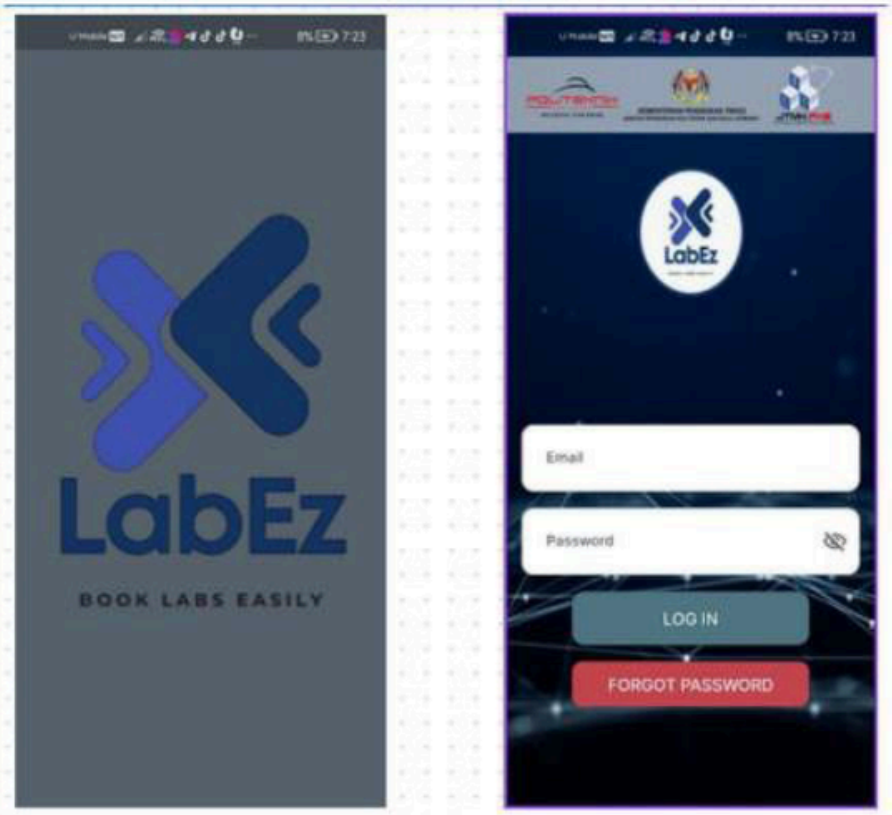
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To shorten the time taken by staff to complete Courses/Trainings and Briefings reports. ii. To reduce the process required for staff to prepare Courses/Trainings and Briefings reports. iii. To enhance staff productivity in preparing many Courses/Trainings and Briefings reports.
Skop Kajian/Projek:	The Internal Training Management System (iTMSysPKS) has two scopes, the first is the user scope and the second is the system scope. For user scope, the system has three different user roles namely Normal User, Staff and Administrator. For system scope, the objective of the system is to make it easier for staff to prepare course reports. The boundary of this system is that the staff will interact with this system to create an important document by entering some information into the system and the system will return the document to the staff.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	The current training management system at Politeknik Kuching Sarawak (PKS) faces critical challenges as it was developed by a former staff member who has since left the organization. This has resulted in system maintenance and management issues that hinder productivity and operational efficiency. The objective of this project is to develop the Internal Training Management System for Politeknik Kuching Sarawak (ITMSysPKS) to overcome these limitations and improve the process of managing courses, training, and briefing reports. This system aims to reduce the time required for staff to prepare reports, streamline processes by minimizing unnecessary steps, and enhance productivity in managing training-related data. The Internal Training Management System for Politeknik Kuching Sarawak (ITMSysPKS) enables role-based access for administrators and staff, allowing responsibilities to be distributed effectively. Administrators can approve courses, edit user details, and manage reports, while staff can create and manage courses, enroll

	participants, and evaluate training outcomes. By decentralizing management responsibilities, the system ensures sustainability and adaptability, addressing current challenges while providing a more efficient and user-friendly platform for managing internal training activities at PKS.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Lab EZ			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: Mohammad Hafizuddin bin Meran No. Pendaftaran Pelajar: 05DDT22F1067 2. Nama: Mohamad Syamil bin Majuri No. Pendaftaran Pelajar: 05DDT22F1052 3. Nama: Nurfarzana Shaedah Shajhah binti Mohammad No. Pendaftaran Pelajar: 05DDT22F1044			
Penyelia:	1. Nama: Farrah Waheda binti Abdullah			
Penyelia Bersama:	1. Nama: 2. Nama:			
Multi-Disiplin:	Tidak Berkenaan			
Kolaborasi: (Industri/Komuniti)	Tidak Berkenaan			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To integrate environmental sensors into the system to monitor and evaluate critical variables associated with such occurrences, such as temperature, gas levels, and infrared movements in the vehicle. ii. To create a real-time notification system that detects when a passenger is left in a parked vehicle, automatically alerting nearby bystanders and contacting the parent, guardian, or emergency contacts.
Skop Kajian/Projek:	SYSTEM SCOPE LabEz is a booking application designed to streamline the lab booking process for lecturers of the Jabatan Teknologi Maklumat dan Komunikasi (JTMK) at Politeknik Kuching Sarawak. This application enables lecturers to book, cancel, and manage lab reservations in real-time across all laboratories within the JTMK building. USER SCOPE Lecturers can book or cancel lab reservations, view real-time lab availability, edit their profiles such as changing profile pictures or phone numbers, reset passwords, and view their lab bookings.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	As technology advances, traditional facility management methods are becoming outdated in terms of security and efficiency. The once-reliable process of reserving labs no longer meets the evolving academic demands. Currently, lecturers must manually check lab availability and book through Google Sheets to prevent scheduling conflicts. However, there is still redundant bookings occur due to human error. This project aims to address this issue through the development of the LabEz application, which introduces a systematic booking procedure. The app provides real-time tracking of lab availability, solving the inefficiencies of manual checking and preventing scheduling conflicts.

Infografik Kajian/Projek:	

KATEGORI **PELAJAR**

ENGINEERING TECHNOLOGY

Industrial Based

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

ENGINEERING TECHNOLOGY

Industrial Based

BIL	NAMA PROJEK	JABATAN
1	**FABRICATION OF MINI SMART FARMING DEVICES USING ARDUINO FOR AGRICULTURE COMMUNITIES** MELVIN DAVIES ANAK SAGING EMILLY EASTHER MING ANAK JAWA STANLEY GILBERT ANAK SANG DR ONG TZE CHING (PENYELIA)	**JKM**
2	**PORTABLE MOTORIZED CAR LIFTER** MOHAMMAD KHAIRUL AIZAM BIN KASMAN ROLAND SCHUMACHER ANAK LEE ZAIHADIE MUIZZ BIN JAIDEH MUHAMMAD NIFAIL YADIY BIN RIZAL HERMAN NORDIADI BIN ABD WAHAB (PENYELIA)	**JKM**
3	**PORTABLE AIR CONDITIONING SERVICING TROLLEY** DANIEL WONG ZAIDANN BIN AFFENDI PUTRA MAHAYUDIN BIN ABDUL MANAP JULIUS AK APAT (PENYELIA)	**JKM**
4	**NOZZLE VORTEX** MUHAMAD AIMAN HAKIMI BIN MATBEH ABDUL AYMAN BIN AWANG HARUN SUHAYL AZMIN BIN AYOP MUHAMMAD RAFIE DANIAL BIN YUSOF ALIFF BIN AB TAHIR (PENYELIA)	**JKM**

BORANG INVENTORI PROJEK PELAJAR

<table>
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<tr><td>Program:</td><td colspan="4">DIPLOMA KEJURUTERAAN MEKANIKAL (DKM)</td></tr>
<tr><td>Jabatan:</td><td colspan="4">JABATAN KEJURUTERAAN MEKANIKAL</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
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<tr><td>Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Melvin Davies Anak Saging (05DKM22F1020)
2. Emilly Easther Ming Anak Jawa (05DKM22F1004)
3. Stanley Gilbert Anak Sang (05DKM22F1092)</td></tr>
<tr><td>Penasihat Akademik:</td><td colspan="4"></td></tr>
<tr><td>Cadangan Penyelia:</td><td colspan="4">1. Nama: Dr. Ong Tze Ching</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Teknologi
2. Kejuruteraan</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Toclan Borneo (Collaborator)</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To conduct pre-testing and survey need analysis and post-testing for smart farming devices. 2. To fabricate the main body for smart farming devices. 3. To create the controlled system of smart farming devices.
Skop Kajian/Projek:	i .Sample for the survey-need-analysis is limited to maximum 15 Toclan Borneo Farm workers ii. To conduct the pre-testing to obtain water temperature, humidity level and types of pest data in Toclan Farm iii. To design the main body of hydroponic system using Autodesk Inventor with length 63.5cm, width 40.64cm height of the main body is 88.9cm iv. The device is suitable for a maximum of 1.8M X 1.2M farm v. To develop a control system using ESP32 and controlled by using Blynk apps. vi. The device only consists of 1 water pump, 1 ultrasonic, 1 PIR sensor, 1 ESP32 camera, 1 PCB mount buzzer, 1 ambient sensor, LCD display, and external power supply. vii. ESP32 camera allows live monitoring of the plants.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	
Abstrak Kajian/Projek:	As we all know that agriculture is one of the major sectors for countries economy, farming is the backbone of it. Many years before, farmer tend to use traditional farming methods to growth their plants. However, certain methods do harm sustainably and environmental of the plant which might affect the quality of the plant. Several problems occur during traditional hydroponic farming methods. Such as, dead roots due to the fungus gnat. Then, traditional method often employs intensive farming techniques that might lead to soil degradation and higher environmental over time. So, by using smart farming techniques farmer able to monitor their plant from smartphone. Moreover, smart farming devices can prevent pest and able to save ecosystems. As for this project objectives are to do pretesting, survey need analysis, pretesting, fabricate the main body and to develop the control system. Hence, this project involved development of mini smart farming devices that involving three main part which is upper level, middle part and the lower part. The upper part and middle part is used to place the plant. Upper part was cut using a wood grinder into length is 63.5cm, width 20.32 cm and screw with the corner bracket that attached with the angle bar. Then as for the PVC pipe was drill into 3 holes with

	measurement of 5.385 cm and the PVC pipe was clamp by using pipe clamp. Then for the middle part, it was cut into length 63.5cm, width 40.64cm, height of the main body is 88.9cm. The upper part was cut half so the middle part can access the sun to allow the process photosynthesis on the plants. Then, for the lower part consist of the water tank and water pump sensor. All the parts consist of sensors like PIR sensor, Soil moisture sensor, ultrasonic, water pump ESP32 cam, buzzer, temperature and humidity sensor. The accuracy of this system was tested and acknowledge by Sir Shukri who is Co-Founder of Toclan Borneo. Hence, this project is to target SDG goals which number 2 Zero Hunger and Number 12 Responsible Consumption and Production. The overall cost is RM 650.00, and this is a good price for the farming system since it contains sensors and can controlled by using smartphone. Therefore, this system is suitable for agriculture communities and farmer because it easy to move around and can save time and energy for them. Keywords: Smart farming, sensors,
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	DAD			
Jabatan:	Kejuruteraan Mekanikal			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Portable Motorized Car Lifter			
Jenis Kajian/Projek:	Engineering Technology Industrial Based			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Mohammad Khairul Aizam Bin Kasman No. Pendaftaran Pelajar: 05DAD22F1036 2. Nama: Roland Schumacher Anak Lee No. Pendaftaran Pelajar: 05DAD22F1038 3. Nama: Zaihadie Muizz Bin Jaideh No. Pendaftaran Pelajar: 05DAD22F1057 4. Nama: Muhammad Nifail Yadiy Bin Rizal No. Pendaftaran Pelajar: 05DAD22F1002			
Penyelia:	Nama: Herman Nordiadi Bin Abd Wahab			
Penyelia Bersama:	-			
Multi-Disiplin:	1. Kereta 2. Manusia 3. Arduino 4. Jek hidraulik			
Kolaborasi: (Industri/Komuniti)	Bengkel kereta			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	Untuk mengkaji hubungan antara faktor harga, faktor kualiti rasa, faktor kemudahan terhadap pembelian Zus Coffee di kalangan staf dan pelajar Politeknik Kuching Sarawak.
Skop Kajian/Projek:	• **Pengurangan Tenaga untuk Pengangkatan:** Sistem ini bertujuan untuk mengurangkan usaha manual yang diperlukan untuk mengangkat kereta dengan menyediakan penyelesaian yang dimotorkan atau berhidraulik. Sistem ini akan memanfaatkan teknologi hidraulik atau motor untuk membantu proses pengangkatan, menjadikannya lebih mudah untuk pengguna. • **Kawalan dengan Arduino UNO R4:** Mekanisme pengangkat akan dikawal menggunakan **Arduino UNO R4 Wi-Fi**. Mikropengawal ini akan diprogram untuk mengawal pergerakan jack menggunakan **Wi-Fi** atau **Bluetooth**. Arduino akan disambungkan ke aplikasi mudah alih atau alat kawalan jauh untuk operasi yang mudah. • **Sambungan dan Penyediaan Breadboard:** Arduino UNO R4 akan disambungkan ke **breadboard** untuk pemprototipan dan penyambungan sistem kawalan. Komponen seperti sensor, motor, dan penggerak akan dipasang pada breadboard untuk ujian dan pelarasan. • **Bahan untuk Rangka dan Lengan Pengangkat:** Rangka dan lengan pengangkat jack akan diperbuat daripada **besi tuang**, bahan yang biasa digunakan dalam jack hidraulik. Bahan ini dipilih kerana kekuatan tinggi, ketahanan terhadap haus, dan daya tahan di bawah beban

	berat. Besi tuang memastikan jack kekal teguh walaupun di bawah tekanan semasa mengangkat kereta. • **Mekanisme Pengangkatan Hidraulik atau Bermotor:** Bergantung pada reka bentuk khusus, lengan pengangkat boleh menggunakan mekanisme **hidraulik** atau **motor** untuk mengangkat kereta. Arduino akan mengawal pam atau motor untuk menaikkan atau menurunkan lengan pengangkat.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus kepada projek untuk menaikkan kenderan bagi proses menukar tayar apabila berlaku kebocoran. Ini dapat membantu memudahkan semua orang terutamanya kaum wanita dan warga emas serta mekanik bagi melakukan proses penukaran tayar.
Abstrak Kajian/Projek:	Bicu hidraulik ialah peranti yang digunakan untuk mengangkat beban berat dengan mengenakan daya melalui silinder hidraulik. Ia memanfaatkan prinsip Pascal, yang menyatakan bahawa tekanan yang dikenakan pada bendalir yang terkurung dihantar tanpa berkurangan melalui bendalir ke semua arah. Mekanisme ini melibatkan pelocok pam dan silinder yang diisi dengan minyak, di mana pelocok mengeluarkan minyak dari takungan apabila ditarik balik dan menolak takungan tersebut ke dalam silinder apabila tertekan. Apabila minyak dimampatkan, ia memacu omboh ke atas, menaikkan lengan bicu dan beban yang diletakkan di atasnya. Alat yang ringkas dan berkuasa ini penting dalam pelbagai aplikasi, bermula daripada pembaikan automotif kepada pembinaan dan penyelenggaraan industri, menawarkan cara yang boleh dipercayai dan cekap untuk mengangkat beban yang sebaliknya tidak boleh diuruskan dengan daya manual.. Bicu hidraulik dimanfaatkan kerana ketahanan, kemudahan penggunaan dan keupayaan untuk mengendalikan berat yang besar, menjadikannya komponen penting dalam meningkatkan kecekapan dan keselamatan operasi dalam pelbagai persekitaran mekanikal dan struktur.
Infografik Kajian/Projek:	

POLITEKNIK MALAYSIA

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT
Program:	Diploma Kejuruteraan Mekanikal (Penyejukbekuan dan Penyamanan Udara)
Jabatan:	Jabatan Kejuruteraan Mekanikal
Semester/ Tahun:	5 / SESI 2: 2024/2025
Tajuk Kajian/Projek:	Portable Air Conditioning Servicing Trolley
Jenis Kajian/Projek:	Fabrication
Kategori Kluster Penyelidikan:	<table><tr><td></td><td>Sains Tulen</td><td></td><td>Sains Sosi al</td></tr><tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr><tr><td></td><td>Teknologi & Kejuruteraan (/)</td><td></td><td>Warisan Alam & Budaya</td></tr><tr><td></td><td>Sains Kesihatan &</td><td></td><td>ICT</td></tr></table> Tanda " / " pada yang berkenaan:
Ahli Kumpulan:	1. Nama: Daniel Wong No. Pendaftaran Pelajar: 05DPU22F1002 2. Nama: Zaidann Bin Affendi No. Pendaftaran Pelajar: 05DPU22F1017 3. Nama: Putra Mahayudin Bin Abdul Manap No. Pendaftaran Pelajar: 05DPU22F101
Penyelia:	Nama: Julius Anak Apat No. Kad Pengenalan: K0244118
Penyelia Bersama:	Tiada
Multi-Disiplin:	• Responsibility • Teamwork
Kolaborasi: (Industri/Komuniti)	Bengkel Kejuruteraan Mekanikal (Penyamanan Udara & Penyejukbekuan)

Objektif Kajian/Projek:	The objectives of this project are: i. To upgrade the previous project to be more efficient and friendly used. ii. To make project that can be folded especially at the bottom carrying vacuum pump. iii. To make the main frame be more lighten by using strong materials which can carry more tools in the maintenance activities.
Skop Kajian/Projek:	The scopes of the project : i. This product can only use in small-scale air conditioning maintenance. ii. This product only to carry heavy tools only at the ground level. iii. This product can only carry limited servicing equipment that we has been selected such as vacuum pump, refrigerant tank, manifold gauge, and small power portable water jet.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	i. Students involve with mostly doing fabrication and design. Fabrication is the process of designing a common portable air conditioning services trolley. In addition, bracing welding, drilling and screwing are one of the processes involve in the fabrication of the main frame of the air condiitoning services trolley.
Abstrak Kajian/Projek:	Today's technology is widely employed in numerous fields, but it is particularly prevalent in the air conditioning industry. A large quantity of manual labour is required for many operations in the air conditioning industry because the necessary equipment is sometimes lacking. For people who operate in this profession, especially those who perform servicing, the lack of suitable instruments presents obstacles. They do not now employ specialised trolleys; instead, they just use the ones that are currently on the market. That is why this project uses a versatile air conditioning service cart. Steel pipe that has been bent to take on the desired shape makes up the primary frame. This pipe is joined to the steel plate foundation of the trolley. When it takes less time to carry the specified equipment than it did previously, the trolley's efficiency has been demonstrated. The RM 120.00 total cost is really reasonable, and the purchase price is excellent for a small air conditioning business. Workers in the workshop or technicians who wish to use it for servicing can also utilize the trolley. Additionally, it saves workers a great deal of time and energy, which benefits the companies.

Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

<table>
<tr><th>PERKARA</th><th colspan="4">MAKLUMAT</th></tr>
<tr><td>Program:</td><td colspan="4">Diploma Kejuruteraan Mekanikal Automotif (Dad)</td></tr>
<tr><td>Jabatan:</td><td colspan="4">Jabatan Kejurtreaan Mekanikal</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Fabrication of Nozzle Vortex for Cleaning Heavy Duty Exhaust Engine</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Fabrication</td></tr>
<tr><td>Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Muhammad Rafie Danial Bin Yusof (05DAD22F1047)
2. Muhamad Aiman Hakimi Bin Matbeh (05DAD22F1003)
3. Abdul Ayman Bin Awang Harun (05DAD22F1005)
4. Suhayl Azmin Bin Ayop (05DAD22F1007)</td></tr>
<tr><td>Penasihat Akademik:</td><td colspan="4"></td></tr>
<tr><td>Cadangan Penyelia:</td><td colspan="4">1. Nama: Ts Aliff Bin Ab Tahir</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Teknologi
2. Kejuruteraan</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4"></td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To fabricate a nozzle that can clean the exhaust system of the diesel engine vehicle. ii. To clean by using utilized recycle material. iii. To design a nozzle that capable at cleaning the exhaust pipe without damaging the pipe itself. iv. To clean the carbon build-up inside vehicle system.
Skop Kajian/Projek:	Control system. • The material use for this project are stainless steel. • Maximum production cost RM250. Design. • Compact size of nozzle that can enter and exit the exhaust pipe • The materials used for this project consist of used materials found in the workshop. Limitation. • Focus only to diesel engine vehicle. • Not suitable for normal petrol engine vehicle.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	
Abstrak Kajian/Projek:	Cleaning a vehicle's exhaust system has plenty of practical benefits, especially when it comes to cutting down air pollution and saving on fuel. By reducing the release of harmful gases like carbon dioxide and carbon monoxide, this simple step not only improves the quality of the air we breathe but also helps protect public health. Plus, a clean exhaust system boosts fuel combustion, lowers operating costs, and can even extend the life of the vehicle. Keeping the exhaust in good condition also makes it easier to meet emission standards, so it's a win all around. With this project, we've created a practical nozzle that makes it easier to clean vehicle exhaust systems, especially for those running on diesel engines. Diesel vehicles can build up a lot of soot

	and residue, which clogs the exhaust over time and affects both performance and emissions. Our nozzle tackles this issue by quickly breaking down and flushing out these deposits, helping to keep exhaust systems running smoothly. What's great about our nozzle is that it's not only effective but also affordable, with a manufacturing cost of under RM60. Plus, it's built to be reused multiple times, so users won't need to replace it after just one use. This makes it a budget-friendly tool that's ideal for both individual car owners and repair shops looking for a simple, reliable way to maintain exhaust systems. By using this nozzle, people can save on cleaning costs while also helping their vehicles perform better and run cleaner. A cleaner exhaust system means better fuel efficiency, fewer emissions, and potentially longer vehicle life—all of which add up to meaningful savings and a more environmentally friendly option.
Infografik Kajian/Projek:	

