

BUKU DOKUMENTASI

RIDeC'2024

**RESEARCH, INNOVATION
& DESIGN COMPETITION**

[CIVIL ENGINEERING & ARCHITECTURE]

HAK CIPTA TERPELIHARA

Tiada bahagian dari terbitan buku ini boleh diterbitkan semula, disimpan untuk pengeluaran atau ditukarkan ke dalam sebarang bentuk atau dengan sebarang alat, sama ada dengan cara elektronik, gambar serta rakaman dan sebagainya tanpa kebenaran bertulis daripada Politeknik Port Dickson (PPD) terlebih dahulu.

Buku Dokumentasi *Research, Innovation and Design Competition 2024* (RiDeC'2: 2024)

Editor:

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RiDeC'2024

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BUKU DOKUMENTASI

RIDec'2024

**RESEARCH, INNOVATION
& DESIGN COMPETITION**

[CIVIL ENGINEERING & ARCHITECTURE]

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**LEARN
LEAD
SUCCEED**



UCAPAN KETUA JABATAN JKA

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Assalamualaikum Warahmatullahi Wabarakatuh dan Salam Sejahtera.

Syukur ke hadrat Allah SWT kerana dengan limpah kurnia-Nya, kita dapat bersama-sama menjayakan Research, Innovation, and Design Competition (RiDeC'2) 2024, satu usaha murni yang mengangkat martabat penyelidikan, inovasi, dan reka bentuk dalam dunia pendidikan kejuruteraan.

Dengan tema "Learn, Lead, Succeed", RiDeC 2024 mengingatkan kita tentang tiga prinsip asas kejayaan:

- *Learn*: Proses pembelajaran yang berterusan adalah asas kepada pembangunan ilmu dan kemahiran. RiDeC menyediakan peluang untuk semua peserta meneroka pengetahuan baharu melalui penghasilan idea-idea kreatif dan inovatif.
- *Lead*: Kepimpinan bermula dengan keberanian untuk memimpin perubahan. Melalui penyelidikan dan reka bentuk, kita mendidik generasi baharu yang bersedia untuk menjadi pemimpin industri dan masyarakat.
- *Succeed*: Kejayaan diukur bukan sahaja melalui pencapaian peribadi tetapi juga sejauh mana kita memberi manfaat kepada komuniti dan masyarakat.

Melalui penerbitan buku dokumentasi ini, dapat memaparkan hasil usaha dan idea cemerlang yang telah dikongsi sepanjang program ini. Ia menjadi simbol inspirasi dan dedikasi kita untuk terus maju dalam dunia penyelidikan dan inovasi.

Semoga RiDeC 2024 menjadi platform yang terus menyemarakkan semangat inovasi, memupuk budaya penyelidikan yang progresif, dan melahirkan generasi kejuruteraan yang berjaya di masa hadapan. Saya yakin tema "Learn, Lead, Succeed" akan terus menjadi panduan kita dalam mencipta impak yang positif dan bermakna.

Sekian, terima kasih.

***En. Muhammad Sadli bin Abdllah
Ketua Jabatan Kejuruteraan Awam
Politeknik Port Dickson***

UCAPAN PENGARAH PROGRAM



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

***Assalamualaikum Warahmatullahi Wabarakatuh dan
Salam Sejahtera dan Salam Inovasi,.***

Dengan penuh rasa syukur dan bangga, saya merakamkan setinggi-tinggi penghargaan dan mengalu-alukan kehadiran semua projek yang bertanding di Civil Engineering & Architecture Research, Innovation & Design Competition 2/2024 (RIDEc'2/24).

RIDEc'2/24 merupakan platform yang menetengahkan hasil penyelidikan, reka bentuk dan inovasi para pelajar khususnya dalam bidang Kejuruteraan Awam dan Senibina. Edisi kali ini menyaksikan penyertaan sebanyak 39 kumpulan projek Diploma Kejuruteraan Awam (DKA) dan 18 kumpulan dari pelajar Diploma Senibina (DSB). Ia merupakan satu pencapaian yang sangat membanggakan dan mencerminkan semangat kreativiti serta daya saing yang tinggi dalam kalangan pelajar kita.

Penganjuran RIDEc'2/24 bukan sahaja bertujuan sebagai medan pertandingan, malah lebih penting lagi, ia adalah landasan untuk memupuk budaya inovasi, pemikiran kritis dan kerjasama antara pelajar, pensyarah dan industri. Di sinilah lahirnya idea-idea baharu yang mampu menyumbang kepada penyelesaian isu-isu sebenar dalam dunia kejuruteraan dan pembangunan lestari.

Saya ingin merakamkan setinggi-tinggi penghargaan kepada semua peserta, pensyarah pembimbing, ahli panel penilai, penaja serta semua pihak yang telah menyumbang kepada kejayaan RIDEc'2/24. Semoga program ini dapat menyuntik semangat untuk terus berkarya, bereksperimen dan mencipta nilai tambah dalam bidang masing-masing.

Akhir kata, saya mengucapkan selamat maju jaya kepada semua peserta. Semoga RIDEc'2/24 menjadi titik permulaan kepada perjalanan inovasi yang lebih luas dan bermakna.

Sekian, terima kasih.

***Dr. Isha Baizura binti Ismail
Pengarah RIDEc'2: 2024***

Pengenalan



Projek akhir pelajar merupakan satu tugas yang ditetapkan sebagai latihan pembelajaran yang memerlukan pelajar melaksanakan penyelidikan dan pembelajaran sendiri. Projek akhir mengaplikasikan pengetahuan, konsep, dan kemahiran yang diperolehi sepanjang program. Pelajar perlu menggabungkan beberapa aspek pengalaman mereka sepanjang program berkenaan. Projek adalah berasaskan kepada kajian literatur, penyelidikan, penyelesaian masalah, rekabentuk, penghasilan prototaip atau penyelidikan fundamental. Jabatan Kejuruteraan Awam (JKA) Politeknik Port Dickson mempunyai dua program iaitu Diploma Kejuruteraan Awam dan Diploma Seni bina. Projek pelajar JKA melibatkan pelajar semester lima bagi program DKA dan DSB. Justeru, Hari Penilaian Projek Pelajar diadakan setiap akhir semester untuk menilai kualiti projek yang dijalankan oleh pelajar JKA.

OBJEKTIF

- ▶ Mengumpulkan semua projek pelajar JKA untuk dibentangkan kepada panel penilai yang terdiri daripada pihak industri (CISEC).
- ▶ Membuat penilaian projek pelajar JKA dari segi penilaian akademik yang ditetapkan.
- ▶ Memilih projek pelajar terbaik setiap program untuk diketengahkan di peringkat Politeknik Port Dickson.
- ▶ Untuk mencapai KPI penyelidikan dan inovasi selari dengan keperluan UPIK.
- ▶ Mencapai CLO4 (PO10) bagi kursus DCC50194- Final Year Project 2 dan DCA50226- Design 5.
- ▶ Memenuhi keperluan kursus DCA50233- Measured Drawing dan kursus DCA50226- Design 5.
- ▶ Menambah bilangan jam pertemuan Pensyarah Pelawat Industri (PPI) melalui perkongsian ilmu dan latihan (KP'21) dari pihak industri.
- ▶ Membuat pendaftaran MyIPO ke atas projek terpilih.

JAWATANKUASA PELAKSANA

Penaung

Tn. Hj. Hasan bin Mohd Sharif B.C.M., P.J.K
(Pengarah)

Penasihat 1

Ts. Dr. Engku Shahrulerizal Bin Engku Ab Rahman
(Timbalan Pengarah (Akademik))

Penasihat 2

En. Muhammad Sadli bin Abdllah
(Ketua Jabatan Kejuruteraan Awam)

Penasihat Program

Pn. Nor Haniza binti Mustafa Kamar
(Ketua Program Kej. Awam)

Pn. Zarith Sofia Binti Abu Zahri
(Ketua Program Senibina)

Ts. Dr. Baharin bin Ahmad
(Penasihat Projek Pelajar)

Pengarah Program

Dr. Isha Baizura binti Ismail

Timbalan Pengarah Program

Pn Norul Fazlina binti Khashim

Setiausaha

Pn. Maskedah binti Kamaludin
Pn. Nur Hidayah binti Rosman

Bendahari

Pn. Haslienda binti Mohd Iham@Sham
Pn. Wan Nadhirah binti Abd Wahab

JK Pembentangan &
Penjurian Projek DKA

Dr. Muhammad Lutfi Bin Othman (K)
Dr. Ruslawati binti Abd Wahab
Pn. Amilia Noorlin binti Md Jelani

JK Pembentangan &
Penilaian *Design Studio 5*

Pn. Norul Fazlina binti Khashim (K)
Pn. Siti Amirah binti Mohtaram

JK Pembentangan & Penilaian
Measured Drawing

JK Penilaian Projek Terbaik DKA

JK Pelaporan / Pengurusan Majlis

JK Sijil & Cenderahati

JK Hadiah & Anugerah

Liaison Officer

JK Penerbitan

JK Persiapan Tempat

JK Pengurusan Jamuan

JK Tugas-Tugas Khas/
Floor Manager

JK Keusahawanan

Pn. Siti FatimahTuzzahrah binti Hj Abd Latif (K)
Pn. Fahanim binti Abdul Rashid

Ts. Dr. Baharin bin Ahmad (K)
En. Zainal bin Abdul Rahman

Pn. Sarinah binti Ali (K)
Ts. Nur Farhana binti Mustahidin

Pn. Hazlina binti Mahfidz K)
Pn. Sinatu Saadiah binti Shafie
Pn. Nur Athirah binti Ibrahim

Pn. Suriyati binti Yunus (K)
Pn. Nora binti Ismail
Pn. Mahanim Abdullah Sadali
Pn. Zurika Amnah @ Salmi binti Mohtar

Pn. Noraziela binti Mokhtar (K)
Pn. Azizah binti Tukiman
LAr. Dr Zanariah binti Kasim
Dr. Setiawan bin Hardono
Pn. Isma Zaida binti Din
Pn. Siti Amirah binti Mohtaram

Pn. Rafidah binti Suib (K)
Pn. Badariah binti Daud
Dr Zuraidah binti Ahmad

En. Mohd Firhan bin Anuar (K)
En. Nurul Qamar bin Hazni
En. Izwan Bin Abdul Ghafar
En. Ahmad Qusyairi bin Ahmad Khairiri
En. Fahrurrazi bin Mahyun

Pn. Siti Balqis binti Abdul Kadir (K)
Pn. Jothy Rany A/P Latchmanan
Pn. Norzalina binti Md Yusop

Dr. Sivanandan A/L Balakrishnan (K)
Pn. Norul Fazlina binti Khashim

Pn. Norzaihasra binti Saaba (K)
Pn. Nornawar Laili binti Nordin

KATEGORI ANUGERAH

DCC FINAL YEAR
50194 PROJECT 2

TEMPAT PERTAMA : Piala Pusingan + Hamper + Plak + Sijil
TEMPAT KEDUA : Hamper + Plak + Sijil
TEMPAT KETIGA : Hamper + Plak + Sijil
PEMBENTANG TERBAIK : Hamper + Plak + Sijil
BOOTH TERBAIK : Hamper + Plak + Sijil
POSTER TERBAIK : Hamper + Plak + Sijil

DCA
50226 DESIGN 5

TEMPAT PERTAMA : Piala Pusingan + Hamper + Plak + Sijil
TEMPAT KEDUA : Hamper + Plak + Sijil
TEMPAT KETIGA : Hamper + Plak + Sijil
PEMBENTANG TERBAIK : Hamper + Plak + Sijil
TEMPAT PERTAMA SUSTAINABLE : Hamper + Medal + Sijil
TEMPAT KEDUA SUSTAINABLE : Hamper + Medal + Sijil
TEMPAT KETIGA SUSTAINABLE : Hamper + Medal + Sijil
POSTER TERBAIK : Hamper + Medal + Sijil
SAGUHATI : Hamper + Sijil

DCA MEASURED
50233 DRAWING

TEMPAT PERTAMA : Piala Pusingan + Hamper + Plak + Sijil
TEMPAT KEDUA : Hamper + Plak + Sijil
TEMPAT KETIGA : Hamper + Plak + Sijil
BOOTH TERBAIK : Hamper + Plak + Sijil
SAGUHATI : Hamper + Sijil

PANEL PENILAI

FINAL YEAR PROJECT 2

DCC50194

Prof. Ir. Dr. Chan Chee Ming
Dr Nur Aini bt Mohd Arish
Ts. Dr. Tuan Noor Hasanah Binti Tuan Ismail
Dr Nuramidah binti Hamidon
Ts. Dr. Fatimah binti Mohamed Yusop
Universiti Tun Hussein Onn Malaysia

En Muhammad Amar Aizat bin Abdullah
Jabatan Ketua Menteri Melaka

Ir. Ts. Muhamad Fariz bin Ismail
Jabatan Pengairan dan Saliran Malaysia, Cyberjaya

Ts Syamsul Azwan bin Adnan,
FIC Integrated Property Management Sdn Bhd

Pn Nur Aisyah binti Kasni
DM Global T&S Sdn Bhd

Pn. Jessie Grace Goh Poh Ling Nur Maisarah Abdullah
Pn. Fara Nur Asma binti Mohd Basri
Pn. Azeliana binti Embong
Pn. Aziah binti Muhamad
En. Hasmadi bin Abd Hamid
En. Muhamad Shazmin bin Muhamad Zaki
En. Arnold Galvin anak Millert Bylon
En. Mohd Hafiz bin Bistamam
Politeknik Port Dickson

DESIGN 5

DCC50226

Ar. IDR. Nik Abdul Aziz bin Nik Din
AXIDEA ARCHITECTS Sdn. Bhd.

Ar. Mohd Hazriq Bin Mohd Din
Arkitek M. Hazriq

Ar. Khairil Anwar Bin Mohamad Halim
KAC Architect

Ar. Azman Bin Md Nor
Arkitek Azman Zainal,

MEASURED DRAWING

DCC50233

Dr Azmal bin Sabil
Universiti Tun Hussein Onn Malaysia

Ar Mohd Rizal bin Md Yusof
Rizalyusof Architect

Pn Rosrita binti Mohamad Nordin
En Mohd Nazim bin Abdul Gaman
Lembaga Muzium Negeri Sembilan

ATURCARA PROGRAM

05 NOVEMBER 2024 : SELASA

8.30 pagi : Pendaftaran Panel Jemputan
Sarapan Pagi
(Pusat Sumber Perpustakaan PPD)

9.00 pagi : Taklimat Rubrik Penilaian RIDeC'2 /2024
(Pusat Sumber Perpustakaan PPD)

9.00 pagi - : Pelaksanaan Penilaian Projek Akhir Pelajar
12.00 tengahari (Dewan Wawasan PPD)

12.00 tengahari : **Majlis Bersama Panel Penilai**
(Pusat Sumber Perpustakaan PPD)

- ▶ Kata Aluan Penghargaan oleh Pengarah / Timbalan Pengarah Akademik PPD.
 - ▶ Penyampaian Sijil dan Cenderahati RIDeC'2/ 2024
 - ▶ Sesi bergambar bersama Panel Penilai
 - ▶ Makan Tengahari
-

1.30 petang : Bersurai

- Keputusan Senarai Pemenang diumumkan pada Majlis Aspirasi Pelajar

DCC50194 FINAL YEAR PROJECT 2

JOHAN

STABILIZATION OF SOIL USING COCONUT COIR

Penyelia:

Dr. Isha Baizura binti Ismail

Nama Ahli Kumpulan:

06DKA22F1002 Muhammad Danish Ikhwan bin Jasmanhaniff

06DKA22F1010 Nur Haziqah Najwa binti Mohammad Nasfu

06DKA22F1006 Nur Natasya Shahira binti Zahari

NAIB JOHAN

GREEN ORGANIC COMPOST MACHINE

Penyelia:

Pn. Noraziela binti Mokhtar

Nama Ahli Kumpulan:

06DKA22F1128 Izz Mukhlis bin Suhaimi

06DKA22F1012 Nur Aina Najwa binti Nazri

06DKA22F1030 Siti Nur Farzanah binti Kamaruzzaman

06DKA22F1026 Wan Nur Basyirah binti Wan Zahari

TEMPAT KE-3

AUTOMATIC SAND SIEVE MACHINE

Penyelia:

Pn. Suriyati binti Yunus

Nama Ahli Kumpulan:

06DKA22F1121 Hariena Devi a/p Sutherosono

06DKA22F1081 Ravishanger a/I Tiruchelvan

06DKA22F1114 Yhalzmathy Vadivelu

DCC50194 FINAL YEAR PROJECT 2

TEMPAT KE-4

EFFECTIVENESS OF SELF-CLEANING ROOF GUTTER SCREEN PROTOTYPE IN PREVENTING DEBRIS BUILDUP

Penyelia:

Dr. Zuraidah binti Ahmad

Nama Ahli Kumpulan:

06DKA22F1116 Ilham Fiqri bin Hasnul Johari

06DKA22F1120 Aiman Hakim bin Zamri

06DKA22F1127 Megat Muhamad Firdaus bin Wan Abdul
Rashid

TEMPAT KE-5

E-VEC (ELECTRONIC VEHICLE COUNT)

Penyelia:

Pn. Azizah binti Tukiman

Nama Ahli Kumpulan:

06DKA22F1125 Mohamad Firdaus Daniel bin Mohamad

06DKA22F1056 Muhammad Azib Azri bin Saharudin

06DKA22F1039 Nur Emyrah Eisyah binti Shaiful Azrul

TEMPAT KE-6

MINI FORKLIFT 2.0

Penyelia:

Pn. Siti Balqis binti Abdul Kadir

Nama Ahli Kumpulan:

06DKA22F1099 Mohamad Fariz bin Jafridan

06DKA22F1011 Muhammad Afif bin Muhammad Fauzi

06DKA22F1022 Nur Aisyah Syahirah binti Kamarulzaman

DCC50194 FINAL YEAR PROJECT 2

PEMBENTANG TERBAIK

E-CONCRETE: MIHTURE OF BAMBOO INTO CONCRETE

Penyelia:

Pn. Nora binti Ismail

Nama Pelajar:

06DKA22F1087 Muhammad Danish Irfan bin Roslizan

RERUAI PAMERAN TERBAIK

GREEN ORGANIC COMPOST MACHINE

Penyelia:

Pn. Noraziela binti Mokhtar

Nama Ahli Kumpulan:

06DKA22F1128 Izz Mukhlis bin Suhaimi

06DKA22F1012 Nur Aina Najwa binti Nazri

06DKA22F1030 Siti Nur Farzanah binti Kamaruzzaman

06DKA22F1026 Wan Nur Basyirah binti Wan Zahari

POSTER TERBAIK

FLOATING HOUSE SYSTEM

Penyelia:

Pn. Azizah binti Tukiman

Nama Ahli Kumpulan:












06DKA22F1043 Aisyah Saffiya binti Rosley

06DKA22F1032 Arisha Nurul Iman binti Azatulzaman

06DKA22F1034 Muhammad Akmalul Hakimi bin Mohd Kamalarifin

DCC50194 FINAL YEAR PROJECT 2















ANUGERAH EMAS:

-  STABILIZATION OF SOIL USING COCONUT COIR
-  GREEN ORGANIC COMPOST MACHINE
-  AUTOMATIC SAND SIEVE MACHINE (ASSM)
-  EFFECTIVENESS OF SELF-CLEANING ROOF GUTTER SCREEN
PROTOTYPE IN PREVENTING DEBRIS BUILDUP
-  E-VEC (ELECTRONIC VEHICLE COUNT)
-  MINI FORKLIFT 2.0
-  BLIND CORNER WARNING SYSTEM
-  SMART MACKINTOSH PROBE JACK
-  EONCRETE: MIXTURE OF BAMBOO INTO CONCRETE
-  SAFETY LAMP DIVIDER DEVICE (SLDD)
-  FLOATING HOUSE SYSTEM



DCC50194 FINAL YEAR PROJECT 2

ANUGERAH PERAK:

-  THE EFFICIENCY OF VETIVER PLANTS IN WATER QUALITY TREATMENT
-  RAINWATER TANK FOR SYSTEM PLANT
-  CADDY CLEAN
-  MARINE CROSS BRIDGE (INOVASI JAMBATAN TERAPUNG)
-  FLAKINESS INDEX BOX
-  CONTRACTOR MANAGEMENT APPLICATION (PROCONS)
-  ECOBIN: PENGGUNAAN SISA BANGUNAN DAN KOPI DALAM BANCUAN KONKRIT
-  DEVELOPMENT OF A VERTIGROW PROTOTYPE INTEGRATING FISH FARMING AND PLANT CULTIVATION
-  MINI PORTABLE SCAFFOLDING FOR LIGHT USAGE
-  ECO-GROW BIODEGRADABLE SEEDLING POT
-  SAND FILTER
-  PALM OIL WASTE AS GREEN ROOF INNOVATION
-  BAMBOO EPOXY TILES
-  RAIN SENSOR PRO



DCC50194 FINAL YEAR PROJECT 2

ANUGERAH GANGSA:

-  **SPEED BUMP ROAD SENSOR**
-  **COCOTRAP**
-  **KERUSI BELAJAR ERGONOMIK**
-  **KONKRIT TERAPUNG MENGGUNAKAN STYROFOAM DAN FIBERGLASS**
-  **SEMAT DUSTBIN**
-  **SOLAR LAMP CONVEX MIRROR**
-  **PORTABLE AWNING**
-  **RO SMART WATER**
-  **MULTIPURPOSE TROWEL TOOL BOX**
-  **SMART TOOL BOX ENGINEERING**
-  **CONE-ACTION**
-  **SILING PLASTER SERAT BULUH**
-  **GLOW SPEED BUMPER WITH SOLAR POWER**
-  **AUTO ASSIST SMARTLANE LIGHT**



Design Category

**DCA50226
DESIGN 5**

JOHAN

**INSPIRITING LOCAL :
MY LOCAL TOURISM CENTRE**

Penyelia:

Pn.Rafidah Binti Suib

Nama Pelajar:

Muhammad Nasir Bin Munshi Abdullah

TEMPAT KE-2

CENTERA AGRO-TOURISM CENTRE

Penyelia:

Norul Fazlina binti Khashim

Nama Pelajar:

Nurrin Syazlin Binti Zamberi

TEMPAT KE-3

GAHAPORT AGRO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Ahmad Syamil Bin Ahmad Syakir

Sustainable Category

DCA50226 DESIGN 5

JOHAN

POTATO AGRO TOURISM CENTER

Penyelia:

Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:

Muhammad Asyadillah Bin Sadzali

TEMPAT KE-2

ROSELLE BLOOM HUN ARGO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Yasmin Binti Azmi

TEMPAT KE-3

PINA VISTA AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Mas Diyan Sahputra Bin Sunaryo

Sustainable Category

DCA50226 DESIGN 5

PEMBENTANG TERBAIK AKAR MERAH STRAWBERRY AGRO- TOURISM CENTRE

Penyelia:

Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:

Muhammad Afif Wildan Bin Jamaluddin

POSTER TERBAIK HORIZON AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Raja Farez Iqbal Bin R Rusli

DCA50226 DESIGN 5 ANUGERAH EMAS:

INSPIRITING LOCAL : MYLOCAL TOURISM CENTRE

Penyelia:

Pn.Rafidah Binti Suib

Nama Pelajar:

Muhammad Nasir Bin Munshi Abdullah

CENTERA AGRO-TOURISM CENTRE

Penyelia:

Norul Fazlina binti Khashim

Nama Pelajar:

Nurrin Syazlin Binti Zamberi

GAHAPORT AGRO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Ahmad Syamil Bin Ahmad Syakir

POTATO AGRO TOURISM CENTER

Penyelia:

Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:

Muhammad Asyadillah Bin Sadzali

ROSELLE BLOOM HUN AGRO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Yasmin Binti Azmi



DCA50226 DESIGN 5 ANUGERAH EMAS:

PINA VISTA AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Mas Diyan Sahputra Bin Sunaryo

HORIZON AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Raja Farez Iqbal Bin R Rusli

AKAR MERAH STRAWBERRY AGRO-TOURISM CENTRE

Penyelia:

Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:

Muhammad Afif Wildan Bin Jamaluddin

VIANDS AGRICULTURE AND TOURISM

Penyelia:

Pn.Rafidah Binti Suib

Nama Pelajar:

Aqil Bin Mohamad Hatta



DCA50226 DESIGN 5 ANUGERAH EMAS:

BLOOMING AGRO-TOURISM CENTRE

Penyelia:

Norul Fazlina binti Khashim

Nama Pelajar:

Nur Qistina Binti Ros Azman

CLASSIC B PEPPER AGRO - TOURISM CENTRE

Penyelia:

Dr. Setiawan Bin Hardono

Nama Pelajar:

Faiz Hakimi Bin Mohd Nazari

TROPISPHERE AGRO-TOURISM CENTER

Penyelia:

Dr. Setiawan Bin Hardono

Nama Pelajar:

Azza Nadjra Binti Ajamain



DCAS0233 MEASURED DRAWING

JOHAN

RUMAH WARISAN PUAN JALILAH

Penyelia:

Nur Athirah bt Ibrahim
Ts Fahanim bt Abd Rashid

Nama Ahli Kumpulan:

Muhammad Nasir bin Munshi
Muhammad Denis Putra bin Shahrullnizam
Aqil bin Muhammad Hatta
Muhammad Afif Wildan bin Jamaluddin
Zaleha binti Zainuddin
Nur Syafiqah Hanim binti Abdul Rahim

TEMPAT KE-2

BOOTH TERBAIK

RUMAH WARISAN MAK ANI

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr Setiawan bin Hardono

Nama Ahli Kumpulan:

Ahmad Holil bin Rusman
Muhammad Noor Elyas bin Noor 'Azli
Nur Qistina binti Ros Azman
Nur Syafiqah Liyana binti Mohd Rosdi
Nur Qistina Iman binti Mohd Norimran
Meerashree a/p Thiakesan

DCAS0233 MEASURED DRAWING

TEMPAT KE-3

RUMAH WARISAN PUAN ZAHARAH

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr Setiawan bin Hardono

Nama Ahli Kumpulan:

Mas Diyan Sahputra bin Sunaryo
Danish Haikal bin Badrul Hisham
Nur Hamizah bin Zulkiflee
Nurin Nadhirah binti Mohd Asyaary Nassiruddin
Nur Liyana binti Mohd Rizal
Nur Farahin binti Zulkarnain

SAGUHATI

RUMAH WARISAN PUAN HAFSAH

Penyelia:

Nur Athirah bt Ibrahim
Ts. Fahanim bt Abd Rashid

Nama Ahli Kumpulan:

Muhd Haziq bin Baharudin
Izznul Ezedin bin Ahsanulkhaliqin
Nur Ruhana Nasuha binti Rosdi
Nurul Afiqah binti Azhari
Nur Izzany binti Rozaimi
Azza Nadjra binti Ajamain

DCAS0233 MEASURED DRAWING

SAGUHATI

RUMAH TELAPAK SHARIFAH FADZILAH

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr Setiawan bin Hardono

Nama Ahli Kumpulan:

Alief Aiman bin Kamarol
Muhammad Aiman bin Mohd Aznor Hisham
Muhammad Azizi bin Yunus
Khairul Najwa binti Aziz
Nuralissa Sabila binti Mohd Sabari
Ariesha Umaira binti Mohd Shamsul

SAGUHATI

RUMAH WARISAN PUAN HAJAH DURAH

Penyelia:

Nur Athirah bt Ibrahim
Ts Fahanim bt Abd Rashid

Nama Ahli Kumpulan:

Muhammad Zahiruddin bin Hafiz Muhammad Tahir Naeem
Ahmad Fikri bin Surya Budiman
Faiz Hakimi bin Mohd Nazari
Norkamilia Izzati binti Abdullah
Nurin Syamimi binti Sazali

DCA50233 MEASURED DRAWING ANUGERAH EMAS:

RUMAH WARISAN PUAN JALILAH

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Ts Fahanim bt Abd Rashid

Nama Ahli Kumpulan:

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Zaleha binti Zainuddin
Nur Syafiqah Hanim binti Abdul Rahim

RUMAH WARISAN MAK ANI

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DCA50233 MEASURED DRAWING ANUGERAH PERAK:

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RUMAH WARISAN PUAN HAJAH DURAH

Penyelia:

Nur Athirah bt Ibrahim
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Ahmad Fikri bin Surya Budiman
Faiz Hakimi bin Mohd Nazari
Norkamilia Izzati binti Abdullah
Nurin Syamimi binti Sazali



DCA50233 MEASURED DRAWING ANUGERAH PERAK:

RUMAH WARISAN PUAN NORFIAH

Penyelia:

Nur Athirah bt Ibrahim
Ts. Fahanim bt Abd Rashid

Nama Ahli Kumpulan:

Raja Farez Iqbal bin R Rusli
Muhammad Danish Syahmi bin Norisham
Siti A'isyah Qistina binti Mohamed Zaifulas
Nurul Akma binti Mohd Riduan

RUMAH TELAPAK SHARIFAH FADZILAH

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr. Setiawan bin Hardono

Nama Ahli Kumpulan:

Alief Aiman bin Kamarol
Muhammad Aiman bin Mohd Aznor Hisham
Muhammad Azizi bin Yunus
Khairul Najwa binti Aziz
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Penyelia:

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Faiz Hakimi bin Mohd Nazari
Norkamilia Izzati binti Abdullah
Nurin Syamimi binti Sazali



**SUCCESS IS NOT JUST PERSONAL BUT ALSO
IN CONTRIBUTING POSITIVELY TO SOCIETY.**

Health - Happiness - Prosperity

KATEGORI

DCCS0194

FINAL YEAR

PROJECT 2

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

STABILIZATION OF SOIL USING COCONUT COIR

RIDEC - 1807



Introduction

Soil stabilization using coconut coir is an environmentally friendly technique that increases strength and stability by incorporating coconut coir. Coconut coir is a natural material obtained from coconut husks that has high tensile strength, durability and water retention properties. When mixed with soil, coir will increase its load-bearing capacity, reduce erosion and make it suitable for various construction applications such as roads, embankments and slope stabilization. With this study, the use of coconut coir will be utilized, reducing the environmental impact and promoting resource efficient construction.

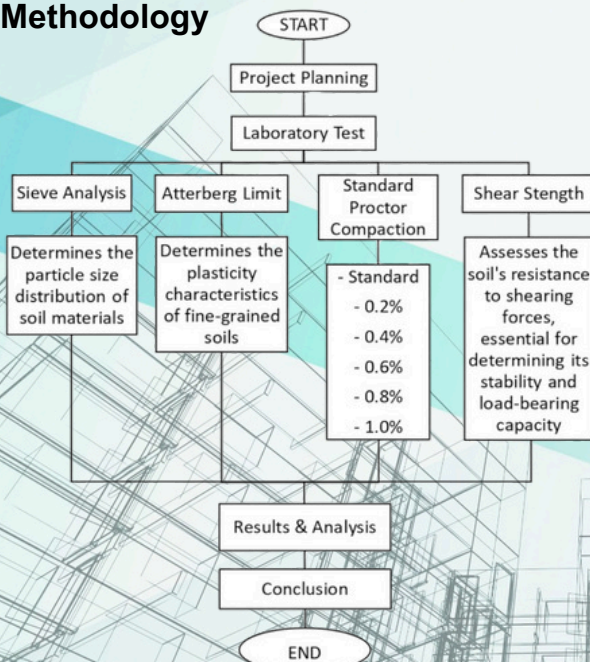
Objectives

- Identify the basic characteristics of the soil in the study area.
- Studying the strength of the soil using coconut coir as a mixture.
- Comparing the strength value of a mixture of soil and coconut coir in soil stabilization.

Problem Statement

- Soil is a material that profoundly influences the stability of building structures, highway pavements, tunnels, and dams.
- Not all soils are suitable for direct application in Civil Engineering projects. Certain soils having a small bearing capacity, demonstrate considerable deformations or alterations, and exhibit higher moisture content, hence influencing the soil's consistency..

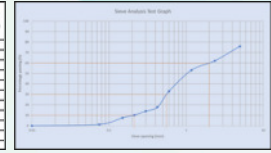
Methodology



Data Analysis

i. Sieve Analysis

Size (mm)	Weight of soil retained on sieve (g)	Weight of soil passing through sieve (g)	Percentage passing (%)
75	200	1000	16.67
150	300	900	33.33
300	400	800	50.00
600	500	700	66.67
1200	600	600	83.33
2500	700	500	91.67
5000	800	400	96.67
10000	900	300	98.33
20000	1000	200	99.17
40000	1100	100	99.83
80000	1200	80	99.93
160000	1300	70	99.97
320000	1400	60	99.98
640000	1500	50	99.99
1280000	1600	40	99.99
2560000	1700	30	99.99
5120000	1800	20	99.99
10240000	1900	10	99.99
20480000	2000	0	100.00



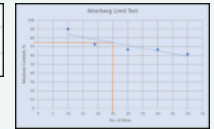
D60	2.00
D30	0.55
D10	0.21

$$C_u = D_{60} / D_{10} = 9.52 \text{ mm} / 0.21 \text{ mm} = 45.33$$

$$C_c = (D_{30})^2 / (D_{60} \cdot D_{10}) = (0.55)^2 / (2.00 \cdot 0.21) = 1.45$$

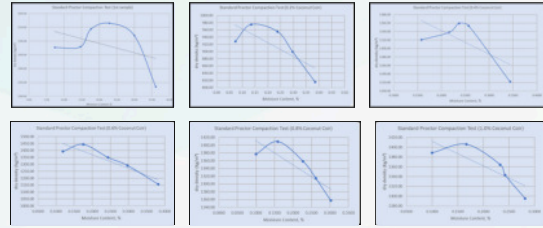
ii. Atterberg Limit Test

LL	74%
PL	52.89%
PI	2.1%



iii. Compaction Test

Item	$\rho_d \text{ max (kg/m}^3\text{)}$	$w_{opt} \text{ (%)}$
Standard	1565.00	22.86
0.2 %	975.12	14.00
0.4 %	1359.59	23.68
0.6 %	1443.71	17.50
0.8 %	1409.18	15.91
1.0 %	1405.93	16.67

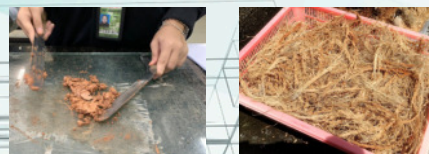
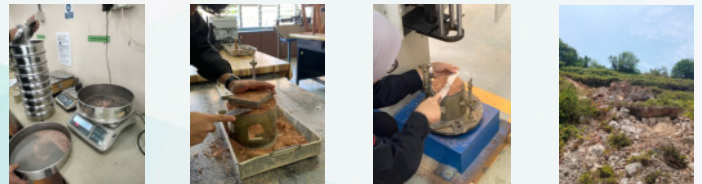


iv. Shear Test

Percentage of Coconut Coir	1.25kg load		2.5kg load	
	Normal stress (kg/m ²)	Shear stress (kg/m ²)	Normal stress (kg/m ²)	Shear stress (kg/m ²)
Standard	4.944	7.141	4.828	24.550
0.2%	4.851	33.508	4.773	49.315
0.4%	4.767	22.595	4.787	20.625
0.6%	4.918	22.375	4.825	17.392
0.8%	4.912	5.664	4.864	4.233
1.0%	4.890	16.574	4.826	14.806

Conclusion

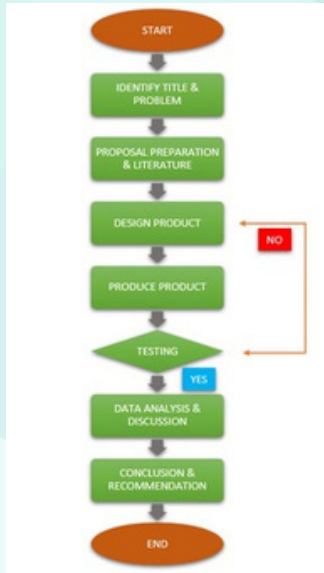
Soil stabilization tests using coconut coir show that this material is effective in increasing the strength and stability of the soil. Coconut coir is able to improve the physical structure of the soil, making it more compact and durable, as well as helping to reduce erosion, especially on slopes that are easily eroded. In addition, coconut coir is environmentally friendly and biodegradable, providing a positive impact on the environment compared to synthetic stabilizers. From an economic point of view, coir is cost effective and easy to obtain, making it a sustainable option in the long term for soil stabilization.



