Group Project Assignment: SDG Web Based Project.

Course: Web Application Development (BBC II)

Submission Deadline: April 12, 2025

Presentation Date: April 14, 2025

Group Size: 7-10 Members

Objective

This project encourages you to use your passion and creativity to address societal challenges through technology. Each group will select one Sustainable Development Goal (SDG), identify a problem within their community, country, or the world, and develop a web-based solution using HTML, CSS, JavaScript, PHP, and SQL.

Project Scope

Your project must:

1. Select an SDG – Choose one of the 17 Sustainable Development Goals and identify a relevant societal problem.

2. Develop a Web-Based Solution – Create a functional web application that provides a meaningful solution.

3. Use the Following Technologies:

- Front-End: HTML, CSS, JavaScript
- Back-End: PHP, SQL

4. Ensure the Following Features:

- A user-friendly interface
- Proper database management with SQL
- Dynamic content processing using PHP

Deliverables

Each group must submit the following:

1. Project Report (5-7 pages) covering:

- Problem statement and chosen SDG
- The solution your project provides
- Target audience and expected impact

2. Working Web Application (hosted locally or online)

3. Presentation/Demo (10-15 minutes) showcasing the project, its functionality, and impact

Assessment Criteria

Criteria	**Marks**
Problem Identification & Relevance to SDG	10
UI/UX Design	20
Functionality & Features	20
Backend Implementation & Database Integration	20
Presentation & Report	30
Total	**100**

Bonus Points

Extra marks will be awarded for:

- Creativity & Innovation (+5)

- Hosting the application online (+5)

Submission Instructions

- Upload the project report to MUBSEP using the provided link.
- The demo will be conducted during class on **April 14, 2025**.

Presentation & Demo Guidelines

During the presentation and demo, each group member will defend their portion of the work. Marks will be allocated based on individual contributions and understanding of the project. The defense will include an explanation of the specific tasks they were responsible for, their problem-solving approach, and how their work contributed to the overall solution.

Individual Marks Allocation (Out of 30%)

Each group member will be evaluated based on their understanding and ability to defend their work, as well as their contribution to the project's success. Marks will be awarded based on:

- Clarity of explanation (6%) – How well they articulate their role and contributions.
- Depth of understanding (6%) – Demonstrating knowledge of their work and its impact.
- Technical execution (6%) – How effectively they implemented their assigned tasks.
- Collaboration and team integration (6%) – How well their work fits into the overall project.
- Response to questions and feedback (6%) – Ability to answer questions and defend their work.

Presentation Format

Duration: 10-15 minutes for the entire group, with 2-3 minutes per member. Each member should explain:

1. Their specific role and contributions.
2. Challenges faced and how they were overcome.
3. The impact of their work on the solution.
4. How the project addresses the chosen SDG.

17 Sustainable Development Goals (SDGs)—Choose one goal to work on:

1. No Poverty – End poverty in all its forms everywhere.

2. Zero Hunger – End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
3. Good Health and Well-being – Ensure healthy lives and promote well-being for all at all ages.
4. Quality Education – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Gender Equality – Achieve gender equality and empower all women and girls.
6. Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all.
7. Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable, and modern energy for all.
8. Decent Work and Economic Growth – Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
9. Industry, Innovation, and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
10. Reduced Inequality – Reduce inequality within and among countries.
11. Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient, and sustainable.
12. Responsible Consumption and Production – Ensure sustainable consumption and production patterns.
13. Climate Action – Take urgent action to combat climate change and its impacts.
14. Life Below Water – Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
15. Life on Land – Protect, restore, and promote sustainable use of terrestrial ecosystems, manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
16. Peace, Justice, and Strong Institutions – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
17. Partnerships for the Goals – Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Guidelines for Using Each Language in the SDG-Based Web Project

Your project should be a fully functional web-based solution that aligns with an SDG and addresses a real-world problem. Below are guidelines on how to use each programming language effectively in your project:

1. Front-End Development (User Interface)

The front-end is what users interact with. It should be intuitive, visually appealing, and easy to navigate.

HTML (HyperText Markup Language)

Use HTML to:

- Structure the web pages (e.g., homepage, about page, contact page).
- Create sections, headings, paragraphs, buttons, and forms.
- Embed images, videos, and links related to your project.

Example:

If your project is about Quality Education (SDG 4), you can create a landing page with information about available online learning resources, a form to register for free courses, and a section displaying success stories.

CSS (Cascading Style Sheets)

Use CSS to:

- Improve the visual design of the website.
- Apply colors, fonts, and layouts to enhance readability and engagement.
- Make the website responsive (work well on both mobile and desktop).
- Possibilities are endless.

Example:

If your project is about Climate Action (SDG 13), you can use CSS to create an appealing homepage with green-themed colors, animations for displaying climate change statistics, and a grid layout to showcase environmental projects.

JavaScript (JS)

Use JavaScript to:

- Make your website interactive (e.g., buttons, sliders, pop-ups).
- Validate user input in forms (e.g., ensuring email addresses are correctly entered).
- Implement real-time features like updating content dynamically without refreshing the pages
- Possibilities are endless.

Example:

If your project is about Good Health & Well-being (SDG 3), JavaScript can be used to build an interactive BMI calculator that helps users track their health.

2. Back-End Development (Functionality & Data Processing)

The back-end is responsible for processing requests, storing and retrieving data, and managing user interactions with the system.

PHP (Hypertext Preprocessor)

Use PHP to:

- Process form data (e.g., submissions from users).
- Handle logic like calculations, filtering, and decision-making.
- Fetch and display content dynamically from a database.

Example:

If your project is about Zero Hunger (SDG 2), PHP can process food donation requests from users and display available food distribution centers dynamically.

SQL (Structured Query Language)

Use SQL to:

- Store, retrieve, update, and delete data from a database.
- Manage records of users, resources, events, or reports related to your project.
- Organize structured data for analysis and reporting.

Example:

If your project is about Decent Work & Economic Growth (SDG 8), you can use an SQL database to store job opportunities, company details, and applicant information, allowing users to search and filter job listings.

Bringing It All Together

For a complete web-based solution, integrate these technologies as follows:

1. HTML – Creates pages with content.
2. CSS – Enhances the appearance of the pages.
3. JavaScript – Adds interactivity (e.g., form validation, interactive elements).
4. PHP – Handles requests, processes data, and interacts with the database.
5. SQL – Stores and retrieves project-related data.

— Good luck, and create a project that makes an impact!