KATEGORI **PELAJAR**

ENGINEERING TECHNOLOGY

Non Industrial Based

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

ENGINEERING TECHNOLOGY

Non Industrial Based

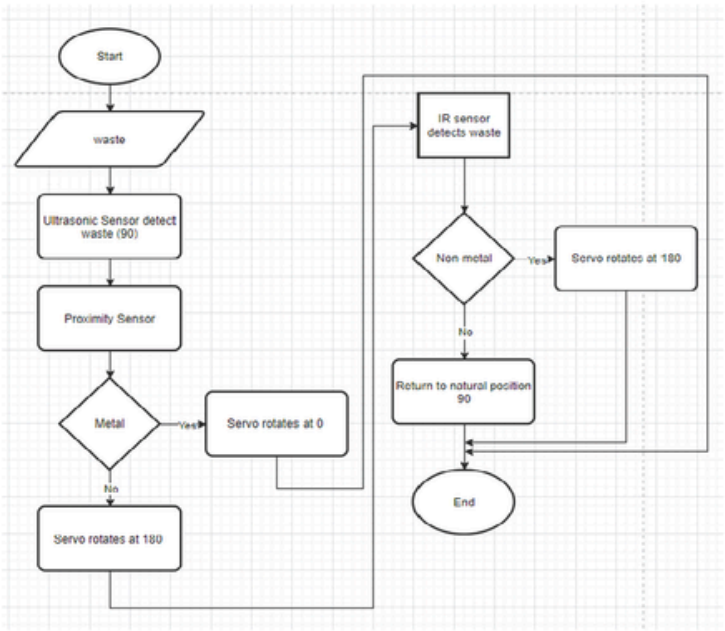
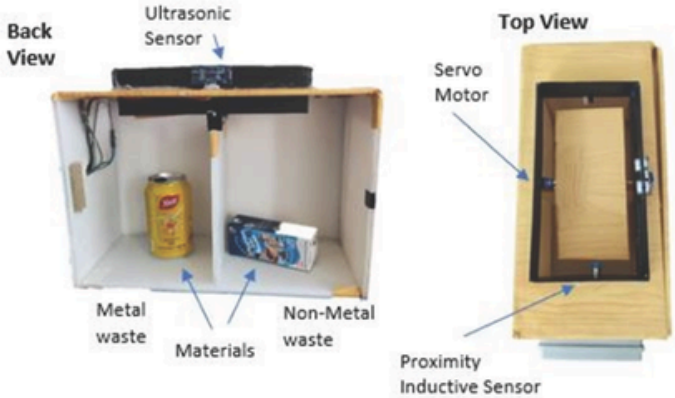
BIL	NAMA PROJEK	JABATAN
1	**TRASH SORTING MACHINE** MUHAMMAD ARIF RAHMAT AZARINA BINTI AZMAN (PENYELIA)	**JKE**
2	**AUTOMATIC SUN TRACKING CLOTH HANGER WITH RAINDROPS SENSORS** ALEX TOH TING REN JOFF HANDASAN JULIUS MOHD FAUZI BIN HASSAN (PENYELIA)	**JKE**
3	**EXTENSION WIRE AUTO CUT OFF** LAZZIO ANAK BUJANG MOHAMAD HAIKAL BIN AHMAD KALMI Ts. PETRUS JULINI ANAK GOEL (PENYELIA)	**JKE**
4	**SMART WATER PUMP CONTROL** COLINNO SPENCER ANAK CHRISTOPHER MOHAMAD SHAHRULNIZAM BIN PUSA TS. PETRUS JULINI ANAK GOEL (PENYELIA)	**JKE**
5	**AUTONOMOUS MEDICINE DISPENSER** STEVE AUSTIN ANAK DANIEL KENNEDY LAWAI MATHEW ALEXSANDRO UNYANG ANAK MASING ANDING ANAK NYUAK (PENYELIA)	**JTMK**

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik dan Elektronik (DEE)			
Jabatan:	Jabatan Kejuruteraan Elektrik (JKE)			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Trash Sorting Machine			
Jenis Kajian/Projek:	Engineering Technology (Non-Industrial Based)			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
	/	Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Muhammad Arif Rahmat No. Pendaftaran Pelajar: 05DEE22F1064			
Penyelia:	Nama: Azarina Binti Azman			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To apply, develop, and implement an automated trash sorting machine capable of accurately identifying and segregating different types of waste materials, including plastics and metals/aluminium. ii. To improve waste management efficiency by automatically separating different types of waste materials, such as recyclables (plastics, metals) from non-recyclable and hazardous waste. iii. To automate the sorting process with high accuracy, reducing human intervention. iv. To sustainable resource management and circular economy initiatives.
Skop Kajian/Projek:	This level of accuracy ensures that waste can be tracked and sorted with high accuracy, reducing the possibility of misclassification or improper disposal. The sensor can also distinguish between different types of waste, such as plastic and metal allowing for efficient separation. Furthermore, by accurately tracking and separating waste materials, recycling efforts can be optimized, reducing the amount of waste sent to landfills. This, in turn, helps conserve natural resources and minimize the environmental impact of waste disposal. In addition to waste detection and segregation, these sensors can also be utilized for other purposes in waste management. For example, they can monitor waste levels in bins or containers, providing real-time data on fill levels. This information can be used to optimize waste collection routes, ensuring that bins are emptied at the right time, reducing unnecessary trips and saving resources.Overall, the use of sensors with the ability to recognize and sort waste materials, combined with IoT systems and smartphones, offers a highly efficient and effective solution for waste management. By leveraging technology, waste can be detected, segregated, and managed in a precise and sustainable manner, contributing to a cleaner and greener environment.

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	i. Menjalankan kajian melalui jurnal dan artikel ilmiah berdasarkan tajuk projek yang dicadangkan. ii. Menjalankan pengujian secara pemasangan litar dan simulasi program. iii. Melaksanakan pemasangan litar dan perisian untuk projek yang dicadangkan. iv. Mereka bentuk prototaip projek menggunakan bahan yang bersesuian. v. Melalukan pemasangan litar ke dalam prototaip yang telah dihasilkan. vi. vi. Melaksanakan pengujian dan pengukuran output projek yang telah dibangunkan.
Abstrak Kajian/Projek:	The Trash Sorting Machine project is a groundbreaking initiative that addresses the pressing issue of waste segregation using cutting-edge technology. With the growing emphasis on sustainable waste management, this project offers a sophisticated yet user-friendly solution to the global problem of waste disposal. At the heart of the machine's design are two primary sensors: the Infrared (IR) sensor and the proximity inductive sensor. These sensors work in tandem to accurately categorize materials into non-metallic and metallic classifications, forming the foundation for an efficient recycling process. By precisely identifying the composition of waste, the machine ensures that materials are sorted correctly, minimizing contamination and maximizing the potential for recycling. The conclusion of a servo motor is crucial to the machine's functionality. This motor enables the physical separation of materials once they have been detected by the sensors. By automating this process, the machine not only improves operational efficiency but also ensures accurate sorting with minimal errors. This level of precision is essential for effective waste management and recycling. This feature enables individuals to monitor waste volume and composition in real-time, empowering them to track their environmental impact. By fostering a sense of collective responsibility and accountability, this interactive feature encourages individuals to actively

	participate in waste management efforts. In summary, the Garbage Sorting Machine project represents a significant milestone in waste management practices. By combining innovation, sustainability, and community involvement, it serves as a model for a more efficient and responsible approach to waste segregation. Through the integration of advanced technology and a commitment to environmental stewardship, this project paves the way for a cleaner and more sustainable future.
Infografik Kajian/Projek:	  

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektik Dan Elektronik			
Jabatan:	Jabatan Kejurteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Automatic Sun Tracking Cloth Hanger with Raindrops Sensors			
Jenis Kajian/Projek:	Engineering Technology (Non-Industrial Based)			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Alex Toh Ting No. Pendaftaran Pelajar: 05DEE22F1030 2. Nama: Fabio Lione Anak Robert No. Pendaftaran Pelajar: 05DEE22F1078			
Penyelia:	Mohd Fauzi Bin Hassan			
Penyelia Bersama:	-			
Multi-Disiplin:	1. Elektrik, Elektronik dan Tenaga Solar			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	(a) To develop a retractable cloth hanger system equipped with raindrops sensing technology to automatically retract when the rain is detected. (b) To create a user-friendly interface for easy installation and operation of the retractable cloth hanger system. (c) To maximize energy efficiency by ensuring that clothes receive maximum sunlight exposure, thus reducing reliance on traditional electric dryers.
Skop Kajian/Projek:	This project introduces the development of a strong yet user-friendly design integrating essential components such as sensors, actuators, a microcontroller, and a power supply. The primary objective is to create a durable and straightforward system capable of automatically tracks the sun movement and raindrop sensing functionalities. To achieve this, careful consideration will be given to material selection to reduce the risk of wear and tear, ultimately enhancing the product's lifespan. Moreover, a significant emphasis will be placed on eco-friendliness, aiming to utilize renewable energy sources, particularly solar power, as the primary power source. By prioritizing sustainability and energy efficiency, the project aims to deliver a product that not only meets user needs but also aligns with environmental conservation goals, contributing to a greener and more sustainable future.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Merancang dan membangunkan produk sendiri.
Abstrak Kajian/Projek:	*People nowadays are very busy with daily task such as house cleaning and office work which lead us to miss our laundry and being wet by the rain. This is where the project shine at its peak. This project introduces an Automatic Sun Tracking Cloth Hanger system with light sensors to track the sun's movement, optimizing exposure for efficient drying. Furthermore, a raindrop sensor is incorporated to automatically retract the cloth hanger when rain is detected. One compelling reason to adapt to this type of technology is its significant contribution to energy efficiency. By harnessing solar energy, the system reduces dependence on conventional electricity. The raindrop sensor adds a layer of resistance during unexpected rain, thus minimizing the need for re- drying. In conclusion, it is a practical and environmentally friendly solution, representing a step towards a more sustainable and efficient approach to everyday tasks.* ***Kata Kunci:*** *Ampaian automatik, Tenaga Solar, Ampaian bergerak*

Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik			
Jabatan:	Jabatan Kejuruteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Extension Wire Auto Cut Off			
Jenis Kajian/Projek:	Engineering Technology Non-Industrial Based			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Lazzio Anak Bujang No. Pendaftaran Pelajar: 05DEE22F1033			
Penyelia:	Nama: Ts. Petrus Julini Anak Goel			
Penyelia Bersama:	-			
Multi-Disiplin:	-			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	• To develop an extension cord with an automatic cut-off feature that enhances safety by preventing overheating, electrical hazards, and potential fire incidents caused by prolonged use or overload. • To design a reliable and efficient system that detects abnormal conditions such as excessive current flow and automatically interrupts the power supply to the connected devices, thereby mitigating risks and protecting both users and electrical appliances. • The project aims to provide a user-friendly solution that prioritizes safety while maintaining convenience and usability in various household and commercial applications.
Skop Kajian/Projek:	• Automatic Current Monitoring: The system continuously monitors the current passing through the extension cord using a clamp current sensor. • Automatic Cutoff Mechanism: A solid-state relay disconnects power when the current exceeds a preset threshold to prevent overload. • Display and Feedback System: An OLED display provides real-time feedback of the current usage. • Reset and Power Switches: A reset button allows the user to restore power after an overload. An on/off switch controls the entire system's power. • Precision and Control: An ADS1115 analog-to-digital converter is used to accurately read the current sensor values for precise cutoff control. An Arduino is programmed to manage data processing, display output, and relay control.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	• Merancang perlaksanaan projek • Membangunkan prototaip • Memasang dan mengujilari • Mendapatkan dan mengumpul data • Membuat laporan dan pembentangan.

Abstrak Kajian/Projek:	Many of the extension cord available on the market today rely on high levels of electricity to meet users' demands. However, what many people may not realize is that this excessive electrical load can significantly shorten the lifespan of these extension cord. When connected to equipment drawing more current than they are designed for, these extension cord are prone to damage. Unfortunately, individuals with visual impairments, such as blindness, may not be aware of this danger due to their inability to visually inspect the equipment or gauge the current flow. To address this issue, I have developed enhancements for the latest extension cord models to ensure that blind and visually impaired individuals are alerted when the electrical current exceeds safe limits. My improved extension cord is equipped with an automatic cutoff feature that activates when the current surpasses the specified threshold. Additionally, a reset switch is incorporated, allowing users to easily restore functionality once the issue is resolved. Furthermore, my extension cord is designed to provide real-time feedback to users regarding their electricity consumption. By incorporating a display screen, users can monitor their power usage with each connection, empowering them to make informed decisions about their electrical usage habits. In conclusion, my innovative enhancements to extension cord technology aim to prioritize safety and accessibility for all users, particularly those with disabilities such as blindness. By alerting users to potential hazards and providing valuable feedback on electricity consumption, these advancements contribute to a safer and more user-friendly electrical experience for everyone.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik			
Jabatan:	Jabatan Kejuruteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Smart Water Pump Control			
Jenis Kajian/Projek:	Engineering Technology Non-Industrial Based			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Colinno Spencer Anak Christopher No. Pendaftaran Pelajar: 05DEE22F1071			
Penyelia:	Nama: Ts. Petrus Julini Anak Goel			
Penyelia Bersama:	-			
Multi-Disiplin:	-			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	• To develop a dual-option water channel system capable of automatically switching between an electric pump and external water supply based on real-time water pressure conditions. • To Enhance the energy efficiency of pump control system by reducing the operation of the electric pump. • This project can prolong the lifeline of the water pump.
Skop Kajian/Projek:	• Design and develop an automatic water pump control system that manages water pressure in a household, providing the option to use either an electric pump or the municipal water supply when the external pressure is sufficient. The system utilizes a pressure sensor to monitor water pressure levels and an Arduino-based control unit to automatically operate the water pump and solenoid valves using relays. An OLED display shows real-time pressure readings and system status, while LED indicators display the pump's operational state. • Maintain a minimum threshold of 2 bar PSI during simulations to ensure consistent water pressure, with 4 bar PSI considered in the report as the maximum supply pressure for the home. • Testing involve assessing the system's performance under various pressure conditions and evaluating energy savings.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	• Merancang perlaksanaan projek • Membangunkan prototaip • Memasang dan mengujilari • Mendapatkan dan mengumpul data • Membuat laporan dan pembentangan.
Abstrak Kajian/Projek:	Existing home water pump units commonly extract water from a storage tank, a necessity driven by the prevalent issue of low water pressure from the municipal supply. In typical setups, the pump activates whenever a faucet is opened in the household, responding to the drop in water pressure. Consequently, the pump remains in constant operation as long as the faucet is in use. The innovative project at hand introduces an automatic system that offers users the flexibility to choose between utilizing the electric pump or relying on an external water supply when the pressure from the municipal provider is sufficient. This intelligent system not only grants users greater control over their water consumption but also presents a distinct advantage in terms of energy efficiency. By enabling the option to draw water directly from the external supply under favorable pressure conditions, the system facilitates significant electricity savings. Moreover, this dual-choice system contributes to the prolonged lifespan of the electric pump, as it is not in continuous operation, promoting both energy conservation and the preservation of equipment.

Infografik Kajian/Projek:	  Condition when pressure >2 bar the pump will turn off and when pressure <2 bar the will turn on.

BORANG INVENTORI PROJEK PELAJAR

<table>
<tr><th>PERKARA</th><th colspan="4">MAKLUMAT</th></tr>
<tr><td>Program:</td><td colspan="4">Diploma Teknologi Maklumat (Teknologi Digital)</td></tr>
<tr><td>Jabatan:</td><td colspan="4">Jabatan Teknologi Maklumat dan Komunikasi</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Autonomous Medicine Dispenser</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Pembangunan Produk</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td>/</td><td>ICT</td></tr>
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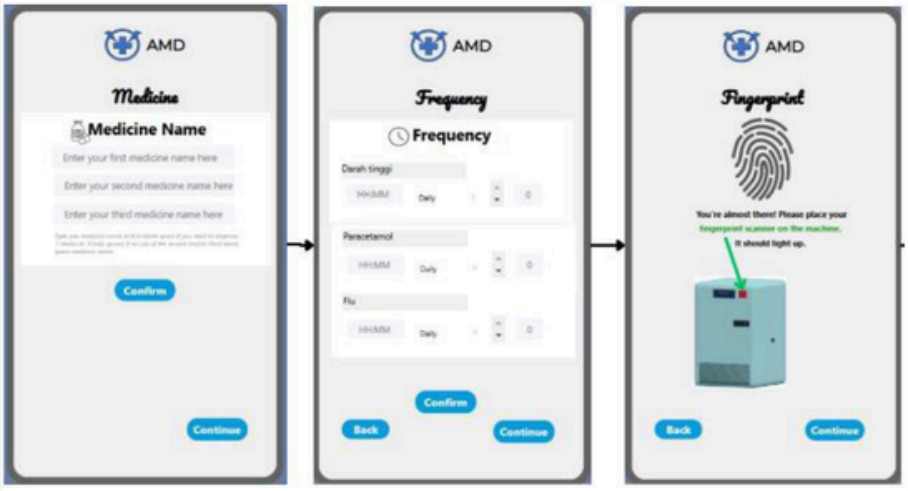
No. Pendaftaran Pelajar: 05DDT22F1085
2. Nama: Kennedy Lawai Mathew
No. Pendaftaran Pelajar: 05DDT22F1046
3. Nama: Alexsandro Unyang anak Masing
No. Pendaftaran Pelajar: 05DDT22F1074</td></tr>
<tr><td>Penyelia:</td><td colspan="4">1. Nama: Anding anak Nyuak</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">-</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">-</td></tr>
</table>

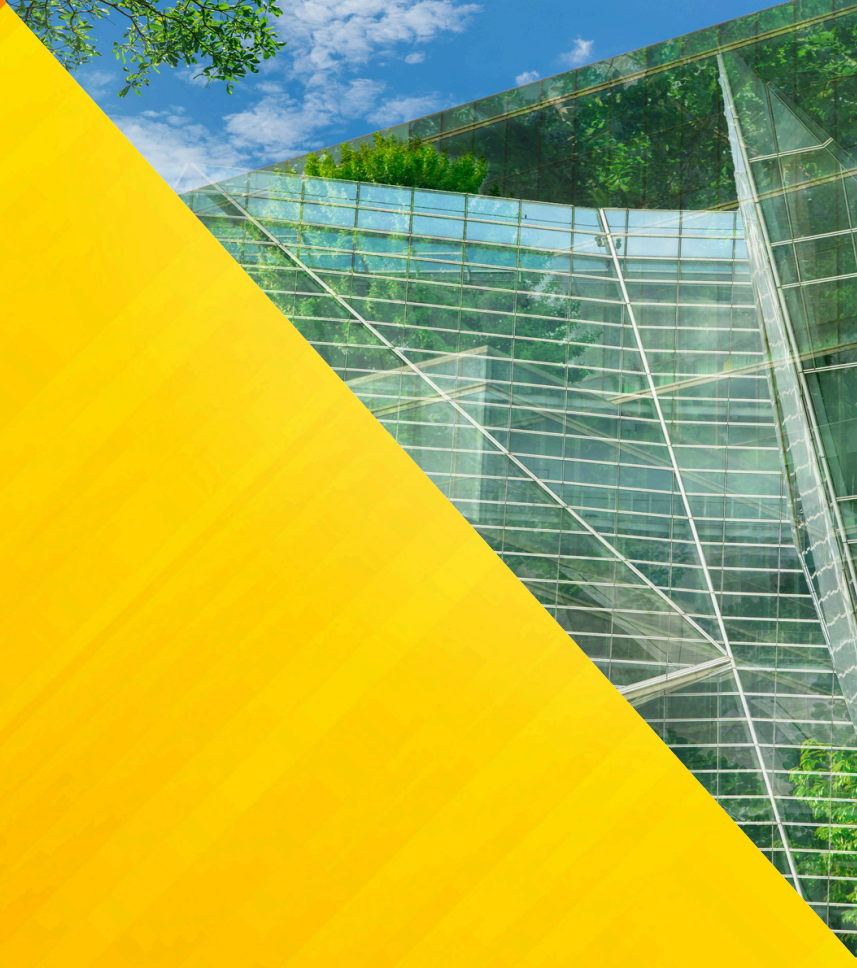
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To develop an automatic dispenser for medication ii. To build a sufficient storage inside the dispenser with temperature monitoring iii. To provide a mobile software to monitor dose intake
Skop Kajian/Projek:	i. User Scope This project is designed for households with a single user and only for daily use, not for an emergency use. ii. System Scope This machine can dispense medicine on the time that has been set by the user.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	The prototype automates the medicine management process, dispensing medication while an infrared sensor counts each pill. A reminder system ensures medication is taken on time, with adherence monitored through a custom mobile application developed by using Thunkable. Programmed via Arduino IDE with an ESP32, data is recorded in a Firebase database for comprehensive intake tracking. A fingerprint sensor restricts access to authorized users, preventing unauthorized access, especially by children. Additionally, a temperature and humidity sensor monitors the internal environment, alerting users to maintain optimal medication storage conditions.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Awam			
Jabatan:	Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Easy Working Mackintosh Probe			
Jenis Kajian/Projek:	Engineering Technology Non-Industrial Based			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Lea Sulau Nicholson No. Pendaftaran Pelajar: 05DKA22F1068 Nama: Riezwyniniey Roger No. Pendaftaran Pelajar: 05DKA22F1056 Nama: Timothy Juing Anak Rebut No. Pendaftaran Pelajar: 05DKA22F1047			
Penyelia:	Nama: Mohammad Pauzi Bin Mokhtar			
Penyelia Bersama:	-			
Multi-Disiplin:	1. Pemasaran 2. Psikologi 3. Sosiologi 4. Ekonomi			
Kolaborasi: (Industri/Komuniti)	Politeknik Kuching Sarawak (Responden)			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To create a new design for the Mackintosh Probe ii. To compare the result between Mackintosh Probe and Easy Working Mackintosh Probe iii. To identify the satisfaction of users
Skop Kajian/Projek:	i. Getting the Mackintosh Probe to stand straight with the frame and working in ease. ii. Using the metal steel and hollow core bar to create the frame. iii. Using the application of sprocket and chain to pass power to make work light. iv. This project to be use during the class DCC30112 Geotechnical Engineering laboratory.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Pelajar Diploma Kejuruteraan Awam Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	The Mackintosh Probe is a portable, lightweight penetrometer intended for use as a tool to examine the soil's bearing capacity or known as the strength of the soil. The Mackintosh Probe has help engineers collect data during the experiment of soil. However, there are disadvantages of this apparatus that have caused error that occur during the investigation. The most common complains are because the apparatus is heavy and the weight of it is causing users unable to hold it straight. This human error can't easily be prevented and will cause a failure during the investigation. The idea of the Easy Working Mackintosh Probe (EWMP) structs when we found out that there is a solution to this problem. We will be able to have a functional product that can solve the problem statement that has been stated. This product will help the students and lecturer of Politeknik Kuching Sarawak that will be undergoing the experiment for DCC30112 Geotechnical Engineering Laboratory with ease. This report is provided with the literature review, feedbacks and research to help understand deeply of the project.