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TAJUK : ECONCRETE: MIXTURE OF BAMBOO INTO CONCRETE

METODOLOGI



PUAN NORA BINTI
ISMAL
(SUPERVISOR)



MUHAMMAD
AIMAN HAKIM BIN
SHAMSUDDIN
(06DKA22F1072)



MUHAMMAD
DANISH IRFAN BIN
ROSLIZAN
(06DKA22F1087)



ROSE SYAHIDATUL
AZREEN BINTI
ZAINI
(06DKA22F1085)

ABSTRAK

Pembinaan melibatkan perancangan, reka bentuk, dan tenaga kerja untuk struktur fizikal seperti papak, asas, rasuk, tiang, dinding, dan bumbung. Dengan peningkatan kos akibat bahan bukan boleh diperbaharui dan permintaan sumber, para penyelidik sedang mengkaji penggunaan buluh dalam konkrit. Buluh, sebagai bahan semula jadi yang berpatutan dan mesra alam, telah menunjukkan kesan positif dalam pembinaan moden dengan meningkatkan kekuatan, ketahanan, kos, dan kelestarian alam sekitar.

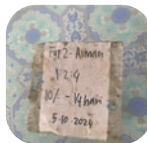
SKOP PROJEK

Kajian ini meneroka penggunaan buluh dalam pembinaan konkrit, khususnya untuk rumah setingkat. Penyelidikan ini bertujuan untuk mengkaji ciri-ciri buluh, kelestariannya sebagai alternatif mampan kepada tetulang keluli, serta kemampuannya menampung kekuatan. Kajian ini menggunakan simen, batu, pasir, dan tunas buluh, dengan nisbah campuran 1:2:4 serta sedikit campuran jerami buluh. Saiz kiub 150mm x 150mm dipilih sebagai sampel kajian, dan ujian akan dijalankan ke atas kekuatan, ketahanan, serta kelestarian alam sekitar.

PERNYATAAN MASALAH

Dalam kajian ini, penyelidik mencampurkan serat buluh ke dalam konkrit. Buluh ialah bahan semula jadi yang mudah diperolehi dan mesra alam. Campuran ini bertujuan memberi kesan yang baik terhadap alam sekitar dengan menggunakan tunas buluh yang berasal daripada bahan semula jadi. Serat buluh juga meningkatkan kekuatan konkrit ringan berbanding kekuatan konkrit konvensional. Hal ini kerana kekuatan konkrit ringan adalah lebih rendah berbanding konkrit konvensional. Oleh itu, kekuatan konkrit ringan perlu ditingkatkan bagi meluaskan penggunaannya. Lebih halus batu yang digunakan dalam konkrit, lebih kuat konkrit yang terhasil. Serat buluh telah dipilih sebagai bahan mesra alam untuk digunakan sebagai campuran dalam konkrit.

FOTOGRAFI PROJEK



OBJEKTIF KAJIAN

1. Untuk mengkaji penggunaan serat buluh sebagai bahan tambah dalam rekabentuk buncuhan konkrit grad 20.
2. Untuk mengenal pasti keberkesanan gantikan buluh sebagai bahan tambah berdasarkan kekuatan mampatan dan kos.

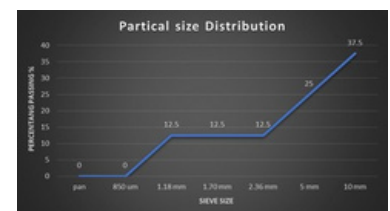
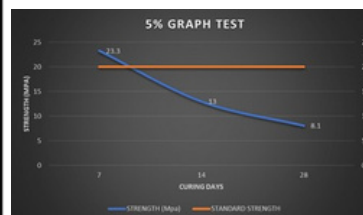
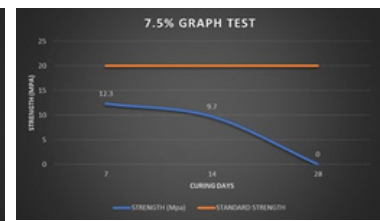
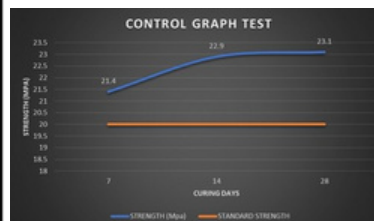
KEPENTINGAN KAJIAN

Penyelidikan mengenai campuran buluh dalam konkrit adalah penting untuk kelestarian, kesan alam sekitar, dan keberpatutan kos. Keupayaan buluh untuk pulih dengan cepat, kekuatan tegangan, dan fleksibilitinya dapat meningkatkan struktur konkrit, sekali gus berpotensi meningkatkan daya tahan terhadap gempa bumi.

KESIMPULAN

Berdasarkan ujian yang dijalankan, didapati bahawa buluh tidak mempunyai sifat kekuatan yang mencukupi untuk digunakan dalam pembinaan. Secara semula jadi, buluh mempunyai kekuatan yang tinggi apabila dalam bentuk asal dan tidak dihancurkan. Namun, dalam ujian ini, buluh yang digunakan adalah dalam bentuk habuk, di mana kekuatannya semakin berkurangan. Selain itu, buluh yang dihancurkan cenderung mereput dari hari ke hari, menyebabkan penurunan kekuatan dalam jangka masa panjang. Oleh itu, dapat dirumuskan bahawa buluh yang telah dihancurkan tidak sesuai digunakan sebagai bahan tambahan dalam buncuhan konkrit untuk tujuan pembinaan.

ANALISIS



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TAJUK FYP

FLAKINESS BOX SYSTEM

PENYELIA



ENSKU SHAHRULRIZAL
BIN ENSKU AB RAHMAN
Civil Engineering Department
Politeknik Port Dickson



HAZLINA BINTI MAHFIDZ
Civil Engineering Department
Politeknik Port Dickson



MUHAMMAD HAZIQ HAIKAL
BIN NOOR AFIZAL
(06DKAZ2F1057)
Civil Engineering Department
Politeknik Port Dickson



AMIERUL HAFIZE
BIN MD ZAIDIN
(06DKAZ2F1047)
Civil Engineering Department
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NUR ANIS ATHIRAH
BINTI ZULHAMIDI
(06DKAZ2F1048)
Civil Engineering Department
Politeknik Port Dickson

AHLI KUMPULAN

RIDEC 2024

ABSTRAK

Projek ini dijalankan untuk menguji batu agregat dengan menggunakan sistem Flakiness Box yang berfungsi mengukur saiz batu agregat dengan sistem mudah alih. Alat pengukur kelonjongan sedia ada mengambil masa yang panjang untuk menjalankan proses pengujian. Projek ini bertujuan untuk menghasilkan alat pengukur kelonjongan yang dapat mengoptimalkan masa pengiraan agregat. Pengujian batu agregat memainkan peranan penting dalam usaha ini, dengan penekanan pada pembangunan kaedah inovatif yang membolehkan pengubahsuaian pengujian tanpa perlu mengubah saiz setiap lubang. Pendekatan ini adalah kunci dalam menangani cabaran dengan lebih berkesan dan efisien. Sebagai langkah awal, alat pengukur kelonjongan asal diambil sebagai rujukan bagi memastikan ketepatan ukuran lubang kekal terjamin. Inovasi ini turut disertakan dengan sistem aplikasi mudah alih yang membolehkan batu agregat ditimbang secara langsung semasa diukur. Setelah pemasangan sistem selesai, pengujian dilakukan untuk memastikan agregat dapat melalui setiap lubang yang disediakan untuk mendapatkan berat agregat selepas ditinggalkan mengikut saiz. Keputusan menunjukkan bahawa inovasi dalam pengujian indeks flakiness ini mampu mempercepatkan proses dengan ketara, tanpa memerlukan masa yang panjang. Hasil kajian ini terbukti memuaskan dan sesuai dijadikan alternatif dalam pengujian batu agregat.

OBJEKTIF

- Mereka bentuk Flakiness Box System.
- Untuk mengoptimalkan masa pengujian agregat.
- Untuk meminimalkan tenaga kerja.

PENYATAAN MASALAH

- Mengambil masa yang panjang untuk menjalankan pengujian agregat.
- Memerlukan tenaga kerja yang banyak.

PROSEDUR



MULA

PENGENALAN

Flakiness Box System adalah sebuah inovasi untuk meningkatkan kecekapan dalam pengujian batu agregat.



NOVELTI PROJEK

- Mudah digunakan.
- Mengekalkan kualiti batu agregat.
- Masa pengujian yang lebih pantas dan efisien.

METODOLOGI PENYELIDIKAN

- Penghasilan Flakiness Box System menggunakan kayu.
- Penghasilan Flakiness gauge pada kotak menggunakan plat besi.

TINJAUAN LITERATUR

PENGUMPULAN DATA DAN PEMROSESAN DATA

- Mengira dan merekodkan masa yang diperlukan untuk menguji sampel agregat secara manual dan menggunakan Flakiness Box System.
- Soal selidik menggunakan "Google Form".

POTENSI PENGKOMERSILAN

- Flakiness Box System dapat menawarkan penyelesaian pantas dan efisien untuk pengujian indeks flakiness batu agregat.
- Flakiness Box System mempunyai aplikasi sistem penimbangan automatik yang dapat memberikan nilai tambah kepada industri pembinaan.

ANALISIS

- Dengan menggunakan Flakiness Box System julat waktu yang diperlukan untuk menguji 30 agregat berketang dari 30-200mm menjadi 5-10 minit berbanding kaedah manual.
- Inovasi ini dapat mengurangkan jumlah tenaga kerja berbanding kaedah manual.
- Dengan menggunakan Flakiness Box System, jumlah agregat yg dpt diuji dalam masa 30 minit meningkat dari 60 biji ke 180 biji mengikut masa min bagi julat yang direkodkan.

TIDAK

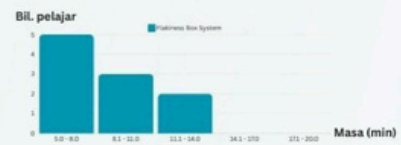
YA

KESIMPULAN DAN CADANGAN

- Berdasarkan hasil simulasi, inovasi Flakiness Box System menunjukkan hasil yang positif dan menguntungkan serta dapat meningkatkan produktiviti hasil ujian agregat.
- Menggunakan "stainless steel" untuk kegunaan jangka panjang untuk menggantikan Flakiness Box System berkarat.

AKHIR

ANALISIS DATA



KESIMPULAN

- Dapat menghasilkan inovasi dalam pengujian indeks flakiness batu agregat melalui penggunaan sistem Flakiness Box yang dilengkapi aplikasi sistem mudah alih.
- Mempercepatkan proses pengujian dan pengukuran.
- Keberkesanan sistem Flakiness Box sebagai alternatif yang lebih efisien berbanding alat pengukuran kelonjongan sedia ada.

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE: KONKRIT TERAPUNG MENGGUNAKAN STYROFOAM DAN FIBERGLASS

Objektif

- Menghasilkan konkrit terapung dengan campuran konkrit yang mampu terapung dan sesuai dengan bahan-bahan seperti styrofoam atau fiberglass untuk mencapai keapungan tanpa memusnahkan kestabilan struktur.
- Menguji keapungan dan menilai konkrit yang dihasilkan dengan cara mengukur daya apungan terhadap berat konkrit di dalam air, untuk memastikan ia dapat terapung secara berkesan
- Menguji kekuatan seperti halaju, mampatan dan ketahanan terhadap beban, bagi memastikan ia sesuai digunakan dalam aplikasi tertentu.

Nama Penyelia
En. Muhammad Sadli bin Abdullah



Nur Raudhatul Najwa binti Ramlı
006DKA22F1059



Ainul Mardhiah binti Hamid
06DKA22F1106



Elavarasan A/L. Kanasamy
06DKA22F1109

Abstrak

Kajian ini dilakukan untuk menghasilkan konkrit terapung dengan menggunakan styrofoam dan fiberglass sebagai bahan tambahan bagi menghasilkan konkrit ringan yang kukuh dan tahan lama. Styrofoam berfungsi sebagai agregat ringan yang dapat mengurangkan ketumpatan konkrit, sementara fiberglass digunakan untuk meningkatkan kekuatan tegangan dan daya tahan terhadap retakan. Penggunaan bahan-bahan ini bukan sahaja dapat mengurangkan berat konkrit tetapi juga meningkatkan ciri-ciri penebat haba dan bunyi yang menjadikan konkrit ini sesuai untuk aplikasi dalam pembinaan moden dan struktur terapung seperti tembok serta struktur terapung lain yang berada di permukaan air.

Ujian kekuatan dan ketahanan dilakukan untuk menilai pencapaian konkrit ini dari segi daya apungan, kekuatan mampatan, dan ketahanannya terhadap air. Hasil kajian menunjukkan bahawa konkrit terapung yang menggunakan styrofoam dan fiberglass dapat mengekalkan daya apungan yang baik serta menepati keperluan struktur ringan dengan kekuatan yang mencukupi untuk aplikasi kawasan marin. Di samping itu, penggunaan bahan terbuang seperti styrofoam dijadikan kaedah lebih mesra alam berpotensi untuk mengurangkan sisa buangan. Oleh itu, konkrit terapung ini memberi alternatif yang bagus dan cekap untuk pelbagai aplikasi pembinaan yang memerlukan bahan yang ringan, kuat dan terapung.

METODOLOGI



Kesimpulan

Kajian ini berjaya membuktikan bahawa penggunaan styrofoam dan fiberglass sebagai bahan tambahan dalam konkrit untuk menghasilkan konkrit terapung yang ringan. Tetapi ia gagal apabila ia dilakukan ujian mampatan kerana tidak mengikut spesifikasi yang diinginkan. Styrofoam berfungsi sebagai agregat ringan untuk mengurangkan ketumpatan konkrit, manakala fiberglass meningkatkan kekuatan tegangan dan daya tahan terhadap retakan. Melalui ujian yang dijalankan, konkrit terapung ini terbukti mampu mengekalkan daya apungan yang stabil menjadikannya sesuai untuk pelbagai aplikasi pembinaan seperti tembok serta struktur terapung lain yang memerlukan bahan yang ringan.

Di samping itu, penggunaan styrofoam sebagai bahan terbuang memberikan nilai tambah kepada produk ini dari segi kelestarian alam sekitar dengan mengurangkan sisa buangan.

Kajian ini mencadangkan penggunaan konkrit terapung dengan komposisi styrofoam dan fiberglass sebagai alternatif yang cekap dan mampan dalam industri pembinaan, terutama bagi aplikasi struktur yang memerlukan daya apungan serta penebatan haba dan bunyi yang baik.

Data & analysis

7 hari

1:2:3		1:1.5:2.5		1:2:4	
Load	Strength	Load	Strength	Load	Strength
16.318	0.7	16.567	0.7	20.120	0.9
12.832	0.6	7.310	0.3	33.654	1.5
10.796	0.5	4.119	0.2	14.552	0.6

28 hari

1:2:3		1:1.5:2.5		1:2:4	
Load	Strength	Load	Strength	Load	Strength
24.669	1.1	2.241	0.1	32.138	1.4
23.470	1.0	3.304	0.2	22.406	1.0
19.564	0.9	21.206	0.9	26.140	1.2

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

PENYELIA



EN. MOHD FIRHAN BIN ANUAR

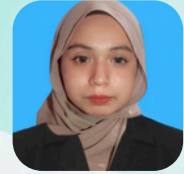
AHLI KUMPULAN



NURUL AMIRAH AMANIE
BINTI MAT SHUKRI
06DKA22F1033



NURFARAHANNANI
BINTI HUSSIN
06DKA22F1035



NUR BATRISYIA
BINTI ABDUL AZIZ
06DKA22F1036

TITLE : MINI SCAFFOLDING FOR LIGHT USAGE

ABSTRAK

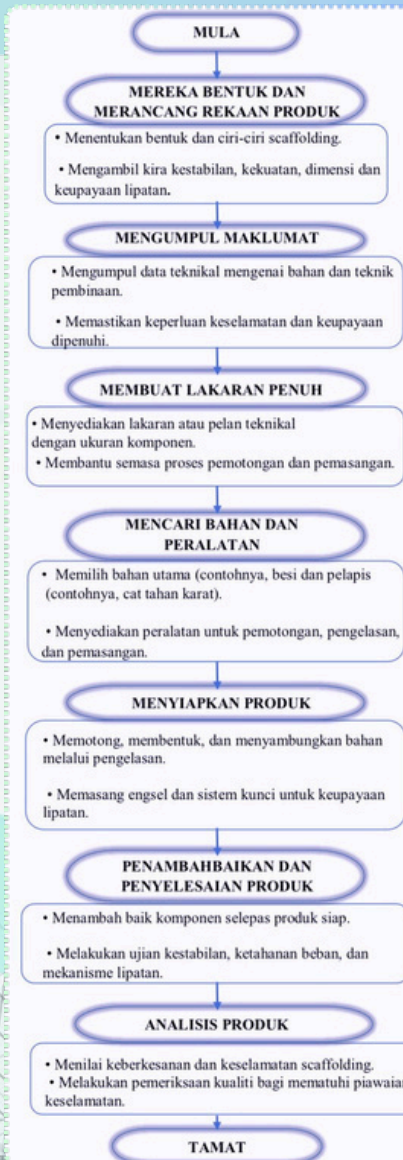
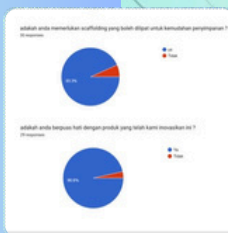
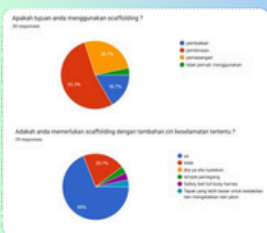
Scaffolding atau perancah ialah struktur sementara dalam pembinaan yang menyokong pekerja dan bahan. Terdapat pelbagai jenis perancah untuk kerja ringan dan tinggi, diperbuat daripada bahan seperti kayu, besi, dan aluminium yang perlu bebas kecacatan untuk keselamatan. Bagi projek ini, mini scaffolding direka dengan konsep lipat, mudah dibawa dan disimpan, serta tahan lama, menjadikannya ideal untuk ruang sempit dan tapak kerja dalam pelbagai cuaca.

OBJEKTIF

- Mereka bentuk scaffolding mudah alih untuk kegunaan kontraktor kecil
- Meminimumkan waktu pemasangan dan pembongkaran kerana dapat dilipat
- Membuat fabrikasi terhadap scaffolding mudah alih

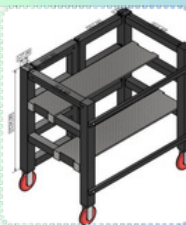
ANALISIS

ASPEK	SCAFFOLDING BIASA	SCAFFOLDING YANG TELAH DINOVAASI
Reka Bentuk	Struktur tetap, tidak boleh dilipat	Reka bentuk boleh dilipat, dan dilengkapi tayar
Kesesuaian	Sesuai untuk projek jangka panjang atau tetap	Sesuai untuk projek jangka pendek atau mudah alih
Kos	Kos rendah namun pemasangan memakan masa dan tenaga kerja	Kos mungkin lebih tinggi tetapi menjimatkan tenaga dan masa pemasangan
Masa Pemasangan	Pemasangan yang memakan masa	Pemasangan yang cepat dan mudah, terutamanya bila dilipat
Penggunaan Ruang	Memakan ruang yang lebih besar	Menjimatkan ruang kerana boleh dilipat
Estetika	Mungkin kurang menarik secara visual	Reka bentuk yang lebih moden dan menarik



KESIMPULAN

Scaffolding mini yang boleh dilipat direka sebagai platform kerja stabil dan mudah dibawa, ideal untuk tempat sukar dicapai. Ia membolehkan pekerja menjalankan tugas pada ketinggian dengan risiko jatuh yang rendah, serta mempermudah penyelenggaraan dengan pemasangan dan pembongkaran yang cepat. Dengan ciri keselamatan dan kemudahan penggunaan, scaffolding ini meningkatkan produktiviti dan menjamin keselamatan pekerja, menjadikannya pilihan praktikal untuk akses sementara di pelbagai situasi penyelenggaraan dan pembaikan.



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TAJUK FYP

CADDY CLEAN

PENYELIA



TS. DR. ENGU SHAHRULERIZALHAZLAN
BIN ENGU AB RAHMAN



Civil Engineering Department
Politeknik Port Dickson

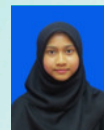
AHLI KUMPULAN



NURATIKAH HUMAYRAH
BINI ABDULLAH
06DKA22F1054
Civil Engineering Department
Politeknik Port Dickson



NUR NABILA
BINI MOHD JOHAR
06DKA22F1055
Civil Engineering Department
Politeknik Port Dickson



NUR MAISARAH UMIRAH
BINI RAMLAN
06DKA22F1049
Civil Engineering Department
Politeknik Port Dickson

ABSTRAK

Projek ini bertujuan untuk mereka bentuk dan menguji *Caddy Clean*, sistem pembersihan tangki air separa mudah alih untuk kawasan kediaman. Sistem ini direka untuk menangani isu sedimen yang menjejaskan kebersihan air dalam tangki. Metodologi melibatkan pembangunan prototipa menggunakan Arduino yang boleh dikawal melalui aplikasi telefon pintar, menjadikan pembersihan lebih cekap. Kajian di Teluk Kemang dan Taman Politeknik Port Dickson menunjukkan bahawa *Caddy Clean* lebih fleksibel dan mudah digunakan. Hasil menunjukkan peningkatan kebersihan air dan proses pembersihan yang lebih efisien. Kesimpulannya, *Caddy Clean* menawarkan penyelesaian inovatif untuk pembersihan tangki air dengan potensi penambahbaikan automasi di masa depan.

OBJEKTIF

- Mereka bentuk sistem pembersihan tangki air domestik di kawasan perumahan
- Menguji tahap keboleherjaan sistem *Caddy Clean* berbanding kaedah manual
- Menguji tahap kepuasan pengguna terhadap *Caddy Clean*

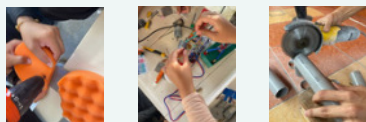
KEBAHARUAN PROJEK

- Reka bentuk ringan dan mudah alih
- Teknologi berasaskan Arduino
- Kawalan sistem melalui aplikasi telefon pintar
- Mesra pengguna

PENYATAAN MASALAH

- Tangki air yang tidak diselenggara dengan baik boleh membahayakan kesihatan pengguna akibat kualiti air yang merosot. pembersihan
- Bahan kimia dalam agen berpotensi memudaratkan kesihatan.
- Kaedah pembersihan sedia ada memerlukan tenaga buruh tinggi dan membahayakan keselamatan pengguna. Zarah lumpur dan pasir yang terkumpul di bahagian bawah tangki boleh menyumbat paip, menyukarkan dan mengurangkan aliran air.

PROSEDUR



1. Mengikat berus dengan skru



2. Menyambungkan wayar dengan papan Arduino



3. Memotong PVC menggunakan alat pemotong



4. Megetatkan laluan keluar masuk air



5. Gambar keseruhan



6. Mencantikkan kayu dengan mengecat



7. Menjalankan ujian jumlah pepejal terlarut (TDS)



8. Menjalankan ujian kekeruhan air



9. Model 3D



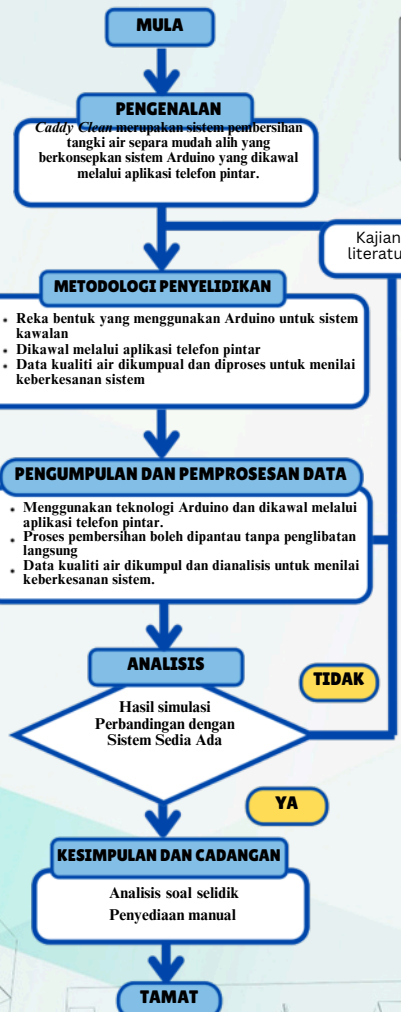
10. Coding Arduino



11. Aplikasi *Caddy Clean*

KESIMPULAN

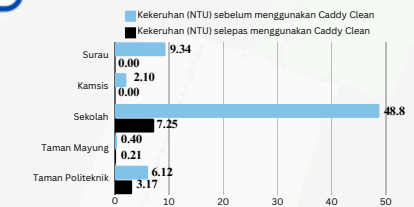
Projek ini berjaya mencapai objektif dengan menghasilkan sistem pembersihan tangki air domestik yang direka khusus untuk kawasan perumahan. Ujian menunjukkan *Caddy Clean* berfungsi lebih baik berbanding kaedah sedia ada, dan tinjauan mendapati pengguna sangat berpuas hati, menjadikannya penyelesaian inovatif dan praktikal.



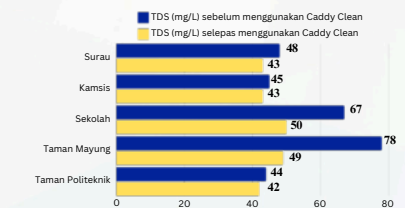
POTENSI PENGKOMERSIALIAN

Menyediakan penyelesaian inovatif yang selaras dengan keperluan semasa dan masa depan dalam industri pengurusan air. Menjimatkan masa dan mengurangkan risiko keselamatan.

ANALISIS DATA



Graf 1.0: Perbandingan NTU (Kekeruhan) Sebelum dan Selepas Menggunakan *Caddy Clean*.



Graf 1.1: Perubahan Jumlah Pepejal Terlarut (TDS) Sebelum dan Selepas Menggunakan *Caddy Clean*.



Graf 1.3: Kekerapan Pembersihan Tangki Air Rumah oleh Responden

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

ECO-GROW BIODEGRADABLE SEEDLING POT

RIDEC-1799



Supervisor:
Pn. Sarinah binti Ali



Illya Athirah



Amna Syafiyah



Nabilah Husna

INTRODUCTION

- The use of plastic polybags is very harmful to nature.
- Using agricultural materials can help preserve the environment.
- This can be seen from the ineffective use of agricultural waste.
- These pot are also made from fully agricultural materials.

OBJECTIVE

1. Produce compose degradable seedling vases by using organic material (tea bag powder, egg shell, coco peat, corn starch and pofa)
2. To determine the temperature, ph and moisture content of the organic planting soil in eco-grow pot
3. Studying the growth rate of chili plants using eco-grow pot

METHODOLOGY

PREPARATION OF THE POT :

1. Sifting throughout all of the material to get a smoother texture.
2. Combine the material using a material ratio 3:2:2:3 which is POFA, tea powder, egg shell and starch.
3. The finished vase dough will be placed in the mold container.
4. The vase mold will be removed before being baked in the oven for 24 hours at 90°C
5. After the vase is done, proceed with plant chilis trees and conduct test such as ph value, temperature and moisture content and collect the data.



CONDUCTED TEST AND MATERIAL

Materials:

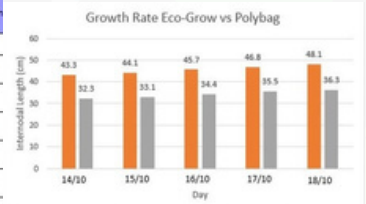


Conducted test:



RESULTS

FINAL WEEK	Internodal Length (cm)			
Day/ Date	Eco-grow Biodegradable Seedling Pot	Polybag	Change in length	% change in length
Sunday	-	-	-	-
Monday (14/10/2024)	43.3	32.3	11	25.40
Tuesday (15/10/2024)	44.1	33.1	11	24.94
Wednesday (16/10/2024)	45.7	34.4	11.3	24.73
Thursday (17/10/2024)	46.8	35.5	11.3	24.15
Friday (18/10/2024)	48.1	36.3	11.8	24.53
Saturday	-	-	-	-



ACHIEVEMENT



Discussion and sharing of ideas with MARDI



CONCLUSION

This product includes a combination of agricultural and material fields. It was inspired to innovate this product from the excessive use of plastic. Although the use of plastic bags for the purpose of buying and selling is no longer relevant nowadays, but we can see that the agricultural industry still uses a high amount of plastic bags for the process of planting seedlings. Eco-Grow Biodegradable Seedling Pot is a suitable alternative for this problem and can have a good effect against the agricultural industry

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

ID PROJECT: 1801
NO BOOTH: 01

AUTO ASSIST SMARTLANE LIGHT

PENYELIA : PN NORZAIHASRA BINTI SAABA



ANDRIAN RIFQI CHANG BIN
MUHAMMAD AMIRUL CHANG
(06DKA22F1008)



NUR AIN NAJIHAH BINTI AMRAN
(06DKA22F100)



MUHAMMAD ALIF FARHAN BIN
SHARRY
(06DKA22F1009)

ABSTRAK

Lebuhraya Utara Selatan merupakan laluan utama yang menghubungkan utara dan selatan SEMENANJUNG MALAYSIA merentasi lapan buah negeri. Dengan kapasiti pengguna yang tinggi terutamanya pada hari cuti umum & cuti sekolah. SMARTLANE diwujudkan untuk mengurangkan kesesakan lalu lintas Lebuhraya Utara Selatan. Namun begitu, masih ramai pengguna lebuhraya yang tidak peka dengan pengaktifan SMARTLANE. Auto Assist Smartlane Light dicipta untuk menarik perhatian pengguna lebuhraya tentang SMARTLANE. Inovasi ini dijangka dapat mengurangkan kesesakan lalu lintas di lebuhraya apabila ada kemalangan berlaku di hadapan.

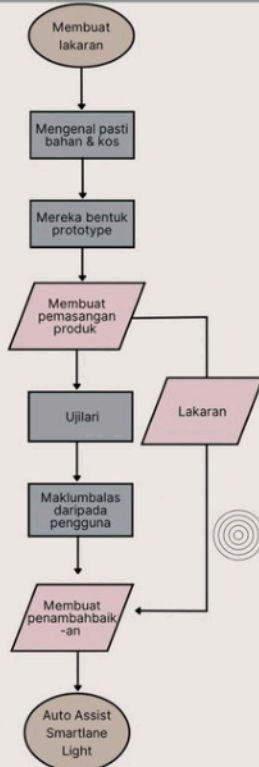
OBJEKTIF

1. Mereka bentuk sistem arahan secara visual dengan lebih jelas tentang SMARTLANE kepada pengguna lebuhraya
2. Menguji keberkesanan AUTO ASSIST SMARTLANE LIGHT dari segi fungsi di lebuhraya
3. Mengenalpasti sejauh manakah keberkesanan AUTO ASSIST SMARTLANE LIGHT di kalangan pengguna lebuhraya

KESIMPULAN

Pemasangan Auto Assist Smartlane Light di lebuhraya menunjukkan keberkesanan yang tinggi dalam memberi arahan visual yang jelas. Hasil ujikaji menunjukkan bahawa pengguna lebuhraya memberikan maklum balas positif, memperlihatkan potensi sistem ini untuk meningkatkan keselamatan dan aliran trafik di masa hadapan.

METADOLOGI



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ANALISIS



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE

DEVELOPMENT OF A VERTIGROW PROTOTYPE INTEGRATING FISH FARMING AND PLANT CULTIVATION

Pendahuluan

Dalam era kesedaran alam sekitar dan amalan mampan, penyelesaian inovatif adalah penting untuk memenuhi permintaan yang semakin meningkat untuk pengeluaran makanan sambil meminimumkan kesan ekologi. Prototaip Vertigrow muncul sebagai usaha perintis, yang menggabungkan penternakan ikan dengan penanaman tumbuhan dalam sistem bersepadu secara vertikal.



06DKA22F1224
NOORAZRINA

06DKA21F2009
NUR SABRINA

06DKA22F1118
NURUL ATIKAH

SUPERVISOR : DR. ZURAIDAH BINTI AHMAD

Objektif

- Membangunkan prototaip VertiGrow yang mengintegrasikan penternakan ikan dan penanaman tumbuhan.
- Menilai kualiti air kolam ikan untuk memastikan pematuhan kepada piawaian Jabatan Perikanan Malaysia dengan menjalankan ujian untuk:
 - 2.1 tahap ammonia,
 - 2.2 pH,
 - 2.3 oksigen terlarut (DO)
 - 2.4 suhu

Penyataan Masalah

- Pengoptimuman Ruang:**
Akuaponik tradisional memerlukan kawasan yang luas, yang mengehadkan penggunaannya di bandar. Prototaip yang disusun secara vertikal boleh memaksimumkan ruang, menjadikannya lebih sesuai untuk persekitaran bandar.
- Keberdayaan Ekonomi:**
Kos adalah faktor utama untuk penerimaan akuaponik. Prototaip VertiGrow harus menggunakan bahan yang berpatutan dan kaedah yang cekap untuk mengurangkan kos dan bersaing dengan pertanian tradisional.
- Kecekapan Sumber:**
Penggunaan air dan nutrien yang cekap adalah penting. Prototaip ini harus mempunyai sistem kitar semula air dan operasi yang cekap tenaga untuk mengurangkan pembaziran dan kesan terhadap alam sekitar.

Metodologi



Jadual 1: Kelas Indeks Kualiti Air dan Status Pencemaran

Kelas/Parameter	Kelas I	Kelas II	Kelas III	Kelas IV	Kelas V
Nitrogen Ammonia (mg/l)	<0.1	0.1– 0.3	0.3– 0.9	0.9– 2.7	> 2.7
BOD (mg/l)	< 1	1– 3	3– 6	6– 12	> 12
COD (mg/l)	< 10	10– 25	25– 50	50– 100	> 100
DO (mg/l)	> 7	5– 7	3– 5	1– 3	< 1
pH	> 7	6– 7	5– 6	< 5	< 5
Indek Kualiti Air (IKA)	> 92.7	76.5– 92.7	51.9– 76.5	31.0– 51.9	< 31.0
Status Pencemaran	Tidak Tercemar	Sedikit Tercemar	Sederhana Tercemar	Tercemar	Sangat Tercemar

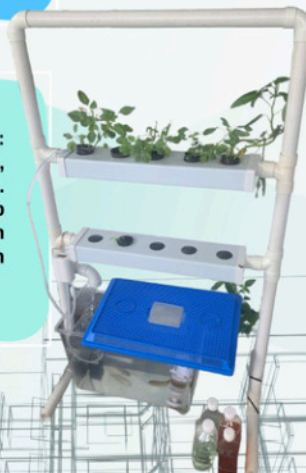
Sumber : Jabatan Alam Sekitar

Data & Analisis

PARAMETER /MINGGU	PH	AMMONIA	OKSIGEN	SUHU
MINGGU 1	6.7	0.4	7.0	30
MINGGU 2	6.9	0.3	6.8	25
MINGGU 3	8.3	0.5	5.2	28
MINGGU 4	7.7	0.3	7.8	27

Penutup

Kajian ini menggunakan pendekatan kaedah campuran: pandangan kualitatif membimbing reka bentuk VertiGrow, manakala penilaian kuantitatif memastikan kualiti air. Keperluan pengguna memberi inspirasi kepada prototaip VertiGrow berasaskan akuaponik, yang menawarkan penyelesaian mampan untuk pertanian bandar dalam ruang terhad.



