DIP224: Advanced Web Development

**Semester 1, 2024**

**Project**

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| **Due Date** | : 1st April 2024 |
| **Release Date** | : 15th January 2024 |
| **Value** | : 40% |
| **Assessment Type** | : Groupwork |

*Course Learning Outcomes*

This assignment assesses the following learning outcomes:

CLO2: Apply full-stack web technologies to develop a client-server web application (C3, PLO2, MQF2)

CLO3: Build the deployment pipeline for web application (C3, PLO6, MQF3D)

Submission Instructions

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| Submission | This assignment is due on 1st April 2024 and constitutes 40% of your final grade.  Submit all your work through the Turnitin activity on the LMS. Submission to LMS by 4.00 p.m. No resubmission allowed. |
| Late Submission | Please fill out the [Late Submission Form](https://hlms.help.edu.my/mod/resource/view.php?id=18061) to be considered for extension. Penalty of 5 marks per working day will be imposed if:   * late submission form is not included; * reason for extension is not given; * extension is not granted. |
| Cover Sheet | Include the [Assignment Cover Sheet](https://hlms.help.edu.my/mod/resource/view.php?id=18060) provided at the end of this document. |
| Academic Integrity | You are expected to adhere to the [Academic Integrity Policy.](https://hlms.help.edu.my/mod/resource/view.php?id=32767) All referencing and citation should use APA Style (7th Edition preferred).  You do not need to submit the similarity report.  Turnitin similarity reports will be generated by the lecturer and penalties imposed for similarity exceeding 15%.  You may be subject to additional penalties according to the [Academic Integrity](https://hlms.help.edu.my/mod/resource/view.php?id=32767) [Policy.](https://hlms.help.edu.my/mod/resource/view.php?id=32767) |

1. **Rationale**

This assignment has been designed to allow students to test and demonstrate their understanding and ability to use and implement **HTML5, CSS , Bootstrap (version 4 or higher), JavaScript, PHP, and MySQL database and server** to develop and deploy a full stack web application. The web application should meet the requirements as per the use cases based on given case study (Refer to section C for details).

1. **Assessment Requirements:**
2. Produce a complete workable and fully functional web based solution which includes front-end and server side scripting and database connectivity.
3. You are not allowed to use any content management system such as Joomla, Drupal and WordPress for this assignment.
4. Student is required to submit the complete project which consists of (but not limited) the following documents.
5. Create a proper directory structure for source code and related files. CSS and JS files by each member should be separated and follow the naming convention as name.extension.[ example Alice.CSS , Alice.JS]
6. Create a repository on Github (<https://github.com/>) for your source code.

Repository name should be in the format : WebPro<*studentID of one of the students*>

For example, if studentID is B100100, your need to create a repository WebPro B100100.

You can add other team member(s) and collaborate.

1. You must commit your code from time to time. Once the front-end part is done, create a separate branch before proceeding with incorporating the back-end code.
2. **Student is required to submit:**
   * All the source code (all files) of this application (LMS – Source Code Submission Link)
   * Report (Word document) (LMS Turnitin)

The complete web application should be demonstrated to your lecturer in a presentation session and be prepared to give detailed descriptions of your project, its functionality, technologies used for development and deployment.

1. **Questions**

**TASK 1**

In this task, students are required to produce a complete workable and fully functional web based solution based on the given case study which that simulates a real-world front-end development scenario.

**TASK 2**

Produce a project report **(refer to Part B)**

**Case Study : HELP CarbonFootPrint System (HCS)**

Each student is responsible for their use cases and will be graded based on the marking scheme given.

Malaysia has been experiencing unpredictable weather such as increasing rainfall intensity, worsened air quality, with extreme heat wave to name a few. These are the effects of climate change which results from increased of greenhouse gases (GHGs) in the atmosphere. Carbon dioxide concentrations in the atmosphere have risen one third since the industrial revolution and are set to double in the next 100 years (IPCC, 2007).

Carbon dioxide and other heat-trapping gases are the main drivers of global warming. While climate change cannot be stopped, it can be slowed.

What is a carbon footprint? A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions. The average carbon footprint for a person in the Malaysia is 8.6 tons in 2022 (Global Carbon Budget (2023): Population based on various sources (2023)).