Infografik Kajian/Projek:	



KATEGORI **PELAJAR**

ENGINEERING ENVIRONMENT & RENEWABLE ENERGY

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

ENGINEERING ENVIRONMENT & RENEWABLE ENERGY

BIL	NAMA PROJEK	JABATAN
1	**SMART CONTROLLER SYSTEM WITH SOLAR ENERGY FOR SMART HOME SYSTEM** FATIN NUR IZZAH ATHIRAH BINTI ISMAIL NUR BATRISYIA BINTI HIBATULLAH Ts. WONG SIE WOO (PENYELIA)	**JKE**
2	**SOLAR PANEL TRACKER** BELLMOND RONALD STEPHEN FARIZULBILLAH BIN MUSA NABIHAH BINTI SIHAR (PENYELIA)	**JKE**
3	**PORTABLE EDU WIND TURBINE** MUHAMMAD ANEEQ AIMAR BIN RAMZI SHAZWANDI AKHMAL BIN ABDULLAH SITI SUNAIDAH SUKMA BINTI SUBRI (PENYELIA)	**JKE**
4	**THE GREEN COLLECTOR** DAYANGKU NUR NABILAH BINTI AWANGKU HISHAMUDDIN NUR ADIRA FAHANI BINTI MOHD NOR HAYAT NURUL MAISARAH BINTI MOHAMMAD YA'AKUB ROSLAND BUJA (PENYELIA)	**JP**

ENGINEERING ENVIRONMENT & RENEWABLE ENERGY

BIL	NAMA PROJEK	JABATAN
5	**TATOTROVE: PEMBUATAN CENDERAMATA DARIPADA SISA KULIT KENTANG** NUR NATASHA BINTI MISELAN SAFIRA KHAIRINA BINTI SATURA SUHANA BINTI MATLIN (PENYELIA)	**JP**
6	**KAJIAN POTENSI PASARAN PASU SEMAIAN BIODEGRADASI BERASAKAN KULIT BUAH ESKOTIK SARAWAK** CARMELYNE MOHD KIFLI NUR ALEEYA MAISARA BINTI ESKANDAR NUR HARNANIE BINTI ABDULLAH FARIDAH BINTI CHE IN (PENYELIA)	**JP**
7	**BRIGHT IDEA** BRENDAN UNTING ANAK MARCEL BULAN ARIF AMIRUDDIN AFZAN BINTI OMAR (PENYELIA)	**JTMK**

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik (DEE)			
Jabatan:	JKE			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Smart Controller System With Solar Energy For Smart Home System			
Jenis Kajian/Projek:	Environment			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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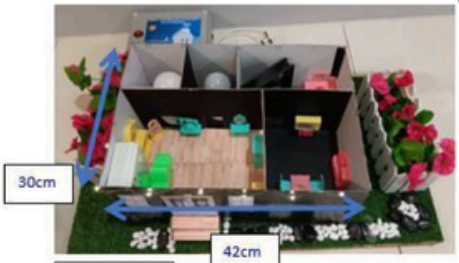
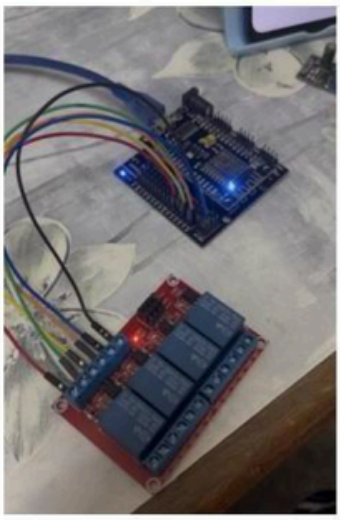
Penyelia:	Nama: Ts Wong Sie Woo			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

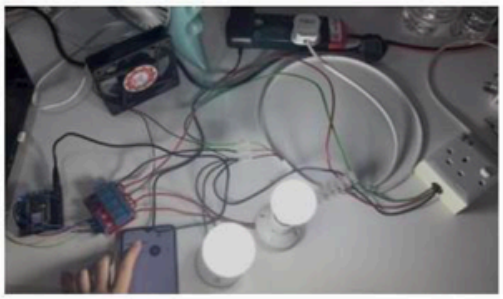
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To develop a smart controller system that manages lighting and appliances in a smart home environment. ii. To integrate IoT technology, allowing users to control home devices remotely. iii. To implement solar energy for the smart controller system.
Skop Kajian/Projek:	The project focuses on developing a Smart Controller System to enhance home management by integrating IoT technology and solar energy. The system will enable users to remotely control and monitor household elements like lights and appliances through devices such as smartphones or tablets, providing convenience and automation. It also incorporates solar energy to power the system, reducing dependency on traditional electricity sources, lowering energy costs, and promoting environmental sustainability. The project aims to create a user-friendly and eco-friendly solution for modern households.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. System Design and Development ▪ Planning and developing the Smart Controller system using IoT technology, specifically the ESP8266 module and Arduino microcontroller. ▪ Selecting suitable components and software to ensure the system functions efficiently. 2. Technology Integration ▪ Incorporating solar technology as the primary energy source for the system. ▪ Implementing remote control functions for home devices using applications or digital platforms. 3. System Testing and Evaluation ▪ Testing the system prototype in a real-world environment to ensure control functions and energy savings are achieved. ▪ Making adjustments based on test results to improve the system. 4. Documentation and Report Preparation ▪ Preparing a comprehensive report covering the system design, development process, test results, and performance analysis. ▪ Producing an abstract and infographics for project presentations. These tasks encompass all aspects of project development, ensuring that objectives are met and the final output functions optimally.

Abstrak Kajian/Projek:	This project, "Smart Controller System with Solar Energy for Smart Home System," aims to advance home automation by integrating solar power and IoT technology for efficient energy management. As energy costs rise and environmental impact becomes a growing concern, sustainable and remotely managed smart home solutions are critical. This system, developed using an Arduino micro-controller with ESP8266 Wi-Fi capabilities, enables real-time monitoring and control of household appliances to optimize solar energy use, reducing dependency on traditional power sources. However, the prototype is limited by budget constraints and applies to specific appliances within a single household. Test results show that the system can decrease energy consumption by up to 20% during peak solar availability, offering users improved convenience, significant cost savings, and reduced environmental impact. This project presents a viable, eco-friendly solution for modern homes, supporting sustainable living practices through effective energy management.
Infografik Kajian/Projek:	 Side view  Front view  Top view



Relay Module connected to ESP8266 and tested.

2 lamps, 1-unit fan and 1-unit Socket Outlet where connected to Relay



Testing all circuit with blynk to make sure all can function.

Smart Controller Box

Exterior view of smart home model front side

Front view of smart home model

Interior layout of smart home model

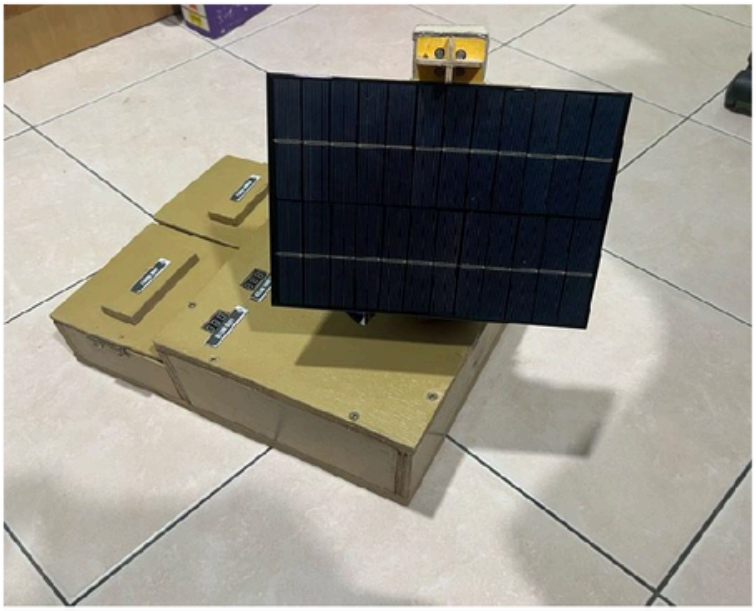
Side view of smart home

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik (DEE)			
Jabatan:	JKE			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Smart Solar Tracking Panel			
Jenis Kajian/Projek:	Engineering Environment & Renewable Enenrgy			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Bellmond Ronald Stephen No. Pendaftaran Pelajar: 05DEE22F1004			
Penyelia:	Nama: Nabihah Binti Sihar			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Elektrik, Elektronik			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	a) To design an electronic circuit of the "Solar Panel Tracker" to sense the intensity of light and convert them to DC electricity. b) To develop a solar panel that can track the trajectory of the sunlight from the sun without to ever relocate the solar panel manually and more to track by itself automatically. c) To charge lithium-ion batteries (18650 battery) using dc supplied electricity.
Skop Kajian/Projek:	1) The "Solar Panel Tracker" is estimated to be completed after 36 to 37 weeks in terms of installment for the components together with the programming of the solar panel itself and the base modal of the product. 2) The cost of the development for the project is estimated around RM311.83 total for every unit in full set. 3) The project consists of a 8.1 Watts solar cell for maximum power dissipation. 4) The working voltage of the project is limited to 5 volts for the ATmega328 microcontroller. 5) The main controllers of the projects are the solar cell, ATmega328 microcontroller, LDR sensors, 18650 batteries, solar charger, switches and servo motors.

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Identify the appropriate size of the solar panel for storing voltage through various methods from literature review. 2. Develop coding for a solar panel to track sunlight using an LDR sensor and Atmega328. 3. Design a solar panel that can track sunlight from various angles and portable. 4. Select suitable materials as the main components based on characteristics such as durability and cost. 5. Test the effectiveness of the solar panel tracker under different light intensities. 6. Analyze the voltage data obtained based on different times. 7. Prepare a technical report that includes the design, development process, test results, and data analysis. 8. Produce a user guide for the developed system.
Abstrak	The integration of smart technology into solar cells revolutionizes the renewable energy landscape, offering enhanced efficiency and functionality. Smart solar panels utilize advanced monitoring systems to optimize energy production by tracking environmental conditions, panel orientation, and system performance in real-time. The most un-unique problems that occur with solar cells are that they are not always efficient in converting sunlight into energy that can be used further. There are a variety of factors that usually affects the productivity of the solar panel, including improper orientation, shading from trees or the buildings and the positioningof the solar panel that only focus on one direction. However, "The Solar Panel Tracker" offers the solar panel to autonomously adjust tilt angles and orientations to maximize sunlight exposure throughout the day, resulting in increased energy generation. This project developed a more improved and efficient solar panel that can track the trajectory of the sunlight from the sun without to ever relocate the solar panel

	manually and more to track by itself automatically. This project focus on charging 18650 batteries after gaining power from the solar cell.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Kejuruteraan Elektrik Dan Elektronik (DEE)			
Jabatan:	Jabatan Kejuruteraan Elektrik (JKE)			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Portable Edu-Wind Turbine			
Jenis Kajian/Projek:	Kategori Environmental & Renewable Energy			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
	/	Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
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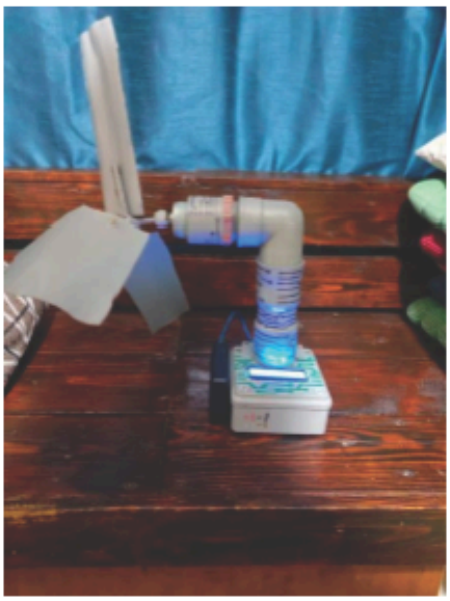
Penyelia:	Nama: Siti Sunaidah Sukma Binti Subri			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Elektrik, Elektronik dan Perisian (IoT)			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To design a portable wind turbine in term of sizing of blade and number of blade 2. To measure power performance of a portable wind turbine in terms of blade speed 3. To develop and mechanism to change wind turbine configuration to vertical or horizontal
Skop Kajian/Projek:	1. The turbine serves as an educational tool to enhance understanding of wind energy and its application in generating renewable energy. 2. The turbine is limited to using three blades for its rotor. 3. Two blade sizes will be explored: 15 cm and 8 cm, enabling comparisons of performance based on blade size. 4. The turbine components, including the blades, will be constructed using PVC for its durability, cost-effectiveness, and ease of fabrication. 5. The turbine will be compact and lightweight, allowing for easy transport and use in various educational settings.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Mengenalpasti penggunaan sensor yang sesuai untuk mengukur arus dan voltan menerusi pelbagai kaedah untuk mendapatkan maklumat. 2. Merancang reka bentuk turbin angin yang bersaiz kecil dan mudah alih. 3. Menentukan bilangan bilah (3 bilah) dan saiz bilah (15 cm dan 8 cm). 4. Memilih bahan PVC sebagai komponen utama berdasarkan ciri seperti ketahanan dan kos. 5. Memotong dan membentuk bilah serta memasang keseluruhan struktur turbin. 6. Melakukan kajian keberkesanan bahan terhadap prestasi turbin angin. 7. Menguji keberkesanan reka bentuk berdasarkan saiz bilah yang berbeza. 8. Menganalisis data prestasi seperti kelajuan angin dan output tenaga. 9. Menyediakan laporan teknikal yang merangkumi reka bentuk, proses pembangunan, hasil pengujian, dan analisis data. 10. Menghasilkan panduan pengguna untuk sistem yang dibangunkan. 11. Melaksanakan penambahbaikan berdasarkan hasil pengujian dan maklum balas. 12. Menggunakan projek sebagai alat bantu pembelajaran untuk kursus berkaitan tenaga boleh baharu.

Abstrak Kajian/Projek:	The Portable Edu-Wind Turbine project is designed to enhance hands-on learning for students enrolled in the DEG30013: Fundamental of Renewable Energy course. As renewable energy education becomes increasingly essential, this innovative tool offers a practical solution to the challenges of understanding wind energy technologies. The system allows students to explore the effects of different blade heights, quantities, and lengths on the performance of wind turbines, specifically examining their impact on current, voltage, and power generation. The portable design ensures that the turbine can be easily integrated into various educational settings, making it an ideal tool for classroom demonstrations, workshops, and practical experiments. This project bridges the gap between theoretical knowledge and real-world applications by enabling students to directly observe the mechanics of wind energy conversion in a controlled environment. The Portable Edu-Wind Turbine not only promotes a deeper understanding of the principles of wind energy but also fosters sustainability awareness, preparing students to engage in environmentally conscious practices. By providing a tangible and interactive learning experience, the system ensures that students can develop critical skills in renewable energy technology. This project aligns with the growing demand for accessible and cost-effective educational tools in renewable energy, equipping students with the practical experience needed to address future challenges in sustainable energy development. The subsequent sections of the project will explore the design, functionality, and educational impact of the system, emphasizing its potential to shape a new generation of professionals capable of driving sustainable change.

Infografik Kajian/Projek:	  

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Pengajian Perniagaan			
Jabatan:	Perdagangan			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	The Green Collector			
Jenis Kajian/Projek:	Environment & Renewable Energy			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen	/	Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Nurul Maisarah Bt Mohd Ya'akub No. Pendaftaran Pelajar:05DPM22F2019 2. Nama:Nur Adira Fahani Bt Mohd Noor Hayat No. Pendaftaran Pelajar:05DPM22F2040 3. Nama:Dygku Nur Nabilah Bt Awangku Hishamuddin No. Pendaftaran Pelajar:05DPM22F2007			
Penyelia:	Nama: Sir Rosland Buja			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:				
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	Oleh itu, kitar semula menjadi salah satu kaedah paling berkesan untuk menangani isu ini. Terdapat beberapa objektif utama mengapa kitar semula botol minuman perlu diberi keutamaan. Mengurangkan sisa botol plastik di tempat pelupusan. Menjimatkan sumber asli
Skop Kajian/Projek:	Pembahagian skop untuk mengurangkan penggunaan botol plastik boleh didekati melalui pelbagai dimensi. Berikut ialah beberapa segmen utama untuk dipertimbangkan: • Lokasi Kajian • Limitasi • Tempoh Masa Projek • Segmen pasaran ; - Geografi (Geographic) - Tingkah laku (Behavorial) - Demografi (Demographic)
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Meneroka faedah menggunakan bahan mesra alam sebagai alternatif kepada botol plastik dan bahan pencemar lain. Ia mempunyai beberapa objektif. Pertama, ia bertujuan untuk mengurangkan kesan alam sekitar daripada sisa plastik. Plastik ialah bahan yang tidak boleh terbiodegradasi, bermakna ia boleh mengambil masa ratusan tahun untuk terurai. Ini membawa kepada pencemaran plastik di lautan dan tapak pelupusan sampah kita, yang boleh membahayakan hidupan liar dan alam sekitar. Kitar semula botol plastik membantu mengurangkan jumlah sisa plastik yang dihasilkan, yang akhirnya mengurangkan kesan alam sekitar

Abstrak Kajian/Projek:	Botol plastik pelbagai guna menghadapi laluan yang sama ini pada penghujung hayatnya tetapi sudah tentu ini berlaku lebih jarang kerana ia boleh digunakan berkali-kali. Penyelidikan ini bertujuan membolehkan menyiasat kesan pencemaran botol plastik terhadap alam sekitar dan potensi sumbangan The Green Collectors ke arah perubahan alam sekitar. Pengenalan membincangkan peranan dan penggunaan botol plastik. Masalah kajian tertumpu kepada plastik ke atas tanah dan lautan serta kos berkaitan. Objektif projek ini menjelaskan tujuan inovasi untuk diguna semula termasuk memahami faedah dan kesan penggunaan serta mempromosikan kesedaran pelanggan dan penggunaanya. Justifikasi menilai kemahuan, kewajaran dan meminimumkan penggunaan botol plastik. Selain itu, aplikasi analisis SWOT membantu menilai faktor dalaman dan luaran yang mempengaruhi The Green Collectors, mempertimbangkan kekuatan, kelemahan, peluang, dan ancaman. Kesimpulannya, untuk mengurangkan krisis pencemaran botol plastik kami buat produk boleh guna semula yang memberi manfaat bukan sahaja kepada alam sekitar tetapi juga kepada kita.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Tatotrove: Produk Lestari Dari Sisa Kulit Kentang</td></tr>
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<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” Pada Yang Berkenaan</td></tr>
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<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td>/</td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Ainur Natasha Binti Miselan
No. Pendaftaran Pelajar:05dpm22f2038
2. Nama: Safira Khairina Binti Satura
No. Pendaftaran Pelajar:05dpm22f2004</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Puan Suhana Binti Matlin</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Projek Penghasilan Produk Mesra Alam Melibatkan Gabungan Bidang Sains Untuk Mengkaji Bahan Biodegradasi, Reka Bentuk Untuk Mencipta Cenderamata, Dan Perniagaan Untuk Merangka Strategi Pemasaran.</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Bersama Komuniti Tempatan. Menguji Produk Dan Memberi Maklum Balas Untuk Meningkatkan Kesedaran Tentang Produk Mesra Alam. (Responden)</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i) Meneroka penggunaan kulit kentang sebagai bahan terbiodegradasi untuk menghasilkan cenderamata seperti rantai kunci dan pelapik gelas. ii) Mengenal pasti tahap kesedaran pengguna terhadap penggunaan kulit kentang sebagai produk alternatif yang lebih hijau dan lestari. iii) Mengenal pasti tahap kesedaran pengguna terhadap potensi penggunaan kulit kentang dijadikan sebagai produk cenderamata.
Skop Kajian/Projek:	Skop kajian bagi produk lestari dari sisa kulit kentang merangkumi fokus terhadap inovasi hijau dengan menumpukan kepada penghasilan produk cenderamata iaitu rantai kunci dan pelapik gelas melalui proses pengeringan. Kajian ini melibatkan analisis penerimaan pengguna terhadap penggunaan kulit kentang sebagai produk alternatif untuk dijadikan cenderamata yang lebih hijau dan lestari. Kajian dijalankan untuk memanfaatkan kulit kentang secara optimum dengan jejak karbon minimum, dengan batasan kajian hanya melibatkan sisa kulit kentang tanpa melibatkan jenis sisa lain. Tempoh kajian dihadkan 3 bulan bagi menganalisis keberkesanan dan potensi produk.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Penyelidikan dan Eksperimen Pelajar akan menjalankan kajian awal mengenai sifat-sifat kulit kentang sebagai bahan terbiodegradasi. Ini termasuk proses pengumpulan kulit kentang, analisis bahan, dan ujian keberkesanan untuk menghasilkan produk seperti rantai kunci dan pelapik gelas. 2. Kesedaran Pengguna Pelajar akan menjalankan kajian lapangan untuk mengumpul data mengenai tahap kesedaran pengguna melalui soal selidik atau wawancara. Data ini akan membantu memahami penerimaan masyarakat terhadap produk hijau ini.

	3. Penyampaian Hasil Kajian Pelajar akan menyediakan laporan projek, membentangkan dapatan kajian, serta mencadangkan langkah-langkah untuk memperluaskan penggunaan bahan terbiodegradasi dalam produk cenderamata.
Abstrak Kajian/Projek:	Projek ini menggunakan kulit kentang sebagai bahan untuk menghasilkan cenderamata seperti rantai kunci dan pelapik gelas, mengubah sisa makanan menjadi produk mesra alam melalui proses pengeringan dan pengacuan. Pendekatan ini mengurangkan sisa makanan dan penggunaan plastik, serta menunjukkan potensi untuk mencipta produk yang berfungsi dan tahan lama. Inovasi ini sejalan dengan prinsip kelestarian, menawarkan penyelesaian kreatif untuk meminimumkan kesan alam sekitar dan mempromosikan kepenggunaan hijau, dengan harapan memberikan impak positif kepada masyarakat dan menyokong produk lestari.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT
Program:	DPM
Jabatan:	Jabatan Perdagangan
Semester/ Tahun:	5: Sesi I: 2024/2025
Tajuk Kajian/Projek:	Kajian Potensi Pasaran Pasu Semaian Biodegradasi Berasaskan Kulit Buah Eksotik Sarawak
Jenis Kajian/Projek:	Engineering Environment & Renewable Energy
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan

	Sains Tulen	/	Sains Sosial
	Sains Gunaan		Sastera & Sastera Ikhtisas
	Teknologi & Kejuruteraan		Warisan Alam & Budaya
	Sains Kesihatan & Klinikal		ICT

Ahli Kumpulan:	1. Nama: Nur Harnanie Binti Abdullah No. Pendaftaran Pelajar: 05DPM22F1047 2. Nama: Nur Aleeya Maisara Binti Eskandar No. Pendaftaran Pelajar: 05DPM22F1081 3. Nama: Carmelyne Mohd Kifli No. Pendaftaran Pelajar: 05DPM22F1100
Penyelia:	Nama: Puan Faridah Binti Che In
Penyelia Bersama:	*Tiada*
Multi-Disiplin:	Ekonomi dan Pengurusan Perniagaan
Kolaborasi: (Industri/Komuniti)	*Tiada*

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Mengkaji pasaran pasu semaian biodegradasi di kalangan pengusaha tapak semaian. ii. Mencadangkan pembangunan pasu biodegradasi menggunakan 2 jenis pokok berasaskan kulit buah eksotik Sarawak. ii. Meninjau persepsi pengusaha pekebun kecil terhadap pasu biodegradasi yang dihasilkan dari tepung kanji dan kulit buah eksotik Sarawak untuk dijadikan pasu semaian.
Skop Kajian/Projek:	Tempoh masa : Tempoh masa pelaksanaan projek ini memakan masa selama sekurang-kurangnya 3 bulan. Disamping itu, kajian dan pembangunan produk telah dilakukan untuk mendapatkan formula terbaik dalam penghasilan produk kami. Perjumpaan bersama ahli kumpulan telah memberi impak positif dah menunjukkan keputusan yang memberangsangkan dan meningkatkan kecekapan dalam kerja kumpulan kami. Segmen pasaran : Sasaran segmen awal projek ini adalah kepada petani baru yang ingin memulakan perniagaan dalam industri pertanian. Produk ini memudahkan mereka untuk menanam anak pokok dan terus dipindahkan ke dalam tanah.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	i. Membangunkan pasu semaian biodegradasi berasaskan kulit buah eksotik Sarawak. ii. Menggunakan bahan seperti tepung kanji, kulit buah eksotik Sarawak seperti dabai dan jering serta sabut kelapa yang tidak akan memberi kesan buruk kepada alam sekitar. iii. Melakukan proses pengeringan selama beberapa hari lalu menanam anak pokok di dalam pasu biodegradasi tersebut.