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CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

PRODUCT NAME : **EFFECTIVENESS OF SELF-CLEANING ROOF GUTTER SCREEN PROTOTYPE IN PREVENTING DEBRIS BUILD UP**

“
DR. ZURAIDAH BINTI AHMAD
Supervisor
”



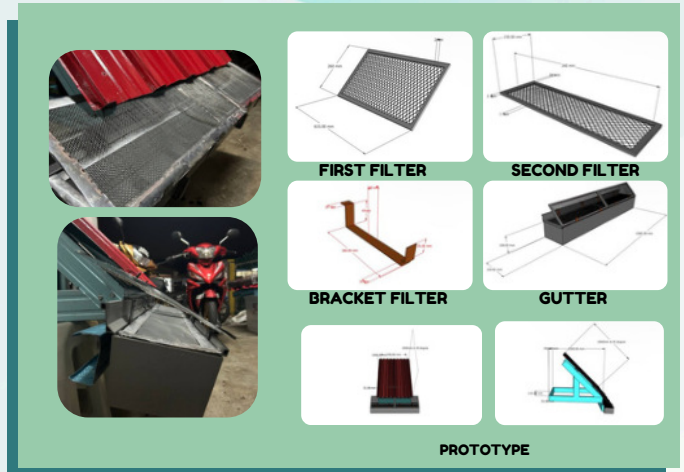
“
ILHAM FIQRI BIN
HASNUL JOHARI
06DKA22F1116
”



“
AIMAN HAKIM BIN
ZAMRI
06DKA22F1120
”



“
MEGAT MUHAMAD FIRDAUS
BIN WAN ABDUL RASHID
06DKA22F1127
”



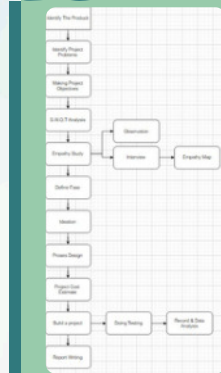
BACKGROUND

The "Roof Gutter Screening" project aims to enhance water drainage and management in gutter systems. Traditional gutters effectively direct rainwater away from buildings but struggle to prevent debris accumulation, leading to clogged gutters and downspouts. This blockage can cause leaks and damage to roofing. Additionally, maintaining gutters can be challenging and costly, especially due to the height of roof gutters, which increases the risk of accidents during service maintenance. The project seeks to address these issues through innovative screening solutions.

PROJECT SCOPE

- **Design and Prototyping:** Creating self-cleaning gutter screens to prevent debris build-up and enhance functionality.
- **Testing and Validation:** Evaluating the effectiveness and reliability of these screens, particularly in areas with trees.
- **Cost and Safety Considerations:** Aiming to minimize maintenance costs, reduce accident risks, and extend the lifespan of gutter systems.

METHODOLOGY



INNOVATION HIGHLIGHT

- Preventing the accumulation of debris.
- Preventing the overflow or stagnant water.
- Preventing the Mosquito Breeding.
- Manual works for Maintenance.
- Easy handling.
- Time saving.

OBJECTIVE

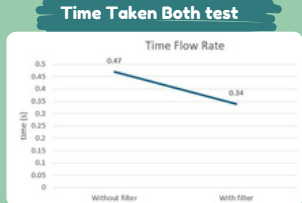
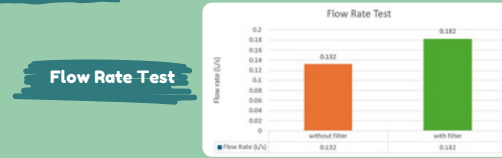
- Develop a prototype of a self-cleaning roof gutter screen that effectively mitigates debris buildup.
- Evaluate the effectiveness of the self-cleaning roof gutter screen in mitigating debris buildup by conducting the following tests:

1. Debris Accumulation Test
2. Flow Rate Test

PROBLEM STATEMENT

- Traditional roof gutters are often neglected, resulting in damage and dysfunction due to debris accumulation.
- This leads to blockages and overflow, causing structural damage, water seepage, and aesthetic issues.
- Stagnant water can also foster Aedes mosquito breeding, raising the risk of dengue fever.
- Moreover, manual cleaning is labor-intensive and often overlooked, resulting in high maintenance costs and safety hazards.

RESULT ANALYSIS



Summary of analysis
These results show that the flow rate in Test 2 was higher (0.182 L/s) than in Test 1 (0.132 L/s), indicating faster drainage in Test 2. Meanwhile, the debris accumulation test shows that Test 2 is more effective (0.05 kg) in preventing debris from entering the gutter compared to Test 1 (0.15 kg).

CONCLUSION

The roof gutter screening project offers an effective solution to the common problems of debris accumulation in traditional gutters. By creating self-cleaning screens, the project reduces maintenance needs, lowers safety risks, and prevents water stagnation that can lead to mosquito breeding. Overall, this innovative product improves gutter functionality and helps protect buildings from damage.



Final Year Project

ID PROJEK : 1842

5 NOVEMBER 2024

MULTIPURPOSE TROWEL BOX



ABSTRAK

Projek ini bertujuan menghasilkan inovasi dari alat kulir yang sering mengalami masalah kehausan dan karat akibat kelembapan dan bahan kimia. Oleh itu, kulir ini menggunakan bahan *High Density Polyethylene* (HDPE) yang tahan terhadap air, kelembapan dan bahan kimia. *High Density Polyethylene* (HDPE) juga boleh dikitar semula serta dapat membantu alam sekitar dan mengurangkan kos bahan besi yang semakin meningkat. Selain itu, bahan *High Density Polyethylene* (HDPE) yang ringan dapat mengurangkan ketegangan pergelangan tangan, sesuai untuk penggunaan lebih lama dan selesa. Inovasi ini juga merangkumi mekanisme pemegang boleh tanggal menggunakan *bolt and nut* untuk memudahkan penyimpanan dan menukar tapak kulir mengikut kegunaan. Kotak khas disediakan untuk penyimpanan rapi kulir dan alat lain. Secara keseluruhan, projek ini bertujuan menyediakan alat yang sesuai dengan keperluan industri semasa dan memberi manfaat kepada pengguna.

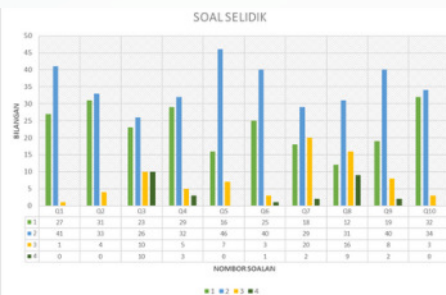
OBJEKTIF

- Menghasilkan sebuah kulir daripada bahan kitar semula iaitu *High-Density Polyethylene* (HDPE) dengan berprinsip kelestarian. Menilai perbezaan
- penyelenggaraan kulir sedia ada dengan produk *Multipurpose Trowel box* dengan memperhatikan keberkesanan bahan kitar semula.

METODOLOGI

Proses penghasilan projek ini merangkumi seperti di carta alir dengan menfokuskan kepada penyelesaian dan konsep kelestarian alam untuk hasil yang berkualiti. Kaedah penyelidikan melibatkan soal selidik melalui Google Form, ujian makmal untuk ketahanan kulir dengan dua kaedah dan analisis data menggunakan SPSS bagi pemprosesan yang lebih tepat.

ANALYSIS DATA



KESIMPULAN

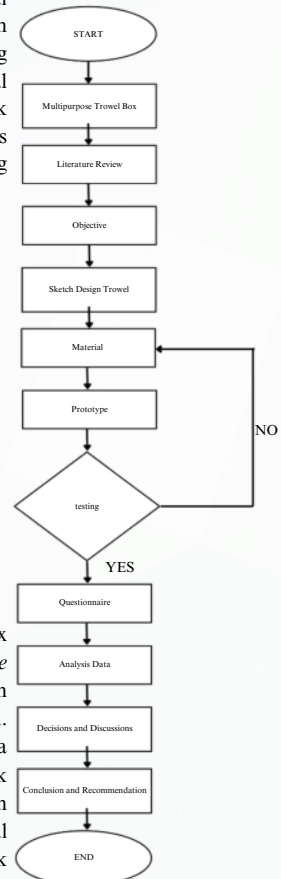
Kesimpulannya, projek *Multipurpose Trowel Box* yang menggunakan *High Density polyethylene* (HDPE) adalah inovasi yang memenuhi keperluan industri untuk alat yang tahan lama dan mesra alam. Penggunaan bahan kitar semula bukan sahaja menjimatkan kos, tetapi juga mengurangkan jejak karbon. Ciri-ciri seperti pemegang boleh tanggal dan kotak penyimpanan menjadikannya lebih praktikal dan menarik di pasaran. Projek ini berpotensi untuk memenuhi permintaan alat yang mesra alam dan mendorong amalan industri yang lebih lestari.

PENYELIA

- Encik Nurul Qammar binti Hazni



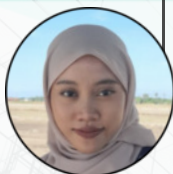
CARTA ALIR METODOLOGI



MUHAMMAD
ALIFF MUZAFAR
BIN HUZAINI
(06DKA22F2044)



MUHAMMAD
ALIF SHAQIR BIN
MOHD SHAFIEE
(06DKA22F1023)



NUR UMAIRAH
NADHIRAH BT
SHARIFUDDIN
(06DKA22F1013)

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

NO 26
PROJEK 1899

PORTABLE AWNING

PENYELIA : PN NORZAIHASRA BINTI SAABA

AHLI KUMPULAN



NUR SHAFIQAH BINTI ADENAN
06DKA22F1016



MUHAMMAD ASYRAF BIN MOHD AZMI
06DKA22F1093

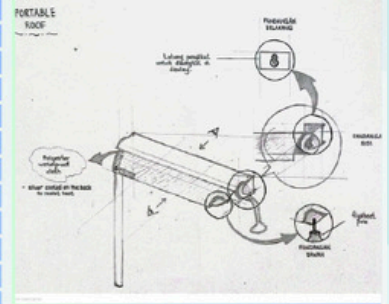
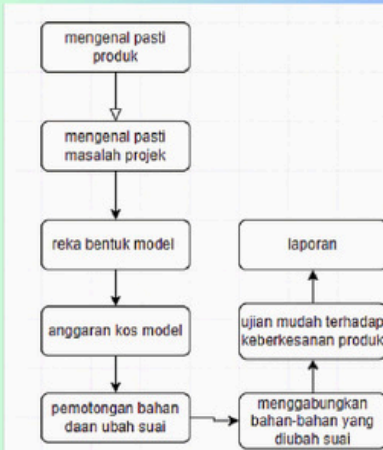
ABSTRAK

Projek ini bertujuan untuk mereka bentuk bumbung mudah alih yang ringan dan serbaguna, yang boleh digunakan dengan mudah dalam pelbagai fungsi seperti rumah kediaman,acara luar, tempat perlindungan kecemasan, dan kawasan rekreasi. Inovasi ini memudahkan pemasangan dan penggunaan yang lebih berkesan. Rekaan ini memberi tumpuan kepada ketahanan dan rintangan cuaca, serta menggunakan bahan lestari untuk mengurangkan kesan alam sekitar. Dengan memenuhi keperluan untuk penyelesaian tempat berlindung yang fleksibel, Projek Bumbung Mudah alih meningkatkan keselesaan aktiviti luar dan memberikan perlindungan sementara dari cuaca.

OBJEKTIF

1. Merekabentuk bumbung mudah alih menggunakan bahan yang lebih berkualiti seperti fabric flysheet poleyster
2. Penggunaan bumbung mudah alih (portable roof) boleh diukur ataupun ditetapkan
3. Penggunaan bumbung mudah alih (portable roof) ringan dan mudah untuk digunakan

METODOLOGI



DATA ANALISIS

RESPOND UNTUK PRODUK
PORTABLE AWNING

SEALAN	SANGAT BAIK SITUAS	BAIK SITUAS	SIKUT SITUAS	SIKUT SITUAS	SANGAT SIKUT
PROJEK INI ANTIHINJAU TANPA RANGKAIAN SUKSES			4	0	10
PROJEK INI BERTAMBAH SUKSES UNTUK SUKSES			3	4	24
PROJEK INI BERTAMBAH UNTUK SUKSES		1		6	25
PROJEK INI TANGKAP LAWAN SAMA SAMA MUSIBAH KEJADIAN	2		3	0	20
PROJEK INI SEMPURNA UNTUK SUKSES DI KAWASAN LAYANAN			3	0	22
PROJEK INI SEMPURNA UNTUK SUKSES RUMAH		1	2	0	10
PROJEK INI SEMPURNA UNTUK SUKSES MASA YANG SEMPURNA			10	0	20

TOTAL RESPONDS=30 RESPONDS

PADA PENDAPAT ANDA,ADAKAH PRODUK INI
MEMERLUKAN PENAMBAHBAIKAN?

Reasons to do
Sangat bagus
Pada pendapat saya, produk ini perlu ditambah baik dari segi kebesaran
Pada pendapat saya, produk ini perlu ditambah kelebihannya
Make it automatically before use di motor and suis

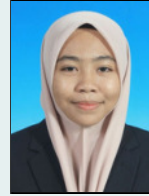
Product yg flexible, mudah dibawa utk activity outdoor dan outdoor
Penambahan tali pengikat / rubber band utk mengikat produk ke pada batang pokok / yang kayu amat sesuai terutamanya activity outdoor. Sesuai utk commercial utk activity pajaja sekiranya dari menghalang terkena panas dan hujan
Quality haruslah diperbaiki

KESIMPULAN

"Kesimpulannya, bumbung mudah alih ini diperbuat dari bahan yang berkualiti,mudah alih dan digunakan serta ringan untuk dibawa kemana-mana sahaja."

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

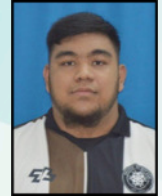
TITLE: Electronic Vehicle Counting (E-VeC)



NUR EMYRAH EISYA BT
SHAIFUL AZRUL
(06DKA22F1039)



MUHAMMAD AZIB AZRI
BIN SAHARUDDIN
(06DKA22F1056)



MOHAMAD FIRDAUS
DANIEL BIN MOHAMAD
(06DKA22F1125)

AZIZAH BINTI TUKIMAN (SUPERVISOR)
IR. TS. SUHAIZAD B. SLAIMAN (CO-SV INDUSTRI)

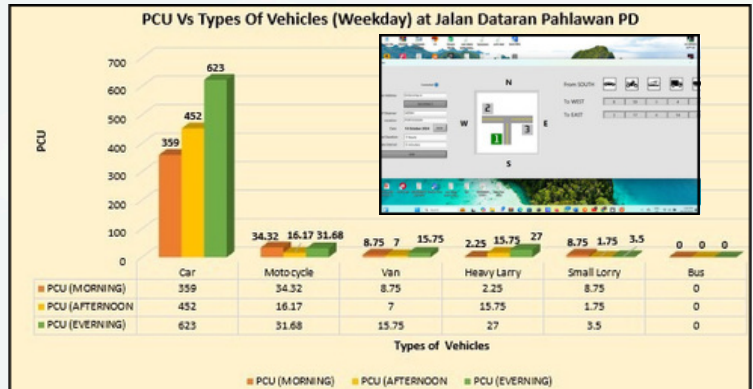
ABSTRACT

Traffic studies are a method of investigation that requires precision and a detailed analytical process for transportation systems in specific areas. In Malaysia traffic studies are conducted primarily by the Road Planning Unit (UPJ) under the Public Works Department (JKR) or by appointed consulting engineers. A significant innovation in this field is the Electronic Vehicle Count (E-VeC), which uses mobile apps and digital devices to facilitate vehicle counting by direction and type at intersections and along roads. This innovation aids Civil Engineering students and technical personnel in gathering traffic flow data. The design process begins with 3D modeling, followed by field data collection, which is analyzed and stored digitally for reporting. The collected data helps visualize traffic volume over time, especially during peak hours. Feedback from demonstration sessions and questionnaires indicates high approval rate: 95.6% found the product convenient, 71.1% recognized its impact, and 70% believed it is marketable. Overall, the innovation has received positive feedback and is seen as a significant improvement over manual counting methods and highlighting its potential for commercialization.

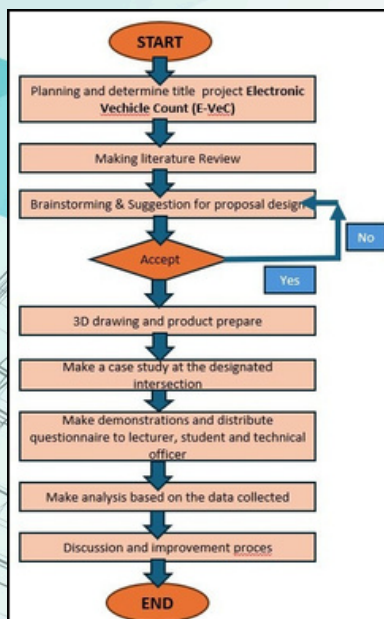
OBJECTIVES

- 1) To design and produce Electronic Vehicle Count (E-VEC) to assist students in learning sessions and data observation in the field
- 2) To determine traffic flow volume and intersection level through passenger car unit (PCU)
- 3) To measure the effectiveness of the innovation product in enhancing the Highway and Traffic Engineering course

ANALYSIS DATA



METHODOLOGY

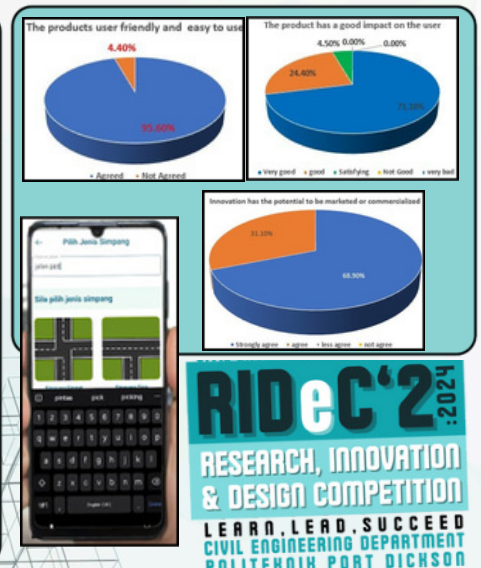


CONCLUSION

In summary, traffic flow technology is key to enhancing transportation efficiency, safety, and urban planning. By analyzing traffic patterns, this technology supports better infrastructure planning, effective policy-making, and sustainable development.

Impact for this project are:

- E-VeC can solve issues during manual data collection using tally sheet and stationaries on sites, by transforming data collection into automatic methods and recorded in an electronic database.
- Data is processed efficiently and reduces errors during data collection significantly.
- Teaching and Learning processes for Highway and Traffic Engineering is improved as it reduces guided learning for one type of study to produce a complete laboratory report.



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE: SILING PLASTER SERAT BULUH

ABSTRAK

Pembinaan biasanya merangkumi aspek pemasangan secara fizikal seperti pemasangan siling yang menjadi aspek utama dalam pembinaan. Siling plaster serat buluh ialah siling plaster yang ditambah dengan bahan serat buluh untuk menggantikan fiber. serat buluh mempunyai keistimewaan tersendiri dalam aspek kekuatan dan penyerapan air yang bagus. Selain itu dari kebanyakan siling yang sedia ada kami memilih siling plaster kerana penggunaan yang sangat meluas dan kami bercadang untuk meningkatkan lagi kualiti dan penggunaan bahan semula jadi. Seterusnya, kami mendapat inovasi untuk menggantikan bahan sedia ada dan kami mengkaji bahan yang digunakan sesuai atau tidak dengan menggunakan beberapa ujian.



FAHRURRAZI BIN
MAHYUN



MUHAMMAD
HAMAS BIN ABD
RAZAK
(06DKA22F1076)



DINIE HAIQAL BIN
MOHD NOOR
ASHIK
(06DKA22F1062)



IRFAN HAZIQ BIN
IRMEY
(06DKA22F1130)

SKOP PROJEK

Penghasilan produk ini dijalankan merangkumi kerja-kerja mendapatkan serat buluh daripada batang buluh yang boleh didapati di kawasan perkampungan untuk menghasilkan siling serta ujian ke atas siling. Prestasi siling kejuruteraan yang dihasilkan melibatkan peratusan resapan haba dan peratusan kadar resapan air antara siling yang dihasilkan dengan siling plaster pasaran. Oleh itu, terdapat 2 ujikaji yang akan dijalankan ke atas siling yang mana telah ditambah dengan serat buluh dan siling plaster sedia ada iaitu ujian resapan haba dan resapan air

PERNYATAAN MASALAH

Seperti yang kita ketahui, penggunaan plaster di dalam pembinaan sebuah rumah semakin meluas kerana kos dan keselesaan. Ini terbukti dalam projek-projek yang menggunakan plaster sebagai bahan utama untuk membina siling. Antara aspek-aspek kelemahan yang dikenalpasti ialah siling plaster ini mudah untuk retak disebabkan faktor kelembapan dan menyebabkan siling berubah warna menjadi kekuningan akibat air hujan. Oleh yang demikian, kami berharap dapat mencipta sejenis siling yang terdiri daripada serat buluh sebagai bahan tambahan dalam banchuan siling plaster bagi mengatasi masalah-masalah seperti yang dinyatakan di atas.

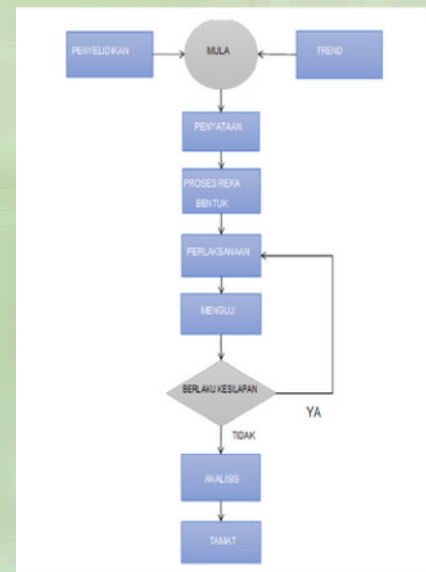
OBJEKTIF KAJIAN

1. mengenal pasti keberkesanan serat buluh sebagai bahan tambahan dalam campuran siling plaster
2. Membuat perbandingan dari segi ujian resapan haba dan resapan air antara siling plaster pasaran dengan siling plaster yang dicampurkan dengan serat buluh

DATA ANALISIS UJIAN SERAPAN AIR

Sampel/ Jum	Nama sampel	Berat sebelum	Berat selepas 24 jmn	Berat selepas 48 jmn	Berat selepas 72 jmn	Kadar serapan haba (%)	Purata serapan air (%)
Sampel 1	1a	202	202.5	202.5	202.5	0.17	0.16
	1b	202	202.4	202.5	202.5	0.15	
	1c	201	201.5	202.5	202.5	0.17	
Sampel 2	2a	203	203.3	203.4	203.4	0.12	0.093
	2b	202	202.1	202.2	202.2	0.06	
	2c	203	202.3	202.3	202.3	0.10	
Sampel 3	3a	203	203.5	203.4	203.4	0.14	0.15
	3b	203	203.4	203.4	203.4	0.13	
	3c	204	204.6	204.7	204.7	0.20	

METODOLOGI



FOTOGRAFI PROJEK



DATA ANALISIS UJIAN SERAPAN HABA

Berat/ Sample/ Suhm	Idi Sampel	Berat sebelum	Suhm			Berat akhir	Purata	Kadar resapan hsi (%)
			80°C	90°C	100°C			
Sampel 1	a	202	200	199.5	199.5	199.5	198.7	0.25
	b	203	201	201	201	201		
	c	202	200	200	200	200		
Sampel 2	a	204	202	202	202	202	202	0.24
	b	204	202	202	202	202		
	c	204	202	202	202	202		
Sampel 3	a	205	203	203	203	203	202.3	0.24
	b	204	202	202	202	202		
	c	205	204	202	202	202		

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE : FLOATING HOUSE SYSTEM

SUPERVISOR : PUAN AZIZAH BINTI TUKIMAN



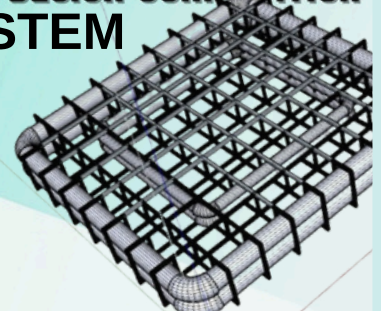
MUHAMMAD AKMALUL HAKIMI
BIN MOHD KAMALARIFIN
(06DKA22F1034)



ARISHA NURULIMAN
BINTI AZATULZAMAN
(06DKA22F1032)



AISHYAH SAFIYYA
BINTI ROSELY
(06DKA22F1043)



DATA ANALYSIS

ABSTRACT

Climate change has become a global issue, with floods being a recurrent disaster in Malaysia, particularly during monsoon seasons. This study aims to design and test a floating house structure using PVC pipes for buoyancy. The pipes enable the platform to stay afloat, with a calculated object density of 0.0001965 kg/m^3 , which is significantly less than water's density (1000 kg/m^3), ensuring floatation. Survey results show that 84% of respondents believe this floating house concept is a promising flood-response solution, and 49.1% agree that it effectively mitigates flood impacts. Additionally, 90% of respondents attribute floods to heavy rainfall. Although this innovation appears successful, further studies and field testing are necessary to evaluate its real-world effectiveness, stability, and portability for potential flood-prone applications.

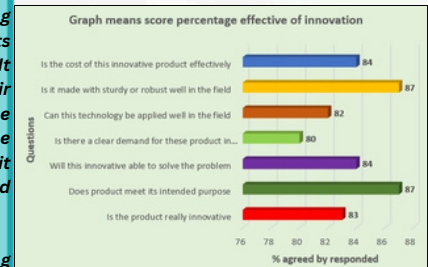
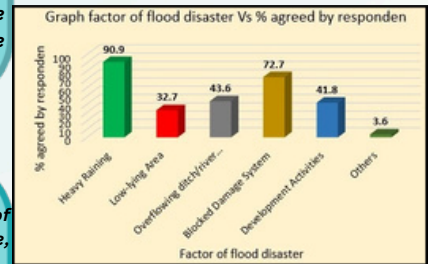
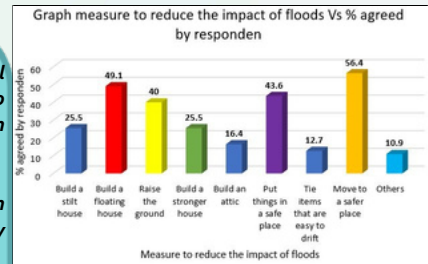
- #### OBJECTIVE
- To design and develop the structural floating house technology by taking into the floating stability and foundation system.
 - To get the stability and geometry study on suitable PVC pipes and geometry structures
 - To identify the problems and the effectiveness of innovation to the resident who are often affected by floods

CONCLUSION

In conclusion, we used UPVC pipes instead of wood for their durability, low maintenance, lightweight and user-friendly design.

Studies and tests showed that the Floating House System (FHS) reduces negative impacts on flood victims and the environment. It provides a safe space for families and their belongings during floods, especially for those who choose to stay with their possessions. The FHS also offers the elderly a safe place to wait until water levels drop, avoiding crowded shelters.

Overall, the project meets its goals of supporting the environment, reducing harm, and addressing flood issues. The FHS has been well received for being easy to control and maintain.



Stability on PVC pipes

$$P = M/V$$

$$P \text{ water} = 1000 \text{ kg/m}^3$$

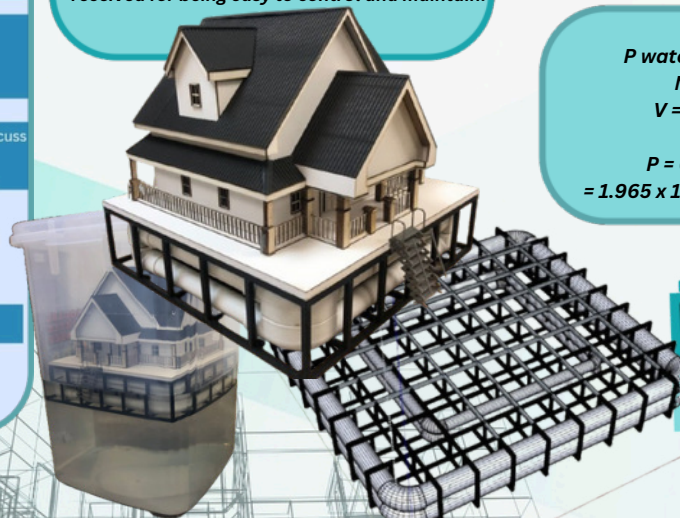
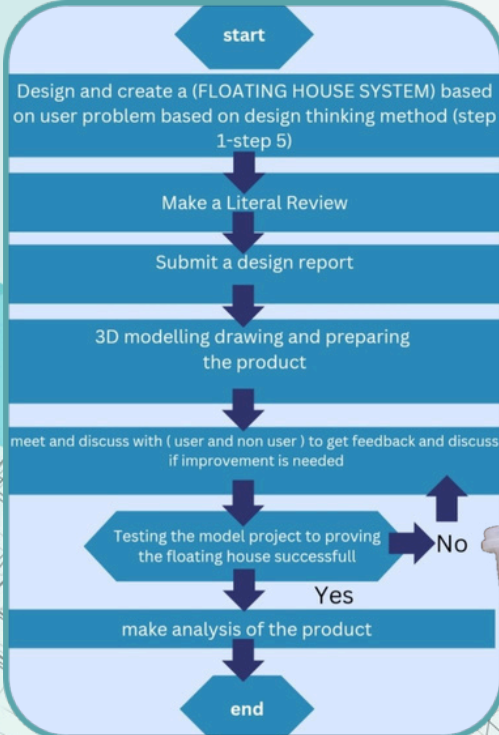
$$M = 0.25 \text{ kg}$$

$$V = 12721.28 \text{ m}^3$$

$$P = 0.25/12721.28$$

$$= 1.965 \times 10^{-5} < 1000 \text{ kg/m}^3$$

METHODOLOGY



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE: SMART TOOL BOX ENGINEERING

SUPERVISOR : ENCIK MOHD FIRHAN BIN ANUAR



MUHAMMAD SYARONI BIN MAT NASIR (06DKA22F1037)



MUHAMMAD ADAM LUQMAN BIN MOHD FARID (06DKA22F1060)



MUHAMMAD ZAREEF BIN ROHMAN (06DKA22F1053)



ABSTRAK

Smart Tool Box ialah penyelesaian inovatif pelbagai fungsi yang direka untuk meningkatkan kecekapan dan produktiviti dalam pelbagai industri. Smart Tool Box membolehkan pengguna memantau, mengurus dan mengoptimumkan alatan dan aliran kerja mereka dalam masa nyata. Tool Box ini bukan sahaja mengurangkan masa henti dan kos operasi tetapi juga meningkatkan keselamatan dengan memastikan alatan diselenggara dan diambil kira. Smart Tool Box mewakili kemajuan ketara dalam pembuatan pintar dan kecemerlangan operasi, membuka jalan untuk ruang kerja yang lebih berhubung dan pintar.

OBJEKTIF

- Untuk menyelesaikan masalah penyimpanan alatan yang tidak teratur. Untuk memudahkan akses kepada penyimpanan peralatan.
- Rak pelbagai fungsi

METHODOLOGI



KESIMPULAN

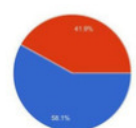
Smart Tool Box ialah rak penyimpanan alatan yang telah ditambah baik untuk memudahkan pengguna menyimpan dan menggunakan. Contoh penambahbaikan:

1. Ruang simpanan yang besar
2. Kuat dan kukuh
3. Pelbagai fungsi

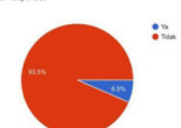


DATA ANALISIS

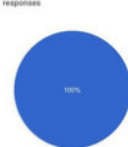
Adakah di rumah anda mempunyai kotak alatan ?
31 responses



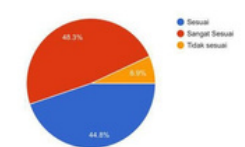
Adakah kotak alatan yang sedia ada anda mempunyai lampu sensor ?
31 responses



Adakah anda mempunyai kesukaran menggunakan kotak alatan pada waktu malam ?
31 responses



Adakah saiz kotak alatan ini sesuai dengan keperluan anda? 29 responses



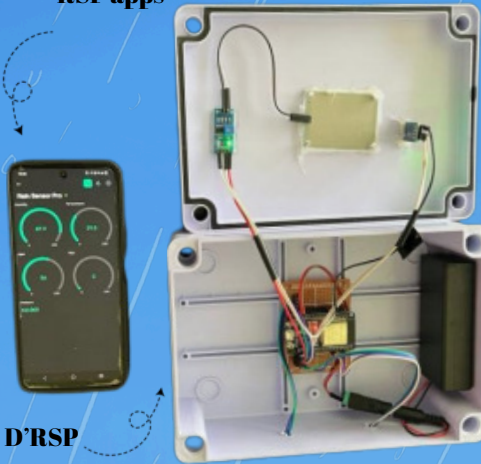
CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

RAIN SENSOR PRO

Cuaca yang tidak menentu pada masa sekarang menyebabkan kita perlu mendapat maklumat yang tepat terutamanya apabila merancang aktiviti luar. Seringkali juga ramalan hujan di sesuatu kawasan tetapi tidak berlaku menyebabkan aktiviti menjadi kurang berkesan. Keputusan kajian empati menunjukkan sensor sedia ada tidak banyak dan kurang liputan, berkos tinggi dan ada yang telah rosak disebabkan oleh dimasukinya serangga. Kaedah kajian dibahagikan kepada aplikasi GUI dan bahan-bahan yang akan digunakan ialah sensor hujan, solar, aduino, wayar, dan lain-lain. Rain Sensor Pro diharap dapat menangani masalah yang timbul dan dapat memberi maklumat keadaan hujan yang lebih tepat supaya perancangan aktiviti dapat dibuat dengan lebih berkesan.

RAIN SENSOR PRO (RSP)

RSP apps



D'RSP

PERNYATAAN MASALAH

i) Sukar untuk mengenalpasti bila akan berlakunya hujan di kawasan port dickson.

ii) Alat ramalan cuaca mudah dimasukinya serangga disebabkan reka bentuk yang kurang sesuai

iii) Kos sedia ada sangat tinggi (RM10000) (Jabatan Meteorologi Kuala Pilah)

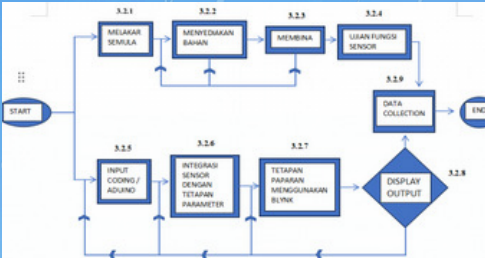
OBJEKTIF PROJEK

- Merekabentuk peranti infomasi cuaca
- Membina sistem RSP menggunakan sensor sentuhan dan aplikasi blynk
- Menjalankan ujian kepuasan pengguna terhadap aplikasi dan alat penderia dengan menguji sistem RSP.

SKOP PROJEK

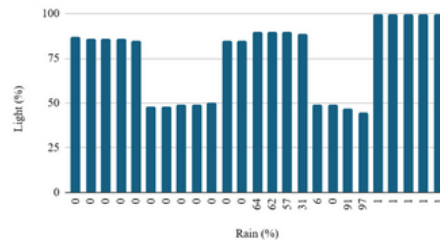
- Lokasi : Taman Politeknik Port Dickson
- Material /Hardware : Sensor - sentuhan Plastik, PVC, Bolt & Nut, Wire, Bateri, Modem etc.
- Software : Aplikasi - Blynk
- Output/display: Parameter Tekanan (kPa), suhu(C), peratusan hujan dan kelembapan.

METODOLOGI

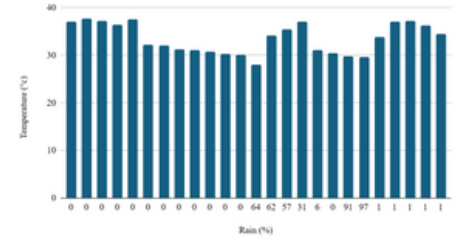


KEPUTUSAN

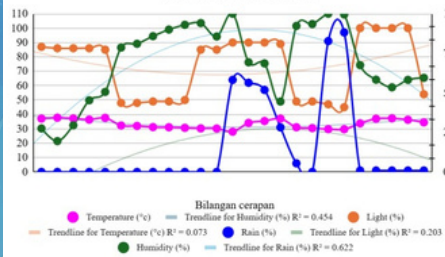
Light (%) vs Rain (%)



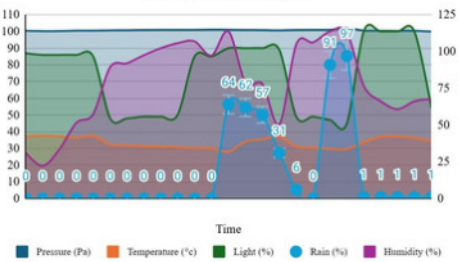
Temperature (°C) vs Rain (%)



Analisa Parameter Polynomial



Parameter Rain Sensor System



ID PROJEK : 1802

PENYELIA

DR. RUSLAWATI BINTI ABDUL WAHAB

AHLI KUMPULAN



ALEEVA SOFEA ROSLI BINTI
ABDULLAH
(06DKA22F1017)



WAN AHMAD DANISH BIN WAN
AZWADY
(06DKA22F1027)



ASVIN MOHAMMAD ERVEEN BIN
ASPIN
(06DKA22F1029)

KAJIAN LITERATUR

- Menurut kajian Prakoso et al. (2024). Hujan bagi pesawah adalah satu rahmat. Apabila tiba musim menuai, petani mengeringkan hasil tuai di halaman rumah atau pun di jalanan. Jika hujan turun dan petani yang mengeringkan bijirin mereka lambat untuk menyelamatkan daripada hujan. Beberapa kejadian bijirin basah akibat hujan, akibat leka petani mengeringkan bijirin, salah satunya tertidur akibat pencahapan.
- Penggera amaran hujan menggunakan sensor titisan hujan bertujuan untuk memberi amaran tentang hujan atau kemungkinan hujan. Kaedah dalam membuat penggera amaran ini adalah melalui kajian literatur. Hasil ujian alat tersebut menunjukkan alat yang dibuat dapat memberikan amaran hujan dengan menggunakan parameter kelembapan udara, suhu, dan tekanan. Daripada penyelidikan dan ujian peranti, dapat disimpulkan bahawa peningkatan kelembapan, penurunan suhu, dan penurunan tekanan menyumbang kepada kejadian hujan.