Malaysia has taken serious measures to combat green house gas (GHG) emissions through a pledge to the international community. Prime Minister, Datuk Seri Anwar Ibrahim stated that Malaysia aims to be well-positioned to reduce emissions, ready for a low-carbon economy. Malaysia is determined to reduce the intensity of greenhouse gas emissions by 45% by 2030 compared to 2005 levels as part of nations’ responsibilities toward overall global climate targets. (Bernama, 2023).

To help decelerate the dramatic climate change and protect the ecosphere, consumers must reduce their carbon emissions. As a consumer we are unaware of our carbon footprint, thus HELP CarbonFootPrint System (HCS) will be a tool to indicate our consumption and report the emissions caused to help us control and reduce our carbon footprint.

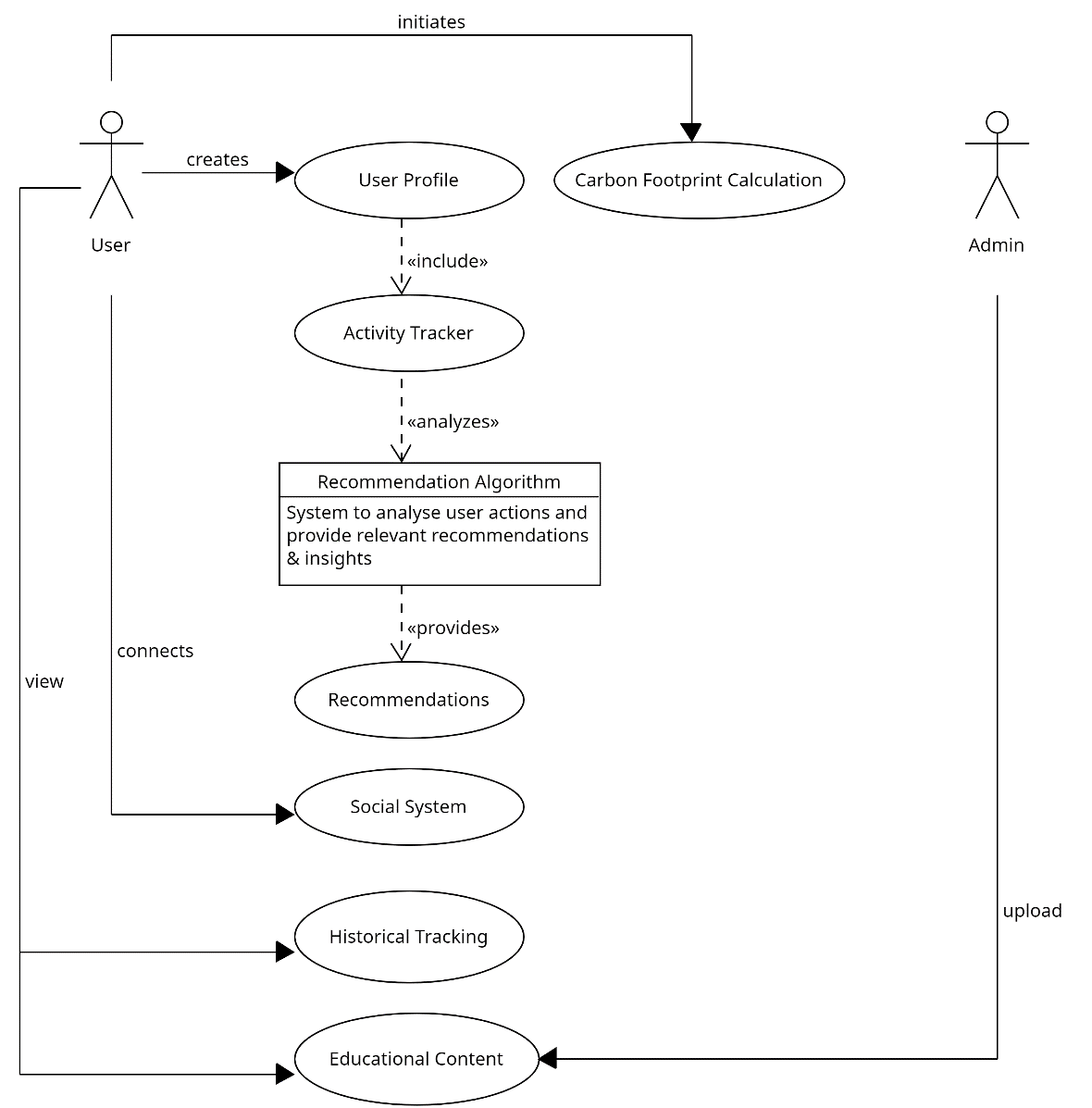
Please refer to here <https://www.wikihow.com/Calculate-Your-Carbon-Footprint>

for details on how to calculate the carbon footprint points.