Abstrak Kajian/Projek:	Kajian ini bertujuan untuk menilai potensi pasaran pasu semaian biodegradasi yangdihasilkan daripada kulit buah eksotik Sarawak, seperti dabai dan jering. Penggunaan bahan biodegradasi semakin penting dalam usaha mengurangkan pencemaran plastik dan mempromosikan amalan pertanian yang lebih lestari. Sarawak, dengan kepelbagaian sumber semula jadi, menawarkan peluang besar dalam inovasi produk berasaskan bahan buangan pertanian. Kajian ini melibatkan analisis pasaran, termasuk permintaan tempatan dan antarabangsa untuk produk hijau, kesedaran pengguna, serta potensi daya saing harga berbanding pasu semaian konvensional. Hasil kajian menunjukkan bahawa pasu semaian biodegradasi dari kulit buah eksotik ini bukan sahaja mesra alam, tetapi juga berpotensi untuk menembusi pasaran pertanian dan hortikultur, terutamanya dalam kalangan petani dan nurseri di Sarawak. Cadangan strategik turut dibentangkan bagi memperkukuh kedudukan produk ini di pasaran melalui promosi kesedaran alam sekitar dan inovasi teknologi.
Infografik Kajian/Projek:	 

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Pembangunan Produk</td></tr>
<tr><td>Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
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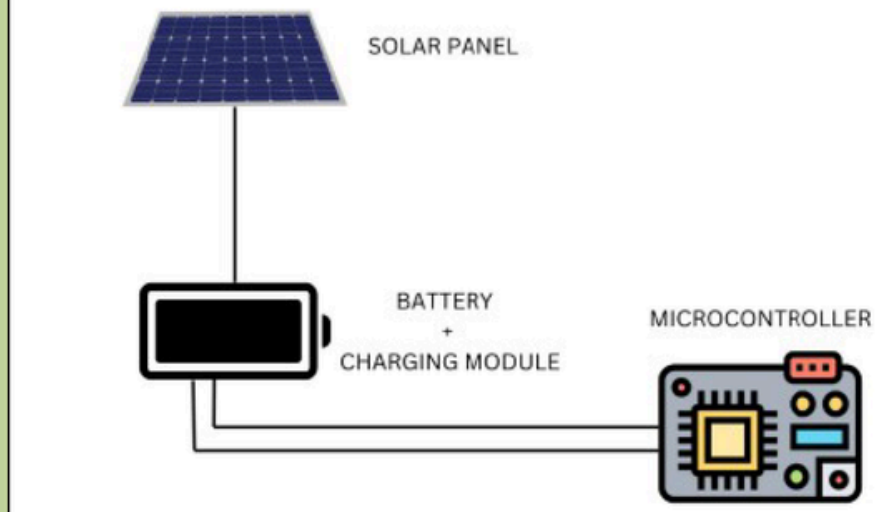
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Arif Amiruddin
No. Pendaftaran Pelajar: 05DDT22F1021
2. Nama: Brendan Unting
No. Pendaftaran Pelajar: 05DDT22F1038</td></tr>
<tr><td>Penyelia:</td><td colspan="4">1. Nama: Afzan binti Omar</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">-</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">-</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Provide an Intelligence Lighting system that is energy-efficient. ii. Provide the community with an easy-to-use app to submit feedback. iii. Provide streetlight that able to detect movement.
Skop Kajian/Projek:	The system monitors the temperature and carbon monoxide levels in a vehicle to determine the danger of someone or something such as a child or a pet staying in the vehicle for a prolonged period. The system will have an application that will be used as an alternative setup method. The system will also utilize an ultrasonic sensor and a passive infrared sensor to determine if there actually is an individual in the vehicle. If the temperature and carbon monoxide levels reaches a dangerous threshold, and the system detects an individual in the vehicle, the system will call individuals that were specified on the system beforehand by the driver, and sound an alarm on the outside of the vehicle to grab the attention of bystanders that could possibly help with getting the individual out of the vehicle in the situation that the called individuals are unavailable for any reason.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	Bright Idea is an innovative solution designed to enhance urban lighting efficiency and safety through intelligent streetlight. This project incorporates sensors and a user-friendly mobile application that allows users to submit their input to our product.

Infografik Kajian/Projek:	

KATEGORI **PELAJAR**

SERVICES & PRODUCT

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

SERVICES & PRODUCT

BIL	NAMA PROJEK	JABATAN
1	**GUMMIES YANG DIPERBUAT DENGAN KANDUNGAN BERKHASIAT DARIPADA DAUN MORINGGA** AFIEQAH BINTI ZULKARNAIN PUTERA AL-AZXIM BIN SAPUAN @ YUSUF DIDI REENA BINTI MATZEN (PENYELIA)	**JP**
2	**SNACKTOPIA: CHICKEN NORI ROLL** CYAROLLIN AK CHUGAT REBICA SERENE ANAK TAIT NOORHASMAH BINTI YAHYA (PENYELIA)	**JP**
3	**TAHAP PENERIMAAN PENGGUNA DAN FAKTOR-FAKTOR YANG MENDORONG PEMBELIAN PRODUK SWEET MELODIA - GULA-GULA YANG DIINOVASIKAN DARIPADA KULIT PAMELO** MUHAMMAD HAZAMI BIN ISMAIL STEVEN ZAMARANO ANAK DAWING LEWIS LIEW TEO PIAW (PENYELIA)	**JP**
4	**TRANSFORMASI PENGHASILAN JAMU JELI DALAM INDUSTRI KESIHATAN TERHADAP PENGGUNA** NURULSYAHIDA BINTI ABDUL TAIB UMMI QASRINNA EZZATUL BINTI SUHARDI ZAIDI BIN BASLI (PENYELIA)	**JP**
5	**MINI AIR CONDITIONING LEARNING KIT SYSTEM** TRACY TING SING YI NUR AFZA ZULAIKHA BT ABDULLAH BONIFACE MAUH ANK GERAGOP SHAHRIZAL BIN SHABUDDIN (PENYELIA)	**JKA**

SERVICES & PRODUCT

BIL	NAMA PROJEK	JABATAN
6	**GARBAGE MANAGEMENT SYSTEM APP (ECOSORT)** CARLSON SUJANG ANAK SABONG DEXTER HARVEY ANAK HARRY SEBESTIANO SPENCER ANAK SAKA SHARAFI BIN MOHAMED YUSOFF (PENYELIA)	**JTMK**
7	**SARAWAK GOPARKS APP** MOHAMAD HARIS BIN YAYUSUF LIDIYA KARMILA BINTI SEDI MOHAMAD SYAFIZAN BIN MOHAMAD ADRIS AZHAR BIN ABD HAMID (PENYELIA)	**JTMK**

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<tr><td></td><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Afieqah Binti Zulkarnain
No. Pendaftaran Pelajar: 05DPM22F2070
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No. Pendaftaran Pelajar: 05DPM22F2056</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Puan Didi Reena Binti Matzen</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Tiada</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tiada</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i) Membuat produk "gummies" atau gula-gula kenyal berasaskan daun moringga yang dapat menggabungkan manfaat pokok Moringa dengan rasa dan tekstur yang dapat di nikmati oleh golongan tua dan muda. ii) Gummies" sebagai suplimen bagi mereka yang tidak suka makan makanan hijau seperti sayur terutamanya kanak kanak yang berusia 5 tahun dan ke atas.
Skop Kajian/Projek:	Kajian ini meliputi beberapa aspek penting dalam pembangunan dan pemasaran produk gumies berasaskan daun moringga. Skop kajian merangkumi lokasi kajian, tempoh masa pelaksanaan, subjek kajian serta ruang lingkupan penyelidikan dari segi penghasilan prototaip, penerimaan pengguna, dan strategi pemasaran. Setiap elemen ini amatlah penting untuk memastikan kejian kami ini memenuhi objektif yang telah kami tentukan dan memberi gambaran menyeluruh tentang potensi produk di pasaran pada masa akan datang.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	a) Kajian ini dijalankan di Politeknik Kuching Sarawak, dengan subjek kajian terdiri daripada pelajar, kakitangan, dan seluruh warga Politeknik Kuching Sarawak. Lokasi ini dipilih atas sebab ianya menyediakan populasi pengguna yang bersesuaian untuk kajian awal penerimaan produk. b) Tempoh masa bagi pelaksanaan kajian ini adalah selama 4 bulan. Ianya meliputi pelbagai fasa termasuk penyedian bahan, penghasilan prototaip, pengumpulan data melalui data soal selidik, dan analisis data c) Subjek kajian terdiri daripada pelajar Politeknik Kuching yang berumur sekitar 18 hingga 27 tahun serta kakitangan dan pensyarah yang mempunyai minat terhadap "gummies". Kumpulan sasaran ini dipilih kerana mereka mewakili demografi yang sering membeli produk kesihatan sebagai pengambilan yang cepat di pagi hari.

Abstrak Kajian/Projek:	Gummies ini direka untuk menjadi mudah dan menyeronokkan dimakan, menjadikannya pilihan ideal bagi mereka yang ingin menambah nutrisi dalam diet harian tanpa mengorbankan rasa. Sesuai untuk semua peringkat umur, gummies ini adalah cara praktikal untuk menikmati kebaikan moringa setiap hari . Gummies berasaskan daun moringa adalah pilihan suplemen sihat yang menggabungkan rasa enak dengan manfaat nutrisi yang tinggi. Dikenali kerana kandungan vitamin dan mineralnya yang kaya, moringa menyokong kesihatan secara menyeluruh, termasuk meningkatkan tenaga, menyokong sistem imun, dan membantu mengurangkan keradangan.
Infografik Kajian/Projek:	 

BORANG INVENTORI PROJEK PELAJAR

<table>
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<tr><td>Jabatan:</td><td colspan="4">Perdagangan</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Snacktopia: Chicken Nori Rolls</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Services And Product Marketing</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” Pada Yang Berkenaan</td></tr>
<tr><td></td><td>Sains Tulen</td><td>/</td><td>Sains Sosial</td></tr>
<tr><td>/</td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Cyarollin Anak Chugat
No. Pendaftaran Pelajar: 05DPM22F2049
2. Nama: Rebica Serene Anak Tait
No. Pendaftaran Pelajar: 05DPM22F2052</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Noorhasmah Binti Yahya</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Pemasaran
2. Perniagaan</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">1. Komuniti Politeknik Kuching Sarawak (Responden)
2. Penduduk Kawasan Matang (Responden)</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Menghasilkan inovasi produk makanan sihat dan seimbang. 2. Memenuhi kepuasan pelanggan terhadap produk baharu. 3. Menawarkan snek yang dapat dinikmati oleh semua golongan. 4. Menjadi peneraju makanan snek yang sihat.
Skop Kajian/Projek:	Kajian dijalankan di kawasan Politeknik Kuching Sarawak dan sekitar kawasan Matang.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Terlibat dalam pembangunan resipi, kajian pasaran, strategi promosi, serta proses dokumentasi dan pembentangan.
Abstrak Kajian/Projek:	Chicken Nori Rolls yang dijalankan oleh pelajar Politeknik Kuching Sarawak, memperkenalkan inovasi makanan gulungan rumpai laut ayam. Projek ini bertujuan untuk menghasilkan hidangan yang lazatdan bernutrisi tinggi dengan menggabungkan ayam, sayuran, rumpai laut, dan keju dalam bentuk gulungan. Penyelidikan ini merangkumipembangunan resipi melalui pelbagai teknik masakan, pemilihan bahan dan rempah, serta kajian penerimaan pengguna. Analisis menunjukkan kekuatan Chicken Nori Rolls, termasuk rasa unik, kandungan nutrisi tinggi, dan variasi sos seperti sos cili, keju, dan sambal kicap, yang berpotensi menarik minat pelanggan pelbagai citarasa. Namun, cabaran dihadapi seperti kos bahan mentah yang tinggi dan persaingan pasaran. Kajian pasaran menggunakan soal selidik menunjukkan sambutan positif terhadap produk ini. Denganstrategi promosi yang efektif dan tawaran menarik, Chicken Nori Rolls mempunyai potensi besar untuk

	berkembang sebagai makanan ringan yang unik dan sihat di pasaran tempatan, menjadikannya peluang perniagaan yang menjanjikan bagi masa hadapan. **KATA KUNCI:** Chicken Nori Rolls, rumpai laut, diet, produkinovasi, Snacktopia
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

<table>
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<tr><td>Program:</td><td>Diploma Pengajian Perniagaan</td></tr>
<tr><td>Jabatan:</td><td>Jabatang Perdagangan</td></tr>
<tr><td>Semester/ Tahun:</td><td>5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td>Tahap penerimaan pengguna dan faktor-faktor yang mendorong pembelian produk Sweet Melodia – gula-gula yang diinovasikan daripada kulit pamelo</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td>Product And Service</td></tr>
<tr><td>Kategori Kluster Penyelidikan:</td><td>Tanda “ / ” pada yang berkenaan
<table>
<tr><td></td><td>Sains Tulen</td><td>/</td><td>Sains Sosial</td></tr>
<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
</table></td></tr>
<tr><td>Ahli Kumpulan:</td><td>1. Nama: Muhammad Hazami Bin Ismail
No. Pendaftaran Pelajar: 05DPM22F2059
2. Nama: Steven Zamarano Anak Dawing
No. Pendaftaran Pelajar: 05DPM22F2037</td></tr>
<tr><td>Penyelia:</td><td>Nama: Dr. Lewis Liew Teo Piaw</td></tr>
<tr><td>Penyelia Bersama:</td><td>Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td></td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td>Tiada</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Menghasilkan Produk Sweet Melodia menggunakan kulit Buah Pamelo 2. Mengkaji penerimaan pelanggan terhadap Sweet Melodia – 3. Mengkaji faktor-faktor yang mempengaruhi keputusan pengguna membeli produk Sweet Melodia
Skop Kajian/Projek:	**1. Lokasi Kajian:** Kajian ini dijalankan di Politeknik Kuching Sarawak, dengan subjek kajian terdiri daripada pelajar, kakitangan, dan warga politeknik. Lokasi ini dipilih kerana ia menyediakan populasi pengguna yang bersesuaian untuk kajian awal penerimaan produk. **2. Tempoh Masa Pelaksanaan:** Tempoh masa bagi pelaksanaan kajian ini adalah selama 10 minggu. **3. Subjek Kajian:** Subjek kajian terdiri daripada pelajar Politeknik Kuching yang berumur antara 18 hingga 25 tahun serta kakitangan yang mempunyai minat terhadap manisan.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Ia meliputi pelbagai fasa termasuk penyediaan bahan, penghasilan prototaip, pengumpulan data melalui soal selidik, dan analisis data. Setiap fasa akan dilaksanakan secara berperingkat untuk memastikan kelancaran proses penyelidikan, dengan penekanan kepada kualiti produk dan ketepatan data yang dikumpul.

Abstrak Kajian/Projek:	Projek ini menghasilkan gula-gula kulit pamelo untuk mengurangkan sisa makanan dan menambah nilai kepada sisa pertanian. Kajian melibatkan 75 pelajar bagi menilai penerimaan produk dari segi rasa, tekstur, dan penampilan menggunakan Skala Hedonik 9 Mata. Hasil menunjukkan penerimaan positif terhadap rasa unik, sejajar dengan trend makanan sihat. Penggunaan kulit pamelo juga menyokong kelestarian alam dan Matlamat Pembangunan Lestari (SDG 12), menjadikannya produk mesra alam yang berpotensi di pasaran.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Pengajian Perniagaan			
Jabatan:	Jabatan Perdagangan			
Semester/ Tahun:	4: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Transformasi Penghasilan Jamu Jeli Dalam Industri Kesihatan Terhadap Pengguna.			
Jenis Kajian/Projek:	Product And Service			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen	/	Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama : Nurulsyahida Binti Abdul Taib No. Pendaftaran : 05DPM22F2001 2. Nama :Ummi Qasrina Ezzatul Binti Suhardi No. Pendaftaran : 05DPM22F2082			
Penyelia:	Nama : Encik Zaidi Bin Basli			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	*Tiada*			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Menyediakan produk jamu dalam bentuk jeli yang lebih inovatif dan sesuai dengan gaya hidup moden. 2. Meningkatkan kemudahan penggunaan jamu dengan formulasi yang mudah dibawa untuk memenuhi keperluan individu yang sibuk. 3. Menarik minat segmen pasaran baharu, terutamanya golongan muda, yang mencari kemudahan dalam produk kesihatan. 4. Menyediakan manfaat kesihatan melalui kandungan herba semulajadi, sambil meningkatkan kesedaran tentang kepentingan herba dalam gaya hidup sihat.
Skop Kajian/Projek:	1. Menghasilkan dan memasarkan produk kesihatan dalam bentuk jeli yang praktikal, fokus kepada golongan wanita dan muda yang mengutamakan kemudahan dan keberkesanan. 2. Menggunakan bahan semula jadi seperti daun moringa, kunyit, manjakani, dan madu dengan formulasi herba tradisional yang moden dan bermanfaat untuk kesihatan. 3. Proses pengeluaran yang efektif dan rendah kos, serta strategi pemasaran digital untuk menembusi pasaran tempatan dan pasaran yang belum ada bagi mengeluarkan produk jamu dalam bentuk jeli.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Kajian ini dijalankan di Politeknik Kuching Sarawak dan melibatkan beberapa orang awam bagi mengumpul responden tentang produk yang dijalankan. Data diperoleh daripada soalan *google form* dan borang soal selidik yang melibatkan 70 responden dari *google form,* manakala 15 responden dari pengisian borang soal selidik. Ia merangkumi demografi, tahap penerimaan terhadap produk, dan faktor-faktor mempengaruhi keputusan pembelian. Analisis data ini merupakan proses mengumpul, memproses dan menafsirkan data untuk mendapatkan pemahaman yang lebih mendalam tentang produk yang dihasilkan.

Abstrak Kajian/Projek:	Dalam era globalisasi, permintaan terhadap produk kesihatan yang praktikal dan berkesan semakin meningkat. Kajian ini memperkenalkan inovasi produk kesihatan berasaskan jeli, seperti Serena Bloom Jelly dan Slim Fusion Jelly, yang menggabungkan herba tradisional seperti daun moringa, kunyit, manjakani, dan Garcinia Cambogia dengan teknologi moden. Produk ini direka untuk memenuhi keperluan gaya hidup sibuk, khususnya bagi wanita dan pengurusan berat badan, sambil menawarkan manfaat kesihatan seperti peningkatan imuniti dan pencernaan. Selain itu, inovasi ini menyokong ekonomi tempatan dan memartabatkan warisan perubatan tradisional melalui pendekatan pemasaran kreatif, menjadikannya pilihan menarik bagi generasi muda.
Infografik Kajian/Projek:	  

BORANG INVENTORI PROJEK PELAJAR

<table>
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<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Mini Air Conditioning Learning Kit System</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Service & Product</td></tr>
<tr><td>Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
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<tr><td></td><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Tracy Ting Sing Yi
No. Pendaftaran Pelajar: 05DPB22F1002
Nama: Nur Afza Zulaikha Binti Abdullah
No. Pendaftaran Pelajar: 05DPB22F1018
Nama: Boniface Mauh
No. Pendaftaran Pelajar: 05DPB22F1031</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Shahrizal Bin Shabuddin</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Pemasaran
2. Pembelajaran</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tiada</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Design compact and lightweight learning kits that are portable and suitable for educational purposes in classrooms and workshops. ii. Produce detailed educational and practical materials to explain the function and operation of the main components in the air conditioning system according to its cycle iii. Test and identify the effectiveness of the mini air conditioning learning kit system
Skop Kajian/Projek:	The scope of this study centers on assessing the educational impact and functional design of the Mini Air Conditioning Learning Kit System for students and lecturers in the Building Services Engineering program at Politeknik Kuching Sarawak. Specifically, this project will focus on the following areas: i. Student Utilization of Learning Kits This study addresses the need for practical learning aids among students enrolled in the Diploma of Building Services Engineering program, particularly those taking courses in Refrigeration and Air Conditioning System Technology. By incorporating the Mini Air Conditioning Learning Kit System into their curriculum, the study aims to enhance students' understanding of core concepts and improve their practical skills in handling air conditioning systems. ii. Lecturer Involvement in Course Delivery This study will also include lecturers who teach the Building Services Engineering Diploma course at Politeknik Kuching Sarawak. Feedback and insights from lecturers will be collected to understand how the learning kit supports teaching effectiveness