KESIMPULAN

- Projek ini berjaya mencapai objektif utama dalam membangunkan sistem pengesanan hujan secara langsung dengan ketepatan tinggi. Sensor yang dibangunkan dapat mengesan hujan serta membaca kelembapan, cahaya dan suhu peranti kajian, sensor ini telah di amartresfer kepada rps dan dalam memantau kehadiran hujan secara langsung.
- Projek ini menyumbang kepada perkembangan pengetahuan dalam teknologi pengesanan cuaca.
- Reputasi ini syarikat dengan faedahnya sistem yang mampu memberi maklumat cuaca secara langsung.

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE: **COCOTRAP**

Introduction

This project introduces Cocotrap, an innovative oil trap that uses coconut husks and coconut chunk as its main material. Cocotrap's primary concept is to enhance oil trap cleaning efficiency by utilizing the high absorbency of coconut husk and chunk. By using this materials, Cocotrap is expected to capture oil more effectively than conventional oil traps. Additionally, Cocotrap is designed to be portable, making cleaning easier by allowing users to remove and replace the coconut husks and chunk quickly, thereby increasing overall system efficiency. The use of Cocotrap aims to improve oil trap cleaning efficiency and reduce the negative environmental impact of oil pollution. Moreover, Cocotrap has the potential to become a top choice in the oil trap cleaning industry, leveraging readily available natural materials.

Abstract

This project introduces the use of coconut husks as the primary material in the innovative oil trap known as Cocotrap. The main concept of this product is to enhance the effectiveness of oil trap cleaning processes by leveraging the high absorption properties of coconut husks. By utilizing this material, Cocotrap can absorb oil more effectively than conventional oil traps. Additionally, the product is designed with a portable concept to facilitate the cleaning process. This portability allows users to remove and replace the coconut husks more easily and quickly, thus enhancing the overall efficiency of the system. It is expected that with the combination of the effectiveness of coconut husk filtration and the portability concept, Cocotrap will become the preferred choice in the oil trap cleaning industry. Further studies and field tests are required to assess the actual impact of this product in reducing oil pollution and its potential applications in other industries.

Problem Statement

- Troubling by clogged the grease trap.
- Unpleasant odour.
- Need to do maintenance everyday.

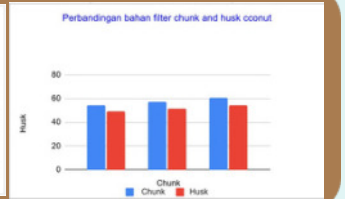
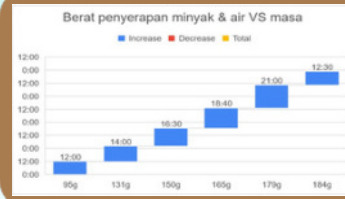
Objective

- Build and create an oil trap tool using suitable materials such as coconut husk and coconut chunk.
- Testing the effectiveness of the oil trap tool through tests such as oil filtration capacity, oil absorption capacity.

Methodology



Analysis



Group Members



MUHAMMAD SYAHMI BIN MOHD SYAHRIMAN
(06DKA22F1005)



TAARANESHWARY A/P SARAVANAN
(06DKA22F1004)



KUMARESH A/L SIVA KUMAR
(06DKA22F1004)

Conclusion

In conclusion, the combination of a water overflow sensor and coconut husk filters in a grease trap improves wastewater management by preventing overflow and clogs while promoting sustainability and efficiency. This eco-friendly approach supports cleaner water treatment and reduces environmental impact.

Supervisor Name: Dr. Ruslawati bt Abdul Wahab

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

RIDeC'2
RESEARCH, INNOVATION & DESIGN COMPETITION
LEARN, LEAD, SUCCEED
CIVIL ENGINEERING DEPARTMENT
POLITEKNIK PORT DICKSON
5th NOVEMBER 2024 | TUESDAY

TAJUK : KERUSI BELAJAR ERGONOMIK

ABSTRAK

Penyelidikan ini mereka bentuk kerusi belajar yang ergonomik daripada kayu terpakai bagi memenuhi keperluan pelajar Diploma Seni Bina (DSB) di sebuah politeknik. Dengan menerapkan prinsip ergonomik, kerusi ini meningkatkan keselesaan dan postur badan semasa sesi pembelajaran yang panjang. Keputusan menunjukkan bahawa kerusi ini dapat mengurangkan ketidakselesaan dan meningkatkan produktiviti pelajar, serta menggunakan bahan terbuang sebagai penyelesaian yang cekap dan mesra alam.



PN NOR HANIZA BINTI
MUSTAFAR KAMAR
SUPERVISOR



PN TINA BINTI MUSTAFA
SUPERVISOR



AMIRA SAFFA BINTI NOR
JAMANI
06DKA22F1090



MOHAMMAD FAHMI
BIN SAIRI
06DKA22F1073



MUHAMMAD SHAHFITRI
BIN SURYEMEI
06DKA22F1068

PENYATAAN MASALAH

Masalah Utama:

- Tekanan pada tulang belakang, bahu, dan leher akibat kerusi yang tidak ergonomik.
- Kesakitan dan keletihan otot di kalangan pelajar seni bina.
- Kekurangan sokongan dari kerusi sedia ada.

Cabaran Bahan:

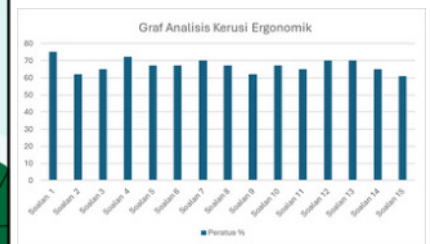
- Kayu terpakai menghadapi masalah kekuatan, kestabilan, dan keselesaan.
- Kurangnya Kesedaran: Pelajar kurang memahami kepentingan ergonomi.

METODOLOGI



Data Analisis

Untuk menilai kefungsiian dan keberkesanan kerusi belajar ergonomik, soal selidik telah diedarkan kepada empat puluh responden yang terdiri daripada pelajar DSB di Politeknik Port Dickson. Hasil dapatan tersebut dipersembahkan melalui carta palang dan diringkaskan di bawah.



OBJEKTIF

- Merekabentuk dan menghasilkan kerusi pelajar ergonomik daripada perabot kayu terpakai
- Menghasilkan perabot kerusi boleh laras ketinggian.
- Menguji keberkesanan kerusi belajar di studio lukisan

SKOP PROJEK

Tinjauan Literatur

- Kajian tentang ergonomik, reka bentuk kerusi, dan masalah kesihatan akibat kerusi tidak ergonomik.

Pengenalpastian Keperluan

- Mengenal pasti keperluan pelajar.
- Menilai kebolegunaan kayu terpakai dalam pembuatan kerusi.

Proses Pembuatan

- Reka bentuk, pembuatan, dan pengujian kerusi untuk memastikan keselesaan dan sokongan badan.

Penilaian Akhir

- Menilai kesan kerusi terhadap kesihatan pelajar, pengurangan pembaziran bahan, dan kepuasan pengguna.

KEPENTINGAN KAJIAN

Kajian ini menghasilkan kerusi belajar ergonomik dari kayu terpakai untuk pelajar seni bina, bertujuan mengurangkan masalah kesihatan, mendukung kelestarian, dan meningkatkan kesedaran ergonomi, serta mendorong kerjasama pendidikan-industri dan inovasi bahan buangan.

FOTOGRAFI PROJEK



Pandangan
Hadapan



Pandangan
Belakang



Pandangan sisi

KESIMPULAN

Kesimpulannya, penghasilan kerusi ergonomik untuk pelajar seni bina meningkatkan keselesaan, mengurangi ketegangan otot, dan mendukung postur yang baik selama sesi belajar yang panjang. Kerusi ini bukan hanya membantu menjaga kesihatan pelajar tetapi juga meningkatkan produktiviti dan kesedaran tentang kepentingan ergonomik.

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE : SAND FILTER



SUPERVISOR
PUAN AMILIA NOORLIN BINTI
H.J.MD.JELANI



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UMMU AFIQAH QURRATU'AINI
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ABSTRACT

This project aims to address issues observed in brick laboratory settings by designing a SAND FILTER that prevents sand from entering drains. The filter uses two nets of different mesh sizes to capture sand particles, allowing for sand reuse in practical work while simplifying drain maintenance. Constructed with PVC, L-shaped iron, and small and medium-sized iron nets, the filter efficiently captures sand and stone particles. The project followed a structured, methodological design approach to ensure practical production and testing. Results indicate that the SAND FILTER meets its objectives effectively, reducing sand accumulation in drains and promoting resource reuse.

OBJECTIVE

- 1) To design the SAND FILTER for the laboratory in Politeknik
- 2) To test the effectiveness of the SAND FILTER

PROBLEM STATEMENT

- 1) Pooled and began to overflow beyond the drain level
- 2) Blockages
- 3) Monitoring work has not been done

PROJECT PHOTOGRAPHY



METHODOLOGI

Problem Identification and Objective Settings

Design and Material Selection

Flowchart for Production Planning

Construction and Assembly

Testing and Evaluation

User Feedback

Final Analysis and Conclusion

DATA ANALYSIS

HOW SATISFIED ARE YOU WITH THE EFFECTIVENESS OF THE SAND FILTER IN REDUCING WATER POLLUTION?
20 responses

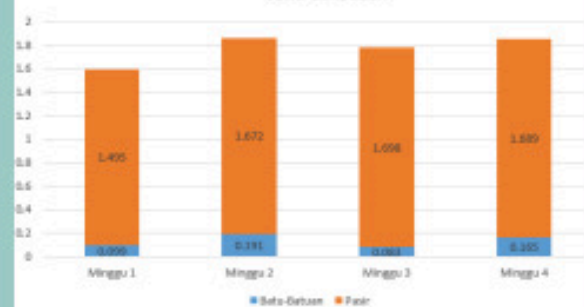


DO YOU FEEL THAT THIS SAND FILTER HELPS IN MAINTAINING THE CLEANLINESS OF THE WATER DRAINAGE AREA AT THE POLYTECHNIC?
20 responses



Bahan	Minggu 1 (g)	Minggu 2 (g)	Minggu 3 (g)	Minggu 4 (g)
Pasir	2,821-1,326 ⁼⁼ 1,495	2,932-1,326 ⁼⁼ 1,672	3,024-1,326 ⁼⁼ 1,698	2,881-1,326 ⁼⁼ 1,555
Batu-batuan	0,120-0,021 ⁼⁼ 0,099	0,212-0,021 ⁼⁼ 0,191	0,104-0,021 ⁼⁼ 0,083	0,186-0,021 ⁼⁼ 0,165
Lain-lain	-	-	-	-
Jumlah	1,594	1,863	1,781	1,720

Sand Collection



CONCLUSION

In conclusion, the SAND FILTER at Polytechnic Port Dickson is effective in separating litter such as leaves, litter with sand, it makes drains in the environment unclogged. In addition, sand can be reused to avoid waste.

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

GREEN ORGANIC COMPOST MACHINE

"Green Organic Compost Machine" is a landscape waste processing tool to speed up the production process of compost. GOCM can speed up the composting process compared to existing manual composting methods. Not only that, this compost machine is more environmentally friendly and can reduce air pollution caused by burning landscape waste.

PROBLEM STATEMENT

A natural composting method that is quite slow and takes a long time.

Existing composting machines are not user-friendly for households and educational institutions

The problem of landscape waste that can cause air pollution when landscape waste is burned



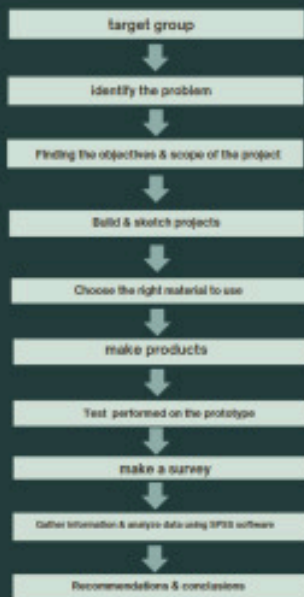
OBJECTIVE

- Designing a compost machine capable of breaking down various types of landscape waste.
- Innovating the existing composting machine to a smaller form that is easy to use by households and educational institutions.
- Identify the content of the composition in the produced compost such as pH value, Ammonia nitrogen and Phosphorus

SCOPE OF STUDY

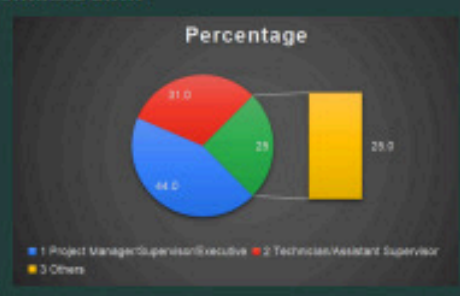
- Produce original organic soil fertilizer without using dangerous substances
- Used by households and workers in educational institutions to manage landscape waste.
- A combination of the concept of "Green Organic Compost" with "Green Technology".

METHODOLOGY



DATA AND ANALYSIS

QUESTIONNAIRE DATA



NPK TESTING DATA

PARAMETER/ SAMPEL	pH	Kalium (K)	Fosforus (P)	nitrogen Ammonia
GOCM	6.0	80	200	0
EM4	8.33	120	120	0
RICE WATER	7.0	240	240	0.33

CONCLUSION

"Green Organic Compost Machine" become a machine that facilitate every user in the production of organic fertilizers. Not only that, it is user-friendly machine and can nurture the community to reduce the air pollution that occurs, thus reducing garden waste that is scattered and unorganized around housing and in educational institutions.

IMPACT

- Reduce the air pollution statistics in Malaysia
- Organic compost can provide fertility to crops grown without chemical mixture
- Utilizing scattered landscape residues into organic fertilizer

GROUP MEMBERS :

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(060KA2291002)

NURWANITA NURWANITA NURWANITA
(060KA2291003)

IZZAT MUZIQA BIN SULAIMAN
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SETI NUR FARZANA BINTI KAMARULZAMAN
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SUPERVISOR :

PUAN NORAZIELA BINTI MOKHTAR



KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION GREEN ORGANIC COMPOST MACHINE

PROSEDUR PENGHASILAN GOCM

- Langkah 1**
Penyambungan rangka menggunakan besi hollow untuk membentuk mesin
- Langkah 2**
Membuat ukuran bahas mesin supaya scrap bowl tepat diletakkan dibahagian bawah mesin
- Langkah 3**
Membuat pengukuran bilah mengikut saiz bowl dengan tepat. Dijadikan sebagai pengisar bahan organik
- Langkah 4**
Grinder machine disambungkan pada bilah yang diukur untuk menggerakkan bilah tersebut
- Langkah 5**
Memasang bowl pada bahagian atas dan bawah kerangka mesin yang telah diukur
- Langkah 6**
Memasang aluminium chequerred plate di bahagian rangka mesin
- Langkah 7**
Membuat pemasangan roller layer di bahagian hadapan dan roda di bahagian belakang mesin kompos
- Langkah 8**
Mesin kompos telah siap dibina dan boleh digunakan untuk proses pengkomposan

PROSEDUR PENGGUNAAN GOCM

- STEP 1**
1. Kunci roda mesin supaya mesin tidak bergerak ketika kerja dijalankan
- STEP 2**
2. Sambungkan plug dan hidupkan suis mesin
- STEP 3**
3. Buka penutup mesin
- STEP 4**
4. Masukkan sisa organik ke dalam mesin
- STEP 5**
5. Tutup penutup mesin
- STEP 6**
6. Tekan butan "start" untuk memulakan proses pengkomposan
- STEP 7**
7. Setelah beberapa minit, tekan butang "stop" untuk memberhentikan mesin
- STEP 8**
8. Buka bahagian bawah mesin untuk melihat hasil kompos

HASIL DARIPADA GOCM



BAJA ORGANIK GOCM



APLIKASI BAJA GOCM DI RECYCLE STATION PPD



SYARIKAT JALINAN KERJASAMA



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION



MINI FORKLIFT 2.0

Pengenalan

Mini Forklift 2.0" ialah suatu alat yang boleh digunakan di bengkel bata Jabatan Kejuruteraan Awam Politeknik Malaysia. "Mini forklift 2.0" menyediakan kemudahan untuk menangani masalah kecederaan fizikal seperti ergonomik kesan daripada kerja-kerja berat. Hal ini demikian, masalah yang selalu dialami oleh pekerja terutamanya kemalangan dalam mengangkat muatan berat kerana pekerja menggunakan semaksimal tenaga untuk mengangkat muatan berat menggunakan kaedah manual.



OBJEKTIF

- Menguji keboleh kerjaan "mini forklift 2.0"
- Menguji peratus kecekapan "mini forklift 2.0" yang dihasilkan.
- Menguji tahap kepuasan pengguna terhadap "mini forklift 2.0"

PENYATAAN MASALAH

- Masa yang lama untuk menyelesaikan tugas
- Masalah ergonomik
- Berat bahan yang ditampung

SKOP PROJEK

- Digunakan oleh pelajar ataupun pensyarah Untuk menguruskan kerja-kerja amali dan pembersihan
- Mengelakkan kecederaan di sebabkan mengangkat beban (ergonomik)
- Menggunakan bahan-bahan kitar semula

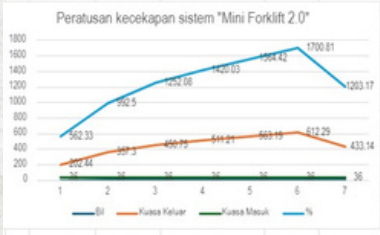
KESIMPULAN

Di akhir penghasilan projek ini, "Mini Forklift 2.0" ini dapat menjadi sebuah mesin yang akan memudahkan setiap pengguna dalam membawa beban. Bukan itu sahaja, diharapkan agar dengan wujudnya mesin mesra pengguna ini, dapat mengurangkan kesukaran untuk mengangkat beban yang berat dan dapat mengelakkan daripada terjadi kecederaan yang berpunca dari ergonomik yang salah.

DATA & ANALISIS

Bil	Kirakan untuk "Mini Forklift 2.0"			Kirakan untuk Kereta		
	Kerja (No)	Masa (s)	Kuasa Keluar (w)	Masa (s)	Kerja (No)	Kuasa (w)
1	1622	9	202.44	18	101	22
2	3673	10	367.3	20	178	66
3	5409	12	450.75	23	236	17
4	7157	14	511.21	25	286	28
5	9011	16	563.19	27	333	74
6	10409	17	612.29	28	371	76
7	12661	29	433.14	31	406	19

Bil	Peratusan kecekapan sistem "Mini Forklift 2.0"		
	Kuasa Keluar	Kuasa Masok	%
1	202.44	36	562.33
2	367.3	36	992.5
3	450.75	36	1252.06
4	511.21	36	1420.03
5	563.19	36	1554.42
6	612.29	36	1700.81
7	433.14	36	1203.17



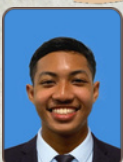
Soalan	Setuju	Sangat Setuju	Tidak Setuju	Kurang Setuju	Tidak Setuju
1. The work performance of Mini Forklift 2.0 is more efficient than human work. (Prestasi kerja bagi "Mini Forklift 2.0" lebih cekap berbanding kerja manusia.)	20	11	2	1	0
2. Mini Forklift 2.0 product is easy to operate. (Produk "Mini Forklift 2.0" adalah mudah untuk digunakan manual.)	21	11	1	1	0
3. "Mini Forklift 2.0" ini membolehkan pengguna menjalankan kerja bengkel dengan lebih mudah. ("Mini Forklift 2.0" ini membolehkan pengguna menjalankan kerja bengkel dengan lebih mudah.)	16	18	0	0	0
4. Produk ini sangat berkesan berbanding produk sedia ada. ("Mini Forklift 2.0" lebih berguna berbanding dengan produk serupa yang anda gunakan.)	18	12	4	0	0
5. Mini Forklift 2.0 boleh mengendalikan beban yang anda perlukan. ("Mini Forklift 2.0" dapat mengendalikan beban yang anda perlukan.)	16	13	3	2	0
6. Prestasi am Mini Forklift 2.0 adalah stabil sepanjang masa. (Prestasi keseluruhan Mini Forklift 2.0 konstan dari masa ke semasa)	20	11	2	1	0
7. Kecekapan dalam menggunakan kecekapan keseluruhan Mini Forklift 2.0 adalah dalam bentuk yang hebat. (Kecekapan kegunaan kecekapan keseluruhan Mini Forklift 2.0 dalam keadaan baik.)	19	13	2	0	0
8. Jumlah kecekapan pergerakan Mini Forklift 2.0 (kecekapan pergerakan menyeluruh Mini Forklift 2.0)	15	15	2	0	0
9. Keberkesanan forklift Mini 2.0 mengurangkan beban semasa beroperasi (keberkesanan "Mini Forklift 2.0" mengurangkan beban di dalam operasi)	19	13	1	1	0
10. Rancangan dari kecekapan operasi forklift 2.0 adalah bebas daripada halangan. (Rancangan dari tempat pengendalian Mini Forklift 2.0 jelas dari halangan)	19	13	2	0	0
11. Jika bentuk Mini Forklift 2.0 menyokong postur yang betul semasa mengangkat dan memindahkan beban berat. (Jika bentuk Mini Forklift 2.0 menyokong postur yang betul semasa mengangkat dan memindahkan beban berat.)	17	13	4	0	0
12. Mini Forklift 2.0 mampu mengatasi kecederaan yang dialami oleh pengguna. (Mini Forklift 2.0 mampu mengatasi kecederaan yang dialami oleh pengguna.)	17	13	3	0	0
13. Jika bentuk Mini Forklift 2.0 mempengaruhi kemudahan pengendalian antara tugas yang berbeza (cth, mengangkat, menurunkan, bergerak ke sisi.)	16	15	2	1	0
14. Kecekapan reka bentuk ergonomik keseluruhan Mini Forklift 2.0 untuk mengendalikan beban berat. (Kecekapan reka bentuk ergonomik keseluruhan Mini Forklift 2.0 untuk mengendalikan beban berat.)	16	14	4	0	0
15. Penggunaan slider membantu pengguna dengan ergonomik. (Penggunaan slider membantu pengguna dengan ergonomik.)	16	16	2	0	0
16. Bina Mini Forklift 2.0 cukup tahan lama untuk digunakan dalam jangka masa yang lama. (Bina Mini Forklift 2.0 cukup tahan lama untuk digunakan dalam jangka masa yang lama.)	18	11	4	1	0
17. Mini Forklift 2.0 selamat digunakan di semua peringkat industri. (Mini Forklift 2.0 ini digunakan pada semua peringkat industri.)	15	15	7	1	0
18. Kecekapan menggunakan Mini Forklift 2.0 lebih terjamin. (Kecekapan penggunaan Mini Forklift 2.0 lebih terjamin.)	19	11	3	1	0
19. Sistem keselamatan Mini Forklift 2.0 adalah terjamin. (Sistem keselamatan Mini Forklift 2.0 adalah terjamin.)	17	13	4	0	0
20. Slider yang digunakan selamat semasa beroperasi.	17	14	3	0	0

Penyelia



PN. SITI BALQIS BINTI
ABDUL KADIR

Ahli Kumpulan



MOHAMAD FARIZ BIN
JAFRIDAN
06DKA22F1099



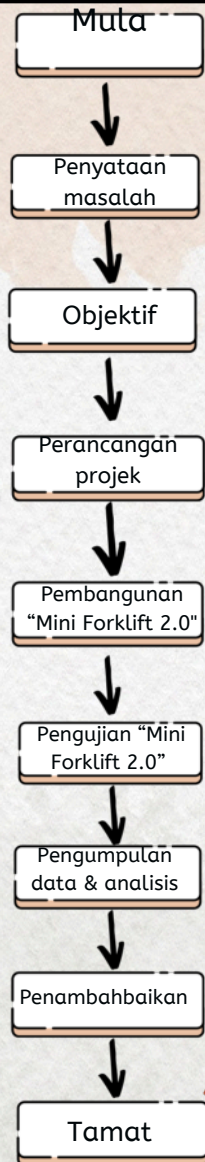
NUR AISYAH SYAHIRAH
BINTI KAMARULZAMAN
06DKA22F1022



MUHAMMAD AFFIF BIN
MUHAMMAD FAUZI
06DKA22F1011



METODOLOGI



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

CONTRACTOR PROJECT MANAGEMENT APPLICATION (PROCONS)



Aplikasi khas untuk kontraktor ialah penyelesaian teknologi maklumat yang direka khusus bagi menyokong pengurusan projek untuk kontraktor dalam industri pembinaan. Aplikasi ini bertujuan untuk meningkatkan kecekapan dan produktiviti dalam setiap peringkat projek pembinaan, daripada perancangan hingga siap. Dengan ciri seperti pengurusan projek, pengurusan sumber, dan pelaporan, aplikasi ini membolehkan kontraktor mengurus jadual, belanjawan, inventori, buruh dan dokumentasi projek dengan lebih berkesan.



PENGENALAN

Kami memperkenalkan **PROCONS** - aplikasi khas yang direka untuk menyokong keperluan kontraktor. Nama **PROCONS** yang berasal dari 'ProContractor' melambangkan komitmen kami untuk menyediakan penyelesaian profesional dan inovatif. Dengan **PROCONS**, kontraktor dapat membuat keputusan yang lebih cepat dan tepat berdasarkan data masa nyata.

DATA & ANALISIS

Soalan	Sangat Tidak Setuju	Tidak Setuju	Netral	Setuju	Sangat Setuju
1a) Aplikasi ini membantu dalam merancang kerja dengan lebih baik.	0	0	0	11	22
2a) Saya soka menggunakan aplikasi sistem PROCONS dalam membuat pemantauan kerja kerana menjimatkan masa.	0	0	2	14	17
3a) Saya fikir kami berdebat untuk melabur dalam penggunaan aplikasi khas untuk menguruskan projek.	0	0	4	20	18
4a) Saya menyetujui sistem yang disediakan penentuaan automatik terhadap program projek.	0	0	1	20	22
5a) Saya soka menggunakan aplikasi sistem PROCONS kerana paparan pengurusan projek kontraktor jelas ditunjukkan untuk memudahkan proses penantuaan.	0	0	3	9	22
1b) Aplikasi ini memberikan akses kepada maklumat terkini yang diperlukan.	0	0	0	13	18
2b) Saya beryuas hati dengan ketepatan maklumat yang disediakan oleh aplikasi.	0	0	2	9	20
3b) Saya percaya bahawa mempunyai akses kepada maklumat terkini boleh meningkatkan kecekapan projek kami.	0	0	1	15	15
4b) Saya memercuikan bahawa aplikasi dengan ciri pembaruteraan segera tentang kemajuan atau masalah projek akan membantu pasukan saya bertindak lebih pantas.	0	0	2	11	20
5b) Saya mudah untuk menavigasi aplikasi sistem PROCONS melalui telefon pintar.	0	0	0	10	23
1c) Sebagai keaturantuan, saya beryuas hari apabila menggunakan Aplikasi Khas Kontraktor ini.	0	0	1	15	16
2c) Aplikasi ini membantu meningkatkan kecekapan kerja saya.	0	0	0	16	16
3c) Saya soka menggunakan aplikasi Procons ini kerana lebih mudah dan efektif.	0	0	2	13	14
4c) Saya soka menggunakan aplikasi sistem PROCONS kerana perambaran kertas bagai ujian anggaran rekod dapat dieliminasi.	0	0	5	14	18
5c) Malah aplikasi sistem PROCONS ini, saya menaruh maklum butang yang jelas dan sahaja.	0	0	3	14	18

OBJEKTIF

- Merancang, dan memantau kerja kontraktor dengan lebih efisien.
- Menyediakan akses kepada maklumat terkini agar semua anggota pasukan dapat bertindak dengan cepat dan tepat.
- Menguji tahap kepuasan pengguna terhadap aplikasi yang dibangunkan.

PERNYATAAN MASALAH

- Kurang cekap dalam pengurusan projek.
- Pengurusan masa yang tidak efisien
- Dokumen yang tidak tersusun dengan rapi.
- Pemantauan kemajuan yang terhad.

METODOLOGI

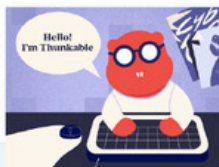


KESIMPULAN

Kesimpulan daripada pembangunan aplikasi pengurusan khas untuk kontraktor ini adalah peningkatan kecekapan dalam pengurusan projek. Dengan adanya projek ini dikemudian hari, ia dapat mempercepatkan proses kerja kontraktor serta dapat menjimatkan masa. Selain itu, aplikasi ini akan membantu kontraktor mengurus projek dengan lebih efisien, meningkatkan kepuasan pelanggan, dan memaksimumkan keuntungan.

SKOP KERJA

- Membolehkan kontraktor untuk menambah, mengemaskini, dan memantau kemajuan projek secara berkala.
- Menyediakan alatan untuk menjejak dan memantau kemajuan tugasan di tapak bina.
- Menyediakan ciri untuk memastikan pematuan piawaian kualiti dan spesifik projek.
- Menyediakan maklumat untuk menganalisis data projek dan menjana laporan tentang kemajuan projek, kos, risiko dan pencapaian.



AHLI KUMPULAN



HANI KARMILA BINTI MOHD JUHARI (06DKAZ2F1003)



NUR AFIQAH HANIS BINTI NOR AZMI (06DKAZ2F1001)



MUHAMMAD DANISH HAKIM BIN MUHAMMAD NAZRI (06DKAZ2F1020)

PENYELIA



PUAN SITI BALQIS BINTI ABUL KADIR

NO ID : 1814



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TITLE: BAMBOO EPOXY TILES

SUPERVISOR : EN. ZAINAL BIN ABD RAHMAN

MUHAMMAD NAJIB BIN
AZLI (O6DKA22F1040)



AHMAD RASYID BIN AHMAD
RADUAN (O6DKA22F1129)



MUHAMMAD ARIF SHAMIL
BIN ROZANI (O6DKA22F1122)



ABSTRACT

BAMBOO EPOXY TILES

Bamboo epoxy tiles represent an innovative approach to sustainable flooring solutions, merging the natural beauty of bamboo with the durability of epoxy resin. This study explores the development, properties, and applications of bamboo epoxy tiles, highlighting their environmental benefits, such as the use of renewable bamboo resources and the reduction of waste through efficient manufacturing processes. The mechanical properties, including strength, water resistance, and longevity, are examined in comparison to traditional flooring materials. Furthermore, the aesthetic versatility of bamboo epoxy tiles is discussed, showcasing various design options that cater to contemporary interior trends. The research underscores the potential of bamboo epoxy tiles as a viable alternative in both residential and commercial settings, promoting sustainability without compromising on style or performance.

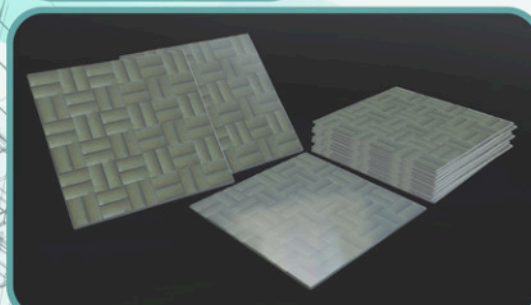
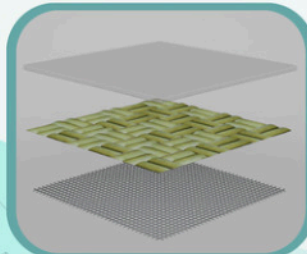
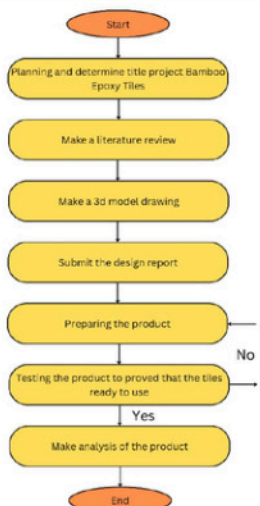
OBJECTIVE

- To check how strong and durable bamboo epoxy tiles are, including their ability to resist wear and moisture, to see how well they can be used as flooring.
- To look at how eco-friendly bamboo epoxy tiles are by examining how they use renewable resources and their overall impact on the environment throughout their life cycle.
- To understand how popular bamboo epoxy tiles could be by studying what customers want and identifying trends in sustainable flooring options for homes and businesses.

CONCLUSION

- **Eco-Friendly:** Bamboo is renewable and supports sustainable forestry.
- **Durable:** Strong and moisture-resistant, these tiles last a long time.
- **Stylish:** They offer a modern look that suits various designs.
- **Easy to Maintain:** Simple to clean and requires less upkeep.
- **Better Air Quality:** Often made with low or no Chemical Compounds, improving indoor air quality.

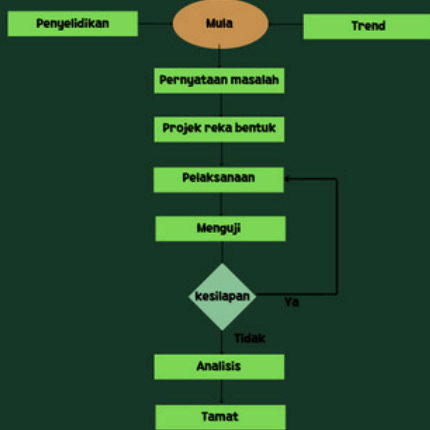
METHODOLOGY



CIVIL ENGINEERING & ARCHITECTURE
RIDeC'2024
RESEARCH, INNOVATION
& DESIGN COMPETITION
LEARN, LEAD, SUCCEED
CIVIL ENGINEERING DEPARTMENT
POLITEKNIK PORT DICKSON
5TH NOVEMBER 2024 | TUESDAY

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TAJUK : SEMAT DUSTBIN



PN. AMILIA
NOORLIN BINTI
HJ. MD. JELANI
(SUPERVISOR)



MUHAMMAD
SYAHIR
BIN RAZLIN
(06DKA22F1091)



AMIRA NUR
NAJWA
BINTI FAZLI
(06DKA22F1126)



MUHAMMAD
AMIRUL AZHIM BIN
NASARUDDIN
(06DKA22F1089)

ABSTRAK

Projek ini bertujuan untuk mereka bentuk tong sampah pintar untuk makmal geoteknik, dilengkapi dengan sensor pergerakan agar penutupnya terbuka secara automatik, memudahkan pembuangan sampah tanpa sentuhan. Tong sampah ini juga memiliki sistem penapis untuk mengasingkan sampah kecil dan besar, meningkatkan kebersihan dan efisiensi. Komponen seperti sensor ultrasonik, skrin LCD, dan pemancar LED digunakan, dengan reka bentuk dan ujian melalui carta alir. Analisis menunjukkan tong sampah SEMAT ini memenuhi objektif dan melindungi pengguna daripada bakteria.