1. **Problem statement:**

Develop web application that allows users to calculate and track their carbon footprint based on various lifestyle factors such as transportation choices, energy consumption, and dietary habits.

HCS will encourage users to be mindful of their daily activities, provides actionable insight and raises awareness about the environmental impact of personal choices. (refer to Fig. 1).



**Fig. 1: HCS Use Case Diagram**

1. **Features:**
2. **User Profile and Activity Tracking:**

Description: Users create profiles to input personal details, such as transportation choices, energy consumption habits, and dietary preferences. The app tracks daily activities and prompts users to update their profiles regularly.

Functionality:

* Customizable user profiles with fields for commuting methods, energy sources, and diet preferences.
* Daily activity log where users input details such as transportation modes, energy usage, and meals.
* Notifications and reminders for users to update their activity log.

1. **Real-time Carbon Footprint Calculation:**

Description: The app calculates the carbon footprint based on user inputs and provides real-time feedback on the environmental impact of their activities.

Functionality:

* Algorithmically calculates carbon emissions using recognized emission factors.
* Dynamic dashboard displaying real-time carbon footprint data.
* Breakdown of emissions by categories such as transportation, energy, and diet.

1. **Personalized Recommendations and Insights:**

Description: The app analyzes user data to provide personalized recommendations for reducing carbon emissions. It offers insights into the environmental impact of specific activities and suggests eco-friendly alternatives.

Functionality:

* Machine learning algorithms for personalized recommendations (optional).
* Suggestions for sustainable alternatives and practices.

1. **Historical Tracking and Trends:**

Description: Users can view historical data and trends in their carbon footprint over time. This feature helps users understand the effectiveness of their sustainability efforts and motivates continuous improvement.

Functionality:

* Historical charts and graphs displaying carbon footprint trends.

1. **Social Media Sharing:**

Description: Users can easily share their carbon reduction achievements on popular social media platforms directly from the app, fostering a sense of accomplishment and encouraging others to join in.

Functionality:

* Share button after achieving a milestone, for example reaching specific goal such as reduce the carbon footprint.
* Provide caption templates to accompany their achievements. For example, ”Just leveled up in carbon reduction! #EcoChampion #Sustainability #GreenLiving.
* Generate graphics or badges that user can share along with their achievements. May include avatars, achievements icons or progress bar. (optional)

1. **Educational Content and Environmental Impact Scores:**

Description: The app provides educational content on environmental issues and assigns environmental impact scores to various activities. This helps users make informed choices and understand the broader implications of their actions.

Functionality:

* Educational articles, videos, and infographics within the app.

1. **Eco-friendly Events Calendar**

Description: The app showcase events related to sustainability, environment awareness, and conservation efforts. This helps users to participate in events directly through the platform or get information on how to join activities.

Functionality:

* Event Listings: Comprehensive list of upcoming eco-friendly events with details on date, time, location, and organizers.
* Filtering and Sorting: Users can filter events based on categories, location, and date, facilitating personalized event discovery.
* Event Details: Detailed information on each event, including descriptions, helps users make informed decisions about participation.
* Event Registration: Seamless registration for events requiring sign-up directly through the platform.
* Event Reminders: Notifications or emails leading up to the event date to keep users organized and committed.

1. **User Feedback Survey**

Description: The goal of this use case is to collect valuable feedback from users to understand their preferences, satisfaction levels, and improvement suggestions for the app. This feedback will be used to enhance the user experience and align features with user needs.

Functionality:

* Facilitates the collection of user feedback through short and engaging surveys.