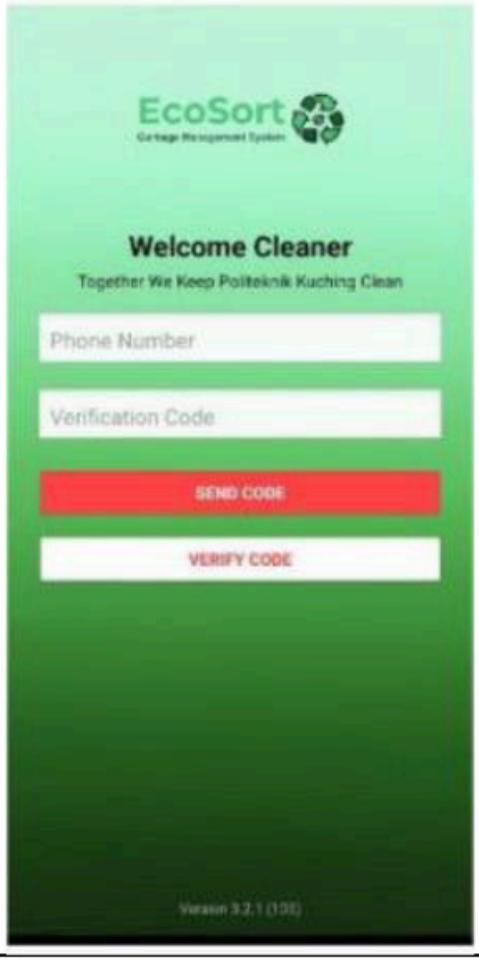
	and complements existing educational materials. iii. Effectiveness of the Learning Kit on Student Knowledge and Skills A key focus of this project is to evaluate the functionality of the Mini Air Conditioning Learning Kit System and its impact on students' knowledge acquisition and skill development. The study will measure how well the kit aids students in understanding the components and operation cycle of air conditioning systems, fostering a deeper level of competency in building services engineering.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	The use of innovative tools such as Teaching Aids (ABM) is crucial in the teaching and learning process. It ensures that the information presented to students is clear and organized. To aid the students of Building Services Engineering Diploma at Politeknik Kuching Sarawak, we have developed an innovative product called the Mini Air Conditioning Learning Kit System. This kit serves as an ABM and a simulation model for learning Refrigeration and Air Conditioning System Technology for semester 3 and 4 students. During observation, it was found that students lacked a clear understanding of how air conditioning systems work and were unable to identify their components. With the Mini Air Conditioning Learning Kit System, students can improve their understanding and mastery of the subject, and also have the opportunity for self- learning both inside and outside of the classroom.
Infografik Kajian/Projek:	Materials • Compressor • Condenser • Capillary Tube • Evaporator

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	EcoSort (Garbage Management System)			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: Carlson Sujang anak Sabong No. Pendaftaran Pelajar: 05DDT22F1073 2. Nama: Sebestiano Spencer anak Saka No. Pendaftaran Pelajar: 05DDT22F1010 3. Nama: Dexter Harvey anak Harry No. Pendaftaran Pelajar: 05DDT22F1087			
Penyelia:	1. Nama: Sharafi bin Mohamaed Yusoff			
Penyelia Bersama:	-			
Multi-Disiplin:	-			
Kolaborasi: (Industri/Komuniti)	-			

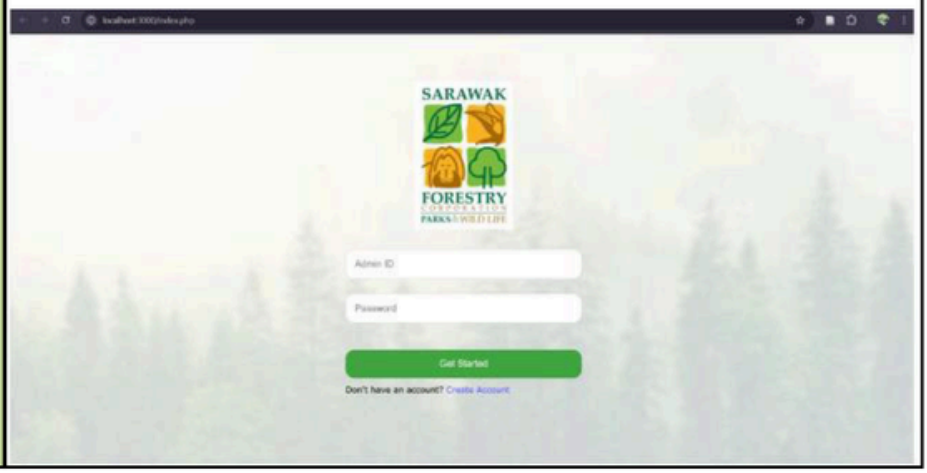
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Provide Real-Time Updates for Cleaners Ensure cleaners receive timely information to minimize wasted time and monitor report status directly in the app. ii. Track Dustbin Locations on the Floor Panel Allow users to report issues with dustbins placed on the floor panel, ensuring quick resolution and accurate tracking. iii. Offer a Guideline Interface to Educate the Community Provide users with access to the latest news and updates, while enabling them to give feedback through the app.
Skop Kajian/Projek:	i. User scope User Login: For students and staff to report issues, view news, and provide feedback. ii. System scope Authentication: To manage secure logins for both users and workers. Real-Time Database: To store and track dustbin reports, alerts, and status updates.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	EcoSort is an innovative mobile application aimed at tackling inefficiencies in waste management through real-time updates and community engagement. The app enhances productivity by providing cleaning staff with instant notifications for garbage tracking, placement, and disposal, thus streamlining waste management processes. EcoSort educates communities on proper waste disposal practices and promotes sustainable behavior through an intuitive, user-friendly interface. By optimizing the workflow for cleaners and involving community feedback, EcoSort not only ensures effective waste management but also fosters cleaner, more environmentally responsible communities. This app is built using the Agile methodology with Android Studio and Firebase, ensuring adaptability and continuous improvement based on user feedback. EcoSort represents a significant step toward sustainable urban cleanliness and resource

	management, creating a cleaner and healthier environment.
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	Diploma Teknologi Maklumat (Teknologi Digital)			
Jabatan:	Jabatan Teknologi Maklumat dan Komunikasi			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Sarawak GoParks App			
Jenis Kajian/Projek:	Pembangunan Produk			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Nama: Mohamad Haris bin Yayusuf No. Pendaftaran Pelajar: 05DDT22F1025 2. Nama: Lidiya Karmila binti Sedi No. Pendaftaran Pelajar: 05DDT22F1057 3. Nama: Mohamad Syafizan bin Mohamad Adris No. Pendaftaran Pelajar: 05DDT22F1093			
Penyelia:	1. Nama: Azhar bin Abd Hamid			
Penyelia Bersama:	-			
Multi-Disiplin:	-			
Kolaborasi: (Industri/Komuniti)	-			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To develop a mobile application that allows easy access to detailed information about the forest reserves to visitors. ii. To implement scanning features through QR codes in the mobile application to let visitors identify the detailed information about the tagged plants in the forest reserves. iii. To prepare a database that is able to be accessed and updated regularly which stores the information about the Sarawak Forestry Corporation (SFC) flora via a web-based application linked to the mobile application.
Skop Kajian/Projek:	The Sarawak GoParks App project represents a significant advancement in the integration of technology and environmental conservation. The project's scope encompasses the development and deployment of a multifaceted digital platform designed to enhance plant identification and support conservation efforts within Sarawak's forest reserves. This section details the comprehensive framework of the project, including the functionalities of the mobile and web-based applications, and the supporting database infrastructure. The scope is divided into two (2), namely the system scope and the user scope.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	System development
Abstrak Kajian/Projek:	The Sarawak GoParks mobile app is designed to enhance plant identification and conservation efforts within Sarawak's national parks. This app will : ▪ Allow users to scan QR codes on plants to access detailed information. ▪ Support offline access to plant data for areas with limited connectivity. ▪ Promote environmental awareness and education on Sarawak's biodiversity

Infografik Kajian/Projek:	

KATEGORI **PELAJAR**

RESEARCH

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

RESEARCH

BIL	NAMA PROJEK	JABATAN
1	**A STUDY ON BIOMASS-BASED ACTIVATED CARBON AS AN ECO-FRIENDLY COMPOSITE ABSORBENT FOR GREYWATER TREATMENT** TIMOTTY ANAK THOMAS ARNOLD DORTE TEPIN FERDINAND ANAK AGAT DANIELL RICHIE ANAK MARCONI TANG HING KWONG (PENYELIA)	**JKA**
2	**KAJIAN TERHADAP PROJEK RAINWATER HARVESTING** DAYANG NURUL EINNIE BINTI ROSMIN FEDLLY KAMALLEE ANAK AMBAS GABREAL ANAK TAWAT@ AWAT AYUB BIN ABDULLAH (PENYELIA)	**JKA**
3	**DATUM NAVIGATION AT PKS (D' NAP)** NUR AZJUMIATI BINTI ROSLAN GLYNN JOSHUA ANYUM ANAK GELAYAN HAFIY ZIKRI BIN MORHAIMIE Sr. CHE KU AHMAD FUAD BIN CHE KU ABDULLAH (PENYELIA)	**JKA**
4	**BANANA STEM-BASED OIL ABSORPTION SOLUTION INITIATIVE - AN INNOVATIVE PROJECT DEDICATED TO PROMOTE A HEALTHIER AND MORE PLEASANT LIVING ENVIRONMENT** JESICA HUBONG SALI NUR NAJIHAH BINTI MELI NURFAZRIN BINTI KHAIDIL ASRI MUHAMAD WARIDI BIN HADZALI (PENYELIA)	**JKA**
5	**KAJIAN IMPAK PENGGUNAAN INTERNET PELBAGAI (IOT) DALAM SISTEM PEMANTAUAN KUALITI AIR (WQMS)** EUSTANCE GANT ANAK JOHN FONG XUE YONG IMRAN AIMAN BIN ISWANDI REMINJUS ANAK ANDING (PENYELIA)	**JKA**

RESEARCH

BIL	NAMA PROJEK	JABATAN
6	**PV INSTALLATION PLANNING USING UAV IMAGE IN POLITEKNIK KUCHING SARAWAK** AJMAL MUHAIMIN BIN ZAMRI MUHAMMAD YUSRI BIN SUHAILI WAN MUHAMMAD HARIZHAZIMAN BIN WAN HALMI Sr.LEE KONG FAH (PENYELIA)	**JKA**
7	**FAKTOR-FAKTOR MEMPENGARUHI PEMBELIAN ZUS COFFEE:POLITEKNIK KUCHING** DAYANGKU NUR ATIERAH BINTI AWANG ZAIDI SYAFIQA ZULAIKA BT SAEIDIN NOORHASMAH BINTI YAHYA (PENYELIA)	**JP**
8	**KELESTARIAN ALAM SEKITAR DAN KAMPUS HIJAU : KAJIAN TINJAUAN PENGETAHUAN DAN AMALAN PENGGUNAAN ELEMEN ARTIFAK PERSEKITARAN HIJAU DI KALANGAN WARGA POLI** ANNA ALICIA BINTI ABDULLAH DAYANGKU DANIEA MARLIESSA BINTI AK AHMAD AFFANDY FARIDAH BINTI CHE IN (PENYELIA)	**JP**
9	**TINJAUAN AWAL PENGGUNAAN AFCY DELIVERY SERVICES DI GERAI SYARIKAT CAHAYA WAWASAN SDN BHD TERHADAP PELAJAR POLITEKNIK KUCHING SARAWAK** AHMAD FATULLNIZWAN BIN MUHD ADHAR LO CHUN YUNG MUHAMMAD NAZRI BIN MOHAMED AKBAR (PENYELIA)	**JP**

BORANG INVENTORI PROJEK PELAJAR

<table>
<tr><th>PERKARA</th><th colspan="4">MAKLUMAT</th></tr>
<tr><td>Program:</td><td colspan="4">DKA</td></tr>
<tr><td>Jabatan:</td><td colspan="4">Kejuruteraan Awam</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">A Study On Biomass-Based Activated Carbon As An Eco-Friendly Composite Absorbent For Greywater Treatment</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Research</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
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<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td>/</td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Ferdinand Anak Agat
No. Pendaftaran Pelajar: 05DKA22F1093
2. Nama: Timotty Anak Thomas
No. Pendaftaran Pelajar: 05DKA22F1007
3. Nama: Arnold Dorte Tepin
No. Pendaftaran Pelajar: 05DKA22F1026
4. Nama: Daniell Richie Anak Marconi
No. Pendaftaran Pelajar: 05DKA22F1044</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Tang Hing Kwong</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Kejuruteraan Bekalan Air Dan Air Sisa</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tiada</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To produce a biomass-based activated carbon as a composite adsorbent for greywater treatment. 2.Research on dosage 1kg and 2kg. 3. To investigate the performance of bamboo activated carbon and Limestone in composite by investigating the BOD and DO before and after treatment. 4. To investigate the performance of bamboo activated carbon and Limestone in composite by investigating the turbidity, suspended solid and initial pH before and after treatment.
Skop Kajian/Projek:	1. Many waste water from Cafeteria at Politeknik Kuching Sarawak that contain rubbish and food waste that lead to water pollution. 2. Lack of information on the causes of the problem. 3. To make sure water that flow to river at Cafeteria Politeknik Kuching Sarawak is clean and free from pollution. 4. To prevent diseases like cholera, diarrhae and hepatitis. 5. Able to design and produce enough amount of water filter to improve the water quality at Cafeteria Politeknik Kuching Sarawak. 6. Field study trip to find the suitable place to install the water filter. 7. Do some research and development to make sure we can produce the best and most efficient water filter. 8. The water pollution issue will be addressed within the stated scopes. 9. The scopes is sufficient.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	The main location for this study is the drain at the Cafeteria of Politeknik Kuching Sarawak, but this study can also be applied in other areas such as residential areas, hospitals,schools and elsewhere.

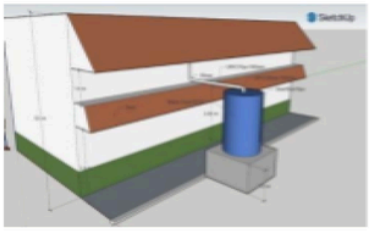
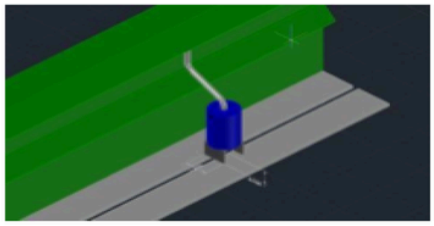
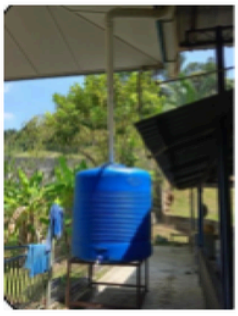
Abstrak Kajian/Projek:	This study examines the use of biomass-based activated carbon as an eco-friendly and affordable material for treating greywater, a type of wastewater from households. Greywater contains pollutants like organic matter and chemicals that can harm the environment if not treated. The research focuses on making activated carbon from natural, renewable biomass materials and improving its ability to clean water. The performance of this material is tested to see how well it removes pollutants, such as organic compounds and heavy metals, from greywater. The results show that biomass-based activated carbon is effective, reusable, and a sustainable option for greywater treatment, helping save water and protect the environment. ***Keywords:*** *Activated Carbon, Greywater Treatment, Water Filter*
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	DPB			
Jabatan:	Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Kajian Terhadap Projek Rainwater Harvesting (RWH)			
Jenis Kajian/Projek:	Research			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Fedlly Kamallee Anak Ambas No.Pendaftaran Pelajar: 05DPB22F1001 2. Nama: Dayang Nurul Einnie Binti Rosmin No. Pendaftaran Pelajar: 05DPB22F1015 3. Nama: Gabreal Anak Tawat@Awat No. Pendaftaran Pelajar: 05DPB22F1016			
Penyelia:	Nama: Ayub Bin Abdullah			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	Kejuruteraan			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Merekabentuk sistem penuaian air hujan. 2. Pengiraan terhadap penggunaan air tadahan hujan dan penjimatan kos. 3. Persepsi keberkesanan penggunaan air tadahan hujan terhadap persekitaran. BT5 Pengurusan Air SDG (6) - air bersih dan sanitasi.
Skop Kajian/Projek:	Skop projek ini adalah tertumpu kepada pengurusan air hujan yang mampan dan efektif yang menggunakan Sistem Penuaian Air Hujan (SPAH). Perkara ini akan banyak memberi impak yang baik. Untuk lokasi projek, kami telah memberi tumpuan kepada satu tempat di Politeknik Kuching Sarawak iaitu di kawasan belakang Masjid Al-Muhandisin Politeknik Kuching Sarawak dimana system penuaian ait hujan ini akan diletakkan di atas bukit dan sistem ini akan bergantung kepada tekanan graviti. Antara skop projek yang dapat dikenalpasti adalah seperti reka bentuk sistem iaitu sistem ini akan menggunakan kaedah penggumpulan air hujan dari bumbung yang akan dibina pada tapak projek tersebut. Seterusnya, rekabentuk untuk pembinaan projek ini akan menggunakan dua (2) tangki simpanan air yang mempunyai kapasiti penuh 2700 liter per unit tangka. Sistem ini juga akan menggunakan kaedah pemasangan yang menggunakan prinsip tekanan gravity yang tanpa melibatkan penggunanan pam air. Akhir sekali, skop projek ini adalah menumpukan kepada penggunaan sistem penuaian air hujan ini untuk tangki simbah tandas lelaki dan ruang cucian di masjid Politeknik Kuching Sarawak dan sekaligus sistem ini akan dapat digunakan oleh semua warga Politeknik Kuching Sarawak.

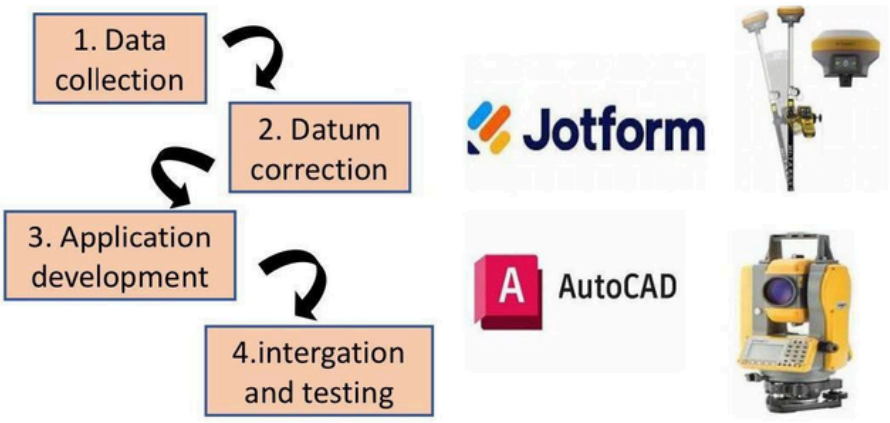
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus pada kawasan Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	Projek Rainwater Harvesting atau dikenali sebagai Sistem Penuaian Air Hujan (SPAH) yang diusulkan oleh kami, pelajar Politeknik Kuching Sarawak, adalah usaha strategik dalam projek akhir tahun kami untuk mengurangkan pembaziran air hujan. Kami berhasrat untuk membangunkan sistem yang cekap untuk mengumpul dan menggunakan semula air hujan yang sebelum ini tidak dimanfaatkan, sebagai sumber air alternatif untuk tangki simbah tandas lelaki dan ruang cucian masjid. Dengan menggunakan teknologi terkini dan berorientasikan kepada Matlamat Pembangunan Mampan (SDG), kami berusaha mencipta sistem yang bukan sahaja menyokong kelestarian alam sekitar tetapi juga meningkatkan kesedaran tentang kepentingan pemuliharaan air. Skop projek ini merangkumi reka bentuk dan pelaksanaan tangki simpanan dengan kapasiti yang mencukupi untuk mengumpul air hujan dari bumbung dan ruang cucian, yang akan digunakan oleh komuniti kampus. Melalui projek ini, kami berharap dapat meningkatkan kesedaran dan pengetahuan tentang kepentingan pemuliharaan air dan menyediakan penyelesaian yang mampan untuk masalah air di kampus. ***Kata Kunci:*** *Sistem Penuaian Air Hujan (SPAH), Matlamat Pembangunan Mampan*

Infografik Kajian/Projek:	         

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	DGU			
Jabatan:	Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Datum Navigation At Pks (**D'nap**)			
Jenis Kajian/Projek:	Research			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Nama: Hafiy Zikri bin Morhaimie No. Pendaftaran Pelajar: 05DGU22F1021 2. Nama: Nur Azjumiati binti Roslan No. Pendaftaran Pelajar: 05DGU22F1026 3. Nama: Glynn Joshua Anyum anak Gelayan No. Pendaftaran Pelajar: 05DGU22F1999			
Penyelia:	Nama: Sr Che Ku Ahmad Fuad bin Che Ku Abdullah			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	1. Geospatial Technologies 2. Data Management 3. Navigation Application Development			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. To establish a new datum for improved data accuracy. 2. To develop a navigation application for accessing datum information. 3. To evaluate the efficiency and effectiveness of the application.
Skop Kajian/Projek:	1. Geographic Scope: The research is specifically conducted within the Politeknik Kuching Sarawak (PKS) area. 2. Technical Scope: The study utilizes geospatial technologies, including GNSS and Total Station, for data collection and datum creation. The developed navigation app integrates geospatial data to provide accurate directions to datum points. 3. Functional Scope: The app aims to resolve challenges in locating campus datum points by providing features such as bearing, distance, coordinates, and height of datum locations. It addresses the inefficiencies caused by missing or inaccessible datum points due to campus development and maintenance activities. 4. Target Audience: The primary users of the application include surveyors, students, staff, and visitors of PKS.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Students actively participated in data collection, application development, system integration, and field testing.