SKOP PROJEK

- untuk mencipta produk tong sampah yang mempunyai kemudahan untuk mengasingkan saiz sisa yang berbeza.
- lokasi sasaran yang bersesuaian adalah makmal geoteknik
- komponen yang terlibat:
 - Pengawal mikro (arduino uno)
 - Penderia (ultrasonic)
 - Sumber kuasa (powerbank)
 - Mekanisme penutup (MG996)

PERNYATAAN MASALAH

- Tangan mudah mendapatkan bakteria akibat daripada menyentuh penutup untuk membuka dan menutup tong sampah.
- Orang ramai tidak membuang sampah di tempat yang betul dan tahap kebosanan untuk membuang sampah semakin meningkat.
- Tong sampah yang sedia ada menyukarkan orang yang kurang upaya untuk membuang sampah ke dalamnya.

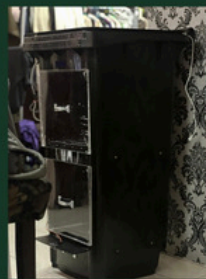
OBJEKTIF

- mereka bentuk dan menghasilkan semat dustbin yang berfungsi secara automatik berdasarkan pergerakan kaki
- mereka bentuk dan menghasilkan semat dustbin yang berfungsi secara automatik dalam mengawal kuantiti
- mereka bentuk dan menghasilkan semat dustbin berserta sistem penapisan untuk mengasingkan saiz sampah

KESIMPULAN

Projek SEMAT Dustbin telah mencapai objektif yang ditetapkan dengan menyediakan tong sampah pintar yang memudahkan pengasingan sampah, menjaga kebersihan, dan memudahkan orang yang kurang upaya.

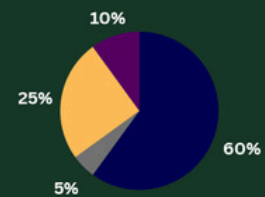
FOTOGRAFI PROJEK



ANALISIS



- bahan boleh dikitar semula
- bahan tidak boleh dikitar semula
- bahan sisa organik



- tahap sederhana
- tahap tinggi
- tahap rendah
- tahap penuh

CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TAJUK: PALM OIL WASTE AS GREEN ROOF INNOVATION

RIDEC-1900

Penyelia : PUAN MASKEDAH BINTI KAMALUDIN

MUHAMMAD INAMULHASAN BIN ABD RASID (0804232710)



MUHAMMAD AZRAJ BIN SHAMSURI (0804232715)



ANALISIS & KEPUTUSAN

OBJEKTIF

1. Mereka bentuk bumbung hijau - berinovasi lapisan bumbung dengan abu bahan api minyak sawit (POFA)
2. Menguji tahap keberkesanan sisa sawit sebagai bahan salutan bumbung hijau dari aspek kualiti air - ujian pH
3. Menilai tahap kesuburan pokok renek terhadap sisa kelapa sawit sebagai bahan dalam lapisan bumbung hijau - ketinggian pokok

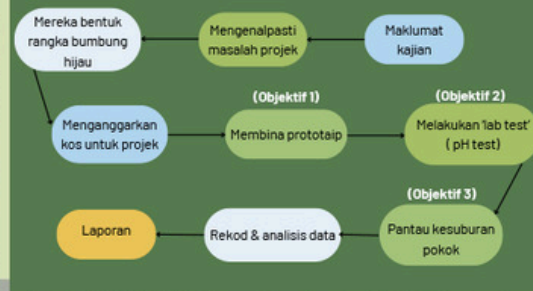
SKOP KERJA

Projek ini merupakan satu inovasi dalam penggunaan bahan daripada sisa kelapa sawit untuk teknologi bumbung hijau.

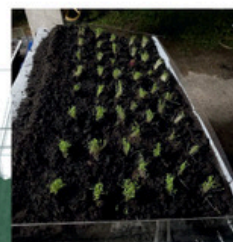
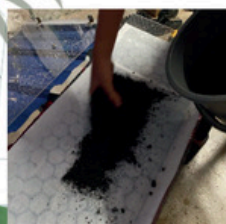
Inovasi ini dilakukan untuk:

- Mengkaji kesesuaian bahan yang digunakan terhadap pertumbuhan tanaman pada bumbung hijau
- Tindakbalas lapisan penapis dalam sistem bumbung hijau terhadap air hujan yang mengalir pada bumbung

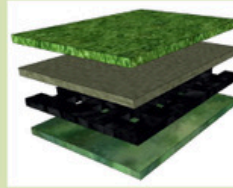
METODOLOGI



DIAGRAM



OBJEKTIF 1



Lapisan pertama - Ketebalan (3.0 cm)

- Lapisan paling atas yang akan dicampur dengan POFA.
- Lapisan akan ditanam tumbuhan untuk method pertumbuhan pokok

Lapisan kedua (filter layer) - Ketebalan (0.2 cm)

- lapisan yang akan digunakan untuk menapis daripada benda asing
- Menggunakan filter fabric supaya air dapat menembusi supaya air dapat mengalir

Lapisan ketiga (drainage layer) - ketebalan (4.0 cm)

- Menyediakan aliran air yang mencukupi semasa bumbung menerima aliran air.

Lapisan keempat (waterproofing) - ketebalan (0.4 cm)

- Memastikan air dapat mengalir dengan sempurna
- Memastikan tiada air yang bertakung

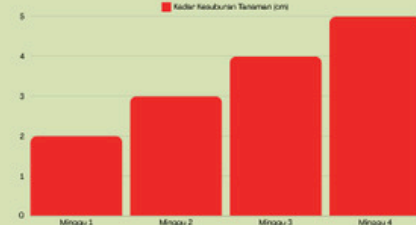
OBJEKTIF 2

Sampel air hujan

Purata pH

Sampel air hujan	Purata pH
SAMPEL AIR HUJAN ORIGINAL	6.77
SAMPEL AIR HUJAN PADA BUMBUNG (SUDUT 10 DEG)	7.44
SAMPEL AIR HUJAN PADA BUMBUNG (SUDUT 15 DEG)	7.63

OBJEKTIF 3



KESIMPULAN

Kesimpulan yang dapat dibuat ialah dengan menambah baik pada lapisan pertama untuk memastikan setiap permukaan tertutup oleh tumbuhan



KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION



IMAN ZIKRY BIN RANLAY
[06DKA22F1108]



MUHAMMAD AIMAN
HAZIM BIN MOHAMAD
YUNOS
[06DKA22F1105]



MUHAMMAD AIZIL SHAH
BIN MOHD NOOR
[06DKA22F1111]

BLIND CORNER WARNING SYSTEM

RIDEC
1903

OBJEKTIF



1. Menghasilkan model Blind Corner Warning System
2. Menguji lari sistem Blind Corner Warning System - ujian masa dan kelajuan
3. Mengenal pasti tahap keberkesanan Blind Corner Warning System kepada pengguna

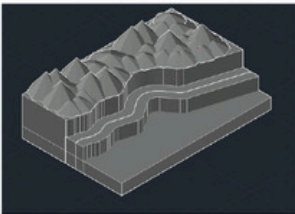


METODOLOGI



DATA ANALISIS

OBJEKTIF 1



OBJEKTIF 2

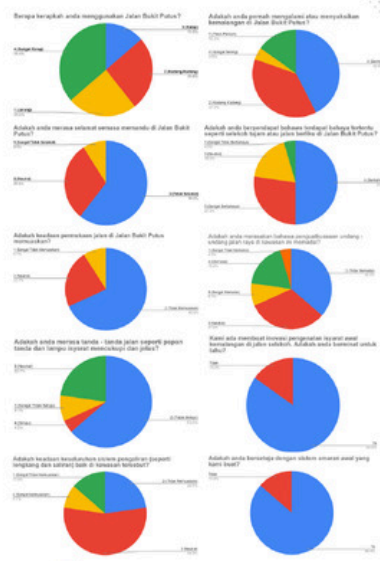
Jarak (m)	Masa (s)	Halaju (m/s)	Status Sensor
0 - 0.2	2.63	0.36	● ● ● <input checked="" type="checkbox"/>
0.31 - 0.5	1.85	0.21	● ● ● <input checked="" type="checkbox"/>
0.51 - 0.61	1.63	0.06	● ● ● <input checked="" type="checkbox"/>

Jarak (m)	Masa (s)	Halaju (m/s)	Status Sensor
0 - 0.3	2.00	0.19	● ● ● <input checked="" type="checkbox"/>
0.31 - 0.47	1.90	0.14	● ● ● <input checked="" type="checkbox"/>
0.48 - 0.58	1.75	0.057	● ● ● <input checked="" type="checkbox"/>

PETUNJUK

- Lampu Merah
- Lampu Kuning
- Lampu Hijau
- Lampu Menyala

OBJEKTIF 3



pandangan kiri



pandangan atas



pandangan kanan

KESIMPULAN

KESIMPULANNYA UNTUK PROJEK BLIND CORNER WARNING SYSTEM INI ADALAH DAPAT MENINGKATKAN KESELAMATAN JALAN RAYA SEWAKTU MELALUI JALAN YANG MEMPUNYAI TITIK BUTA. HASIL SOAL SELIDIK YANG TELAH DIJALANKAN DAPAT MEMBERIKAN IDEA UNTUK MEMBANGUNKAN PROJEK INI SEBAGAI SATU PENYELESAIAN KEPADA MASALAH YANG SERING DIHADAPI. SISTEM INI MENUNGGAKAN SENSOR DAN JUGA LAMPU YANG BERADA DI PAPAN TANDA PERINGATAN UNTUK MENGESAN KENDERAAN LAIN YANG TIDAK DAPAT DILIHAT OLEH PEMANDU DAN MEMBERI PERINGATAN MELALUI VISUAL.



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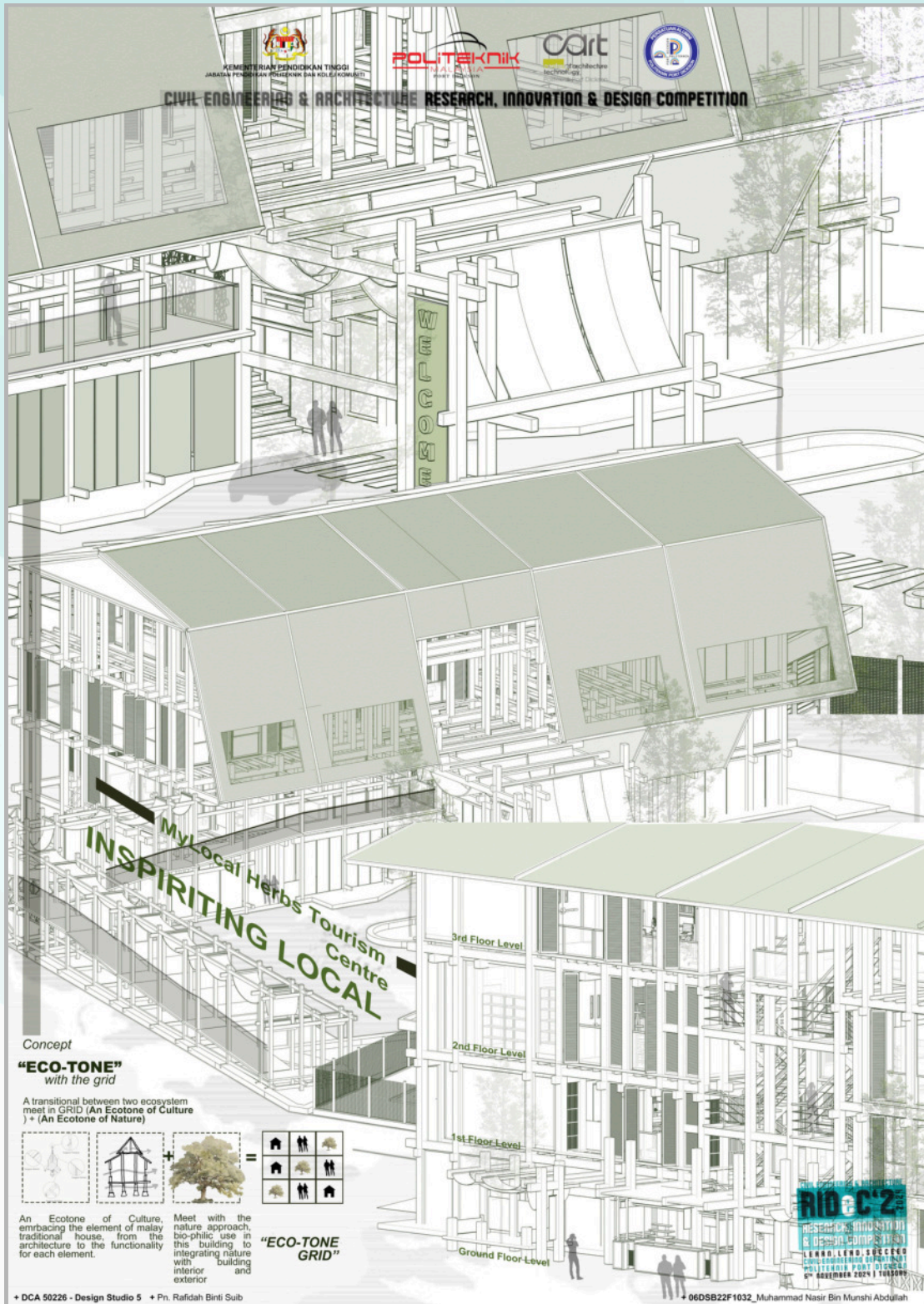
**DON'T QUIT.
SUFFER NOW
AND LIVE THE
REST OF YOUR
LIFE AS A
CHAMPION**

Muhammad Ali

KATEGORI

DCASO226

DESIGN 5



INSPIRING LOCAL : MYLOCAL TOURISM CENTRE

Penyelia:
Pn.Rafidah binti Suib

Nama Pelajar:
Muhammad Nasir bin Munshi Abdullah

INSPIRING LOCAL: MyLocal Herbs Tourism Centre
WE SHOWED • WE THOUGHT • WE SERVE

ISSUE AND INTENTION
 As we look to the future development of our nation, it is important to ensure that we are not only preserving our rich cultural heritage but also embracing modernity and innovation. The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

NEW PLAN
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

TARGET MARKET
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

DESIGN OBJECTIVES
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

DESIGN STRATEGIES
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

PROPOSED PRODUCT
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

SITE PLAN
 The MyLocal Herbs Tourism Centre is a prime example of how we can achieve this balance by showcasing our local products and services in a modern, sustainable, and accessible manner.

Ground Floor Plan
 Scale 1:100

1st Floor Plan
 Scale 1:100

2nd Floor Plan
 Scale 1:100

3rd Floor Plan
 Scale 1:100

LEFT ELEVATION
 Scale 1:100

RIGHT ELEVATION
 Scale 1:100

BACK ELEVATION
 Scale 1:100

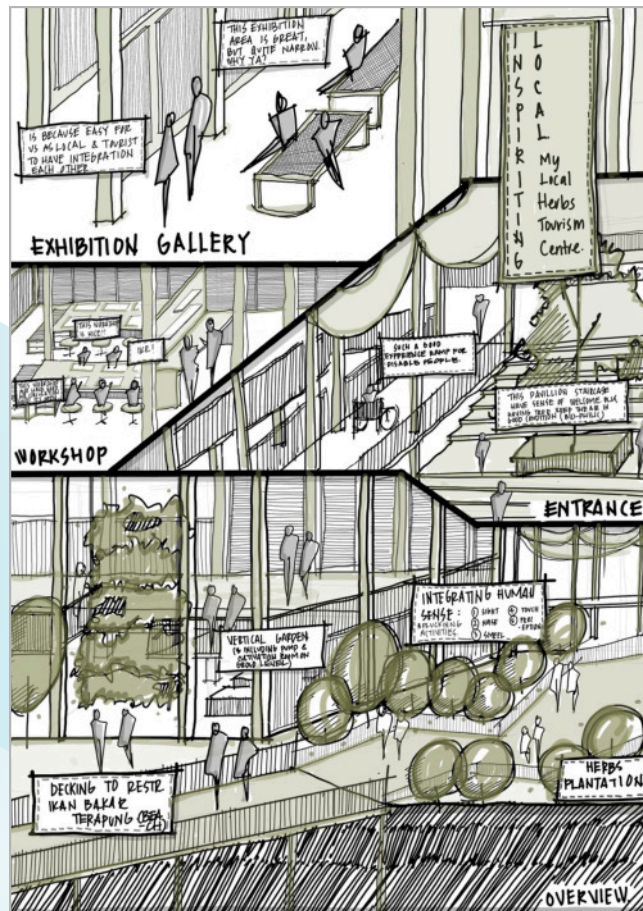
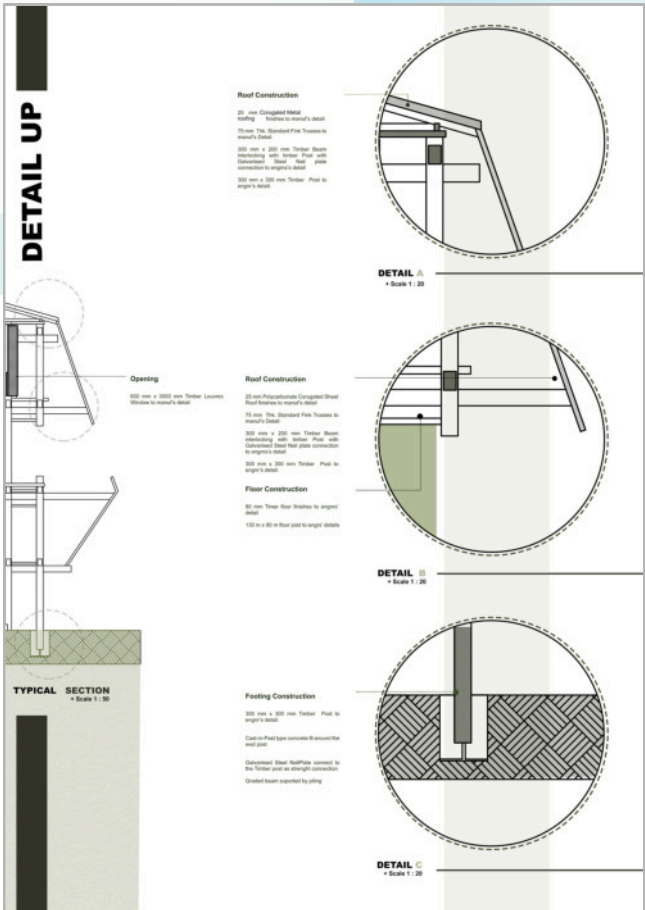
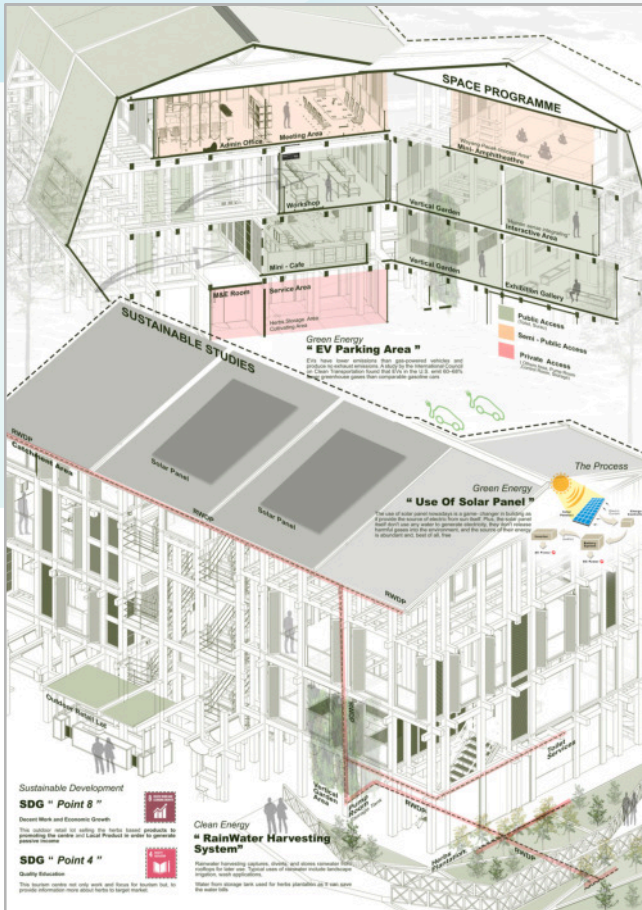
FRONT ELEVATION
 Scale 1:100

SECTION
 Scale 1:100

SECTION Y-Y
 Scale 1:100

SECTIONAL PERSPECTIVE
 Scale 1:100

INSPIRING LOCAL : MYLOCAL TOURISM CENTRE



INSPIRING LOCAL : MYLOCAL TOURISM CENTRE



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

CENTERA

AGRO-TOURISM CENTRE AND COMMERCIAL

The Agro-Tourism and Commercial Center aims to establish a seamless connection between sustainable agriculture, community engagement, and commercial viability. Emphasizing the theme of "Continuity," this project integrates eco-friendly farming practices with tourist experiences, fostering a deeper understanding of agricultural sustainability. By creating a vibrant space for local farmers to interact with visitors and sell their products, the center promotes a sustainable model that benefits both the environment and the community.



DCAS0226 DESIGN STUDIO 5 | NURRIN SYAZLIN BINTI ZAMBERI | 06DSB22F1019 | PN NORUL FAZLINA BINTI KHASHIM | EN AHMAD QUSYAIRI BIN AHMAD KHAIRIRI | PN ISMA ZAIDA BINTI DIN

CENTERA AGRO-TOURISM CENTRE

Penyelia:

Norul Fazlina binti Khashim

Nama Pelajar:

Nurrin Syazlin Binti Zamberi

CENTERA

AGRO-TOURISM CENTRE AND COMMERCIAL

PROGRAM
The Agro-Tourism Centre offers hands-on professional cultivation, experiential guided tours, showcasing the growth process and sustainability benefits, and a hands-on field growing experience with diverse farming systems and digital applications. Visitors can stop at a marketplace for fresh produce and related products, receive a research area for innovative farming practices, and participate in community programs like volunteer opportunities and educational field trips. Multifunctional areas provide spaces for relaxation and bonding with the local agricultural landscape.

AIM
The aim of the project is to create a dynamic Agro-Tourism and Commercial Centre that fosters sustainable agricultural practices while enhancing community, interaction and economic growth. The center will serve as a model for integrating eco-tourism and commercial entrepreneurship within an agri-ecosystem and engage with the local agricultural landscape.

OBJECTIVES
Promote Sustainable Agricultural Practices
Create visitors to eco-friendly farming systems while providing local farmers with commercial opportunities to showcase and sell their products, ensuring the continuity of traditional farming techniques.
Enhance Community Engagement
Foster a sense of community by providing spaces for workshops, cultural events, and recreational activities that connect visitors with local farmers and artisans, enhancing the overall tourism experience.
Integrate Green Spaces with Commercial Activity
Design green areas alongside commercial spaces to promote biodiversity and environmental awareness, creating a harmonious balance between agriculture, tourism, and commerce.

CONCEPT
RESTORE | RECONNECT | REJUVENATE
The project engages with the natural landscape and natural environment of Kuala Lumpur, showcasing local biodiversity that offers unique opportunities related to agri and digital museum cultivation. These spaces provide green retreats through the learning grounds, from cultivation to harvest, while providing educational and commercial opportunities. The center serves as a landmark, symbolizing its role as a hub for sustainable agri-tourism along the road.

ISSUES
Integrating Agriculture, Tourism, and Commerce
A key challenge is ensuring that farming activities, tourist experiences, and commercial operations coexist effectively, without compromising the quality of any aspect.
Sustainable Resource Management
Efficiently managing resources such as water, energy, and waste is crucial in maintaining the center's sustainability while accommodating both tourism and commercial activities.
 signage and Wayfinding
Given the rural location of the site, ensuring that the Agro-Tourism and Commercial Centre is easily identifiable is a significant task. Effective signage, lighting, and wayfinding elements are essential to guide visitors and enhance awareness of the center, making it accessible and inviting to diverse audiences.

DESIGN STRATEGIES
Reduce lighting, cooling and heating demands through building passive strategies. For example use of natural ventilation and natural lighting.
Reduce energy usage of electronic appliances through installation of solar panels. This also can reduce the global emissions to make a green and safe.

TARGET USERS
RESEARCHERS
• Conduct field studies and experiential learning about agri-tourism and sustainability.
• Network with experts and researchers to expand their knowledge base.
EDUCATORS
• Enhance teaching materials for agri-tourism and sustainability.
• Engage in hands-on activities that are both fun and educational.
TOURISTS
• Enjoy a unique experience through agri-tourism and sustainability.
• Participate in guided activities that are both fun and educational.

MUSHROOM SPECIES
TRICHIA, PHOLIOTA, LECANORA, etc.

DECORATION
WOOD, BRICK, CONCRETE, etc.

SCENARIOS
1. A. Public Area
2. Semi-Public Area
3. Private Area

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GROUND FLOOR PLAN
SCALE 1:100

FIRST FLOOR PLAN
SCALE 1:100

LEGEND:
Public Area (Green)
Semi-Public Area (Yellow)
Private Area (Red)

Labels: Exhibition Area, Lobby, Cafe, Souvenir Shop, Retail Store, Storage, Staff Room, Service Area, Mushroom Cultivation Room, Classroom/Workshop, Control Room, Paper Room, Processing Room, Laboratory, Staff Room.

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SECOND FLOOR PLAN
SCALE 1:100

THIRD FLOOR PLAN
SCALE 1:100

LEGEND:
Public Area (Green)
Semi-Public Area (Yellow)
Private Area (Red)

Labels: Open Area, Staff Office, Meeting Room, Mail Room, Temporary Outdoor Exhibition, Staff Room.

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CENTERA AGRO-TOURISM CENTRE



CENTERA AGRO-TOURISM CENTRE

GAHAPORT

AGRO - TOURISM CENTER

Gaharport is an Agro-Tourism Center at Fort Supai, Melaka for all group of ages to popularized the product made of Agarwood

To proposed an Agro-Tourism Center that popularized product based on Agarwood by providing an exhibition area, making a research about agarwood and prioritize the sustainable design.



GAHAPORT AGRO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Ahmad Syamil Bin Ahmad Syakir

GAHAPORT

AGRO - TOURISM CENTER

DESIGN STATEMENT

Subsidiary is an Agro-Tourism Center of Fort Sempu. Module for all ages of ages to rehabilitate the product made of Agri-based.

AIM

To implement an Agro-Tourism Center that institutionalized product based on Agri-based by providing an exhibition area, making a research about Agri-based and promote the sustainable design.

OBJECTIVE

Planting Agri-based to promote the bridge's entrance around the Agro-Tourism Center. Apply marks into facade. Incorporate sustainable design.

ISSUE

There is a bridge where people visit a natural grid restaurant located near the sea at night. This presents a challenge in designing the building without obstructing access to the bridge for others.

PROGRAM

Planning requirement for the bridge to promote Agro-Tourism Center and for learning purpose, providing an exhibition area and information area for visitor observing the model the process of making an Agri-based products, making a research about Agri-based and selling an agri-based products.

TARGET USER

Researcher, Public, Tourist

ARCHITECTURAL STYLE

The shape of Agri-based's branch has a similarity. The concept biomimicry will inspire the Agri-based.

CONCEPT

Industrial Contemporary

IDEA DEVELOPMENT

Main geometry is adjacent by the bridge making people easy to access to the existing restaurant.

The building process on the side to face the beach so that visitors can enjoy the view of the beach.

Some of the form part of the building extracted to make a crop part.



CASE STUDY

AGRO KONCERNO GRUPE THE EDGE BIRD VIEW



WINTER GARDEN CONCEPT

The use of winter garden is the main material of the building which is all other spaces open from the winter garden. Winter garden is the main entrance of the building, from where the visitors and employees are distributed to their destinations.

SOLAR PANEL

Material used in this building is only 40% glass and the rest is panel solar.

LOW-E GLASS

The benefits of low-E glass include its strength and durability. Additionally, it is safe because its strength is 5 times stronger than ordinary glass. Low-E glass also provides natural lighting and ventilation, creates a comfortable atmosphere, and offers UV radiation protection.

RAIN WATER HARVESTING

Harvesting rainwater is a system for gathering rainwater and then storing it for reuse, such as watering plants, flushing toilets, and other outdoor purposes.

LABORATORY

A laboratory with large windows so that visitors can see the activities taking place inside from the outside.

CAFE

Natural Lighting, Comfortable atmosphere, Aesthetic Value.

SITE ANALYSIS

Ensuring that the building does not face the sun and that the facade angles block a portion of the sunlight.

Ensuring that spaces requiring beautiful views face those views.

Ensuring that openings in the building face the wind to allow for airflow.

SITE PLAN

SCALE: 1:250

GAHAPORT

FAÇADE

BUBBLE DIAGRAM

GROUND FLOOR PLAN

SCALE: 1:300

FIRST FLOOR PLAN

SCALE: 1:300

SECOND FLOOR PLAN

SCALE: 1:300

THIRD FLOOR PLAN

SCALE: 1:300

LEGEND

- AGRICULTURE
- INDUSTRIAL
- PUBLIC
- SEMI-PUBLIC
- PRIVATE

LOBBY

PAX: 30 person

- 1 Coffee table
- 10 Chair
- 1 Bench

CAFE

PAX: 10 person

ACCUMULATION

1 Square table

10 Bench table

12 Chair

1 Counter

LABORATORY 1

PAX: 1 person

ACCUMULATION

1 Table

CLASSROOM

PAX: 40 person

- 10 Chair
- 1 Table

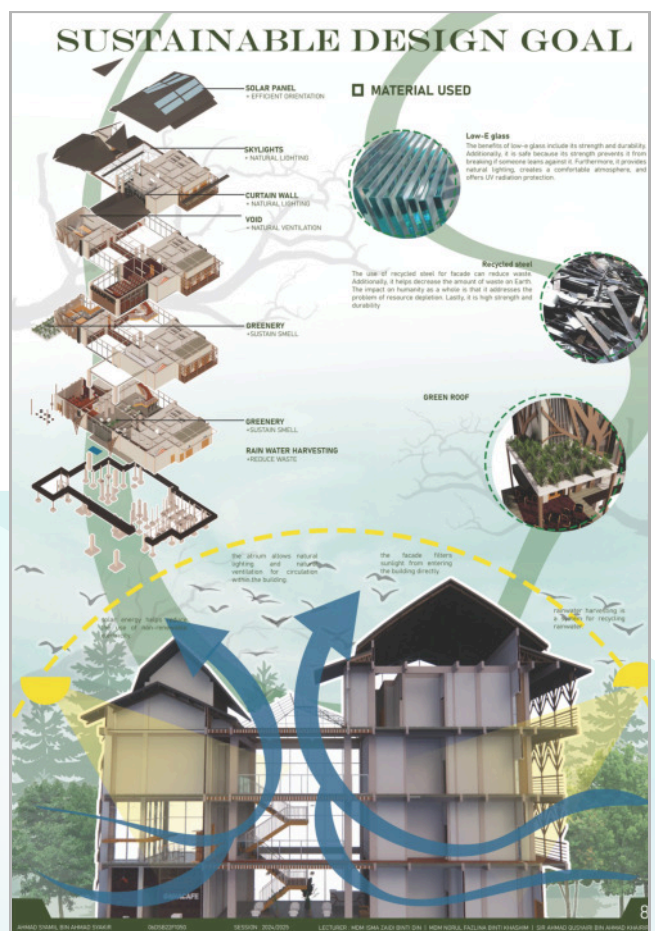
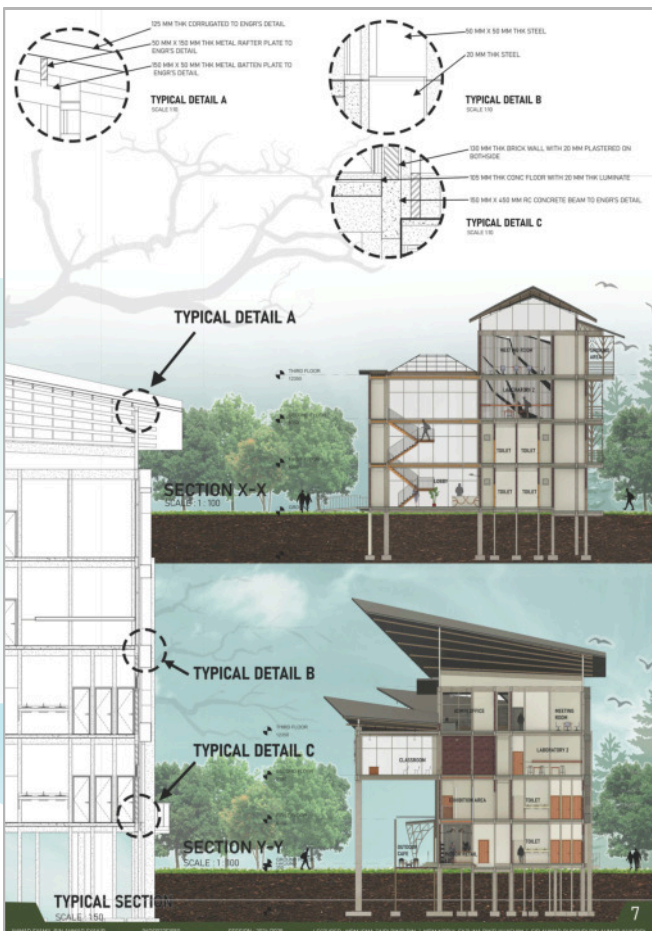
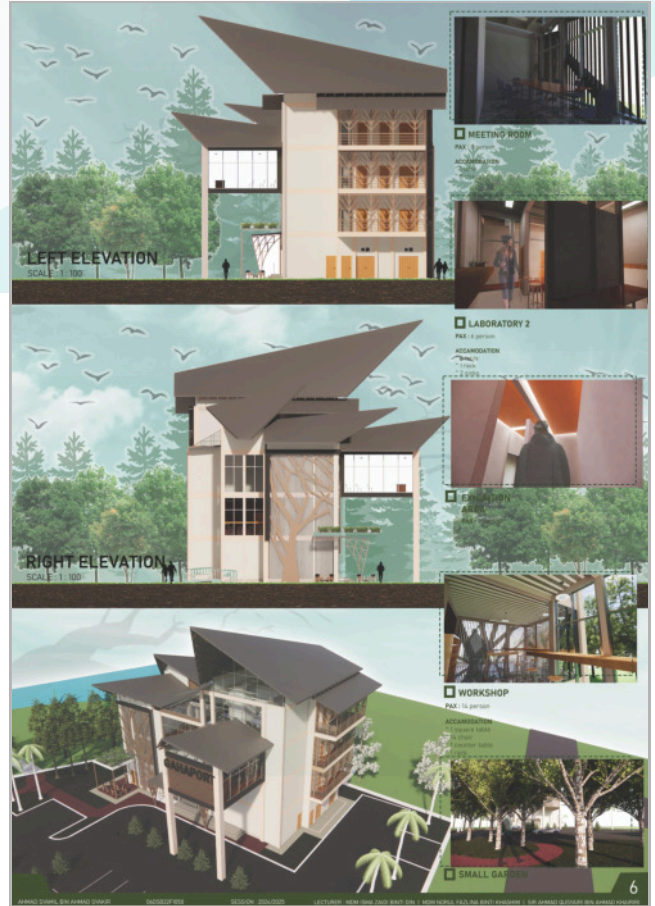
SECOND FLOOR PLAN

SCALE: 1:100

FRONT ELEVATION

SCALE: 1:100

GAHAPORT AGRO-TOURISM CENTRE



GAHAPORT AGRO-TOURISM CENTRE

POTATO

Agro tourism center

INTRODUCTION

Agro tourism center is our latest project which covers an area of 800 sqm in Melaka next to the beach and has a lot of plant such as mangrove trees and the product that I highlight for this agro tourism project is potatoes with a

LOCATION PLAN
M/S

KEY PLAN
M/S

AIM

To propose an potato agro tourism center that has a sustainable design in terms of material and nature

OBJECTIVE

- Using solar in facade
- Using the hydroponic method system for potato
- Ensuring the space effectively service its intended propose

CONCEPT

Biomimicry In Architecture
My concept is biomimicry because I want to adapt to the natural environment and have a combination of technologies that are appropriate with the passage of time

TARGET USER

ISSUE IN SITE

- Inland and far away with urban area
- a blow of the wind that just one way

SITE HISTORY

the construction site is close to a 100-year-old village. The village area is very remote. The source of the village's early settlement was fishermen, now the place has become exactly tourism

SUN PATH

WIND

VIEW

IDEA DEVELOPMENT

MY PRODUCT

The product I bring is potatoes because of the easy process in terms of planting seeds to maturity. Until now, potatoes are still selling well in markets around the world. various products that can be produced such as food, medicine and others

MATERIAL

The materials I used for this project are concrete and steel

USING HIDROPONIC SYSTEM

I use hydroponic is easy to manage and efficient. This hydroponic system is good for all walks of life. This hydroponics can be done in a narrow or small area, not only outside but also inside the building

CASE STUDY

My case study is related to the solar facade that I want to highlight the nature and technology of this facade is not just a decoration but has its own function.