**Expanded Use Case**

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| Use Case 1 | **User Profile and Activity Tracking** | |
| Goal in Context | The goal of this use case is to enable users to create and maintain personalized profiles within the app, inputting details related to their transportation choices, energy consumption habits, and dietary preferences. The app should track users' daily activities and prompt them to update their profiles for accurate carbon footprint calculations. | |
| Primary Actor | User | |
| Trigger | User's initial sign-up or a scheduled reminder prompting the user to update their activity log. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| This use case begins when the user initiates the profile creation (sign up)/update process by accessing the "Profile" section of the app. | | The app displays a customizable user profile interface with fields for commuting methods, energy sources, and dietary preferences. |
| User inputs or updates their personal details in the respective profile fields. The user fills in the username, contact number, email, commuting methods, energy sources and dietary preferences, etc. | | The system saves the record into database after validating all user inputs.  The system will generate a login with the user email and a default password. |
| User accesses the “Daily Activity Log” section of the app. | | The app displays a daily log interface where the user can input details such as transportation modes, energy usage, and meals. |
| User inputs or updates their personal activity details in the respective profile fields. | | The app records the entered data and updates the user’s historical activity log. |
| 1. User reviews and confirms the accuracy of the updated profile and daily activity log. | | The app provides a confirmation message. |
| **Alternative Course of Events** | | |
| Line 2a: If the username/email had been registered by other user, the system will prompt a message to remind the users.  Line 2b: If the users’ inputs have problem after validation, the system prompt the errors and reminds the user to fill in the form again.  Line 2c: Users can choose to receive their preferred reminder as daily, weekly or monthly. | | |

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| Use Case 2 | **Dashboard of Carbon Footprint** | |
| Goal in Context | The goal of this use case is to provide users with accurate and real-time feedback on their carbon footprint. | |
| Primary Actor | User | |
| Trigger | The user initiates the request for real-time carbon footprint calculation. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| 1. The app retrieves the user's profile and recent activity data, preparing for the calculation. | | The system algorithmically calculates carbon emissions using recognized emission factors. |
| 1. The system generates a dynamic dashboard displaying real-time carbon footprint data. | | A visually appealing and intuitive dashboard is presented to the user, offering real-time insights into their current carbon footprint |
| 1. The dashboard provides a breakdown of emissions by categories, offering a detailed view of the environmental impact. | | The app categorizes and presents the carbon emissions in a user-friendly format, highlighting the major contributors such as transportation, energy consumption, and diet. |
| **Alternative Course of Events** | | |
| 1a. If there is no/insufficient data, prompt message to user to update the log in activity log (use case 1) and display appropriate message highlighting the issue. | | |

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| Use Case 3 | **Personalised Recommendations** | |
| Goal in Context | To assist users in understanding and reducing their carbon footprint by providing personalized recommendations and insights. | |
| Primary Actor | User | |
| Trigger | The user logs into the app and navigates to the "Recommendations" section or receives a notification prompting them to explore personalized insight | |
| **Typical Course of Events** | | |
| Actor Action | | System Response |
| 1. The user accesses the "Recommendations" section within the app. | | The app collects and analyses the user's historical activity data, considering factors such as transportation habits, energy consumption, and dietary choices. |
| 1. The user views insights on the environmental impact of their recent activities. | | The app generates and displays insights, breaking down the user's carbon footprint into categories (e.g., transportation, energy, diet) and highlighting the most impactful activities. |
| 1. The user explores personalized recommendations for reducing their carbon footprint. | | The app employs machine learning algorithms to provide tailored suggestions (optional) / to display the recommended ways to reduce carbon footprint. |
| **Alternative Course of Events** | | |
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| Use Case 4 | **Social Media Sharing** | |
| Goal in Context | The goal of this use case is to empower users to easily share their carbon reduction achievements on popular social media platforms, fostering a sense of accomplishment and encouraging others to join in. | |
| Primary Actor | User | |
| Trigger | The user share | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| The user successfully achieves a significant milestone in carbon reduction such as reducing their carbon footprint by 25%. | | The app provides a prominent "Share" button within the achievement celebration screen. |
| The user is presented with a variety of caption templates that they can use to accompany their achievement post. These templates include phrases like "Just levelled up in carbon reduction! 🌿 #EcoChampion #Sustainability #GreenLiving." | | Upon selecting a caption, the app dynamically generates a visually appealing shareable post that highlights the user's achievement. |
| The user taps the "Share" button | | The app seamlessly integrates with the user's chosen social media platform, such as Twitter or Instagram. |
| **Alternative Course of Events** | | |
| 1a. The user has the option to further customize the post by adding graphics or badges, such as an "Eco Champion" badge, avatars, or a progress bar representing their carbon reduction journey. | | |