Abstrak Kajian/Projek:	This project focuses on creating the "Datum Navigation App" to enhance campus navigation at Politeknik Kuching Sarawak (PKS). The app uses advanced GNSS technology to provide precise maps, making it easier for users to locate reference points (datum) across the campus. The development process involved collecting spatial data, refining datum information, designing an intuitive application, and rigorous testing to ensure accuracy and user-friendliness. The app addresses common issues like missing or hard-to-find datum points, which often create challenges for surveyors and students. By providing clear directions, coordinates, and other essential details, this tool streamlines campus navigation, reduces errors, and improves overall efficiency. The results highlight the app's effectiveness in simplifying navigation, making it a valuable asset for both survey-related activities and everyday use on campus. **Kata Kunci:** Navigation, Datum, GNSS, Campus Navigation, Location Data, Spatial Mapping
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Jabatan:</td><td colspan="4">Jabatan Kejuruteraan Awam</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Banana Stem-Based Oil Absorption Solution Initiative – An Innovative Project Dedicated To Promote A Healthier And More Pleasant Living Environment</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Research</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
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<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
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<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Nur Najihah Binti Meli
No. Pendaftaran Pelajar: 05DKA22F1032
2. Nama: Jesica Hubong Sali
No. Pendaftaran Pelajar: 05DKA22F1029
3. Nama: Nurfazrin Binti Khaidil Asri
No. Pendaftaran Pelajar:05DKA22F1041</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Muhamad Waridi Bin Hadzali</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Kejuruteraan
2. Alam Sekitar
3. Inovasi
4. Ekonomi</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Politeknik Kuching Sarawak (Responden)
Evo Chemical Analysis & Consultancy (Analisis Sampel Air)</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	Untuk menghasilkan penyerap minyak daripada batang pisang, untuk menentukan kecekapan batang pisang sebagai penyerap minyak dan menganalisis perbezaan kualiti air sebelum dan selepas penggunaan batang pisang.
Skop Kajian/Projek:	i) Skop Geografi: Penyelidikan akan dijalankan di kawasan Politeknik Kuching, Sarawak. Ini akan memastikan penemuan relevan dan boleh digunakan untuk konteks spesifik lokasi tersebut. ii) Analisis Demografik: Data demografik akan dikumpulkan dalam kalangan staf dan pelajar Politeknik Kuching Sarawak, termasuk umur, status (staf/pelajar) dan pendapat mengenai projek. Maklumat ini akan digunakan untuk mengenal pasti pasaran sasaran batang pisang sebagai penyerap minyak di kawasan tersebut. iii) Analisis Data: Kajian ini melibatkan analisis data eksperimen untuk menilai keberkesanan produk penyerap minyak.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus pada kawasan Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	Batang pisang mengandungi serat semula jadi dan struktur berliang yang mempunyai keupayaan menyerap cecair, termasuk minyak. Ciri-ciri ini menjadikan serat batang pisang berkesan dalam menyerap minyak dari permukaan air dan berguna dalam aplikasi yang memerlukan penyerapan minyak, seperti pembersihan alam

sekitar atau pengurusan sisa minyak industri. Kajian ini bertujuan untuk menghasilkan penyerap minyak daripada batang pisang, mengkaji kecekapan batang pisang sebagai penyerap minyak, dan mengkaji perbezaan kualiti air sebelum dan selepas penggunaan batang pisang. Kajian ini mengambil kira nisbah dan saiz yang dipilih untuk menghasilkan penyerap minyak yang paling sesuai daripada batang pisang. Penambahbaikan yang boleh dilakukan pada masa hadapan adalah dengan menambahkan bahan bersifat alkali, seperti batu kapur atau arang, untuk meneutralkan pH produk ini agar lebih diiktiraf dan mencapai nilai pH yang neutral. Produk ini diuji untuk memastikan bahawa ia memenuhi objektif dan berfungsi dengan berjaya. Beberapa sampel sebelum dan selepas penggunaan produk ini dihantar ke makmal untuk menguji kandungan gris, pH dan kekeruhan. Daripada analisis ujian, didapati bahawa produk ini dapat mengurangkan kandungan minyak sehingga 56% dan menurunkan kekeruhan sehingga 26%. Sebagai kesimpulan, semua objektif projek telah dicapai di mana kebolehkerjaan, keberkesanan dan reka bentuk produk telah dikenal pasti semasa kajian dijalankan. Ia menyediakan pendekatan mesra alam dan kos rendah untuk mengurangkan tumpahan minyak. Kajian ini diharapkan dapat menyumbang sebagai langkah ke arah penghasilan penyerap minyak semula jadi dan meningkatkan kualiti air.

Kata Kunci: Batang pisang, penyerap minyak semula jadi, kualiti air

Infografik
Kajian/Projek:

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Jabatan:</td><td colspan="4">Kejuruteraan Awam</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">The Study Of The Perception Of Students, Lecturers, And Experts In The Usage Of The Internet Of Things (Iot) In Water Quality Monitoring System</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Research</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td>/</td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Imran Aiman Bin Iswandi (05dka22f1078)
2. Fong Xue Yong (05dka22f1059)
3. Eustance Gant Anak John (05dka22f1038)</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Reminjus Anak Anding</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">1. Nama: Joshua Anak Ribi</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Kejuruteraan Bekalan Air Dan Air Sisa, Teknologi Maklumat, Internet Of Things (Iot), Autonomous Unmanned System (Uas)</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Politeknik Kuching Sarawak</td></tr>
</table>

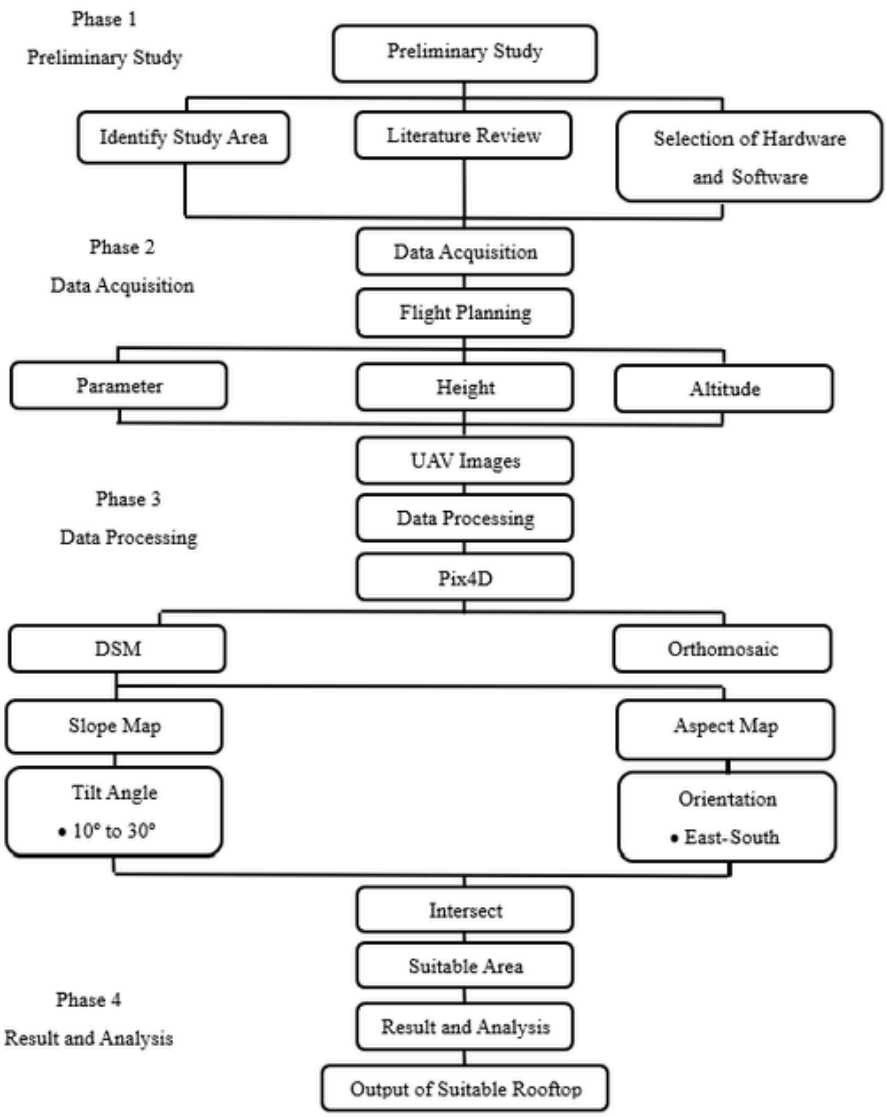
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To measure the satisfaction level of the users which are students and lecturers in the Water Quality Monitoring System ii. To determine the accuracy between the data obtained using IoT components with Standard Water Quality Values iii. To determine the awareness level of IoT among the students, lecturers, and experts in Politeknik Kuching Sarawak and Kuching City.
Skop Kajian/Projek:	The project includes a thorough approach to assessing the effectiveness of conventional methods in Water Quality Monitoring Systems (WQMS) and comparing them with alternatives enabled by the Internet of Things (IoT). In the first step of this process, surveys and interviews were carried out with students and professors enrolled in the DCC40152 Water Supply and Waste Water Engineering course. The purpose of these activities is to collect feedback on the accepted methods that are already applied. After that, field tests were conducted to evaluate the data that was recorded by Internet of Things sensors to monitor water quality. This will ensure that the data is accurate and reliable. Additionally, a comparison study will be carried out between monitoring systems that are enabled by the Internet of Things (IoT) and conventional methods, with the purpose of analyzing important variables such as efficiency, accuracy, and cost-effectiveness. For the purpose of guiding the installation and utilization of Internet of Things components for water quality monitoring, a laboratory protocol was created together. This protocol will include methods for setting up the components, methodology for collecting data, and

	validation measures. The purpose of this comprehensive approach is to give full insight into the efficacy and feasibility of Internet of Things technology in improving water quality monitoring systems. This was accomplished through including feedback from users, field validation, comparative analysis, and practical creation of procedures.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	i. The development of wireless communication between water quality monitoring sensors with IoT components and data. Transfer to IoT platform with MATLAB analytics (ThingSpeak). ii. Writing and reading data to ThingSpeak through the ESP32 module. iii. Placement of IoT components to an Autonomous Surface vehicle (ASV) to be the vessel for on-site testing works. (The ASV development is not under this research but a separate R&D work to be part of this research) iv. Calibration works for water quality monitoring sensors by programming relevant codes and numerical values in Arduino C++ language for programming. v. Close monitoring of sensors' reliability and accuracy by comparing values with traditional laboratory equipment. vi. The development of a survey questionnaire and interviews with possible end-users among students, lecturers, and professionals related to the field of work. vii. Analysis of data through survey and interview and present the outcomes.
Abstrak Kajian/Projek:	Water is undoubtedly one of the most essential resources for human life. Over time, the methods of managing water quality have evolved, with the Internet of Things (IoT) now being utilized globally. Thanks to IoT, monitoring water purity has become easier and more efficient. This research focuses on assessing the impact of IoT in Water Quality Monitoring Systems among students and lecturers engaged in this field. The project has several objectives: evaluating user satisfaction levels (i.e., among students and

	lecturers), developing laboratory procedures for utilizing IoT components to collect water quality data, and creating an online record system to store information gathered by Autonomous Surface Vehicles (ASV) from various sources. Furthermore, this study has illustrated the effectiveness of the Internet of Things can be effectively applied in managing Water Quality Monitoring Systems (WQMS).
Infografik Kajian/Projek:	 *Autonomous Surface Vehicle Water Quality Inspector*

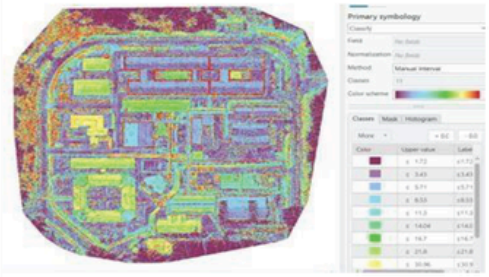
BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	DGU			
Jabatan:	Kejuruteraan Awam			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Photovoltaic Planning Installation using UAV Image in Politeknik Kuching Sarawak			
Jenis Kajian/Projek:	Research			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal		ICT
Ahli Kumpulan:	1. Muhammad Yusri Bin Suhaili (05DGU22F1006) 2. Wan Muhammad Harizhaziman Bin Wan Halmi (05DGU22F1007) 3. Ajmal Muhaimin Bin Zamri (05DGU22F1016)			
Penyelia:	Nama : Sr Lee Kong Fah			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	1. UAV Technology 2. Data Processing - Pix4D 3. ArcGis Pro			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

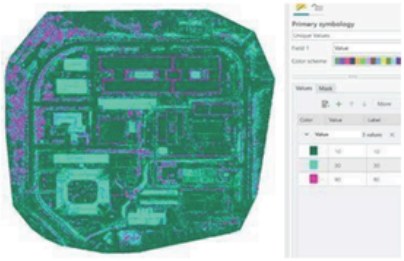
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. To determine the dimensions of rooftops at Politeknik Kuching Sarawak, while considering slope and aspect.data to identify suitable locations. ii. To analyze the photovoltaic potential at rooftop level in Politeknik Kuching Sarawak. iii. Determine suitability via UAV Imagery to assess whether the rooftops are appropriate for installing solar panels of Politeknik Kuching Sarawak.
Skop Kajian/Projek:	

Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Preliminary study: Research about the study, problem statement and a way to overcome the problem 2. Data collecting: Using UAV to collect data 3. Data Processing: Finding suitable rooftops for solar planning 4. Result And Analysis: Solar potential map
Abstrak Kajian/Projek:	Solar energy is a renewable resource, meaning it is abundant and sustainable over the long term. Solar photovoltaic (PV) is one of the solar energy technologies. These systems use sunlight to generate electricity. This electricity can be used for various purposes, such as powering homes and businesses, or it can be stored in batteries for later use. Additionally, solar thermal systems use sunlight to generate heat, which can be used for heating water or generating electricity in solar thermal power plants. This study proposes a UAV-based approach for solar PV installation planning at Politeknik Kuching Sarawak. Unmanned Aerial Vehicles (UAVs), also known as drones, offer a safe and efficient method for capturing high-resolution aerial images of the institution. These images will be processed using photogrammetry software. Utilizing UAV technology for solar PV installation planning offers several advantages compared to traditional methods. UAVs provide a cost-efficient alternative to manual roof surveys, reducing labor costs and the time required for data collection. Data acquisition through UAVs is significantly faster than traditional methods, accelerating the planning process for solar PV installations. The aim of this study is to identify potential locations for installing solar photovoltaic panels on the rooftops of Politeknik Kuching Sarawak, Kuching. The project is expected to deliver the following outcomes: a dimensional rooftop suitability map for solar PV installations across the Politeknik Kuching Sarawak and an assessment of PV potential at the rooftop level.

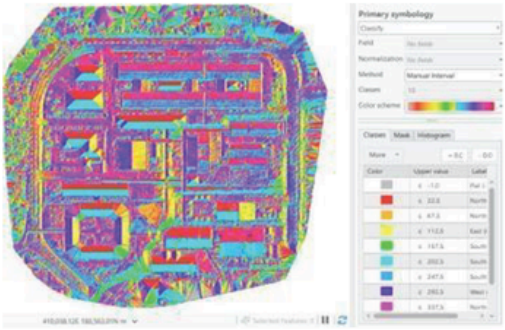
Infografik Kajian/Projek:



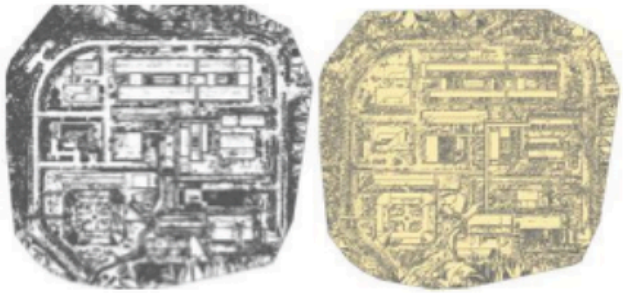
Creating Slope Map



Reclassify Slope Map



Creating Aspect Map



Vector Map For Aspect & Slope Map

Output Map of the Suitable Solar PV Location

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">Faktor-Faktor Mempengaruhi Pembelian Zus Coffee: Politeknik Kuching Sarawak</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Research</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
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<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td>/</td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
<tr><td></td><td>Sains Kesihatan & Klinikal</td><td></td><td>ICT</td></tr>
<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nama: Syafiqa Zulaika Binti Saeidin
No. Pendaftaran Pelajar: 05DPM22F2058
2. Nama: Dayangku Nur Atierah Binti Awang Zaidi
No. Pendaftaran Pelajar: 05DPM22F2009</td></tr>
<tr><td>Penyelia:</td><td colspan="4">Nama: Noorhasmah Binti Yahya</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Pemasaran
2. Psikologi
3. Sosiologi
4. Ekonomi</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tiada</td></tr>
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PERKARA	MAKLUMAT
Objektif Kajian/Projek:	Untuk mengkaji hubungan antara faktor harga, faktor kualiti rasa, faktor kemudahan terhadap pembelian Zus Coffee di kalangan staf dan pelajar Politeknik Kuching Sarawak.
Skop Kajian/Projek:	i) Skop Geografi: Penyelidikan akan dijalankan di kawasan Politeknik Kuching, Sarawak. Ini akan memastikan penemuan relevan dan boleh digunakan untuk konteks spesifik lokasi tersebut. ii) Analisis Demografik: Data demografik akan dikumpulkan dalam kalangan staf dan pelajar Politeknik Kuching Sarawak, termasuk umur, jantina, status (staf/pelajar) agama dan bangsa. Maklumat ini akan digunakan untuk mengenal pasti pasaran sasaran Zus Coffee di kawasan tersebut.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus pada kawasan Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	Minuman berkafein mempunyai kesan besar terhadap kedua-dua ekonomi global dan nasional. Kopi merupakan minuman utama di dunia setelah air, dan perdagangannya melebihi AS$10 bilion di seluruh dunia.(Butt & Sultan, 2011). Di Malaysia, pengguna indeks harga (CPI) untuk minuman seperti kopi, teh, koko dan minuman bukan alkohol yang lain meningkat secara berterusan daripada 2018 dan dijangka terus berkembang sehingga tahun 2025. Pendapatan negara daripada sektor kopi sahaja berjumlah AS $1468.00 juta pada 2023, dan ia diramalkan meningkat setiap tahun sebanyak

	sebanyak 4.40%. Kewujudan Zus Coffee pada akhir tahun 2019 sudah tidak asing lagi buat rakyat Malaysia. Pemilihan produk Zus Coffee sebagai bahan kajian didorong oleh pilihan pengguna yang utama. Setiap keputusan pembelian dipengaruhi oleh pelbagai faktor tanpa mengira lapisan umur. Kajian ini bertujuan untuk mengenalpasti faktor-faktor yang mempengaruhi keputusan pengguna dalam pembelian produk Zus Coffee. Hasil penelitian ini menunjukkan bahawa harga, kualiti produk dan kemudahan yang disediakan merupakan faktor positif yang mempengaruhi keputusan pembelian Zus Coffee. Kajian ini menggunakan kaedah statistik deskriptif dan analisis korelasi bagi menyimpulkan keputusan kajian. Kesimpulan daripada kajian adalah penambah baikan kepada ketiga-tiga faktor selaras dengan keadaan semasa sesuai dengan kehendak dan kemudahan pelanggam. **Kata Kunci:** Zus Coffee, keputusan pembelian, harga
Infografik Kajian/Projek:	*Tiada*

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT
Program:	Diploma Pengajian Perniagaan
Jabatan:	Jabatan Perdagangan
Semester/ Tahun:	4: Sesi I: 2024/2025
Tajuk Kajian/Projek:	Kelestarian Alam Sekitar Dan Kampus Hijau: Kajian Tinjauan Pengetahuan Dan Amalan Penggunaan Elemen Artifak Persekitaran Hijau Di Kalangan Warga Politeknik Kuching Sarawak
Jenis Kajian/Projek:	Kajian
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan

	Sains Tulen	/	Sains Sosial
	Sains Gunaan		Sastera & Sastera Ikhtisas
	Teknologi & Kejuruteraan		Warisan Alam & Budaya
	Sains Kesihatan & Klinikal		ICT

Ahli Kumpulan:	1. Nama: Anna Alicia Binti Abdullah No. Pendaftaran Pelajar: 05DPM22F2025 2. Nama: Dayangku Daniea Marliessa Binti Ak Ahmad Affandy No. Pendaftaran Pelajar: 05DPM22F2010
Penyelia:	Nama: Puan Faridah Binti Che In
Multi-Disiplin:	Alam Sekitar, Artifak Persekitaran Hijau, Kelestarian, Kampus Hijau Amalan Pengguna
Kolaborasi: (Industri/Komuniti)	*Tiada*

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Meninjau artifak persekitaran hijau di Kampus Politeknik Kuching Sarawak melalui analisis SWOT. 2. Mengukur tahap pengetahuan artifak persekitaran hijau di kalangan warga Politeknik Kuching Sarawak. 3. Mengukur tahap amalan penggunaan artifak persekitaran hijau di kalangan warga Politeknik Kuching Sarawak. 4. Mengenalpasti tahap kesedaran penggunaan tong kitar semula sebagai artifak persekitaran hijau.
Skop Kajian/Projek:	Kajian ini dijalankan di Politeknik Kuching Sarawak untuk mendapatkan maklum balas daripada pelajar, pensyarah, dan kakitangan pelbagai jabatan serta unit. Ia menilai amalan hijau, pengetahuan kelestarian, dan penggunaan artifak persekitaran hijau di institusi tersebut. Pemerhatian dijalankan secara luaran, di samping mengumpulkan pendapat responden mengenai pengetahuan dan amalan mereka, dengan anggapan semua maklum balas diberikan secara jujur. Kajian ini terhad kepada persekitaran Politeknik Kuching Sarawak dan memberi tumpuan kepada amalan serta penggunaan artifak hijau dalam kalangan warga PKS. Diharapkan hasil kajian ini dapat meningkatkan kesedaran pelajar, pensyarah, dan kakitangan mengenai kepentingan menjaga alam sekitar untuk memelihara bumi dan kawasan sekitar, seterusnya mengekalkan keseimbangan ekosistem.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	1. Pelajar, pensyarah dan kakitangan PKS menjawab borang soal selidik yang telah diedarkan bagi membantu untuk melengkapkan kajian ini. 2. Pelajar melakukan tinjauan sekeliling kawasan Politeknik Kuching Sarawak untuk mengenal pasti tentang permasalahan yang wujud. 3. Pelajar menjalankan temubual terhadap pensyarah yang bertanggungjawab atas kelestarian Politeknik Kuching Sarawak.