SITE PLAN
1:200

SECTION

NAME : MUHAMMAD ASYADILLAH BIN SADZALI
MATICR : 06DSB22F1028
DESIGN STUDIO 5 / DCA 50228
SESSION 1 2024/2025

LECTURERS : TS. SITI AMIRAH BINTI MOHTARAM
PN. RAFIDAH BINTI SUIB
DR. SETIAWAN BIN HARDONO

01

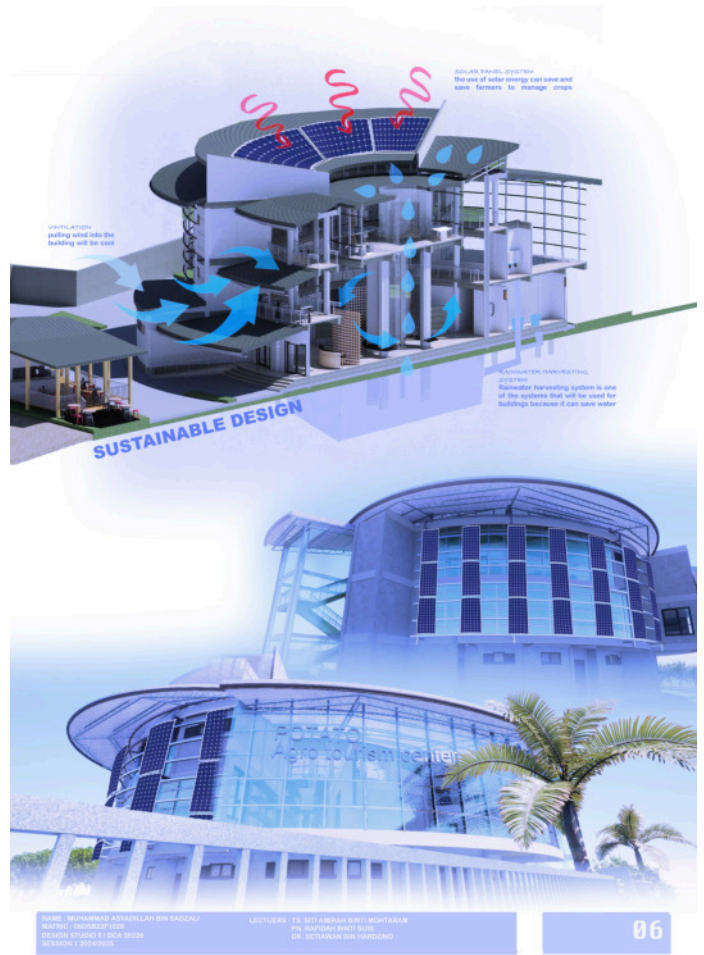
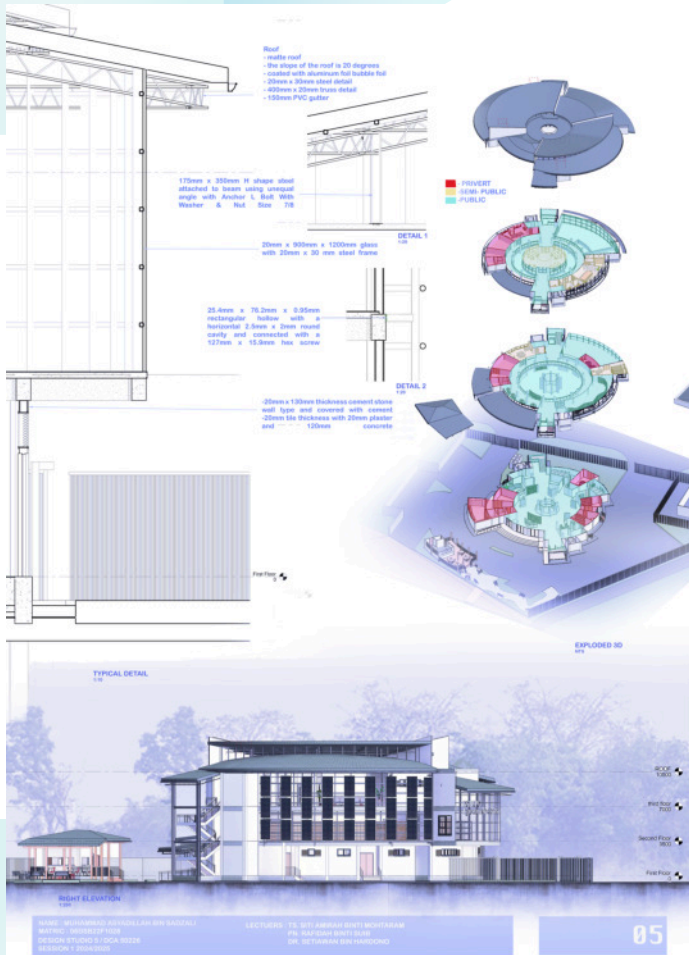
POTATO AGRO TOURISM CENTER

Penyelia:
Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:
Muhammad Asyadillah Bin Sadzali



POTATO AGRO TOURISM CENTER



POTATO AGRO TOURISM CENTER



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

ROSELLE BLOOM HUB

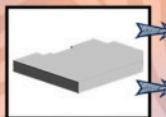
ARGO-TOURISM CENTRE



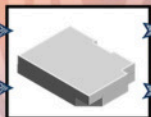
The Roselle Bloom Hub Agro-Tourism Centre sounds like an inviting spot that combines the beauty of agriculture with tourism, centered around the vibrant roselle plant. Imagine a peaceful area where visitors can wander through fields of blooming roselle flowers, often known for their striking red hues and health benefits.

The Roselle Bloom Hub would be a great spot for those interested in sustainable tourism, health, and nature, and it might even feature activities like pick-your-own roselle, cooking classes, and educational programs for kids. It sounds like a serene and enriching place to connect with nature and learn more about this unique plant.

IDEA DEVELOPMENT



Use a straightforward rectangular or box-like structure for efficient use of space.



Position openings and layout to provide privacy where needed and enhance views where desirable.



Align the form to maximize natural light, ventilation, and climate considerations.



Split Levels add dimension to the form and accommodate varied elevations in the landscape.



ROSELLE BLOOM HUB ARGO-TOURISM CENTRE

Penyelia:

Pn. Isma Zaida Binti Din

Nama Pelajar:

Yasmin Binti Azmi

DCAR0226 DESIGN STUDIO 3 | SESSION 1: 2024/2025

ROSELLE BLOOM HUB

ARGO-TOURISM CENTRE

INTRODUCTION

The Argo Tourism Centre will be a sustainable hub that integrates with the local landscape, using natural materials and eco-friendly features like green roofs and solar energy. It will have flexible spaces for visitor information, exhibitions, and community events, showcasing local art to strengthen cultural identity. Committed to sustainability, the center will generate responsible environmental management through educational displays and energy-efficient systems. By supporting local artisans and hosting events, it aims to enhance community connections and boost the region's economic vitality, creating an inviting space for locals and visitors to celebrate Argo's heritage.

DESIGN INTENTION

The Argo Tourism Centre-Melaka aims to create a sustainable and vibrant space that integrates with the local environment and cultural heritage. Utilizing eco-friendly materials like green roofs and solar energy, the design will reflect Melaka's rich history through local art and craftsmanship. Flexible spaces will host value education, exhibitions, and community events, fostering connections with local artisans and celebrating cultural heritage. Educational programs will promote sustainable practices, while the overall atmosphere will invite exploration, ensuring the experience for both locals and tourists.

OBJECTIVE

- To provide a place for tourists to learn agricultural regions, local products, traditional food and daily life of local communities, respecting their cultural element and traditions.
- To establish spaces that serve as gathering places for tourists and local visitors to purchase regional products and services.
- To harness natural lighting into building space while all smart-lamp pillars using recyclable polycarbonate transparent panel in building.

SITE ANALYSIS

SHADOW

VIEW FROM SITE

VIEW INTO SITE

SITE PLAN SCALE 1:250

YASMIN BINTI AZMI || 040582271015 || LECTURER: Pn. NORUL FAZLIHA BT KHADIM, EN. AHMAD QUSYARI B. AHMAD KHARIB, Pn. ISMA ZAIDA BT. DN

DCAR0226 DESIGN STUDIO 5 | SESSION 1: 2024/2025

ROSELLE BLOOM HUB

ARGO-TOURISM CENTRE

GROUND FLOOR PLAN SCALE 1:100

PROGRAMME

Roselle (*Hibiscus sabdariffa*) is a tropical plant valued for its vibrant red calyces, which are used to make beverages, jams, and traditional medicines. Known for its nutritional benefits, Roselle is rich in vitamins, antioxidants, and minerals. It thrives in warm climates, prefers well-drained soil, and requires full sun for optimal growth. The plant can also enhance biodiversity by attracting pollinators, making it an excellent choice for sustainable gardens. Additionally, its adaptability allows it to be integrated into various planting designs, serving both aesthetic and functional purposes in landscaping.

SPATIAL DIAGRAM GROUND FLOOR LAYOUT

FRONT ELEVATION SCALE 1:100

YASMIN BINTI AZMI || 040582271015 || LECTURER: Pn. NORUL FAZLIHA BT KHADIM, EN. AHMAD QUSYARI B. AHMAD KHARIB, Pn. ISMA ZAIDA BT. DN

DCAR0226 DESIGN STUDIO 5 | SESSION 1: 2024/2025

ROSELLE BLOOM HUB

ARGO-TOURISM CENTRE

FIRST FLOOR PLAN SCALE 1:100

CASE STUDY

Manting Urban Agricultural Park Tourist Service Center

Jojo Farm Museum, Jiangyin district, China

SUSTAINABLE DESIGN
 1. Steel timber structure
 2. Ethylene Tetra Fluoro Ethylene foils etc
 3. PVTE coated glass fabrics
 4. PVC-coated polyester fabrics

SPATIAL DIAGRAM FIRST FLOOR LAYOUT

RIGHT ELEVATION SCALE 1:100

YASMIN BINTI AZMI || 040582271015 || LECTURER: Pn. NORUL FAZLIHA BT KHADIM, EN. AHMAD QUSYARI B. AHMAD KHARIB, Pn. ISMA ZAIDA BT. DN

ROSELLE BLOOM HUB ARGO-TOURISM CENTRE

DCAS9228 DESIGN STUDIO 5 | SESSION 1: 2024/2025 ROSELLE BLOOM HUB ARGO-TOURISM CENTRE

ARCHITECTURAL STYLE
CONTEMPORARY ARCHITECTURAL

Contemporary architecture is an evolving architectural style that reflects the current trends, technologies, and materials of the present day. It doesn't adhere to a single set of design rules but instead emphasizes innovation, sustainability, and connection to the environment.

Facade Texture and Flowing Lines: The red textured facade with vertical, wavy lines gives the building an organic and dynamic look, which is often used in modern and contemporary architecture to mimic natural forms or movements.

Unique Window Shapes: The asymmetrical, pointed window resembles leaves or organic shapes, which adds a natural, plant-inspired feel to the design.

Sustainable and Natural Integration: The use of greenery in the surroundings, along with open spaces, aligns with biophilic design principles, aiming to bring occupants closer to nature.

Modern Roof Structure: The large overhangs and flat roof lines are common in contemporary architecture, providing shade and contributing to energy efficiency.

SECOND FLOOR PLAN
SCALE 1:100

SPATIAL DIAGRAM
SECOND FLOOR LAYOUT

REAR ELEVATION
SCALE 1:100

YASMIN BINTI AZMI | 0405822F1015 | LECTURER: PIR. NORUL FAZLINA BT KHASHIM, EN. AHMAD QUSYAIRI B. AHMAD KHARUL PI. ISMA ZAIDA BT. DIN

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THIRD FLOOR PLAN
SCALE 1:100

AREA VERTICAL FARM

SPATIAL DIAGRAM
THIRD FLOOR LAYOUT

LEFT ELEVATION
SCALE 1:100

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SECTION X-X
SCALE 1:100

TYPICAL SECTION
SCALE 1:100

SECTION Y-Y
SCALE 1:100

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SUSTAINABLE DESIGN GOALS (SDG)

SKYLIGHT

- Natural Light Maximizes daylight, reducing the need for artificial lighting.
- Energy Savings: Lowers electricity costs by using sunlight instead of lights.
- Ventilation: Operable skylights allow fresh air to improve indoor air quality.
- Aesthetic Appeal: Adds visual interest and a sense of openness to interiors.
- Sustainable Design: Helps reduce energy usage, supporting eco-friendly building structures.

GLASS CURTAIN WALL

- Natural Light: Maximizes daylight, reducing dependency on artificial lighting.
- Enhanced Aesthetics: Appeals to modern, sleek building exterior and interior.
- Energy Efficiency: High-performance glass can provide insulation, reducing heating and cooling costs.
- Improved Indoor Air Quality: Natural light exposure can improve indoor air by reducing mold and bacteria growth.
- Reduced Noise: Double or triple-glazed glass can effectively reduce external noise.

ATTRIUM

- Natural Light: Brings daylight deep into the building, reducing reliance on artificial lighting.
- Improved Air Circulation: Enhances ventilation, promoting fresh air flow throughout the building.
- Sense of Openness: Increases the feeling of space, making interiors feel less confined.
- Energy Savings: Reduces energy needs by lowering natural light and ventilation.
- Noise Reduction: Helps absorb and disperse noise, making surrounding areas quieter.

SOLAR PANEL

- Clean Energy: No greenhouse gas emissions during operation.
- Renewable: Uses sunlight, a limitless resource.
- Reduced Electricity Bills: Lowers utility costs over time.
- Energy Independence: Decreases reliance on grid power.

GREENERY

- Improved Air Quality: Plants filter pollutants and increase oxygen levels.
- Temperature Regulation: Green roofs and walls provide insulation, reducing heating and cooling needs.
- Noise Reduction: Plants absorb sound, creating quieter indoor and outdoor environments.
- Carbon Absorption: Plants absorb CO₂, contributing to carbon footprint reduction.

WOODEN CURTAIN WALL

- Natural Aesthetics: Adds warmth and organic, enhancing architectural appeal.
- Sustainability: Wood is a renewable and biodegradable material, reducing environmental impact.
- Thermal Insulation: Wood has natural insulating properties, improving energy efficiency.
- Improved Indoor Air Quality: Engineered wood can emit fewer volatile organic compounds (VOCs) than some synthetic materials.

OPEN SPACE

- Environmental Benefits: Supports biodiversity and offers habitats for wildlife.
- Improved Air Quality: Vegetation in open spaces helps filter pollutants.
- Temperature Control: Green open areas help cool urban environments.
- Aesthetic Appeal: Adds beauty to urban landscapes, enhancing property values.
- Noise Reduction: Open, green spaces help absorb city noise.

YASMIN BINTI AZMI | 0405822F1015 | LECTURER: PIR. NORUL FAZLINA BT KHASHIM, EN. AHMAD QUSYAIRI B. AHMAD KHARUL PI. ISMA ZAIDA BT. DIN

ROSELLE BLOOM HUB ARGO-TOURISM CENTRE

PINA VISTA

A PINEAPPLE AGROCULTURAL TOURISM CENTRE

CLIENT



MOTAC Malaysia, or the Ministry of Tourism, Arts and Culture, focuses on enhancing the country's tourism appeal through strategic initiatives, sustainable practices, and the preservation of arts and culture by showcasing Malaysia's rich traditions and natural attractions.

ISSUE



Pineapple is one of Malacca famous fruit but less highlighted by locals and worldwide.



Lack of sustainable energy resources in Malacca.



There is no pineapple agriculture tourism centre in Malacca.

AIM

To propose an agroculture tourism centre based on pineapple that focused in research and development and produce products to dive in the commercial industry that offers convenience along with sustainable and green elements design.

OBJECTIVE

- 1) To design an agroculture tourism centre that highlight pineapple and serve products to generates sales.
- 2) To design and accumulate spaces that offers information and knowledge about pineapple agroculture
- 3) To cooperate green elements into sustainable design and became point of interest for global.

PROGRAM

To produce pineapple concentrated puree and soap as the main outcome products. An addition, to provide food and beverages fresh from the PinaVista itself for and offers fun yet knowledgeable experience for the visitors.



USER STUDY



FAMILY

TOURIST

STUDENTS

CONCEPT OF DESIGN

"The Living Levels"
PinaVista utilizes how pineapple is served by cross-section as primary design tool to creates multi-dimensional experience in the building. The design approach interaction between spaces by visual and physically layering function.



- ADMINISTRATION LEVEL
- SOCIAL DINING LEVEL
- EDUCATION LEVEL
- WELCOMING LEVEL

STRATEGIES OF DESIGN

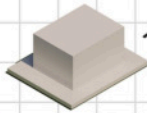


Make use of high technology to offer knowledge and exiting experience such as Virtual Reality technology.

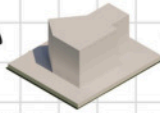


Adding solar energy system may assist in ensuring electronic devices utilizes less electricity and reduce worldwide carbon emission.

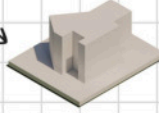
IDEA DEVELOPMENT



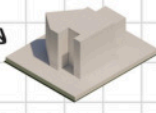
Basic rectangle form as raw shape before manipulated.



Form then cutted according to site analysis to archive ventilation and lighting.



Cutting the form for service area and disabled access to the building



Cutting the form for rooftop garden for more space maximization and consideration for green approach.



KEY PLAN
SCALE 1 : NTS



LOCATION PLAN
SCALE 1 : NTS



PINA VISTA AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Mas Diyan Sahputra Bin Sunaryo

DCAS0226 | DESIGN STUDIO 5

II SITE BACKGROUND

LOCATION : KUALA LINGGI, MALACCA
 LOT NUMBER : 1947
 LOT ZONE : COMMERCIAL AND COMMUNITY
 LOT SIZE : 2.020
 LANDMARKS : RETAIL AND TRAVELLING FORT SUPAI, MAJLIS AGRIKULTUR

Fort Supai, Kuala Linggi, Malacca

Kuala Linggi Fort (also known as the Upper Fort) is located on the eastern bank of the estuary of Sungai Linggi River near the town of Kuala Linggi, Malacca. The fort is considered to have been built because the river is considered the best way for a team of mercenaries who are called as 'Siam' (Siam). There is also believed as the British Cannon Fort because of a broken cannon that found there after being abandoned.

II CASE STUDY

FACE STUDY: PENANG AGRI-CULTURE R&D CENTRE
 Adjustment of low density (big block) as secondary wall of screen when in existing urban fabric and aesthetic also allowing natural ventilation and reduce over lighting into the building as it passive design.

SPACE STUDY: PENANG AGRI-CULTURE R&D CENTRE
 Double volume (double height) space allows more exposure about the process towards the other side (exhibition of culture) breaks up to other representation rather than a flat roof. This also contribute as an attraction towards the business.

II SITE ANALYSIS

Wind flow from north-easterly mostly West to East. Opening may proposed there to offset the wind circulation.

Sun path from south to east make proposed design follow the path to utilize natural light and avoid heat.

Shade cooling from the environment such as planting trees, green wall and roof. Proposed design should be place here to back to regular street.

Noise barrier from the surrounding such as road and residential, proposed design was placed near to back to regular street.

Landscaping was placed as green element and also environment activities.

SITE PLAN
SCALE 1 : 250

DCAS0226 | DESIGN STUDIO 5

GROUND FLOOR PLAN
SCALE 1 : 100

II BUBBLE DIAGRAM

PROGRAM : PUREE EXTRACTION PROCESS

- Washing and Peeling**
Pineapples are washed and then peeled and coring is done to remove substances, skin and the eyes of the pineapple.
- Cutting and Blending**
Pineapples then cut into pieces to ease-up blending process to become a raw pineapple pulp which then be strained.
- Storage and Distribute**
Pineapples puree then later be stored and distributed to the bakery and juice stations to be processed into food and beverages.
- Pasteurization**
Pineapples pulp then heated in certain temperature to remove pathogen and makes it into concentrated puree.

FIRST FLOOR PLAN
SCALE 1 : 100

DCAS0226 | DESIGN STUDIO 5

SECTION X-X
SCALE 1 : 100

SECTION Y-Y
SCALE 1 : 100

FRONT ELEVATION
SCALE 1 : 100

PINA VISTA AGRO-TOURISM CENTRE



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

H O R I Z O N

AGRO TOURISM CENTER

Discover a peaceful retreat along the coast where coffee culture meets nature and learning. Surrounded by lush landscapes and expansive ocean views, our center offers a unique experience that not only connects visitors to the origins of every coffee bean but also enriches their understanding of sustainable coffee production. As you explore scenic paths and breathe in the fresh coastal air, you'll engage with each stage of the coffee-making process, learning about cultivation, processing, and the environmental impact. This is a place to relax, learn, and savor both the flavors and insights into the world of coffee within a harmonious natural setting.



HORIZON AGRO-TOURISM CENTRE

Penyelia:

En. Ahmad Qusyairi Bin Ahmad Khairiri

Nama Pelajar:

Raja Farez Iqbal Bin R Rusli

HORIZON

AGRO TOURISM CENTER

AIM
To provide the design of a sustainable and modern facility.

OBJECTIVE
The Horizon Agro-tourism Center is designed to be used for packaging, education, and showcasing the coffee process. Further, the building is designed to be a landmark for the area.

ISSUE
The building is designed to be a landmark for the area. The building is designed to be a landmark for the area. The building is designed to be a landmark for the area.

PROGRAM: COFFEE

PRODUCTION
Visitors can witness the roasting process in a dedicated room, giving insights into how the beans are carefully roasted to develop flavor.

EDUCATION
Visitors can witness the roasting process in a dedicated room, giving insights into how the beans are carefully roasted to develop flavor.

TOURISM
The site provides a space where guests can relax, enjoy coffee-based drinks, and enjoy a scenic view, especially with your location beside the beach.

SDG INTEGRATION

SOUND
Acoustic sound barrier to avoid loud noise from the beach.

VIEW
Incorporating positive views such as beach, canopy, and greenery, and avoid negative views such as road clutter.

SUN
Considering orientation to avoid direct sunlight on the building.

WIND
Considering passive design strategies such as natural ventilation and shading to reduce energy consumption and mitigate environmental impact.

TARGET USER

- Visitors, including families and educational groups.
- Families, including children and educational groups.
- Visitors, including families and educational groups.
- Visitors, including families and educational groups.

SITE ANALYSIS

02

RAJA FAREZ IQBAL BIN RAJA RISU | DCA 90224 | SESSION 2024/2025 | SIR AHMAD GUSTAYRI BIN AHMAD | MOM NORUL FADLINA BT | MOM ISMA ZAIDA

IDEA DEVELOPMENT

1 A simple building form, neutral the site program with the building orientation of the building.

2 Inserting the main idea from the volume diagram which is the building shape facing the beach.

3 Considering the important area and impact of the main idea to make sure the space has the right amount of space.

4 Inserting the service gap which is the main area and the main area to make sure the space has the right amount of space.

5 A complete form of the building after the landscaping work.

ARCHITECTURAL STYLE: CONTEMPORARY MODERN

1 Dynamic Facade: The facade has dynamic and elements that create a sense of movement, highlighting the sense of movement.

2 Lighting Design: The lighting around the building is designed to highlight the building's form and create a sense of movement.

3 Minimalistic Color Palette: The restrained use of color, mainly neutral tones, creates a sense of calm and modernity.

CASE STUDY

ARABIAN PALACE
This case study explores the innovative architectural form and the use of dynamic facade elements to create a sense of movement and modernity.

VIENNA UNIVERSITY
This case study explores the innovative architectural form and the use of dynamic facade elements to create a sense of movement and modernity.

03

RAJA FAREZ IQBAL BIN RAJA RISU | DCA 90224 | SESSION 2024/2025 | SIR AHMAD GUSTAYRI BIN AHMAD | MOM NORUL FADLINA BT | MOM ISMA ZAIDA

GROUND FLOOR PLAN

SCALE 1:100

FIRST FLOOR PLAN

SCALE 1:100

SECOND FLOOR PLAN

SCALE 1:100

04

RAJA FAREZ IQBAL BIN RAJA RISU | DCA 90224 | SESSION 2024/2025 | SIR AHMAD GUSTAYRI BIN AHMAD | MOM NORUL FADLINA BT | MOM ISMA ZAIDA

THIRD FLOOR PLAN

SCALE 1:100

FRONT ELEVATION

SCALE 1:100

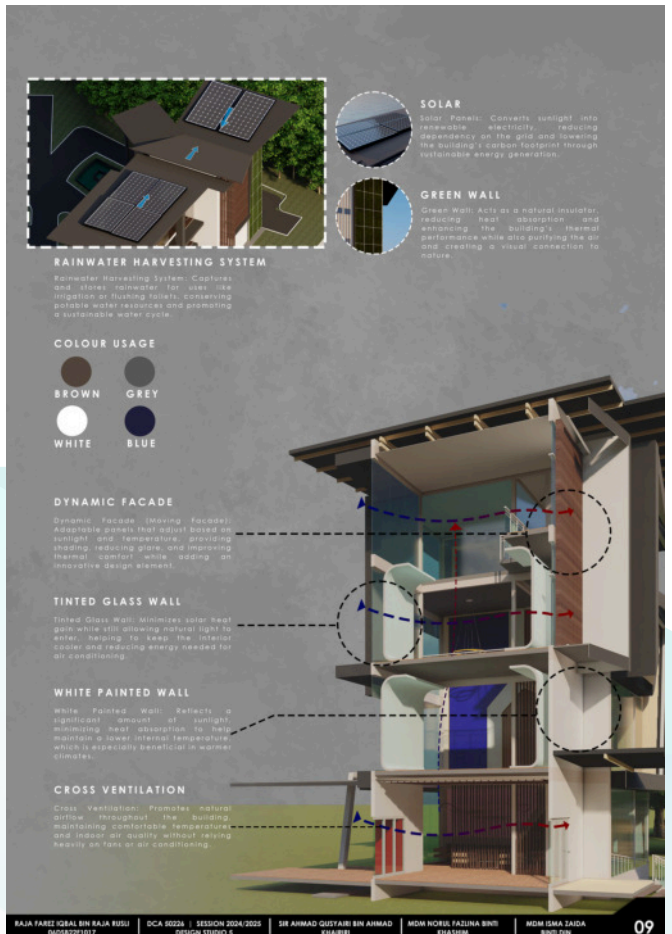
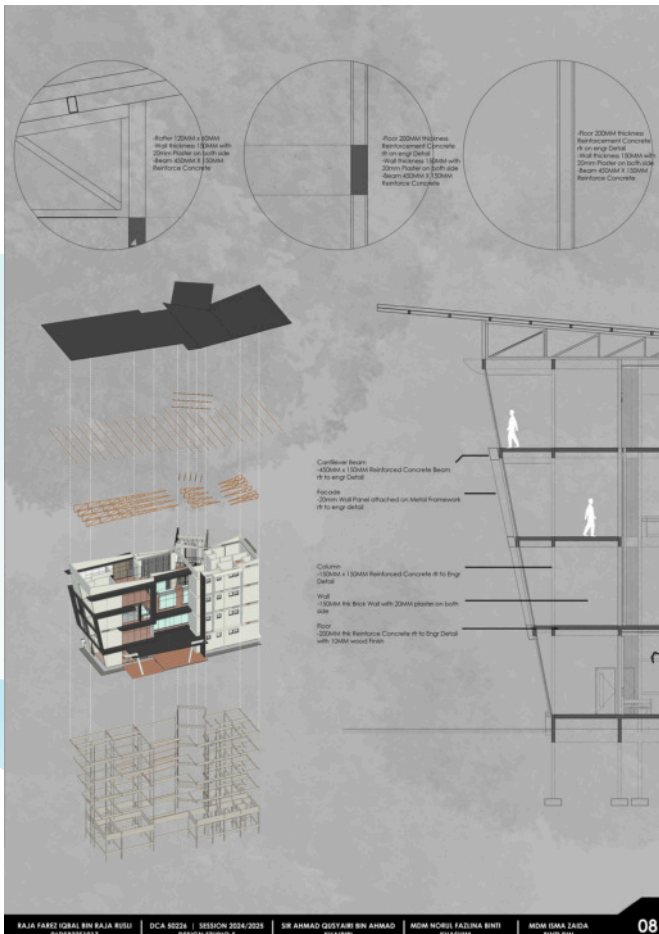
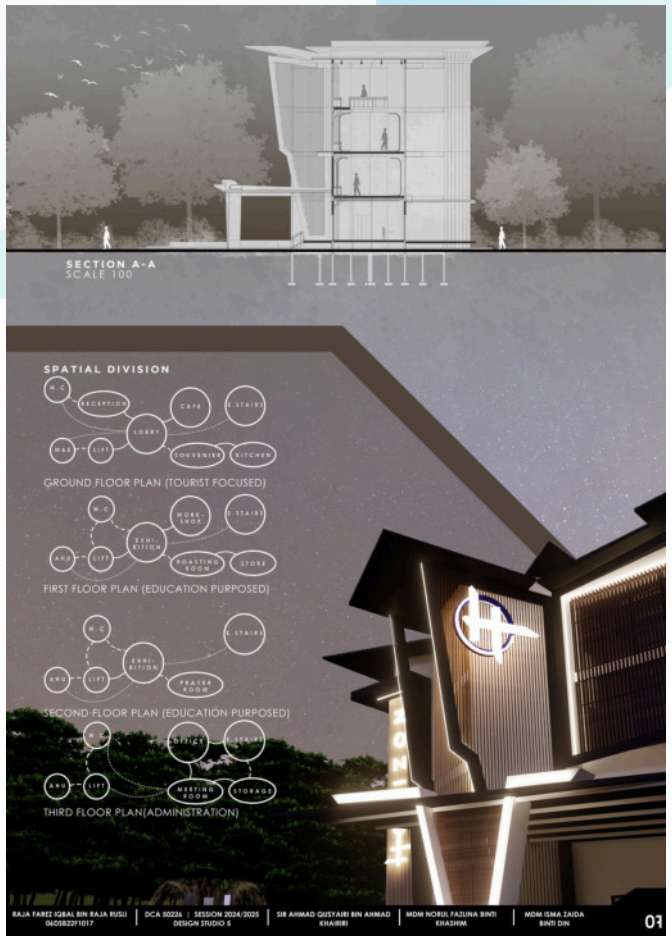
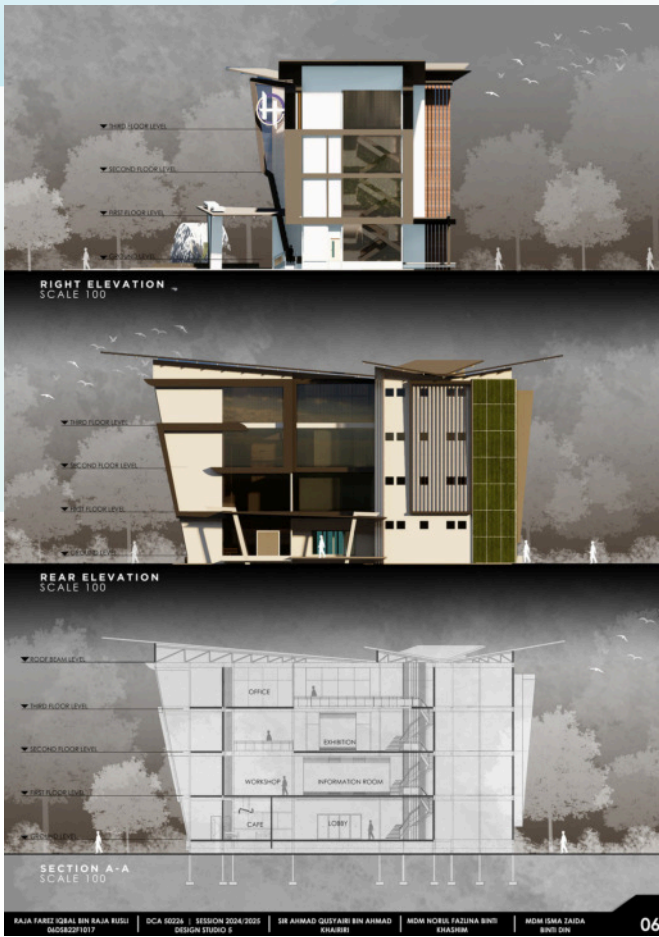
LEFT ELEVATION

SCALE 1:100

05

RAJA FAREZ IQBAL BIN RAJA RISU | DCA 90224 | SESSION 2024/2025 | SIR AHMAD GUSTAYRI BIN AHMAD | MOM NORUL FADLINA BT | MOM ISMA ZAIDA

HORIZON AGRO-TOURISM CENTRE



HORIZON AGRO-TOURISM CENTRE



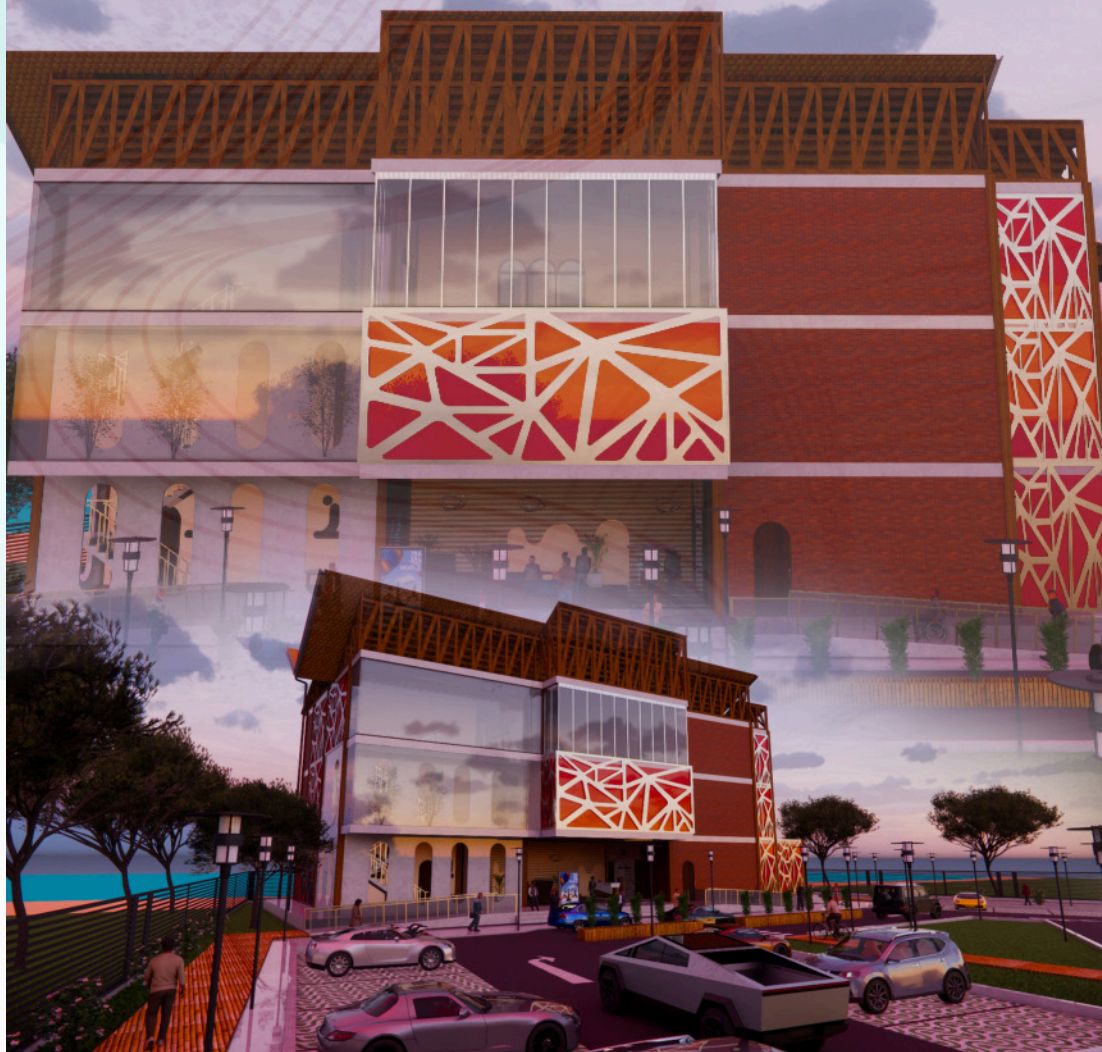
CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

A Strawberry Agro-Tourism Centre

Akar Merah

The proposed project is a Agro-Tourism Centre located at the heart of Kuala Linggi, a historic coastal town in Malaysia, known for its cultural blend of Malay, Chinese, and Portuguese influences, reflecting a vibrant multicultural history. Located at the Malacca and Negeri Sembilan border. Today, Kuala Linggi's rich cultural heritage and scenic coastline continue to attract visitors.