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| Use Case 5 | **Historical Tracking** | |
| Goal in Context | The goal is to allow users to analyse and understand the evolution of their carbon footprint over time. | |
| Primary Actor | Users | |
| Trigger | The user navigates to the "Historical Tracking" section within the app. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| The user selects the "Historical Tracking" option in the app menu.  Chooses a specific time range or period for which they want to view historical data | | The app retrieves and displays historical charts and graphs illustrating the user's carbon footprint trends over the selected time period. |
| The user interacts with the graphical representation, zooming in/out or selecting specific data points for more detailed information. | | The app provides detailed insights for the selected data points, offering explanations for fluctuations or notable changes in the carbon footprint.  If milestones or achievements are reached, the system acknowledges and congratulates the user. |
| The user sets sustainability goals based on insights gained from historical data. | | The app assists the user in setting achievable sustainability goals. |
| **Alternative Course of Events** | | |
| 1a. If no historical data is available (for new users or those who haven't been using the app for an extended period), the system provides a prompt encouraging regular updates to build a comprehensive historical record. | | |

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| Use Case 6 | **Educational Content** | |
| Goal in Context | To educate users on environmental issues, provide information through various media formats. | |
| Primary Actor | Admin, User | |
| Trigger | The user expresses interest in learning more about environmental issues or seeks information about the environmental impact of specific activities within the app.  The admin seeks to update the content. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| Admin will navigate to the “Upload Content” section of the app. | | The app will display a form to allow admin to upload various educational content such as articles, videos and infographics |
| The user navigates to the "Learn" or "Education" section of the app. | | The app displays a variety of educational content, including articles, videos, and infographics on environmental topics. |
| The user selects a specific topic or activity for which they want to understand the environmental impact. | | The app provides detailed information, potentially in the form of articles or videos, explaining the environmental implications of the selected topic or activity. |
| **Alternative Course of Events** | | |
| Line 1a: The admin can repeatedly upload educational content.  Line 2: The user can only view the educational content. | | |

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| Use Case 7 | **Eco-Friendly Event** | |
| Goal in Context | To provide users with a platform to discover, engage, and participate in eco-friendly events, fostering a sense of environmental awareness and community involvement. | |
| Primary Actor | Admin, User | |
| Trigger | The user wants to explore upcoming eco-friendly events and potentially participate in one. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| Admin will navigate to the “Upload Event” section of the app. | | The app will display a form to allow admin to upload various events. |
| The user navigates to the "Eco-friendly Event Calendar" section of the app. | | The app displays a comprehensive list of upcoming eco-friendly events, showcasing details such as date, time, location, and organizers. |
| The user utilizes filtering options to narrow down events based on categories (e.g., workshops, tree planting), location, and date | | The app displays a list of events based on chosen filtering options. |
| The user clicks on an event to access detailed information, including a description, agenda, guest speakers, and any associated costs. | | The app provides detailed information, potentially in the form of articles, images or posters of the selected event. |
| If the event requires registration, the user can seamlessly sign up directly through the platform | | The app display form for the user to enter necessary details and confirm participation. |
| The user has the option to set event reminders. | | The app sends notifications or emails leading up to the event date to keep the user organized and committed. |
| **Alternative Course of Events** | | |
| Line 1a: The admin can repeatedly upload event.  Line 2b: Upon successful registration, the app provides a confirmation message and may offer additional details such as a digital ticket or QR code. | | |

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| Use Case 8 | **User Feedback Survey** | |
| Goal in Context | To collect valuable feedback from users to understand their preferences, satisfaction levels, and improvement suggestions for the app. This feedback will be used to enhance the user experience and align features with user needs. | |
| Primary Actor | User | |
| Trigger | The user voluntarily opts to provide feedback within the app. | |
| **Typical Course of Events** | | |
| **Actor Action** | | **System Response** |
| Admin will navigate to the “Feedback” or “Survey” section of the app. | | The app presents a brief introduction explaining the purpose of the survey and how their feedback will contribute to improving the app.  The app offers a selection of short and engaging surveys covering different aspects, such as user interface, feature satisfaction, and preferences. Each survey is designed to be quick and user-friendly. |
| The user selects a specific survey and begins answering the provided questions | | The app displays a confirmation message thanking the user for their feedback. The user is assured that their input is valuable for app enhancement. |
| The user completes the survey | | The app displays a confirmation message thanking the user for their feedback. |
| **Alternative Course of Events** | | |
| Line 1a: The app may include optional incentives such as unlocking a special badge, gaining bonus points.  Line 2b: The app collects and analyzes the feedback for improvement. | | |

**Part B:** Your report MUST include the following points:

1. Project title.
2. Table content of the report.
3. Use case / tasks distribution (arranged by student in charge)
4. Manual guide of web setting/configuration/installation.
5. Github link of the source code repository.
6. Describe the structure and properties of your database.
7. Screenshots of the web application that you developed (Individual and Group functionalities)
8. For each main function in the web application, include the main web coding which corresponds to it. Highlight the important points in your coding which correspond to the web output (Individual and Group).
9. List all the technologies, frameworks and libraries used to build this web application and describe how these have been used throughout the project.
10. Reflect on your experiences and opinions in completing this assignment.
11. List out all references that is used in APA format.