Abstrak Kajian/Projek:	Kajian ini meninjau artifak persekitaran hijau di Politeknik Kuching Sarawak melalui analisis SWOT, dengan fokus kepada tahap pengetahuan dan amalan penggunaan artifak tersebut di kalangan pelajar, kakitangan, dan pensyarah. Data dikumpul daripada 401 responden, menunjukkan tahap pengetahuan mengenai penjimatan elektrik dan air adalah tinggi (min=4.45 dan 4.11), manakala amalan 3R berada pada tahap sederhana tinggi (min=3.87). Kajian ini mengisi kekosongan dalam penyelidikan kelestarian hijau di konteks pendidikan vokasional, memberikan data yang berguna untuk merangka polisi mesra alam dan memperkukuhkan budaya hijau di institusi pendidikan.
Infografik Kajian/Projek:	 

BORANG INVENTORI PROJEK PELAJAR

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<tr><td>Program:</td><td>DPM</td></tr>
<tr><td>Jabatan:</td><td>Jabatan Perdagangan</td></tr>
<tr><td>Semester/ Tahun:</td><td>4: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td>Tinjauan awal penggunaan AFCY Delivery Services di gerai Syarikat Cahaya Wawasan Sdn Bhd terhadap pelajar Politeknik Kuching Sarawak</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td></td></tr>
<tr><td>Kategori Kluster Penyelidikan:</td><td>Tanda “ / ” pada yang berkenaan
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</table></td></tr>
<tr><td>Ahli Kumpulan:</td><td>1. Nama: Ahmad Fatullnizwan Bin Muhd Adhar
No. Pendaftaran Pelajar: 05DPM22F2064
2. Nama: Lo Chun Yung
No. Pendaftaran Pelajar: 05DPM22F2073</td></tr>
<tr><td>Penyelia:</td><td>Nama: Muhammad Nazri Bin Mohamed Akbar</td></tr>
<tr><td>Penyelia Bersama:</td><td>Tiada</td></tr>
<tr><td>Multi-Disiplin:</td><td>Tiada</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td>Menjalankan kolaborasi dengan Gerai Syarikat Cahaya Wawasan Sdn Bhd dan kerjasama bersama pelajar di Kolej Kediaman Desa Serapi Politeknik Kuching Sarawak</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	i. Meningkatkan aksesibiliti ii. Meningkatkan kualiti perkhidmatan iii. Menjimatkan masa dan kos
Skop Kajian/Projek:	i. Lokasi Tinjauan ii. Tempoh masa dan Pelaksanaan Projek iii. Segmen Pasaran
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	i. Lokasi Tinjauan: Gerai syarikat Cahaya Wawasan merupakan perniagaan yang menyediakan perkhidmatan berkenaan dengan penjualan makanan. Perniagaan ini beroperasi di KM 22, Jalan Matang, Petra Jaya, 93050 Kuching, Sarawak. Waktu operasi perniagaan ini bermula pada pukul 6.00am-10.00pm. ii. Tempoh Masa dan Pelaksanaan Projek: Tempoh masa projek ini perlu disiapkan sekurang-kurangnya dalam masa 10 minggu. Maka dengan itu, kami hendaklah membincangkan dan membahagikan tugasan bersama ahli kumpulan. Oleh hal demikian, dengan membahagikan tugasan Bersama ahli kumpulan ini juga kita dapat melihat setiap individu melaksanakan tanggungjawab mereka masing-masing serta ianya dapat memupuk nilai kerjasama dalam satu kumpulan untuk menyiapkan projek tersebut pada tarikh yang ditetapkan. iii. Segmen Pasaran: Terdapat beberapa segmen pasaran yang wujud seperti:

	a) Pelajar: Mereka yang memerlukan perkhidmatan pesanan makanan di atas talian sekiranya mereka tidak mempunyai masa untuk membeli makanan di kafetaria PKS.. b) Gerai Syarikat Cahaya Wawasan Sdn Bhd: Perniagaan kecil seperti gerai Syarikat Cahaya Wawasan Sdn Bhd di kafetaria PKS yang ingin memperkenalkan lagi perniagaan mereka secara atas talian.
Abstrak Kajian/Projek:	Projek ini bertujuan untuk meningkatkan kebolehcapaian, kualiti perkhidmatan, serta menjimatkan masa serta kos dalam perkhidmatan makanan di Politeknik Kuching Sarawak (PKS) melalui penciptaan aplikasi AFCY Delivery Services. Dalam analisis kekuatan SWOT, kekuatan aplikasi ini termasuk kebolehgunaan yang mudah, menjimatkan masa dan tenaga, dan akses yang mudah. Sebaliknya, kelemahan termasuk kebergantungan pada rangkaian internet yang stabil dan kurang perhatian orang ramai. Walau bagaimanapun, terdapat peluang untuk inovasi produk dan perkhidmatan, menjana pendapatan pelajar, dan mempromosikan kerjasama. Ancaman termasuk keselamatan data pengguna dan kesukaran dalam promosi. Metodologi projek termasuk analisis SWOT, pemerhatian, temu bual, dan borang soal selidik. Maklum balas pelanggan mengenai aplikasi AFCY Delivery Services adalah positif secara keseluruhan. Sebanyak 56.3% daripada 80 responden berpuas hati dengan aplikasi ini diwujudkan dan sebanyak 97.5% daripada 80 responden memberi maklum balas yang positif berkenaan dengan aplikasi AFCY Delivery Services bahawa aplikasi ini sangat membantu mereka. Langkah seterusnya termasuk strategi pemasaran yang lebih berkesan, komunikasi aktif dengan pengguna, dan analisis data penggunaan aplikasi. Secara keseluruhannya, AFCY Delivery Services telah mendapat sambutan yang baik daripada pengguna serta memberi peluang kepada pelajar yang tinggal di dalam kamsis

	untuk menjana pendapatan sampingan sebagai pekerja sambilan yang beroperasi setelah waktu kelas pelajar. Cadangan masa akan datang, penambahbaikan perlu dilakukan untuk meningkatkan keberkesanan dan kepuasan pengguna serta memberi peluang pekerja sambilan dari kalangan pelajar kamsis. Kata Kunci: Penggunaan aplikasi, Peningkatan kebolehcapaian, Kepuasan pengguna dan peluang menjana pendapatan sampingan
Infografik Kajian/Projek:	

KATEGORI **STAF**

TERBUKA

POLIKU
Research & Innovation Exhibition
Session I : 2024/2025

TERBUKA

BIL	NAMA PROJEK
1	**AUTONOMOUS SURFACE VEHICLE WATER QUALITY INSPECTOR** REMINJUS ANAK ANDING, JOSHUA ANAK RIBI
2	**CASE STUDY DATA GENERATION FOR DJF51082-QUALITY CONTROL DIPLOMA IN MECHANICAL ENGINEERING (MANUFACTURING)** HO YOONG CHOW
3	**KALKULATOR PNM** Ts. HYRIL FARITHZ BIN AHMAD
4	**AR ICS Mentor** NURZAWANI BINTI MOHAMAD ZANI, TANG SI KING, AZHAR BIN ABD HAMID
5	**CERTIFICATE , ATTENDANCE , REGISTRY , REPORT & TRAINING TRACKER SYSTEM (C.A.R.T.S)** KHAIRUL HISHAM BIN SHAHARI, MOHD HASRUL NIZAM BIN HAMSANI
6	**DEP50033 On The Go** NIZAR BIN AHMAD, ABDUL FATA BIN ABDUL TALIP

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<tr><td>/</td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Reminjus Anak Anding
2. Joshua Anak Ribi
3. Stuart Otto Anak Wilson Munan</td></tr>
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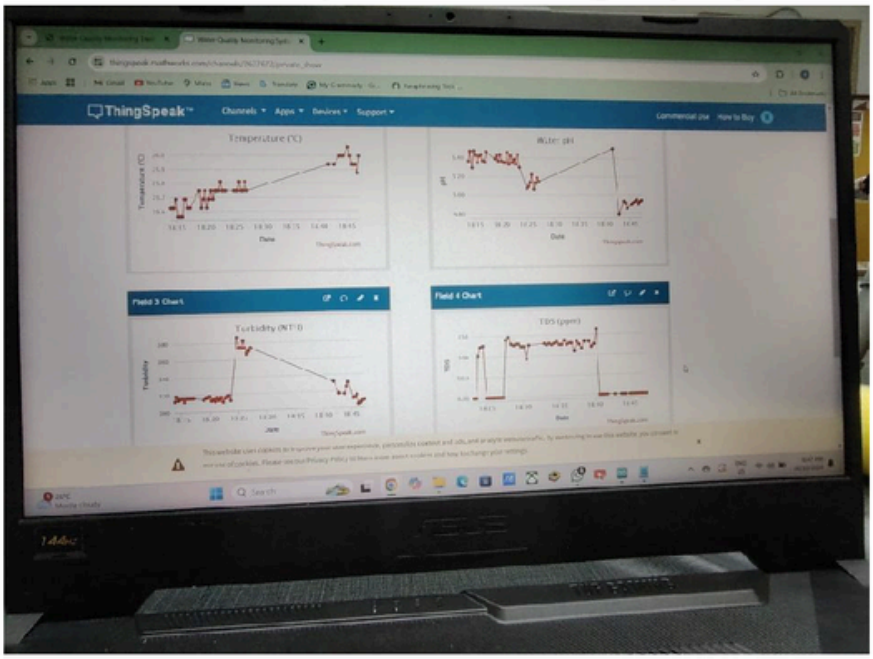
<tr><td>Multi-Disiplin:</td><td colspan="4">Kejuruteraan Bekalan Air Dan Air Sisa, Teknologi Maklumat, Internet Of Things, Autonomous Unmanned System</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">Tiada</td></tr>
</table>

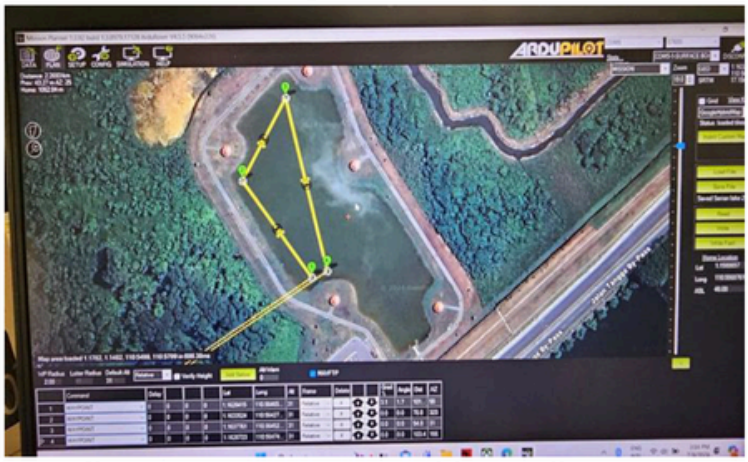
PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. The determination of the required consistent coordination among radio, data telemetry and Global Positioning System (GPS) signal, ASV autonomous parameters, Attitude and Heading Reference System (AHRS), and navigation algorithms to effectively determine designated missions of the ASV using the Mission Planner ArduPilot software. 2. To determine suitable sketch and relevant coding in Arduino for Total Dissolved Solids (TDS), pH, temperature, and turbidity sensors to allow data transmission from NodeMCU ESP32 with the ThingSpeak.com open-source platform. 3. To record and perform a preplanned mission route autonomously and monitor data transmission of Total Dissolved Solids (TDS), pH, temperature, and turbidity sensors in real-time.
Skop Kajian/Projek:	1. The calibration process for suitable firmware in Pixhawk 2.4.8 includes accel calibration, compass calibration, radio calibration, flight mode, and fail-safe function in Mission Planner Ardupilot open-source software. During on-site testing, parameters such as the Attitude Heading Reference System (AHRS), arming/ disarming, GPS, servo, and flight mode parameter values are adjusted to calibrate the navigation function. 2. The working sketch and relevant coding are programmed in Arduino for Total Dissolved Solids (TDS), pH, temperature, and turbidity sensors to allow data transmission from NodeMCU ESP32 with the ThingSpeak.com open-source platform. 3. Trials of preplanned autonomous mission routes are executed while the data transmission of Total Dissolved

	Solids (TDS), pH, temperature, and turbidity sensors in real-time settings are closely monitored to record data by viewing online data presented on ThingSpeak.com.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Pelajar bersama-sama membantu pencerapan data dilapangan.
Abstrak Kajian/Projek:	This research investigation examines an inexpensive yet efficient approach to developing Autonomous Surface Vehicles (USVs) for autonomous water quality monitoring. The USV's catamaran design features robust hardware components, namely PVC structural frames, lightweight, waterproof expanded polyethylene floats, and polyplast board enclosures for holding batteries and electronic devices. For the device to execute the water quality monitoring function, multi-parameter water quality sensors that are managed by an onboard processing unit ESP 32 module enable fully automated environmental data acquisition feasible. The ASV may execute an extensive variety of missions as well as a wide range of environmental monitoring tasks on both static water and river environments since it is both GPS-guided and telemetry-equipped. It is capable of communicating with a server and ground control station via wireless RF/4G/LTE/GPRS/Wi-Fi networks.

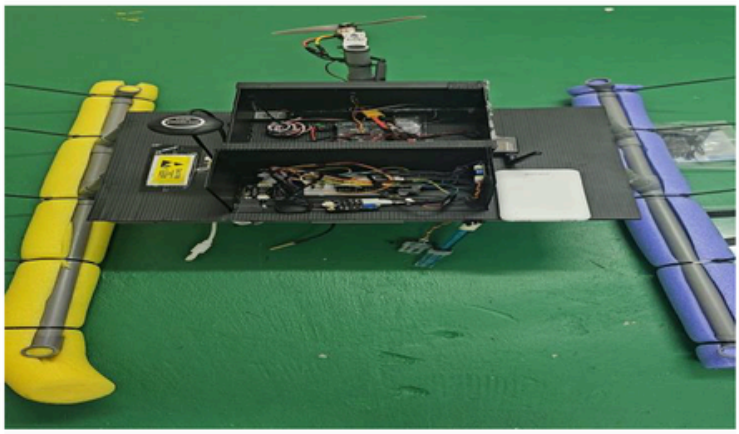
Infografik Kajian/Projek:	 *Autonomous Surface Vehicle Water Quality Inspector*  *Water quality data monitored through ThingSpeak*

Parameters	Conventional Method			IoT Method			Difference	%
	Test 1	Test 2	Average$_1$	Test 1	Test 2	Average$_2$		
ph	6.8	6.8	6.8	6.3	6.2	6.3	0.5	0.35
TDS(ppm)	11	17	14	15	17	12	2	0.46
Turbidity (NTU)	3.45	3.54	3.50	3.40	3.50	3.45	0.05	0.33
Temperature (◦C)	26.44	26.48	26.46	26.50	26.48	26.49	0.03	0.42

Comparative study



Pre-planned waypoints in Mission Planner



Autonomous flight systems, IoT, and water quality sensor components

On-site testing for navigation and autonomous function

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	PKS			
Jabatan:	Kejuruteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Kalkulator PNM			
Jenis Kajian/Projek:	Terbuka			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Ts. Hyril Farithz Bin Ahmad			
Penyelia:	Nama: Ts. Hyril Farithz Bin Ahmad			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	1. Pendidikan 2. Kejuruteraan 3. Bukan Kejuruteraan 4. Ict			
Kolaborasi: (Industri/Komuniti)	Jabatan Kejuruteraan Elektrik (Responden)			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Menyelesaikan masalah yang diperolehi melalui kajian rintis yang telah dijalankan kepada pelajar. 2. Mengatasi masalah pelajar yang kurang pengetahuan dalam pengiraan jangkaan PNM. 3. Memudahkan pengurusan dan pentadbiran PPJ JKE.
Skop Kajian/Projek:	Pelajar telah di beri taklimat berkaitan dengan pengiraan jangkaan PNM seawal Minggu Suai Kenal iaitu pada minggu pertama pelajar berada di PKS. Namun begitu, pelajar tidak didedahkan dengan pengiraan jangkaan PNM secara penggunaan aplikasi. Bagi pelajar yang kurang mahir dalam pengiraan, mereka pasti tidak akan dapat membuat jangkaan PNM pada semester berkaitan. Cadangan penghasilan inovasi ini adalah agar pelajar dapat membuat pengiraan jangkaan PNM melalui aplikasi secara atas talian tanpa perlu membuat pengiraan secara manual. Pengiraan jangkaan PNM akan di buat secara automatik oleh aplikasi yang berkenaan, sekali gus memudahkan pelajar tanpa perlu tahu pengiraan yang sebenar. Dengan itu juga, ianya banyak menjimatkan masa tanpa perlu bertanya kepada Penasihat Akademik (PA) dan tanpa perlu mengira secara sendiri.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus kepada pelajar dan pensyarah di Jabatan kejuruteraan Elektrik Politeknik Kuching Sarawak

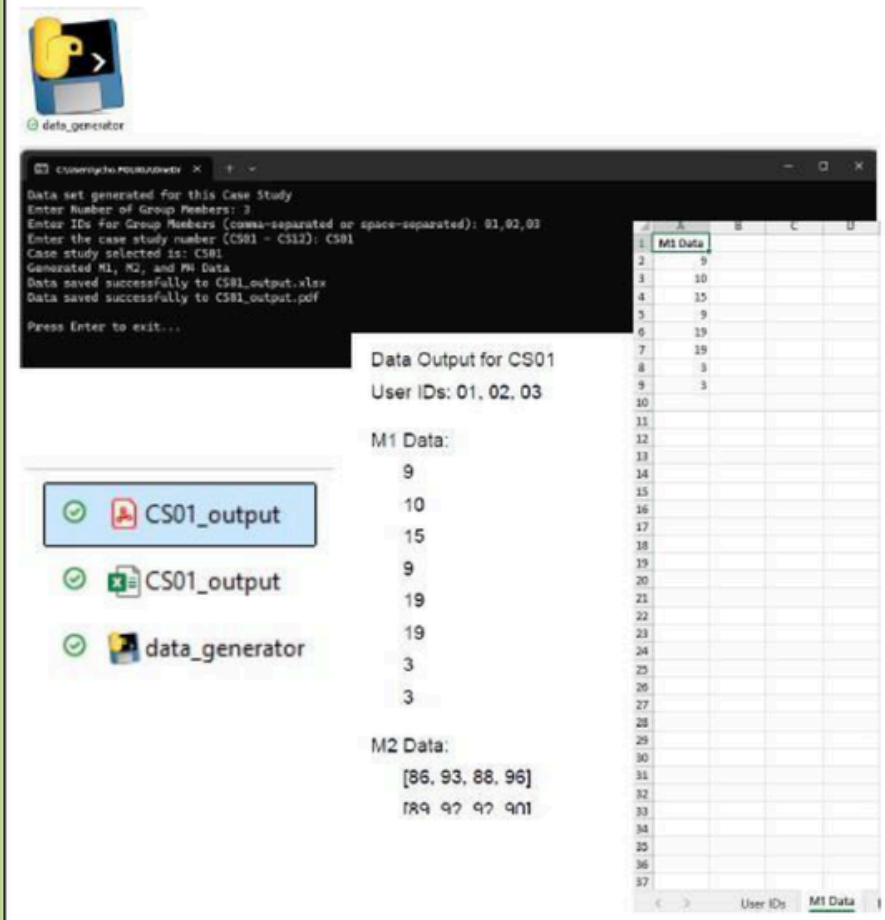
Abstrak Kajian/Projek:	Projek inovasi **"Kalkulator Purata Nilai Mata (PNM)"** ini dibangunkan bagi memudahkan pelajar untuk membuat pengiraan jangkaan PNM bagi semester berkaitan. Inovasi ini dibangunkan dengan menggunakan perisian Microsoft Excel dan aplikasi Open as App bagi mengatasi masalah pelajar yang kurang pengetahuan dalam pengiraan PNM di Jabatan Kejuruteraan Elektrik (JKE) Politeknik Kuching Sarawak (PKS). "Kalkulator Purata Nilai Mata (PNM)" merupakan inovasi terkini yang dibangunkan oleh Ts. Hyril Farithz Bin Ahmad selaku Ketua Penyelaras Peperiksaan (KPPJ) JKE dan telah mula digunapakai oleh pelajar-pelajar dan pensyarah-pensyarah JKE mulai Januari 2023. Selaras dengan perkembangan teknologi maklumat, pendekatan yang diambil diharapkan dapat meningkatkan pemahaman dan pengetahuan pelajar mahupun pensyarah PKS. Inovasi ini dibangunkan bertujuan khusus untuk pelajar dan pensyarah JKE PKS dalam membuat pengiraan jangkaan PNM bagi semester berkaitan dan sekali gus dapat memastikan target PNM setiap semester mereka tercapai. **Kata Kunci** : Kalkulator, Purata Nilai Mata, PNM
Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:	JKPK			
Jabatan:	Kejuruteraan Mekanikal & Kejuruteraan Petrokimia			
Semester/ Tahun:	5 / Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Case Study Data Generation For DJF 51082 - Quality Control Diploma In Mechanical Engineering (Manufacturing)			
Jenis Kajian/Projek:	Terbuka			
Kategori Kluster Penyelidikan:	Tanda " / " Pada Yang Berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
	/	Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Ho Yoong Chow 2. Alexandria Ak George Empam 3. Jane Daniela Mugan 4. Zainal Abiddin Bin Ahmad			
Penyelia:	Nama: Ho Yoong Chow			
Penyelia Bersama:	*Tiada*			
Multi-Disiplin:	1. Pendidikan 2. Kejuruteraan Mekanikal			
Kolaborasi: (Industri/Komuniti)	*Tiada*			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. **Streamlining the dataset creation process:** automating the generation of datasets can reduce the time and effort required to prepare data for analysis. 2. **Ensuring data quality and consistency:** predefined criteria to ensure that the generated datasets meet specific quality standards, minimizing errors and inconsistencies. 3. **Improving accessibility:** sharing the generated datasets and corresponding case files to make them available to a wider audience, and knowledge sharing. 4. **Supporting data-driven research:** the system provides a tool to conduct data-driven investigations, new research questions, and innovative solutions.
Skop Kajian/Projek:	i) **Streamlining the dataset creation process:** by automating the generation of datasets, lecturer can significantly reduce the time and effort required to source, curate, and prepare data for analysis. ii) **Ensuring data quality and consistency:** the system can be designed to apply predefined criteria to ensure that the generated datasets meet specific quality standards, minimizing errors and inconsistencies. iii) **Improving accessibility:** sharing the generated datasets and corresponding case files on platforms like cidos will make them readily available to a wider audience, fostering collaboration and knowledge sharing. iv) **Supporting data-driven research:** the system can provide a valuable tool for lecturers to conduct data-driven investigations, explore new research questions, and develop innovative solutions.