Therefore, Akar Merah, a Strawberry Agro-tourism Centre would provide visitors with an immersive experience in agriculture and tourism. The facility could offer educational tours on eco-friendly farming practices, farm-to-table dining, and hands-on picking activities. This unique attraction would boost local tourism, provide income to the community, and promote sustainable farming awareness. Designed with eco-friendly architecture, the building would reflect local heritage while enhancing environmental education and creating memorable, family-friendly experiences.



AKAR MERAH STRAWBERRY AGRO-TOURISM CENTRE

Penyelia:

Ts. Siti Amirah Binti Mohtaram

Nama Pelajar:

Muhammad Afif Wildan Bin Jamaluddin

AKAR MERAH A STRAWBERRY AGRO-TOURISM CENTRE

DESIGN STATEMENT
This Agro-Tourism Centre is located in Kuala Langkat with an area of 8000m². The centre's design is a combination of local and modern architectural styles, blending traditional elements with contemporary aesthetics. The centre will offer a variety of activities, including strawberry farming, eco-friendly design, and local culture, providing education and entertainment to visitors of all ages.

DESIGN INTENTION
To provide a Modern Design Strawberry Agro-Tourism Centre that integrates with nature in design and utilizing good circulation.

DESIGNER
To provide a Modern Design Strawberry Agro-Tourism Centre that integrates with nature in design and utilizing good circulation.

DESIGN OBJECTIVES

- To design a building with modern sustainable design.
- To ensure accessibility for all users, including those with disabilities.
- To create a building with good accessibility, including wheelchair access.
- To create a building with good accessibility, including wheelchair access.

DESIGN ISSUES

- Accessibility, such as wheelchair parking, ramps, or lifts, for users with disabilities.
- Problems with emergency exits that may not be functional, fire, and evacuation for emergency situations.
- Issues with energy efficiency and sustainable building.
- Problems in terms of spatial utilization, insufficient space that makes inefficient use of the building.

CONCEPT OF DESIGN
Design concept inspired by strawberries and integrates organic forms, red and green hues, and textures reminiscent of strawberry leaves and seeds. The building also provides the presence of greenery, landscape, and interactive environment that reflects agriculture heritage.

STRATEGIES OF DESIGN
An Open House Strategy is applied to ensure visitors can enter the building's interior in order to be able to reduce energy consumption. Summertime vegetation provides shade and helps to reduce the heat and high temperature during the day.

KEY PLAN

LOCATION PLAN

GROUND FLOOR PLAN 1:100

FIRST FLOOR PLAN 1:100

SECOND FLOOR PLAN 1:100

SPACE PLANNING

MUHAMMAD AFF WILDAH BIN JAMALUDDIN
DESIGN STUDIO 5
SEKSIUN 2024-2025

LECTURER: TS. PN. SITI AMIRAH BINI MOHTARIM
PN. RAFFIDAH BINI SUB
DR. SETIAWAN BIN HARJONO

GROUND FLOOR PLAN 1:100

FIRST FLOOR PLAN 1:100

SECOND FLOOR PLAN 1:100

SPACE PLANNING

MUHAMMAD AFF WILDAH BIN JAMALUDDIN
DESIGN STUDIO 5
SEKSIUN 2024-2025

LECTURER: TS. PN. SITI AMIRAH BINI MOHTARIM
PN. RAFFIDAH BINI SUB
DR. SETIAWAN BIN HARJONO

REAR ELEVATION 1:100

LEFT ELEVATION 1:100

VIEW FROM BEACH

MUHAMMAD AFF WILDAH BIN JAMALUDDIN
DESIGN STUDIO 5
SEKSIUN 2024-2025

LECTURER: TS. PN. SITI AMIRAH BINI MOHTARIM
PN. RAFFIDAH BINI SUB
DR. SETIAWAN BIN HARJONO

SECTION X-X 1:100

SECTION Y-Y 1:100

SPECIAL DETAILS

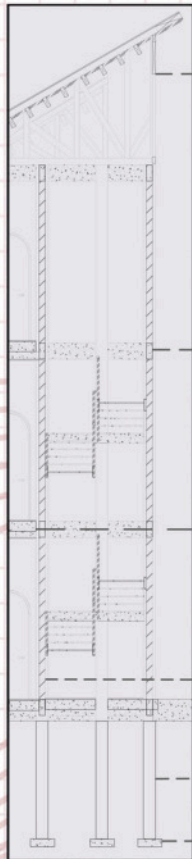
DETAIL A-A 1:10

DETAIL B-B 1:10

MUHAMMAD AFF WILDAH BIN JAMALUDDIN
DESIGN STUDIO 5
SEKSIUN 2024-2025

LECTURER: TS. PN. SITI AMIRAH BINI MOHTARIM
PN. RAFFIDAH BINI SUB
DR. SETIAWAN BIN HARJONO

AKAR MERAH STRAWBERRY AGRO-TOURISM CENTRE



ROOF CONSTRUCTION
 100MM X 250MM Timber Rafter
 50MM X 150 MM Timber Purlin
 50MM X 150MM H.W. Timber wallplate
 15MM THK Plywood board
 200MM DIN 934 Stainless Steel Gutter

400MM X 150MM RC Beam to Engr's Detail

FLOOR CONSTRUCTION
 25MM THK Timber floor finishes to Manuf's detail
 125MM THK Concrete layer of DPM
 250MM THK of hardcore

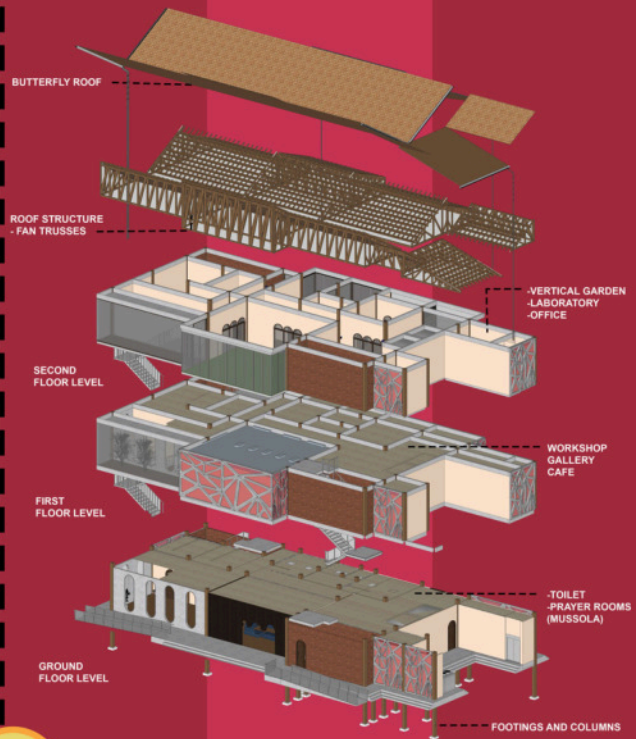
110MM Brickwall with 20MM THK plaster on both sides
 50MM THK Chengal wood door frame

300MM X 300MM Timber column to Engr's detail

600MM X 600MM X 450MM RC Footing to Engr's detail

TYPICAL SECTION 1:50

EXPLODED DIAGRAM NTS



BUTTERFLY ROOF

ROOF STRUCTURE - FAN TRUSSES

SECOND FLOOR LEVEL

FIRST FLOOR LEVEL

GROUND FLOOR LEVEL

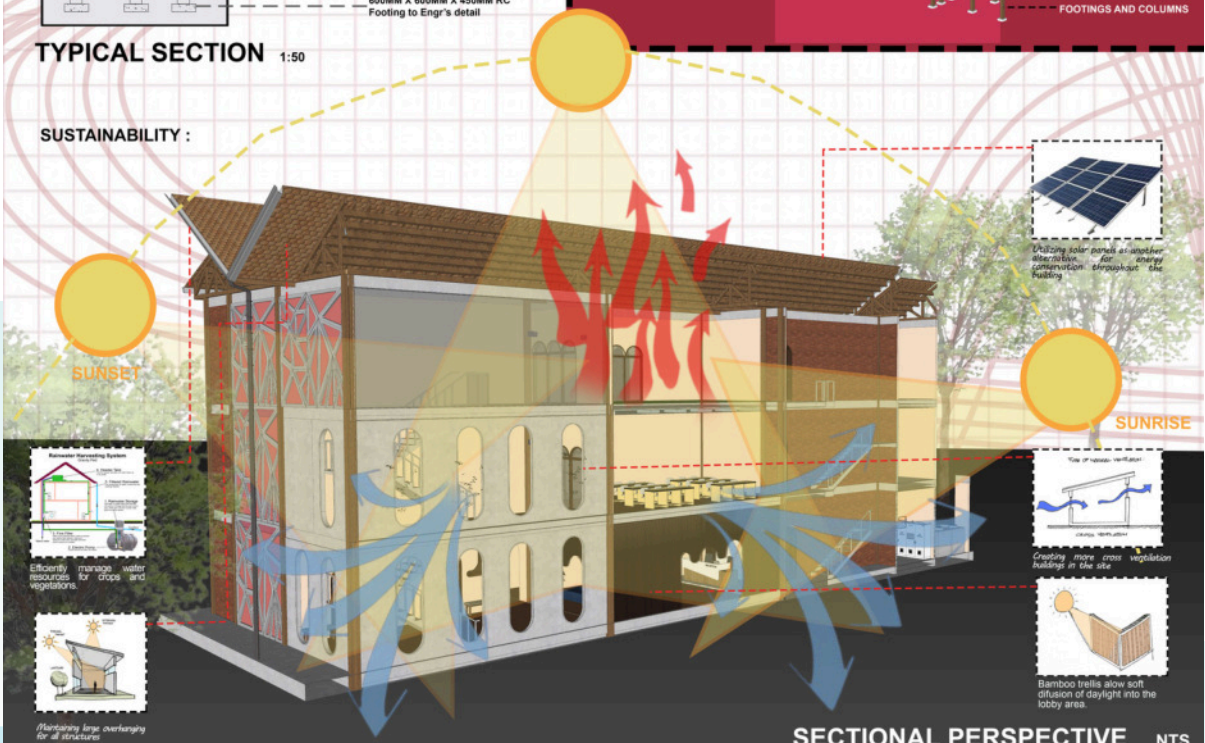
VERTICAL GARDEN - LABORATORY - OFFICE

WORKSHOP - GALLERY - CAFE

TOILET - PRAYER ROOMS (MUSSOLA)

FOOTINGS AND COLUMNS

SUSTAINABILITY :



SUNSET

SUNRISE



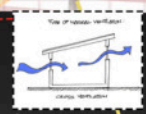
Efficiently manage water resources for crops and vegetations.



Maintaining large overhanging for all structure.



Utilizing solar panels as an alternative alternative for energy conservation throughout the building.



Creating more cross ventilation buildings in the site.



Bamboo trellis allow soft diffusion of daylight into the lobby area.

SECTIONAL PERSPECTIVE NTS

MUHAMMAD AFIF WILDAN BIN JAMALUDDIN
 06DSB22F1046

DESIGN STUDIO 5
 SESION 2024-2025

LECTURER: TS. PN. SITI AMIRAH BINTI MOHTARAM
 PN. RAFIDAH BINTI SUIB
 DR. SETIAWAN BIN HARDONO

7

AKAR MERAH STRAWBERRY AGRO-TOURISM CENTRE



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

VIANDS

Agriculture and Tourism

An Agriculture Tourism Center (Agri-Tourism Center) is a place where visitors can experience farm life and rural culture. It connects urban visitors with rural communities, offering opportunities to learn about farming, sustainable agriculture, and local food, while also enjoying recreational activities.



VIANDS AGRICULTURE AND TOURISM

Penyelia:

Pn.Rafidah binti Suib

Nama Pelajar:

Aqil bin Mohamad Hatta

VIANDS Agriculture and Tourism

Introduction
An Agriculture Tourism Center (Agri-Tourism Center) is a place where visitors can experience rural life and visit various agricultural activities. It is a place where visitors can enjoy the beauty of rural life, learn about agriculture, and enjoy the fruits of their labor. The center is designed to be a place where visitors can enjoy the beauty of rural life, learn about agriculture, and enjoy the fruits of their labor.

Design Aim
Reduce the amount of energy needed to build buildings, products or services.
To create a center for the visitor to enjoy the beauty of rural life.
Offer related information about local attractions, products, and services.
Provide a place for the visitor to enjoy the beauty of rural life, learn about agriculture, and enjoy the fruits of their labor.

Design Intention
To design a building where the tourist can observe the process of modern crop farming.
To design an Agriculture Tourism Center that apply with sustainable design concept of green energy by maintaining the water harvesting system into the building.
To design a building that offers natural lighting into the building via sky light and open covered floor plan design for better air circulation.
Design a safe and stable friendly space for everyone to easily use.
Make an information area for visitor to learn about farming and the technologies.

Objective
Minimize pollution, reduce emissions, and lower the ecological footprint by using sustainable materials and energy.
Provide a place for the visitor to enjoy the beauty of rural life, learn about agriculture, and enjoy the fruits of their labor.

User
Family friendly and safe for children to visit.
Place where students can come and learn about the modern era of farming and agriculture.
Equip office for the employees doing their work in private.
The growing use of technology in agriculture has led to the development of smart farming. The digital divide is a challenge, as not all farmers have access to the internet or mobile phones.

Design Issue
Location
Site area that is located at the entrance of a job restaurant.
Residence
Not a place with high volume of people around the value of the site.
Weather
Local weather conditions, such as extreme temperatures, rainfall, or wind patterns, can affect material selection and energy efficiency.

Site Analysis
Proper orientation can maximize natural daylight, which reduces the need for artificial lighting, and minimize unwanted heat gain.
making the front elevation facing the west side and provide a floor to ceiling height glass window can improve natural lighting inside the building.
Clear, unobstructed views provide a sense of openness and expansiveness, making a space feel larger and more comfortable.
making the cafe and the processing area facing the positive view can increase the user energy in doing anything.
In work environments, negative noise can severely reduce productivity by disrupting concentration and focus. Offices near noisy roads or construction sites.
The offices 2nd and 3rd floor were placed at the back of the building to reduce noise going through the area.

Idea Development
Starting from a cube
Separated and sliced between the cube to create sections for its area
Pump and Pull were used in order to make the form more dynamic and
Final product of the design with facade

Product
Making local product of packaged, canned, bottled, being that is ready to look
Local made packaged product being to be sold to the locals

KEY PLAN
LOCATION PLAN

SITE PLAN
1:250

AGL BIN MOHAMAD HATTA | 06DSB22F1012 | DCA50226 DESIGN STUDIO 5 | SUPERVISOR: PUAN RAFIDAH BINTI SUB

The interior of Viands Agriculture Tourism were design with industrial concept with exposed structure and mixed with natural that welcomes the user into the building.

Laboratory for food processing on the ground floor that connect with the outdoor garden.

Cafe for the staff and visitor to enjoy a cup of tea inside or outside and while facing the beautiful view

GROUND FLOOR
1:100

AGL BIN MOHAMAD HATTA | 06DSB22F1012 | DCA50226 DESIGN STUDIO 5 | SUPERVISOR: PUAN RAFIDAH BINTI SUB

The design that adds character into the building with green element that give sustainability while maintain the aesthetic of the design

Laboratory of indoor gardening that uses hydroponics and new technologies on growing crops

Partry for the workers and visitor to sit down and rest

FIRST FLOOR
1:100

AGL BIN MOHAMAD HATTA | 06DSB22F1012 | DCA50226 DESIGN STUDIO 5 | SUPERVISOR: PUAN RAFIDAH BINTI SUB

VIANDS AGRICULTURE AND TOURISM



Second floor is where the private area. Area for the staff workers receiving natural lighting with open floor concept office for better air circulation and sustainability



Office for the employee working with natural lighting



Meeting room located at the rear of the building facing view with of the beach

AQIL BIN MOHAMAD HATTA | 06DS822F-1012

||DCAS0226 DESIGN STUDIO 5

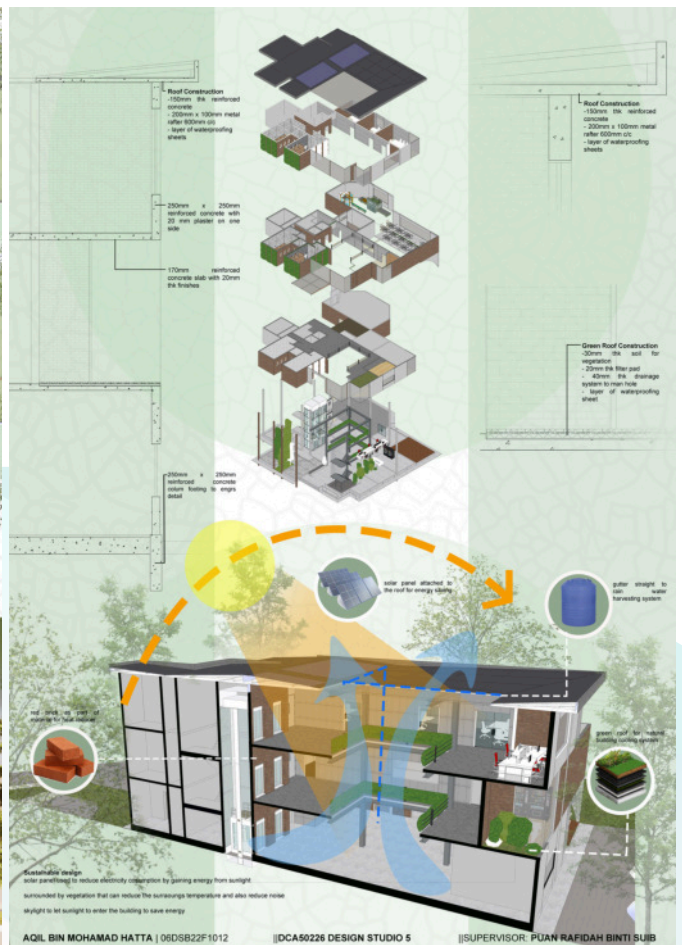
||SUPERVISOR: PUAN RAFIDAH BINTI SUIB



AQIL BIN MOHAMAD HATTA | 06DS822F-1012

||DCAS0226 DESIGN STUDIO 5

||SUPERVISOR: PUAN RAFIDAH BINTI SUIB



Roof Construction
 -150mm thick reinforced concrete
 -200mm x 100mm metal siller 600mm c/c
 -layer of waterproofing sheets

250mm x 250mm reinforced concrete with 20 mm glasser on one side

170mm reinforced concrete slab with 20mm 8# bricks

200mm x 250mm reinforced concrete beam

20mm solar panel attached to the roof for energy saving

gutter channel to rain-water harvesting system

green roof for modern building environment

Sustainable design
 solar paneling to reduce electricity consumption by gaining energy from sunlight.
 surrounded by vegetation that can reduce the surroundings temperature and also reduce noise
 skylight to let sunlight to enter the building to save energy

AQIL BIN MOHAMAD HATTA | 06DS822F-1012

||DCAS0226 DESIGN STUDIO 5

||SUPERVISOR: PUAN RAFIDAH BINTI SUIB

VIANDS AGRICULTURE AND TOURISM



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

Blooming

AGRO-TOURISM CENTRE

Where Jasmine Blossoms into Essence

Blooming Agro-Tourism Centre is envisioned as a harmonious blend of architecture, agriculture, and environmental stewardship, celebrating the elegance of jasmine cultivation and extraction. Designed to reflect the beauty and simplicity of the jasmine flower, the center creates immersive experiences that showcase each stage of jasmine's journey, from farm to fragrance. Rooted in sustainable design principles, the architecture uses locally-sourced materials, natural ventilation, and green technologies to minimize environmental impact, fostering a deeper connection with nature. This eco-conscious center not only enhances visitor engagement with the jasmine production process but also provides a tranquil, educational space that supports the local community and its agricultural heritage.



NUR QISTINA BINTI ROS AZMAN | 06DSB22F1064 | PN. NORUL FAZLINA BINTI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHAIRIRI | PN. ISMA ZAIDA BINTI DIN

BLOOMING AGRO TOURISM CENTRE

Penyelia:

Pn. Norul Fazlina bt Khashim

Nama Pelajar:

Nur Qistina binti Ros Azman

+Understanding PRECEDENT STUDY

THE YARDS
Architect: HOK Architects
Area: 547,100 sqm
Year: 2015
Location: Fairfax, China

THE OCULUS
Architect: Foster + Partners
Area: 102,000 sqm
Year: 2012
Location: Beijing

THE OCULUS
Architect: Foster + Partners
Area: 102,000 sqm
Year: 2012
Location: Beijing

+System & Component BUILDING COMPONENT

PERMANENT COMPONENT PERMANENT

- Steel trayer and beam
- Column
- Space Frame

SECURABLE COMPONENT SEMI

- Floor slab
- Walls
- Waterproof layer

TERMINAL COMPONENT CHANGEABLE

- Cladding
- Clad unit
- Window unit
- Main frame unit

+Identifying MATERIAL

WOOD

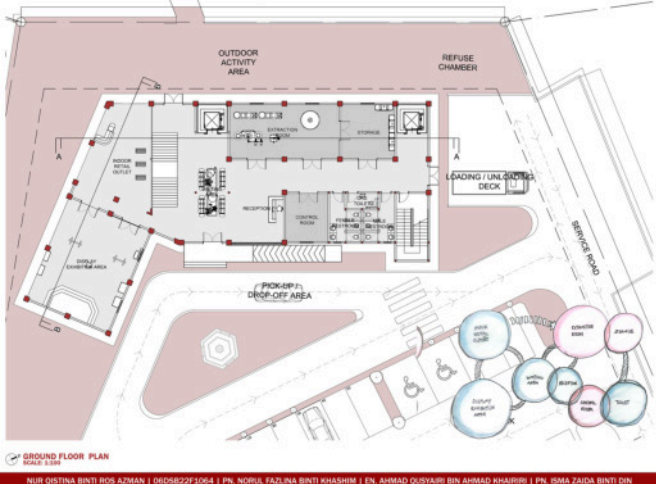
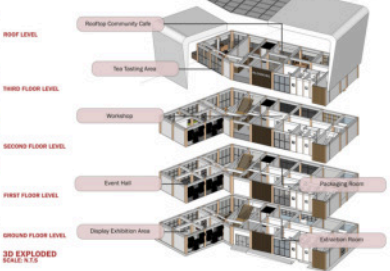
- Timber
- Timber cladding
- Cladding

CONCRETE

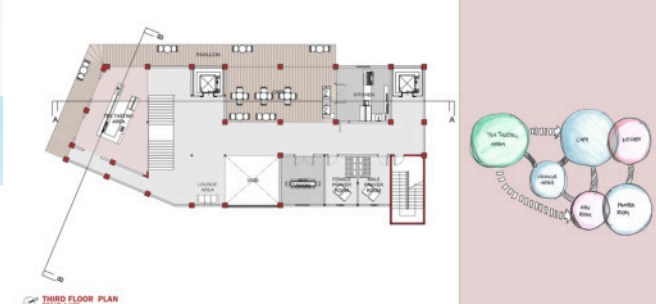
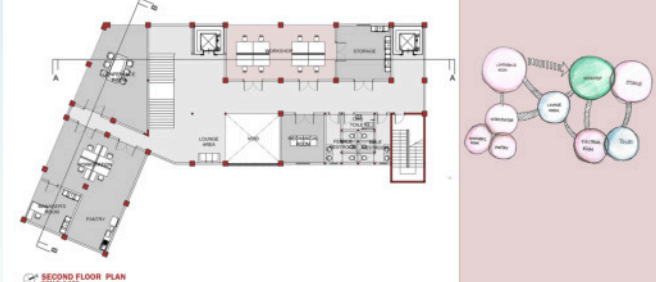
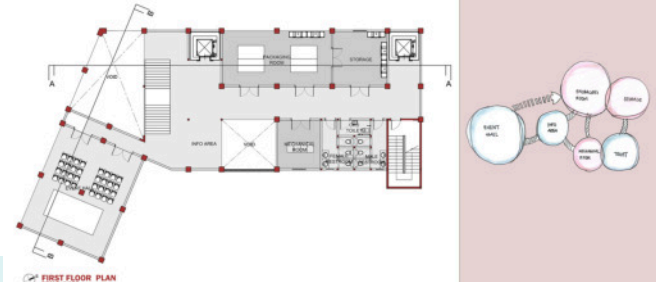
- Wall
- Foundation

STEEL

- Beam
- Tracing
- Door and window frame



NUR QISTINA BINI ROS AZMAN | 060582271064 | PN. NORUL FAZLINA BINI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHAIRI | PN. ISMA ZAIDA BINI DIN



NUR QISTINA BINI ROS AZMAN | 060582271064 | PN. NORUL FAZLINA BINI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHAIRI | PN. ISMA ZAIDA BINI DIN

UCA50226 DESIGN STUDIO 5



+Overview AIM

To design an agro-tourism centre that works in the centre of jasmine production for local farmers while being a sustainable development.

+Understanding ISSUES

Production Process
Jasmine cultivation is tightly integrated with traditional farming across rural areas. Modern resources sharing and quality control which respects and conserves.

Labour Access
Without a large workforce, communities struggle to access fresh produce and local services, affecting both farmer income and food security.

Technical Integration
Limited use of modern technology slows production, increases labour demands, and reduces efficiency in jasmine extraction.

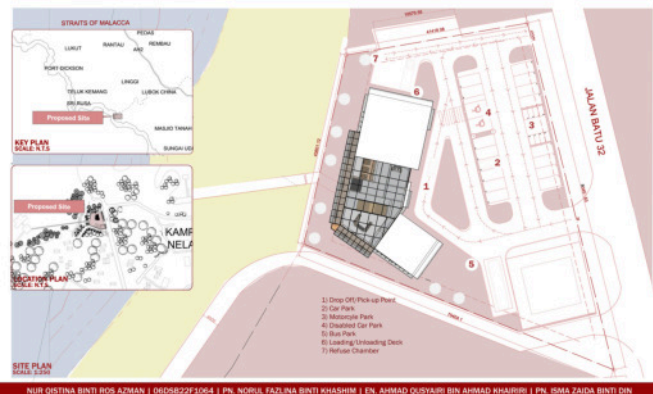
+Program SPATIAL RELATIONSHIP

- Production Space
- Exhibition Space
- Event Area
- System Mapping
- Marketing Centre
- Production
- Exhibition
- Event

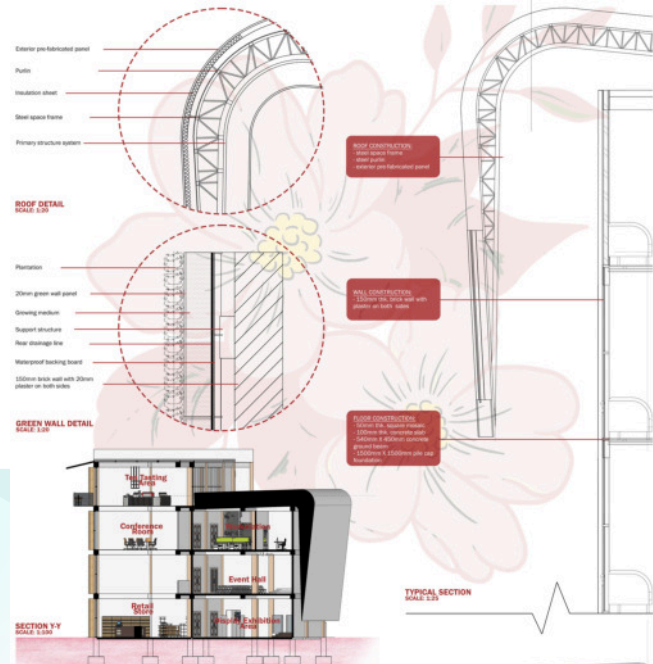
+Development IDEA DEVELOPMENT

The five parts of a jasmine flower often symbolize purity, love, beauty, femininity, and spiritual connection.

The 8 stages of jasmine extraction symbolize the 8 programs designed in this agro-tourism centre.



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NUR QISTINA BINI ROS AZMAN | 060582271064 | PN. NORUL FAZLINA BINI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHAIRI | PN. ISMA ZAIDA BINI DIN

BLOOMING AGRO-TOURISM CENTRE



FRONT ELEVATION
SCALE: 1:100



REAR ELEVATION
SCALE: 1:100



NUR QISTINA BINTI ROS AZMAN | 0605822F1064 | PN. NORUL FAZLINA BINTI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHARRIRI | PN. ISMA ZAIDA BINTI DIN



SECTION X-X
SCALE: 1:100



RIGHT ELEVATION
SCALE: 1:100

LEFT ELEVATION
SCALE: 1:100



NUR QISTINA BINTI ROS AZMAN | 0605822F1064 | PN. NORUL FAZLINA BINTI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHARRIRI | PN. ISMA ZAIDA BINTI DIN



***Key Elements SUSTAINABLE VISION**

- Renewable Energy Sources:** Along the entire value chain, renewable energy sources are used to ensure sustainable energy.
- Local Community:** Credit opportunities for small businesses and employment opportunities are provided.
- Local Production:** Local products are used to support the local economy.
- Local Consumption:** Local products are used to support the local economy.

***Key Elements SUSTAINABLE APPROACH**

- Green Building:** Green design helps to reduce the building's energy consumption by reducing the need for artificial lighting and cooling, and creating a better environment.
- Double Volume:** Double volume spaces enhance natural light and ventilation, reducing the need for artificial lighting and cooling, and creating a better environment.
- Local Thermal:** Local thermal mass helps to reduce the need for artificial lighting and cooling, and creating a better environment.

***Key Elements PASSIVE DESIGN**

- Greenery:** Green plants help to cool and humidify the air, and absorb carbon dioxide, reducing the need for air conditioning. Additionally, green spaces can improve air quality.
- Cross Ventilation:** Cross ventilation is naturally effective in warmer climates, as it helps to cool the air by drawing it through the building. This can be achieved by using large windows, high ceilings, and windbreaks to create natural air flow.
- Light Orientation:** Light orientation is naturally effective in warmer climates, as it helps to cool the air by drawing it through the building. This can be achieved by using large windows, high ceilings, and windbreaks to create natural air flow.

2 **7** **6** **11**

Stack ventilation reduces the need for air conditioning, saving energy and lowering carbon emissions.

Sloights are designed to allow natural light into spaces.



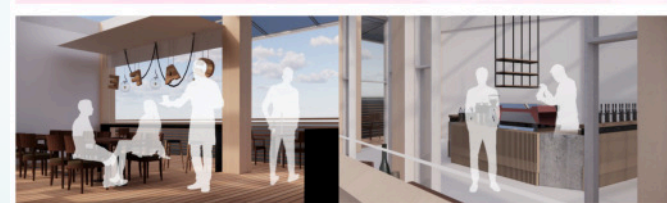
NUR QISTINA BINTI ROS AZMAN | 0605822F1064 | PN. NORUL FAZLINA BINTI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHARRIRI | PN. ISMA ZAIDA BINTI DIN



FRONT ELEVATION
SCALE: 1:100



REAR ELEVATION
SCALE: 1:100



NUR QISTINA BINTI ROS AZMAN | 0605822F1064 | PN. NORUL FAZLINA BINTI KHASHIM | EN. AHMAD QUSYAIRI BIN AHMAD KHARRIRI | PN. ISMA ZAIDA BINTI DIN

BLOOMING AGRO-TOURISM CENTRE



KEY ELEMENTS SUSTAINABLE VISION

- Renewable Energy Sources:** Promote the use of solar and wind energy to reduce carbon footprint, while integrating green building practices for long-term environmental impact.
- Water Conservation:** Utilize advanced rainwater harvesting, greywater recycling, and smart irrigation systems to reduce water consumption and ensure sustainable water management.

KEY ELEMENTS SUSTAINABLE APPROACH

- Local Community Engagement:** Foster collaboration with local farmers, artisans, and businesses to support regional economic growth and preserve cultural heritage.
- Green Building & Materials:** Utilize eco-friendly materials, green roofs, and energy-efficient technologies to minimize environmental impact.
- DOUBLE VOLUME:** Create double-volume spaces to maximize natural light and ventilation, reducing the need for artificial lighting and cooling, and promoting a healthier environment.
- SOLAR THERMAL:** Integrate solar thermal systems to provide hot water and space heating, reducing reliance on fossil fuels. The use of a renewable energy source reduces the building's carbon footprint.

KEY ELEMENTS PASSIVE DESIGN

- GREENERY:** Integrate green roofs and vertical gardens to improve air quality, reduce urban heat island effect, and enhance the building's aesthetic appeal. Green roofs can also reduce rainwater runoff.
- CROSS VENTILATION:** Design spaces to maximize airflow through strategic window placement and operable windows, reducing the need for mechanical cooling and promoting energy efficiency.
- SUN ORIENTATION:** Optimize building layout to capture natural sunlight during off-peak hours of the day and ensure the need for artificial lighting and heating is minimized. This thoughtful approach saves energy and promotes sustainable, long-term building operations.

The sustainable vision for a Blooming Agro-Tourism Centre aligns with several United Nations Sustainable Development Goals (SDGs), by engaging with local goals. Blooming Agro-Tourism Centre also embodies sustainable practices that support environmental stewardship, empower local communities, and provide a meaningful, eco-friendly visitor experience. Through such commitments, the center actively contributes to global efforts for a more sustainable future.

2 AFFORDABLE ENERGY
7 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH
11 SUSTAINABLE CITIES AND COMMUNITIES

Stack ventilation reduces the need for air conditioning, saving energy and lowering carbon emissions.

Skylights are designed to allow natural light into space.



BLOOMING AGRO-TOURISM CENTRE

CLASSICAL B PEPPER

The proposed building program a Agro - Tourism Center that become the main place for farmers or visitors from the local area as well as from outside to learn more about the featured plant, which is the black pepper plant.

The agro- tourism center built up area is 800sqm with gallery, exhibition hall, lobby, workshop, cafe, office and etc



CLASSIC B PEPPER AGRO - TOURISM CENTRE

Penyelia:

Dr. Setiawan Bin Hardono

Nama Pelajar:

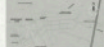
Faiz Hakimi Bin Mohd Nazari

CLASSIC B PEPPER

LOCATION: LOT 941 KUALA SEREMAN, ALOR GAJAH SELANGOR



KEY PLAN N.T.S



LOCATION PLAN N.T.S

USER STUDY



CHILDREN



TEENAGER



ELDERS



DISABLED PERSON

PROJECT STATEMENT

The proposed building program is Agri - Tourism Center that covers the main space for farmers or visitors from the local area as well as from outside to learn more about the black pepper plant which is the main pepper plant.

OBJECTIVE OF DESIGN

Apply using eco-friendly material
Using solar panel and making more opening for ventilation
Become reference point for plant science

AIM OF DESIGN

To provide a Agri - Tourism Center which implements sustainable design elements and using eco-friendly materials.

MAIN PRODUCT

BLACK PEPPER PLANT



ISSUES OF DESIGN



CLIMATE ACTION

Weather factors in coastal areas are important because the selection of important materials for building.



SITE SURFACE

The area of the site that has been built causes the development process to take more time.



NATURAL ENVIRONMENT

There are many natural resources of water and sun that cause the existence of local climate.

DESIGN CONCEPT

Using classical architecture style as the main characteristic of this building.

STRATEGIES OF DESIGN

Reduce lighting, cooling and heating demands through building envelope strategies such as natural ventilation and daylighting

Reduce energy usage of electronic appliances through installation of solar panel. Take the heating and cooling from the natural radiation and SOG points.

Analyze a crowd needs of user towards technology access and provide a space for it.