**D. Feedback Opportunities**

You will frequently be given informal verbal or written feedback regarding your performance on tasks relating to the coursework assessment during the lecture and/or tutorial sessions. Attendance is therefore important for your development and thus courseworks success.

1. **Items to be submitted**

* Source code [ All files] submit to LMS – **Source Code Section**
* Project report along with cover sheet and marking scheme – Submit to **LMS Turnitin Section [**Only ONE submission is allowed]

**F. Please note:**

* 1. Where appropriate assignment should be prepared using a word-processing package with 12-point font, single spacing and page numbering.
  2. Please ensure that your work has been proofread for spelling and for grammatical construction.
  3. If you are not clear about the assignment requirements please contact the lecturer in charge of the subject.
  4. Keep a copy of each assignment you submit.
  5. You must not copy material from another student. The minimum penalty which will be imposed in such cases is to give both students zero for the assignment.
  6. You may refer material from textbooks or references but you must acknowledge the quotation, no matter how brief. Failure to do so will result in zero marks being awarded for the assignment. Refer to Academic Integrity Policy in LMS.
  7. There is no need to include the assignment question in your submitted work.
  8. It is recommended that your student number be included in the header or footer of every page.
  9. All assignments should be accompanied by a completed assignment cover sheet and marks sheet.
  10. A penalty of 5 marks per working day deduction from the marks obtained for this assignment will be imposed for late submission.

**References**

Carbon Pricing: Path Towards Carbon Neutral Growth In Malaysia

https://www.mida.gov.my/carbon-pricing-path-towards-carbon-neutral-growth-in-malaysia/

IPCC. 2007. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J. & Hanson, C.E. (eds.). Cambridge: Cambridge University Press.