Penglibatan Pelajar: (Merujuk Kepada Skop Kajian/Projek)	Penyelidikan ini hanya fokus pada Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	Quality control provides knowledge on basic principle and concept of quality including statistical method in controlling products quality or services. This course also emphasizes on the application of control chart and quality control tools and also explains the quality improvement technique. DJF51082- quality control is one of the core courses for diploma in mechanical engineering (manufucaturing) in politeknik kuching sarawak taught in the last semester of the program. One of the assessments for this course is case study. In order to ensure a fair and effective case study assessment for all students, it is essential that the cases offer both similarity and diversity in the data provided. Therefore, it is important to generate a dataset easily and consistently that meets the requirements of the cases. The author developed a digital system for generating a dataset that aligns with the cases sourced from relevant sources using specific criteria. This system will be shared with students, along with the case file, on platforms like cidos to ensure easy access. The system will ensure that each student receives a unique set of data to avoid any plagiarism during report submissions.. **Keywords**: Case Study, Data Generator

Infografik Kajian/Projek:	

BORANG INVENTORI PROJEK PELAJAR

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<tr><th>PERKARA</th><th colspan="4">MAKLUMAT</th></tr>
<tr><td>Program:</td><td colspan="4">Kategori Terbuka</td></tr>
<tr><td>Jabatan:</td><td colspan="4">Jabatan Teknologi Maklumat</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">2: Sesi Ii: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">AR ICS Mentor</td></tr>
<tr><td>Jenis Kajian/Projek:</td><td colspan="4">Information Technology</td></tr>
<tr><td rowspan="5">Kategori Kluster Penyelidikan:</td><td colspan="4">Tanda “ / ” pada yang berkenaan</td></tr>
<tr><td></td><td>Sains Tulen</td><td></td><td>Sains Sosial</td></tr>
<tr><td></td><td>Sains Gunaan</td><td></td><td>Sastera & Sastera Ikhtisas</td></tr>
<tr><td></td><td>Teknologi & Kejuruteraan</td><td></td><td>Warisan Alam & Budaya</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nurzawani Binti Mohamad Zani
2. Ng Boon Ding
3. Tang Si King</td></tr>
<tr><td>Penasihat Akademik:</td><td colspan="4">-</td></tr>
<tr><td>Cadangan Penyelia:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">1. Pendidikan
2. Teknologi Maklumat Dan Komunikasi (ICT)</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">-</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. **Mencipta Antara Muka AR** Membawa objek 3D ke dalam pendidikan menjadikan pembelajaran lebih interaktif, imersif, dan menyeronokkan, sambil meningkatkan pemahaman dan daya ingatan. 2. **Menambah Ciri Kuiz** Mereka bentuk kuiz untuk memastikan pengguna terus terlibat dan menggalakkan pembelajaran aktif, sekali gus menjadikan aplikasi lebih interaktif dan berunsur pendidikan. 3. **Menyediakan Sumber Tambahan** Menyediakan akses kepada tutorial YouTube dan platform CIDOS untuk menyokong pembelajaran kendiri serta memberikan pelajar lebih banyak alat untuk meneroka topik secara bebas.
Skop Kajian/Projek:	Memberi tumpuan kepada pendidikan tinggi, khususnya di POLITEKNIK, di mana AR ICS mentor sesuai untuk pelajar. Untuk projek ini, AR ICS Mentor memberi fokus dalam membangunkan aplikasi mudah alih yang mempunyai nota, kuiz, dan AR sebagai ciri utama untuk pelajar IT iaitu kepada pelajar tahun pertama (semester 1) dalam ICS.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Penyelidikan ini hanya fokus pada kawasan Politeknik Kuching Sarawak
Abstrak Kajian/Projek:	Projek AR ICS Mentor di Politeknik Kuching, Malaysia, meningkatkan pembelajaran untuk pelajar ICS dengan mengintegrasikan ciri AR dalam aplikasi mudah alih. Aplikasi ini menyediakan akses mudah kepada nota ICS, kuiz, dan sumber luar seperti tutorial YouTube dan platform CIDOS, menyokong pembelajaran kendiri. Dibangunkan menggunakan Unity untuk AR, Firebase untuk pengurusan data, dan Visual Studio untuk antara muka, AR ICS Mentor berfungsi di pelbagai peranti. Dengan menggabungkan sumber tradisional dengan elemen interaktif dan kandungan luar, AR ICS Mentor menawarkan alat pembelajaran yang komprehensif untuk pelajar ICS.

Infografik Kajian/Projek:	

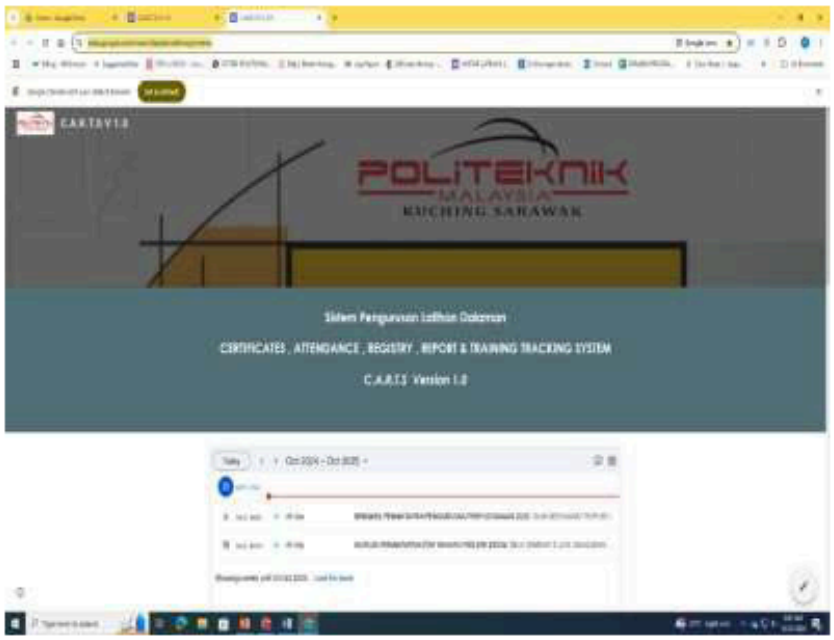
BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:				
Jabatan:	Kejuruteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Certificates, Atendance, Registration, Report & Training Tracking System (C.A.R.T.S V1.0)			
Jenis Kajian/Projek:	Services & Product			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Khairul Hisham Bin Shahari 2. Mohd Hasrul Nizam Bin Hamsani			
Penyelia:	-			
Penyelia Bersama:	-			
Multi-Disiplin:	1. Pengurusan Sumber Manusia 2. ICT			
Kolaborasi: (Industri/Komuniti)	POLITEKNIK KUCHING SARAWAK			

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT			
Program:				
Jabatan:	Kejuruteraan Elektrik			
Semester/ Tahun:	5: Sesi I: 2024/2025			
Tajuk Kajian/Projek:	Certificates, Atendance, Registration, Report & Training Tracking System (C.A.R.T.S V1.0)			
Jenis Kajian/Projek:	Services & Product			
Kategori Kluster Penyelidikan:	Tanda " / " pada yang berkenaan			
		Sains Tulen		Sains Sosial
		Sains Gunaan		Sastera & Sastera Ikhtisas
		Teknologi & Kejuruteraan		Warisan Alam & Budaya
		Sains Kesihatan & Klinikal	/	ICT
Ahli Kumpulan:	1. Khairul Hisham Bin Shahari 2. Mohd Hasrul Nizam Bin Hamsani			
Penyelia:	-			
Penyelia Bersama:	-			
Multi-Disiplin:	1. Pengurusan Sumber Manusia 2. ICT			
Kolaborasi: (Industri/Komuniti)	POLITEKNIK KUCHING SARAWAK			

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	For the stated purpose, several objectives have been set to ensure that the development and application of this System achieve the desired standards: 1. To ensure that the workflow for preparing documentation for internal course implementation can be completed within 7 **days**, compared to one month previously. 2. To ensure that all standardized documentation formats are fully utilized by the organizers. 3. To ensure that all records related to the implementation of internal staff training are complete and accurate. 4. To assist in monitoring all types of training records, such as Proposal Papers, Training Evaluation Processes, Participant Attendance, Training Reports, and e-certificates generated, thereby aiding departments/units in completing all relevant internal training records according to their respective departments/units. 5. To ensure that all requirements for Internal Training Management are centralized under a unified system (**C.A.R.T.S**). 6. To ensure that the cost of supervising and managing the system is kept to a minimum while incorporating security features to fully safeguard stored information. 7. To reduce the use of physical copies, only providing them when necessary (Target: **20% Physical, 80% Digital**). 8. To support the digitalization of management processes within the Training and Advanced Education Unit of PKS. 9.
Skop Kajian/Projek:	C.A.R.T.S. is an innovative system designed to enhance the management of internal training processes with greater efficiency and effectiveness while ensuring data security. The system adopts a digitalization approach, integrating documentation, monitoring, and review functionalities into a centralized platform. C.A.R.T.S. provides comprehensive and unrestricted access to all training-related activities, enabling seamless management regardless of location. Training records are managed digitally and stored securely in a cloud-based database, ensuring instant and reliable access when required. By leveraging C.A.R.T.S., organizations can streamline training processes, optimize human resource management, and reduce reliance on physical records. This results in faster operations, improved productivity, and enhanced overall performance. The scope of C.A.R.T.S. encompasses the digital transformation of training management, contributing to a more modern, efficient, and sustainable organizational workflow.

Abstrak Kajian/Projek	The Certificate, Attendance, Registry, Reports & Training Tracker System (C.A.R.T.S) was developed in 2021 with the support of PKS Management and implemented entirely by the Training and Advanced Education Unit (ULPL) of PKS. This system is designed to enhance the efficiency of internal staff training management, particularly in documentation and record-keeping processes. To ensure the successful implementation of its objectives, C.A.R.T.S. comprises six core modules: Registration & Verification Module Speaker, Participant Registration & Objective Setting Module, Department/Unit Records Management Module, Evaluation Process, Attendance Analysis, and E-Certificate Generation Module, Monitoring and Training Statistics Module and Integrated Reporting Module, fully embedded within Google Workspace and mobile applications as its primary platform. Since its deployment from 2021 to 2024, C.A.R.T.S. has enabled ULPL to manage 680 internal training courses with 11,355 participants, while achieving significant cost savings of RM 45,900.00 by transitioning from physical certificates to e-certificates for both participation and appreciation. Overall, C.A.R.T.S. has successfully transformed the training management processes at ULPL PKS, providing a more efficient, effective, and sustainable solution that aligns with the organization's digital transformation goals.
Infografik Kajian / Projek:	

1

PENDAFTARAN KURSUS / LATIHAN DAN TAKLIMAT

Pendaftaran Kursus/Latihan dan Taklimat Dalaman adalah wajib dan Draf Kertas kerja akan dijanakan dan di emailkan kepada urusetia / penganjur untuk mendapatkan kelulusan .

2

PENDAFTARAN PENCERAMAH & PENETAPAN SPESIFIK OBJEKTIF

Pendaftaran Penceramah/Tenaga Pengajar(Dalaman) dan penetapan spesifik objektif adalah di wajibkan untuk setiap Kursus/Latihan dan Taklimat Dalaman untuk tujuan lantikan dan penilaian.

3

PENDAFTARAN PESERTA KURSUS /LATIHAN DAN TAKLIMAT

Pendaftaran Peserta adalah diwajibkan dan perlu mendaftar selewat-lewatnya 24 jam sebelum pelaksanaan Kursus'Latihan dan Taklimat .

4

MUATNAIK LAPORAN KEHADIRAN (DISAHKAN) KURSUS/LATIHAN DAN TAKLIMAT

Setelah program dilaksanakan kehadiran peserta (secara manual) ATAU laporan Kehadiran(disahkan) adalah wajib untuk di muatnaik ke iTMSys bagi tujuan semakan oleh Unit Latihan dan Pendidikan Lanjutan.

5

LAPORAN KURSUS / LATIHAN DAN TAKLIMAT

Penyediaan laporan Pelaksanaan Kursus/latihan dan Taklimat setelah program dilaksanakan perlu melalui iTMSysPKS.

TRAINING NEED ANALYSIS

e- STAF INFORMATION SYSTEM

KEMENTERIAN PENGAJIAN TINGGI

Portal Rasmi Politeknik Kuching Sarawak

UNIT LATIHAN DAN PENDIDIKAN LANJUTAN PKS

BORANG INVENTORI PROJEK

<table>
<tr><th>PERKARA</th><th colspan="4">MAKLUMAT</th></tr>
<tr><td>Program:</td><td colspan="4">DEP - Diploma in Electronic Engineering (Communication)</td></tr>
<tr><td>Jabatan:</td><td colspan="4">Jabatan Kejuruteraan Elektrik</td></tr>
<tr><td>Semester/ Tahun:</td><td colspan="4">5: Sesi I: 2024/2025</td></tr>
<tr><td>Tajuk Kajian/Projek:</td><td colspan="4">DEP50033 On The Go</td></tr>
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<tr><td>Ahli Kumpulan:</td><td colspan="4">1. Nizar Bin Ahmad
2. Abdul Fata Bin Abdul Talip</td></tr>
<tr><td>Penyelia:</td><td colspan="4">-</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Teknologi Maklumat (Aplikasi Mudah Alih), Kejuruteraan Elektronik Telekomunikasi</td></tr>
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BORANG INVENTORI PROJEK

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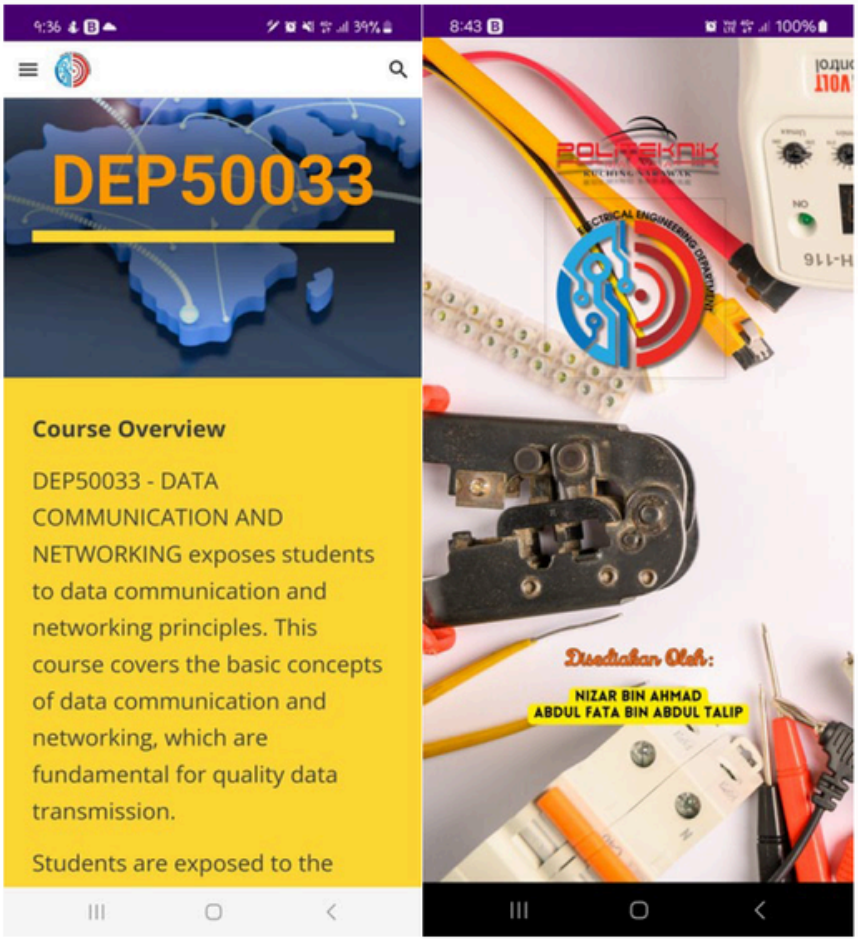
<tr><td>Penyelia:</td><td colspan="4">-</td></tr>
<tr><td>Penyelia Bersama:</td><td colspan="4">-</td></tr>
<tr><td>Multi-Disiplin:</td><td colspan="4">Teknologi Maklumat (Aplikasi Mudah Alih), Kejuruteraan Elektronik Telekomunikasi</td></tr>
<tr><td>Kolaborasi: (Industri/Komuniti)</td><td colspan="4">-</td></tr>
</table>

PERKARA	MAKLUMAT
Objektif Kajian/Projek:	1. Aplikasi DEP50033 On The Go diperkenalkan dengan fokus kepada aspek capaian mudah alih. 2. Aplikasi disediakan dalam format capaian terbuka. 3. Aplikasi disediakan dengan disusun teratur mengikut silibus bagi pembelajaran kursus DEP50033 - Data Communication And Networking.
Skop Kajian/Projek:	1. Pengumpulan bahan digital bagi kursus DEP50033 mengikut silibus terkini yang dikuatkuasakan. 2. Pembangunan capaian bahan digital tersebut berasaskan laman web yang mudah dikemaskini kandungannya dari masa ke semasa. 3. Pembinaan aplikasi telefon pintar bagi capaian kepada laman web tersebut.
Penglibatan Pelajar: (merujuk kepada skop kajian/projek)	Sebagai pengguna iaitu pelajar yang mengambil kursus DEP50033 - Data Communication And Networking. Kursus ini merupakan kursus wajib bagi pelajar program DEP - Diploma in Electronic Engineering (Communication) di institusi Politeknik Malaysia.
Abstrak Kajian/Projek:	DEP50033 On The Go merupakan sebuah aplikasi telefon pintar yang dibangunkan bagi kemudahan pelajar yang mengambil kursus DEP50033 - Data Communication And Networking. Kursus ini merupakan kursus wajib bagi pelajar program DEP - Diploma in Electronic Engineering (Communication) di institusi Politeknik Malaysia. Hebahan bahan digital bagi pembelajaran dan pengajaran (PdP) kursus DEP50033 dibuat secara rasmi melalui platform CIDOS - Curriculum Information Document Online System iaitu sejenis capaian melalui laman web. Namun begitu sistem CIDOS adalah kompleks yang merangkumi semua kursus dan mempunyai pelbagai fungsi serta memerlukan pendaftaran bagi penggunaaannya. Justeru, mengambil peluang dan

	manfaat penggunaan telefon pintar yang sangat meluas di kalangan pelajar, maka pembangunan aplikasi DEP50033 On The Go ini akan memudahkan pelajar yang mengambil kursus DEP50033 untuk mendapatkan semua bahan digital kursus DEP50033 yang diperlukan oleh mereka di mana sahaja dan pada bila-bila masa melalui telefon pintar masing-masing. Pembangunan aplikasi ini dibuat dengan pengumpulan bahan digital bagi kursus DEP50033 dalam satu laman web yang kemudiannya dicapai melalui satu aplikasi telefon pintar. Aplikasi DEP50033 On The Go telah berjaya dihasilkan dan telah digunakan oleh pelajar yang mengambil kursus DEP50033. Hasil maklum balas pelajar menunjukkan mereka berpuas hati dengan penggunaan aplikasi ini dalam membantu mereka menguasai pemahaman kandungan kursus ini terutamanya semasa melakukan ulangkaji pelajaran.
Infografik Kajian/Projek:	 *Paparan Aplikasi DEP50033 On The Go*

Panel Penilai

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PANEL **INDUSTRI**

Associate Prof. Ts. Ir. Dr. Kuok King Kuok
Pensyarah
Swinburne Univeristy of Technology Sarawak Campus

Mohd. Zainuddin Bin Zakaria @ Omar
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Monster Garage Motorsports

Mohd Fariz bin Ismail
Jurutera Projek
Pengurusan Lebuhraya Pan Borneo Sarawak Sdn. Bhd.

Nicholas Ng Boon Liang
Release Engineer
Schlumberger

Assistant Prof. Azizan bin Yatim
Head of APEL Management Unit
Centre for Pre-U Studies

Abdillah bin Hj. Dolhan
Pengarah
Izyan Enterprise

Annuar Taha bin Mohamed Trang
Pegawai Penyelidik
CRAUN Research Sdn. Bhd.

Ts. Sebastian Edwin Amin
Network & Telecommunication Lead
Petroleum Sarawak Berhad (PETROS)

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Jabatan Kejuruteraan Elektrik (JKE)

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Pensyarah
Jabatan Kejuruteraan Petrokimia (JKPK)

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Jabatan Matematik Sains & Komputer (JMSK)

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Jabatan Kejuruteraan Petrokimia (JKPK)

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Ketua
Jabatan Matematik, Sains dan Komputer

Maxwell March Joseph
Ketua
Jabatan Pengajian Am

Dasima binti Nen @ Shahinan
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TIMB. PENGERUSI
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Ts. Lim Che Chien

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Mohamad Hazlan Bin Jamudin
Mohamad Yusri Bin Mohamad Ridzuan
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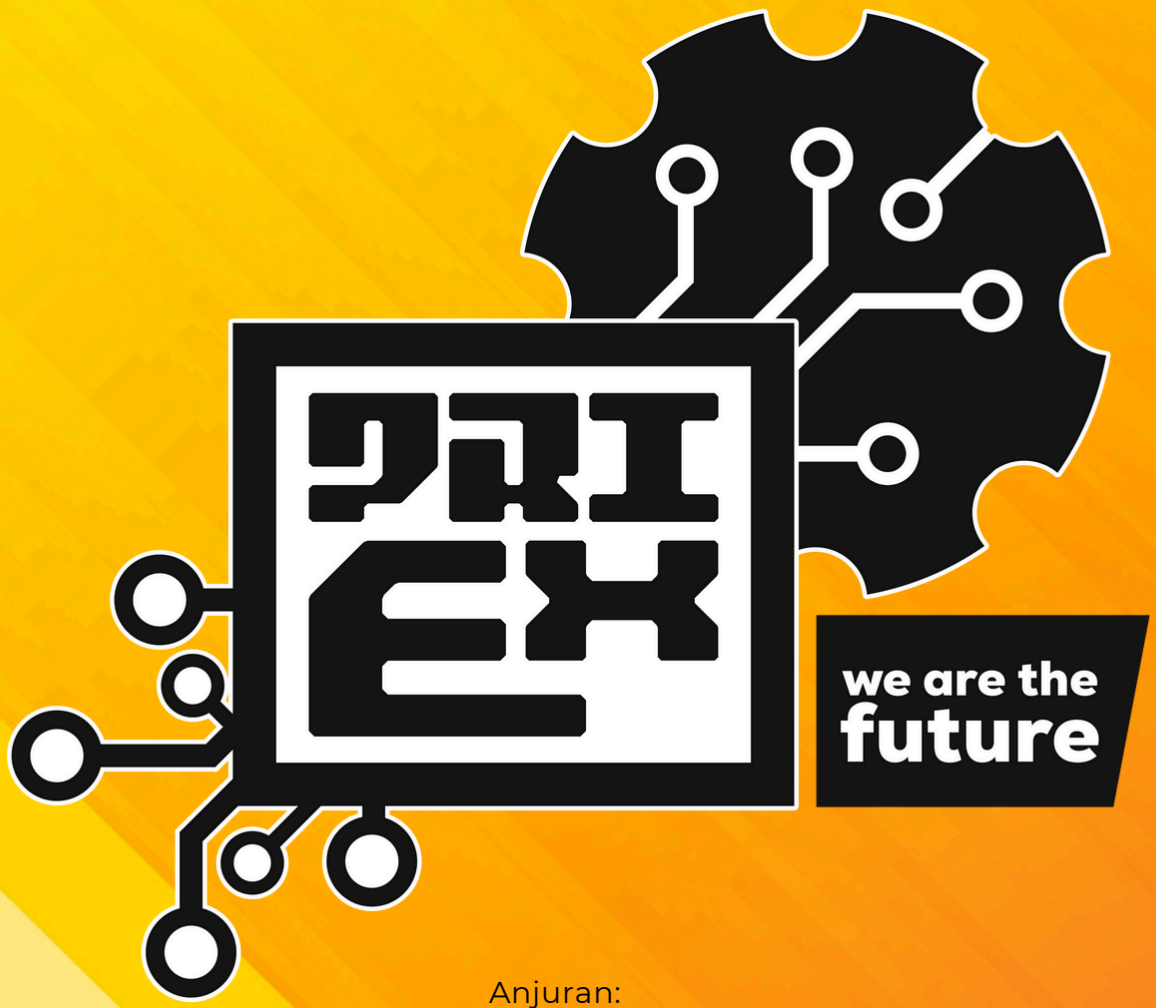

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e ISBN 978-629-7638-45-4

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