IDEA DEVELOPMENT

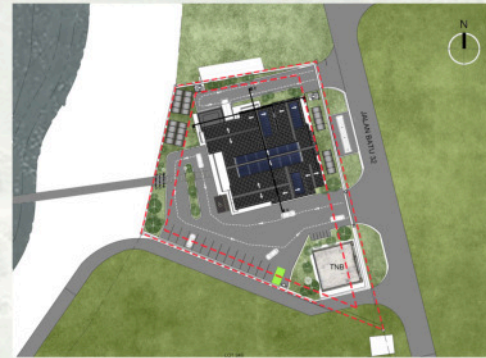


FAIZ HAKIM BIN MOHD NAZAR (0000000011010)
DSSISA SESSION 1 2024/2025

1

LECTURERS: TS. SITI AMERAH BINTI MOHTARAM
PN. RAFFAHAH BINTI SULIS
DR. BETANWAN BIN HARDOHO

CLASSIC B PEPPER



SITE PLAN SCALE 1:250

SITE ANALYSIS



SUN PATH

Make a balcony in the living and dining area so that it can be enjoyed by visitors.



WIND DIRECTION

Clouds are not in the way that pass through the wind direction so that there is natural air intake to the building.



SOUND DIRECTION

By using night materials and designs can reduce the level of noise from entering the building.



VEGETATION

The proposed site has been assisted equipment to reduce the level of vegetation in the area.



SITE PLANNING

STRENGTH
The site is located by the beach side allowing more development from the tourist and locals of the building's existence.

WEAKNESS
The site is located near the sea, so the colour tone can disturb the site users.

OPPORTUNITY
Due to the location being near to the sea, possible corrosion they occur to the building.

THREAT

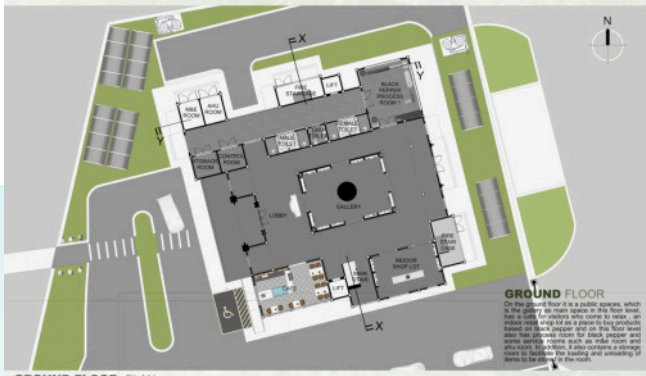


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2

LECTURERS: TS. SITI AMERAH BINTI MOHTARAM
PN. RAFFAHAH BINTI SULIS
DR. BETANWAN BIN HARDOHO

CLASSIC B PEPPER



GROUND FLOOR PLAN SCALE 1:100

On the first floor, this is a public space, which is the gallery, the main space on this floor level. It is a gallery area where visitors can see, learn and buy products from the local area. It is a gallery area where visitors can see, learn and buy products from the local area. It is a gallery area where visitors can see, learn and buy products from the local area.

On the second floor, this is a relatively private space because it is an area that can only be accessed by employees. On this floor there is an office, a meeting room, a storage room, a storage room for stock of black pepper products and a store.

On the first floor, this is a semi-public area because on this floor there are 2 workshops for visitors to increase their knowledge of a paper form, a black pepper process room and a table.

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CLASSIC B PEPPER



FRONT ELEVATION SCALE 1:100



RIGHT ELEVATION SCALE 1:100



LEFT ELEVATION SCALE 1:100



REAR ELEVATION SCALE 1:100

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DSSISA SESSION 1 2024/2025

4

LECTURERS: TS. SITI AMERAH BINTI MOHTARAM
PN. RAFFAHAH BINTI SULIS
DR. BETANWAN BIN HARDOHO

CLASSIC B PEPPER AGRO - TOURISM CENTRE

CLASSIC B PEPPER

SECTION X-X
SCALE 1:1000

SECTION Y-Y
SCALE 1:1000

TYPES OF VENTILATION

SUSTAINABLE ELEMENT

PHOTOVOLTAIC SYSTEM
Solar PV provides a clean and green energy source. It also reduces loads on electrical supply, reduces fire risk, and maintenance.

NATURAL VENTILATION
Natural ventilation relies on the wind and the "stacking effect" to keep a home cool. Natural ventilation works best in dry climates and in other climates during moderate weather when nights are cool.

EV CHARGING
The most common way to track about EV charging is in terms of charging levels. There are three levels of EV charging: Level 1, Level 2, and Level 3—and generally speaking, the higher the level, the longer the power takes and the faster your new vehicle will charge.

GOALS

- 3 **WELL-BEING** (HEALTHY PEOPLE)
- 4 **WELL-BEING** (AFFORDABLE AND SAFE ENERGY)
- 6 **CLEAN WATER AND AFFORDABLE MARITIME RESOURCES**
- 7 **AFFORDABLE AND CLEAN ENERGY**
- 11 **SUSTAINABLE CITIES AND COMMUNITIES**
- 17 **CLIMATE ACTION**

EXPLODED DIAGRAM
NTS

SECTION X-X
SCALE 1:1000

SECTION Y-Y
SCALE 1:1000

TYPICAL SECTION
SCALE 1:10

FAIZ HAMIS BIN MOHI NAZAR
(0251822P1310)
OSBA SESSION 1 2024/2025

LECTURERS: TS. SITI AMIRAH BINTI MOHTARAM
PK. RAFFAHA BINTI SULIS
DR. SETAWAN BIN HARIDONO

FAIZ HAMIS BIN MOHI NAZAR
(0251822P1310)
OSBA SESSION 1 2024/2025

5 **6**

CLASSIC B PEPPER

TYPICAL SECTION
SCALE 1:10

EXPLODED DIAGRAM
NTS

DETAIL A
SCALE 1:10

ROOF CONSTRUCTION
STRONG GALVAZ 250P FLIES
50 X 150 MM TIMBER HW RAFTER AT 800
50 X 50 MM TIMBER HW PURLIN AT 300
CC

DETAIL B
SCALE 1:10

100 X 100 MM RC BEAM TO ENDS DETAIL
114 MM TUB BRICK WALL WITH 10 MM
PLASTERED CEMENT ON BOTH SIDE

DETAIL C
SCALE 1:10

300 X 300 MM REINFORCED CONCRETE
COLUMN FOOTING TO ENDS DETAIL

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FAIZ HAMIS BIN MOHI NAZAR
(0251822P1310)
OSBA SESSION 1 2024/2025

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CLASSIC B PEPPER AGRO - TOURISM CENTRE



CIVIL ENGINEERING & ARCHITECTURE RESEARCH, INNOVATION & DESIGN COMPETITION

TROPISPHERE

AGRO-TOURISM CENTER

The proposed Agro-Tourism center blends sustainable agriculture with hospitality, offering an immersive experience for travelers, farmers and the local community on amaranths and spinach herbs cultivation.



CIVIL ENGINEERING & ARCHITECTURE
RIDeC'24
RESEARCH, INNOVATION
& DESIGN COMPETITION
LEARN, LEAD, SUCCEED
CIVIL ENGINEERING DEPARTMENT
POLITEKNIK PORT DICKSON
5th NOVEMBER 2024 | TUESDAY

TROPISPHERE AGRO-TOURISM CENTER

Penyelia:

Dr. Setiawan Bin Hardono

Nama Pelajar:

Azza Nadjra Binti Ajamain

KEY PLAN SCALE 1:NTS

LOCATION PLAN SCALE 1:NTS

SITE PLAN SCALE 1:1250

BUBBLE DIAGRAM

GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

FORM DEVELOPMENT

Rectangular Base: Starts with a simple rectangular footprint.

Functional Division: Zoned on topography for indoor, outdoor, and educational spaces.

Organic Shaping: Corners softened to create a more refined form.

Refinement: Overhangs and terraces added for shade and views, blending with the landscape.

Design promotes sustainable structure, connecting indoor and outdoor spaces, a connector between visitors and the natural environment. Jack C. Taylor Visitor Center focuses on sustainability, education, and connectivity.

PRECEDENT STUDY

JACK C. TAYLOR VISITOR CENTER

Location: Missouri Botanical Garden, St. Louis

Architects: Hayes Saint Gross, Christian Architects

FORM DEVELOPMENT

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GROUND FLOOR WITH SITE CONTEXT SCALE 1:125

RIGHT ELEVATION SCALE 1:100

FRONT ELEVATION SCALE 1:100

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FIRST FLOOR SCALE 1:125

WORKSHOP 1

COURTYARD

LOUNGE AREA

FIRST STAIRCASE

SECOND FLOOR SCALE 1:125

LEFT ELEVATION SCALE 1:100

REAR ELEVATION SCALE 1:100

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SECTION A-A SCALE 1:100

SECTION B-B SCALE 1:100

SECTIONAL PERSPECTIVE

Natural Lighting: Skylights provide natural light, reducing the need for artificial lighting during the day.

Operational Ventilation: Reducing the need for mechanical cooling systems.

The choice of materials for Translucent envelope transparency and local sourcing. Local stone panels allow natural light to filter the interior.

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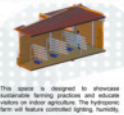
TROPISPHERE AGRO-TOURISM CENTER



SPECIFIC SPACE

INDOOR FARM

MINI LABORATORY



This space is designed to showcase sustainable farming practices and educate visitors on indoor agriculture. The hydroponic farm will feature controlled lighting, humidity, and temperature.

The mini laboratory serves as a space for testing, research, and educational demonstrations related to plant science, soil, and nutrients.

GREEN FEATURES



NATURAL LIGHTING

The building is designed to maximize natural light, reducing the need for artificial lighting during the day and enhancing energy efficiency. Large windows and strategically placed openings allow sunlight to illuminate interiors, creating a bright and welcoming environment.

GREEN WALL

The applied green wall is incorporated into the design to improve air quality, reduce heat, and create a connection to nature. This living wall naturally adds to the aesthetic appeal of the space as well as natural insulation, cooling the building and promoting biodiversity.

RAINWATER HARVESTING SYSTEM

A rainwater harvesting system is installed to capture and store rainwater for landscape irrigation and other non-potable uses. This feature reduces water demand and conserves resources, supporting the center's commitment to sustainable water management.

MATERIALS CONSIDERATION



Solar reflective paint and cool roofing: Utilizing solar reflective paint and cool roofing materials helps reduce heat absorption, lowering interior temperatures and reducing energy consumption.

Low VOC Paint and finishes: Choosing low VOC (Volatile Organic Compounds) paints and finishes contributes to better indoor air quality and promotes environmental health.

Permeating concrete: Using permeating concrete or similar alternatives allows for water infiltration, reducing runoff and promoting groundwater recharge.

ROOF CONSTRUCTION STUDY



The primary structure of this curved roof is often made from steel or aluminum pipe systems. Glulam beams are connected by forming space of steel under pressure in a curved form, allowing greater stability over the slope.

SWOT

Strengths: Educational focus. Provides a unique platform for visitors to learn about sustainable agriculture and eco-friendly practices, offering a wide range of activities including workshops, seminars, and experiential learning.

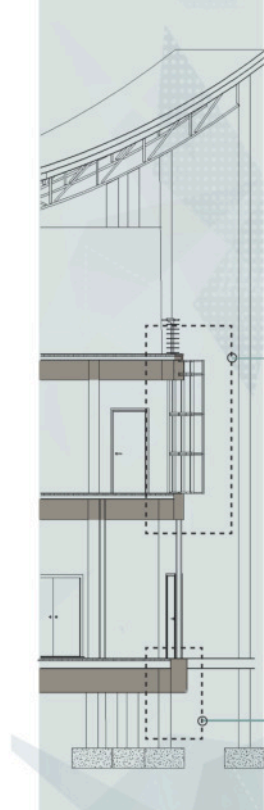
Weaknesses: Maintenance requirements. Features like the green wall and rainwater harvesting system require regular maintenance, which can increase operational costs and necessitate skilled personnel.

Opportunities: Growing demand for sustainability. There is an increasing global interest in sustainable design, especially among younger, eco-conscious tourists, providing a growing market for the center's offerings.

Threats: Environmental risks. Being in a coastal region, the site must be vulnerable to extreme weather events, such as heavy rains, flooding, or storms, which could damage infrastructure.

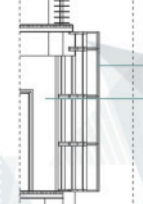
TYPICAL SECTION

SCALE 1:50



DETAIL A

SCALE 1:20

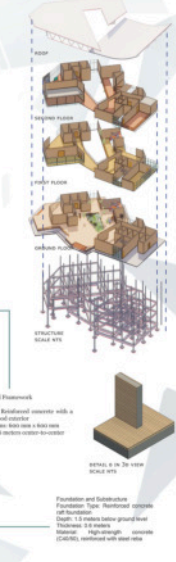


Curtain Wall: Aluminum double-glazed, thermally broken insulator, glass panels, 4 150mm.

External Walls: Cladding: Limestone, insulation: 100mm, plasterboard: 12.5mm, insulation: 100mm, concrete block wall, thickness: 200mm.

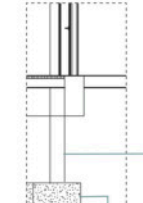
Roofing: Reinforced concrete, thickness: 100mm, waterproofing: 2mm, insulation: 100mm, concrete block wall, thickness: 200mm.

EXPLODED VIEW



DETAIL B

SCALE 1:20



Structural Framework: Concrete, reinforced concrete with a curved roof structure. Dimensions refer to a 300mm bearing & 150mm center-to-center.

Foundation and Substructure: Foundation: Type: Reinforced concrete, depth: 1.0 meters below ground level. Thickness: 300mm x 300mm. Substructure: Reinforced concrete, thickness: 150mm, reinforced with steel mesh.

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TROPISPHERE AGRO-TOURISM CENTER

**YOU DON'T HAVE TO
BE GREAT TO START,
BUT YOU HAVE TO
START TO BE GREAT!**

Zig Ziglar

KATEGORI

**DCAS0233
MEASURED
DRAWING**

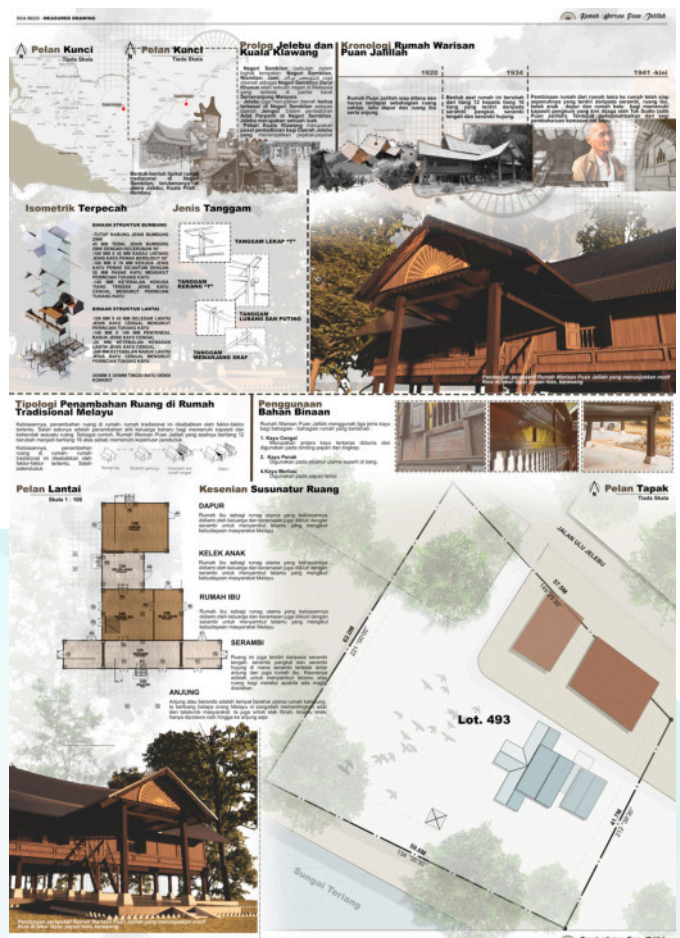
RUMAH WARISAN PUAN JALILAH

Penyelia:

Ts Fahanim bt Abd Rashid
Nur Athirah bt Ibrahim

Nama Ahli Kumpulan:

Muhammad Nasir bin Munshi
Muhammad Denis Putra bin Shahrullnizam
Aqil bin Muhammad Hatta
Muhammad Afif Wildan bin Jamaluddin
Zaleha binti Zainuddin
Nur Syafiqah Hanim binti Abdul Rahim



RUMAH WARISAN MAK ANI

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr Setiawan bin Hardono

Nama Ahli Kumpulan:

Ahmad Holil bin Rusman
Muhammad Noor Elyas bin Noor 'Azli
Nur Qistina binti Ros Azman
Nur Syafiqah Liyana binti Mohd Rosdi
Nur Qistina Iman binti Mohd Norimran
Meerashree a/p Thiakesan

Kronologi Rumah Warisan Mak Ani

TAHAP 1930-an
Dibina dan dihidupkan oleh Mak Ani dan keluarganya sebagai rumah tinggal yang sederhana pada tahun 1930-an.

TAHAP 1950-an
Tanggungjawab memelihara rumah diserahkan kepada generasi muda yang tinggal di luar bandar.

TAHAP 2010-an
Rumah ini direhabilitasi dengan menggunakan bahan-bahan tradisional yang asli untuk memelihara warisan budaya.

PROJEK KUALA PILAH
Ditubuhkan sebagai projek perintis bagi membangunkan dan memelihara warisan budaya di Kuala Pilah. Projek ini bertujuan untuk memelihara warisan budaya yang ada di Kuala Pilah dan memulakan projek pembangunan di kawasan ini.

UKURAN TIANG
Ukuran tiang yang digunakan adalah 100cm x 100cm. Tiang-tiang ini dibuat daripada kayu tempayan yang telah dipotong dan dibentuk mengikut bentuk yang diperlukan.

KESEKIAN SUSUN ATUR RUANG
Ruang-ruang dalam rumah ini disusun mengikut konsep tradisional Melayu. Ruang-ruang ini termasuk bilik tidur, bilik air, dapur, dan ruang tamu.

SERAMBI
Serambi adalah ruang terbuka yang terletak di hadapan rumah. Ruang ini digunakan untuk beraktiviti luar rumah dan sebagai tempat untuk menyimpan barang-barang.

ANJUNG
Anjung adalah ruang terbuka yang terletak di belakang rumah. Ruang ini digunakan untuk beraktiviti luar rumah dan sebagai tempat untuk menyimpan barang-barang.

DAFUR
Dapur adalah ruang tertutup yang terletak di belakang rumah. Ruang ini digunakan untuk memasak dan menyimpan peralatan dapur.

PELAN LANTAU
PELAN LANTAU SKALA 1:50

ANDE-ANDE
Ande-ande adalah hiasan yang diletakkan di atas atap rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI
Tiang sisi adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 1
Tiang sisi 1 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 2
Tiang sisi 2 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 3
Tiang sisi 3 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 4
Tiang sisi 4 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

KEKISI ANGIN
Kekisi angin adalah hiasan yang diletakkan di dinding rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG GANTUNG
Tiang gantung adalah tiang yang digantung di atas rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 1
Tiang sisi 1 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 2
Tiang sisi 2 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 3
Tiang sisi 3 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

TIANG SISI 4
Tiang sisi 4 adalah tiang yang diletakkan di sisi rumah. Tiang ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

KEKISI ANGIN (POSHAH)
Kekisi angin (poshah) adalah hiasan yang diletakkan di dinding rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

PAGAR HUSANG
Pagar husang adalah pagar yang dibuat daripada kayu. Pagar ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

MOTIF UKIRAN
Motif ukiran adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

PANDANGAN KANAN
PANDANGAN KANAN SKALA 1:50

PANDANGAN KIRI
PANDANGAN KIRI SKALA 1:50

KERATAN A-A
KERATAN A-A SKALA 1:50

KERATAN B-B
KERATAN B-B SKALA 1:50

PANDANGAN BELAKANG
PANDANGAN BELAKANG SKALA 1:50

BUTIRAN-BUTIRAN PERINCIAN
Butiran-butiran perincian adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

LURUSAN PECAHAN ISOMETRIK
Lurusan pecahan isometrik adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN DINDING
Butiran dinding adalah hiasan yang diletakkan di dinding rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN DINDING LOTENG
Butiran dinding loteng adalah hiasan yang diletakkan di dinding rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN DINDING RUMAH IBU
Butiran dinding rumah ibu adalah hiasan yang diletakkan di dinding rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN TANGGA
Butiran tangga adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN LANTAU
Butiran lantai adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

BUTIRAN TIANG
Butiran tiang adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

PENERANGAN SEMULA JADI
Penerangan semula jadi adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

PENERANGAN SEMULA JADI
Penerangan semula jadi adalah hiasan yang diletakkan di atas rumah. Hiasan ini biasanya dibuat daripada kayu dan mempunyai bentuk yang pelbagai.

PANDANGAN PERSEKUTIP
PANDANGAN PERSEKUTIP SKALA 1:50

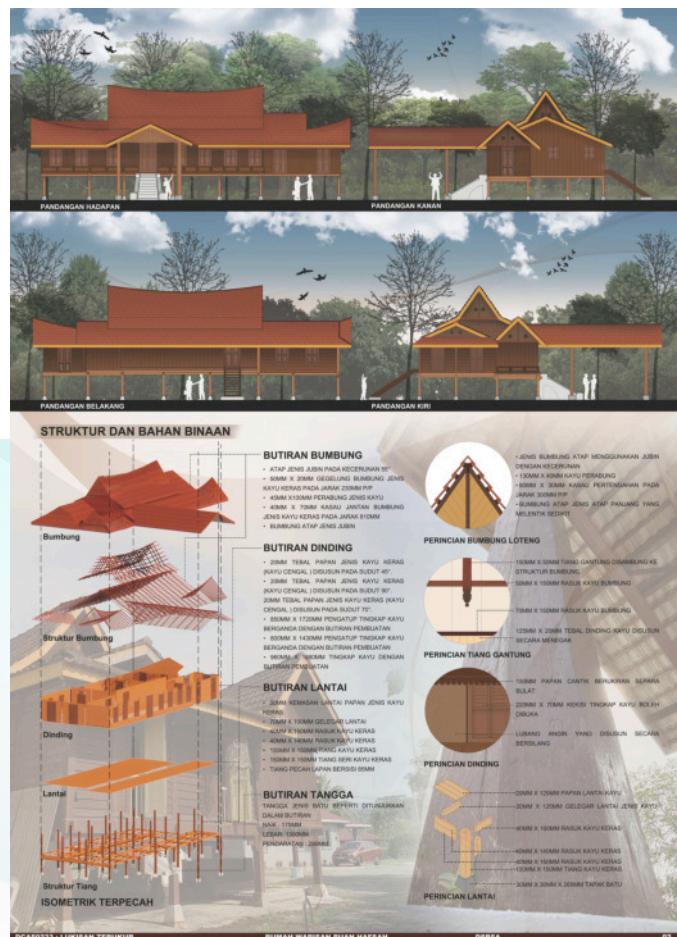
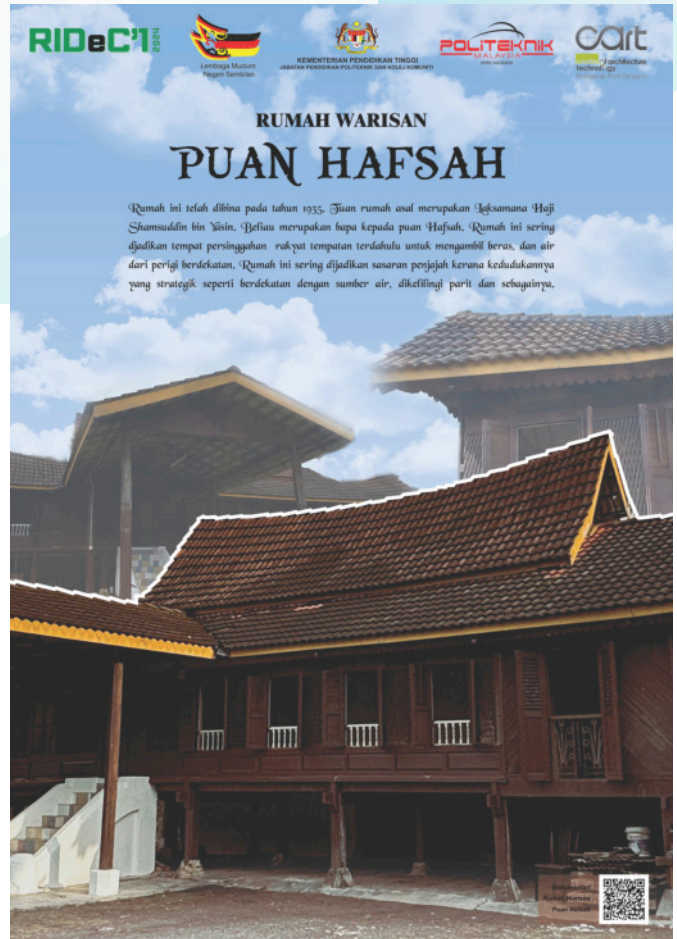
RUMAH WARISAN PUAN HAFSAH

Penyelia:

Ts Fahanim bt Abd Rashid
Nur Athirah bt Ibrahim

Nama Ahli Kumpulan:

Muhd Haziq bin Baharudin
Izznul Ezedin bin Ahsanulkhaliqin
Nur Ruhana Nasuha binti Rosdi
Nurul Afiqah binti Azhari
Nur Izzany binti Rozaimi
Azza Nadjra binti Ajamain



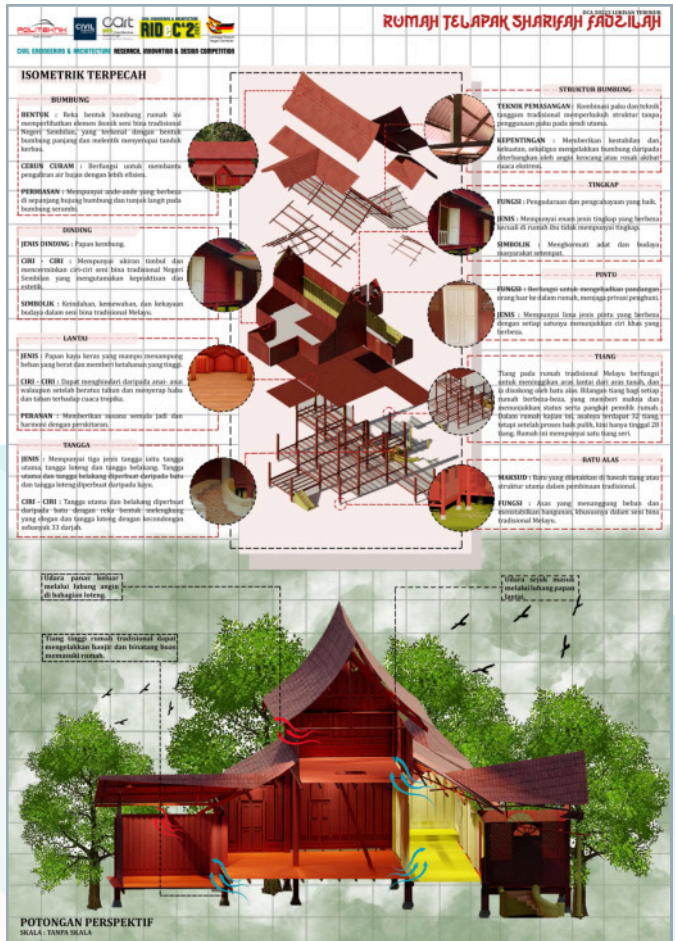
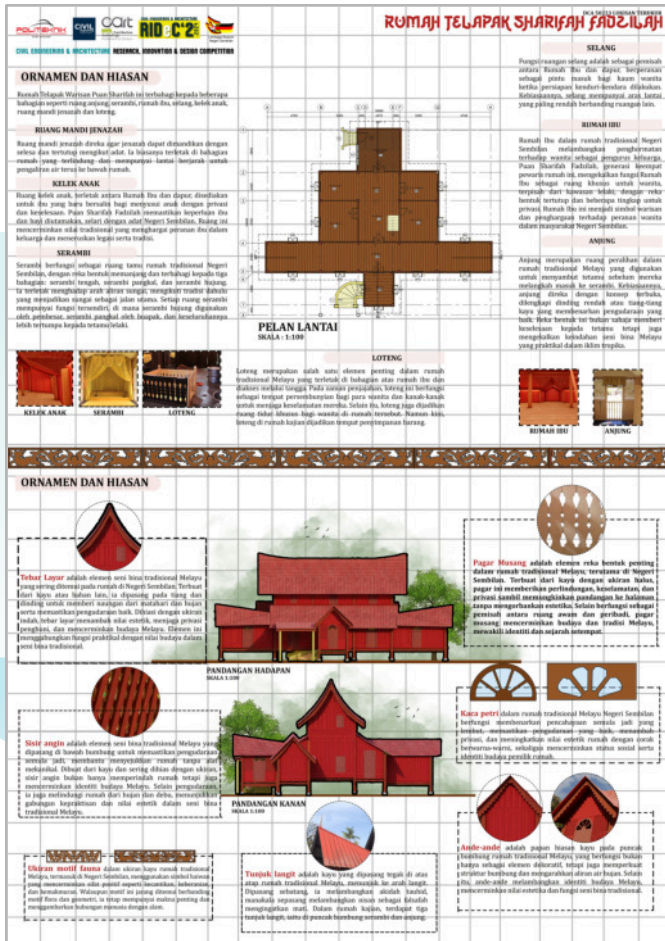
RUMAH TELAPAK SHARIFAH FADZILAH

Penyelia:

Siti Fatimah Tuzzahrah binti Hj Abd Latif
Dr Setiawan bin Hardono

Nama Ahli Kumpulan:

Alief Aiman bin Kamarol
Muhammad Aiman bin Mohd Aznor Hisham
Muhammad Azizi bin Yunus
Khairul Najwa binti Aziz
Nuralissa Sabila binti Mohd Sabari
Ariesha Umaira binti Mohd Shamsul



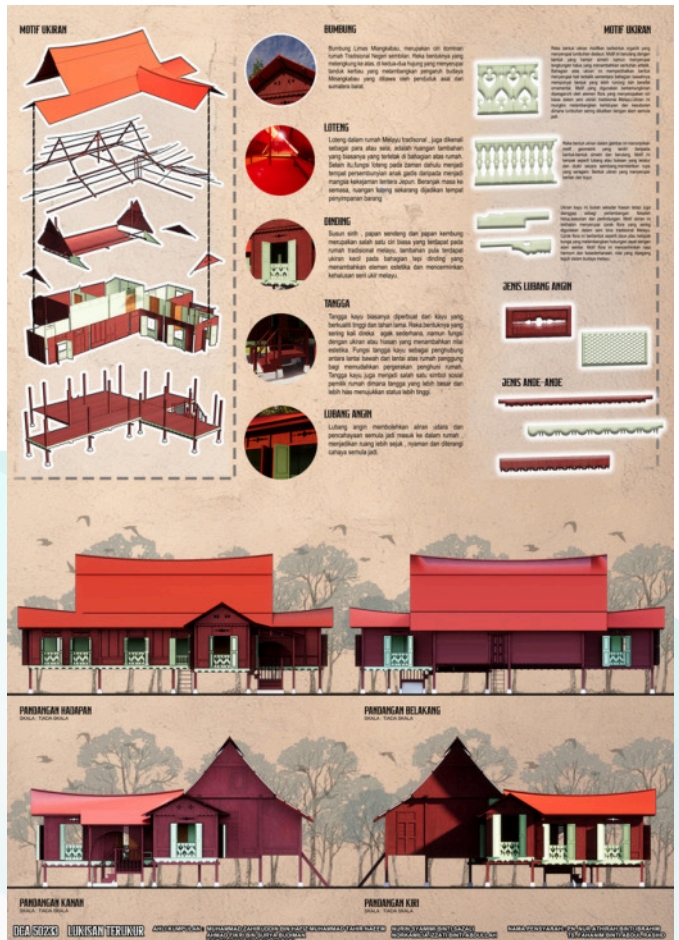
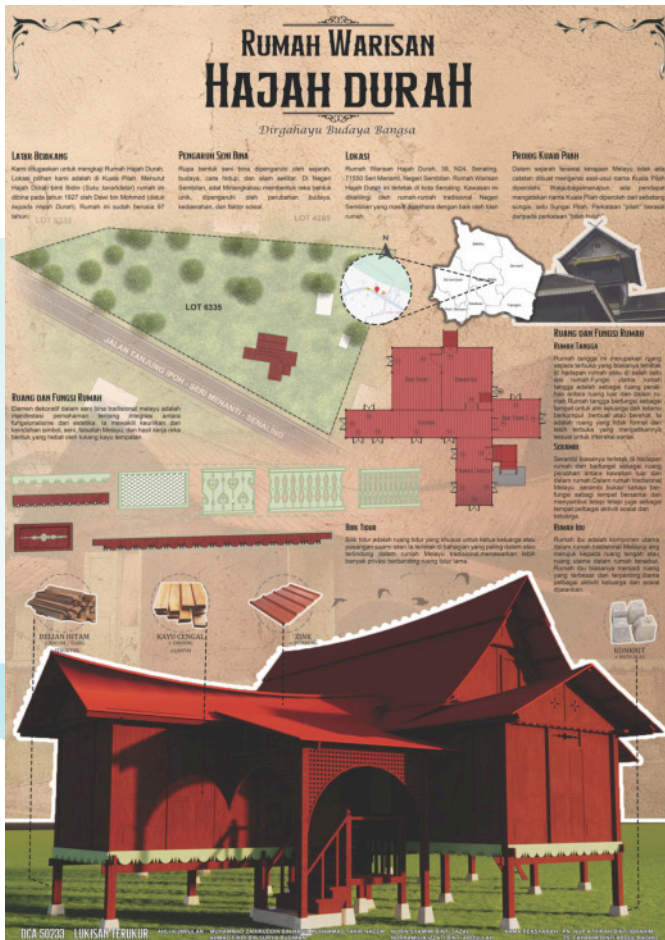
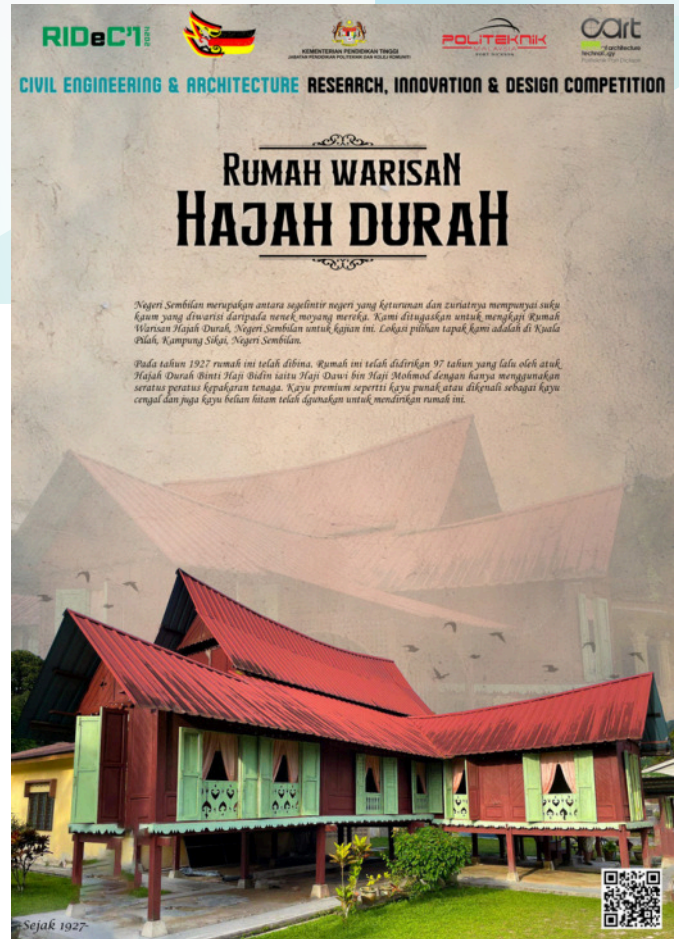
RUMAH WARISAN PUAN HAJAH DURAH

Penyelia:

Ts Fahanim bt Abd Rashid
Nur Athirah bt Ibrahim

Nama Ahli Kumpulan:

Muhammad Zahiruddin bin Hafiz Muhammad Tahir Naeem
Ahmad Fikri bin Surya Budiman
Faiz Hakimi bin Mohd Nazari
Norkamilia Izzati binti Abdullah
Nurin Syamimi binti Szali



RIDEC'24

GALERI RIDEC'2

RIDE C'24





THANK YOU

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