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| **Criteria** | **Weightage** | **Limited (1)** | **Developing (2)** | **Adequate (3)** | **Proficient (4)** | **Exceptional (5)** | **Marks** |  |  |
| Overall functionalities of the finished product | 10% | Critical use cases are non-functional | Limited use cases are functional | Some use cases are functional | Most use cases are functional | All use cases are fully functional |  |  |  |
| Appropriate use of HTML and CSS | 7.5% | Barely used required HTML elements, leading to poor functionality. Lacks proper use of semantic elements, affecting structure and meaning | Used limited HTML elements, and semantic elements need more focus. Needs significant improvement for proper functionality and structure. | Included enough HTML elements for functionalities. Some semantic elements used, but room for better organization and accessibility. | Used a good variety of HTML elements effectively for required functionalities. Included semantic elements to improve structure and meaning, supporting accessibility. | Appropriately used a wide range of HTML elements, boosting functionalities. Chose semantic elements thoughtfully for better structure and meaning, enhancing user experience. |  | . |  |
| 7.5% | Minimally applied CSS with limited selector use. Interface's visual appeal and consistency need more work. Use a wider array of selectors for better styling. | Minimally applied CSS with limited selector use. Interface's visual appeal and consistency need more work. Use a wider array of selectors for better styling. | Applied CSS styles acceptably with moderate selector variety. Interface is visually acceptable, but more cohesion and precision could be improved. | Applied CSS proficiently with diverse selectors, leading to a visually pleasing interface. Used different selector levels effectively for precision. | Meticulously applied CSS using various selectors, showcasing deep understanding. Resulted in cohesive, visually appealing interface with different selector levels. |  |  |  |
| Appropriate use of Bootstrap features | 10% | Minimal use of Bootstrap features, resulting in an interface that lacks the benefits of Bootstrap's capabilities. | Used limited Bootstrap features, with only basic components and utilities integrated | Employed a satisfactory range of Bootstrap features to support the project's needs. | Effectively utilized various Bootstrap features to enhance the project's functionality and design | Masterfully employed a wide range of Bootstrap features, aligning them seamlessly with the project's requirements to enhance UX and design. |  |  |  |
| Appropriate use of client-side scripting JavaScript | 15% | Few required elements developed. Minimal use of JavaScript, lacking dynamics. Form validation is absent or ineffective. Code comments are missing, impacting readability. | Included basic elements, though more effort needed. Limited use of JavaScript for dynamics and DOM manipulation. Form validation is basic or incomplete. Code comments are lacking. | Included required elements. Used basic JavaScript for some dynamics and DOM changes. Forms are validated but could be improved. Code comments provide some clarity. | Implemented all needed elements. JavaScript adds dynamic aspects and manipulates the DOM. Forms are well-validated. Code comments aid understanding. | Created all required elements as specified. Used JavaScript skillfully for dynamic behavior and DOM manipulation. Forms are thoroughly validated. Code has meaningful comments for clarity. |  |  |  |
| Appropriate use of server-side scripting PHP | 15% | Used minimal PHP, lacking functions. Validation, cookies, and file handling missing or basic. Code comments insufficient, affecting clarity. | Applied PHP for essential functions. Validation maintains data integrity. Cookies used suitably. Managed files sufficiently. Code comments offer understanding. | Applied PHP for essential functions. Validation maintains data integrity. Cookies used suitably. Managed files sufficiently. Code comments offer understanding. | Used PHP for client-server app effectively. Solid validation ensures accuracy. Cookies manage user data well. Managed files competently. Code comments enhance clarity. | Mastered PHP to create a full client-server app with all functions needed. Validation is strong. Cookies used seamlessly for user data. Skilled file handling. Clear comments enrich the code. |  |  |  |
| Database (MySQL) and Web server | 10% | Basic or missing tables. Weak relationships. Limited PHP use. Web server hosting has major problems. | Set up basic tables, refining needed. Basic relationships. Simple PHP for data. Web server hosts with some problems. | Created suitable tables with basic relationships. Used PHP for data. Web server hosts app, minor issues. | Structured tables well, with appropriate relationships. Managed data using PHP effectively. Web server hosts app without issues. | Set up complex database tables perfectly, with strong relationships. Used PHP effectively for data. Web server works flawlessly. |  |  |  |
| Report | 10% | Created a report with significant issues. Research, organization, and analysis are lacking. Visuals, data, and writing quality are minimal. | Made a report needing improvement. Research and organization are weak. Analysis lacks depth. Few visuals or data. Writing clarity needs work. | Developed an acceptable report with decent research and organization. Analysis is basic. Some visuals or data may be used. Language is clear but not highly engaging. | Produced a solid report with good research, clear organization, and strong analysis. Visuals and data support content effectively. Writing is clear and engaging | Created an outstanding report with detailed research, clear structure, and insightful analysis. Visuals and data enhance understanding. Language is engaging and precise. |  |  |  |
| Peer Evaluation | 10% | Fails to contribute effectively, negatively impacting group dynamics and severely hindering the collaborative process. | Shows limited collaboration and struggles to contribute consistently. Improvement is needed to meet expectations. | Demonstrates basic collaboration skills, but there may be occasional lapses in contribution or effectiveness. Meets basic expectations. | Generally collaborates well, actively contributes positively to the team, and consistently meets or slightly exceeds expectations. | Consistently demonstrates exceptional collaboration, positive team dynamics, and exceeds expectations in all aspects of the project. |  |  |  |
| Progress | 5% | Fails to make significant progress, negatively impacting project timelines and hindering the achievement of goals. | Shows limited progress, struggling to meet project milestones. May encounter challenges without effectively addressing them, requiring improvements to stay on schedule. | Demonstrates satisfactory progress, meeting basic project milestones. May encounter challenges, but takes appropriate measures to address them and keep the project on track. | Demonstrates satisfactory progress, meeting basic project milestones. May encounter challenges, but takes appropriate measures to address them and keep the project on track. | Demonstrates exceptional progress, significantly exceeding project milestones and goals. Proactively identifies and addresses challenges, consistently staying ahead of the project timeline. |  |  |  |
| **Total** | | | | | | |  |  |  |
| **Late Submission Penalty (-5 marks per day)** | | | | | | |  |  |  |
| **Submission without Source Code (-10 marks)** | | | | | | |  |  |  |
| **Submission without cover sheet (-5 marks)** | | | | | | |  |  |  |
| **Submission without marking scheme (-5 marks)** | | | | | | |  |  |  |
| **TOTAL MARKS OUT OF 100** | | | | | | |  |  |  |