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Module Title: Web Technologies

Assessment: Part A: Portfolio of weekly consolidate tasks

Unit 1- An Introduction to Software Development Life Cycle

Consolidate Task:

You will create a personal web page which contains your profile (feel free to use fictitious information so as to avoid revealing any sensitive information).

Task Notes:

GitHub Link: https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week_1-Exploring_Web_Development_Technologies

My recruitment profile webpage includes recruitment-relevant information.

I have applied CSS to set margins to keep the page neat and legible. I have chosen light background colours to make the page easy to read.

On the header, I have used CSS (div class and div id) to set the title and picture to fit on different screen and tab sizes. The sections are styles as headings with the <h2> tag.

The line on the footer uses the <hr> tag.

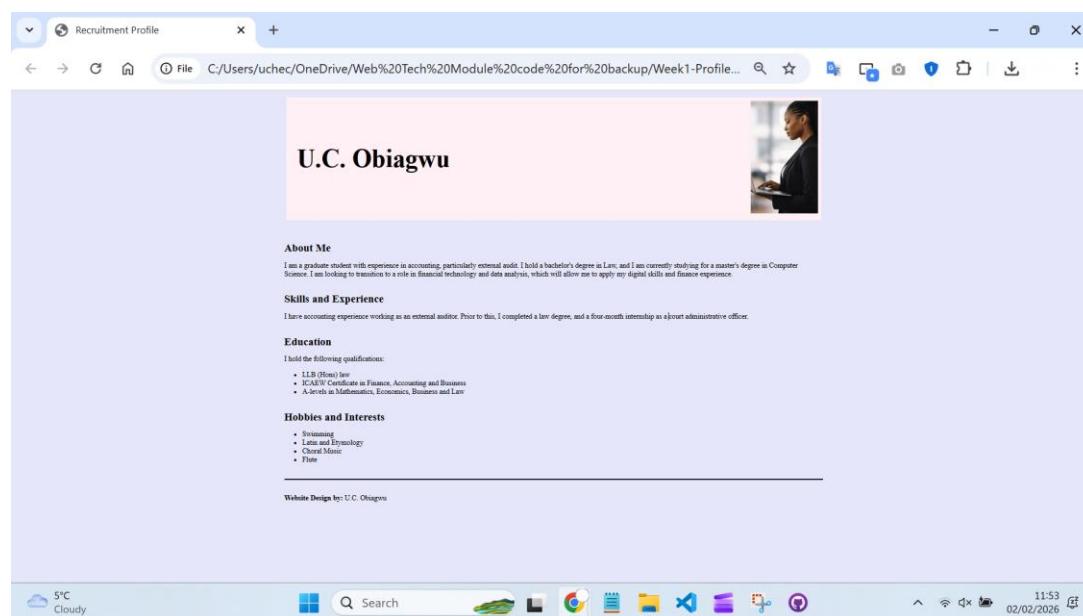


Image 1: Recruitment profile webpage (zoomed out)

Unit 2- Exploring GitHub: Software Versioning and Project Management for Web-Based Projects

Consolidate Task Instructions: In the prepare stage of this unit you set up a web project repository and uploaded some files to it. In the consolidate tasks you are going to use this repository and create a branch called 'new updates' where you will add images and some additional web content.

Task Notes:

GitHub Link: [https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week 2-Exploring Github Software Versioning and Project Management for Web Based Projects](https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week%202-Exploring%20Github%20Software%20Versioning%20and%20Project%20Management%20for%20Web%20Based%20Projects)

I created a branch (New-Updates) in my Web Technologies module repository and added 3 stock images. I then created and accepted a pull request to merge the changes with the main branch. I have moved the stock images (and an earlier version of my profile page from week 1) to the corresponding folder for week 2's work.

Unit 3 – Exploring Content Management Systems

Consolidate Task Instructions: Creating and publishing a blog post (WordPress)

Task Notes:

WordPress Link: <https://projectdynamicdotblog.wordpress.com/>

(password: opensesame40)

For this task, I created a blog (Project Dynamic) on WordPress. Within my blog, I have created categories and added these to my posts as relevant.

For continuity, the context of my blog (being for a fictional charity, Dynamic Tutors) corresponds to the context of my project for Part 2 of the assessment.

Creating content in WordPress in this context was simpler than creating web content in html, as the interface is user-friendly, and allows for quick formatting. On WordPress, it is also easier to predict how the text will look on different screen sizes.

Unit 7 - Exploring Key Web Technologies for Delivering Web-Based Content

Consolidate Task 1 (Completed above, in unit 3)

Consolidate Task 2 Instructions:

Explore the concept of combining technologies by integrating AJAX to load data asynchronously, demonstrating how these technologies work together to enhance the user experience on a webpage.

Task Notes:

AJAX (Asynchronous JavaScript and XML) allows data needed for specific pages to be loaded in the background and displayed on the page, without needing to reload the whole page. This provides a smoother user experience, by reducing the need to reload a page just to display new information. JavaScript conveys the data, while XML is the format by which the data is collected.

AJAX can be used, for example to display new content as the user scrolls down the page. It can select the information to load based on the user interactions. This aids user experience, as it makes the website more responsive.

Within WordPress, AJAX can be included through a built-in function.

Unit 8 - Embedding Multimedia Assets in Web-Based Projects

Consolidate Task 1 Instructions: Create a new HTML file named ‘multimedia.html’ using a text editor or an integrated development environment (IDE).

Write the HTML code to structure your webpage.

Include the necessary elements such as `<!DOCTYPE html>`, `<html>`, `<head>`, and `<body>`.
Embed a Video.

Consolidate Task 2 Instructions: Create a webpage that showcases your skills using videos, audio, images, and animations.

Task Notes:

GitHub Link (for both tasks): https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week_8-Embedding_Multimedia_Assets_in_Web_Based_Projects

Task 1

I have created a basic html file and embedded a video, both of which are on the GitHub folder for this week. I formatted the page to show the video with a well-structured layout.

This was good practice for the second consolidation task for this week, in which I embedded multiple media files within a webpage.

Task 2

My output for task 2 is a more elaborate webpage (with both html and CSS), showing, through different media forms, examples of work I have done so far.

There is a navigation bar, which takes the user directly to each labelled part of the page. There are four sections (Video, Audio, Image Gallery and Animation).

The content is aligned in the centre, with a max width set to allow the page to adapt better to different screen sizes. However, as there are wide-aspect ratio pictures and videos, the content appears best on large screen sizes.

Unit 9 - Setting Up Private Areas and User Registration in Web Development

Consolidate Task 2 Instructions: Describe, in a few sentences, what admin privileges might include in a user management system and why they are important.

Task Notes:

(No GitHub Link)

Admin privileges include the ability to:

- Create and modify user accounts.
- Assign roles, access, and permissions to users.
- Manage the information that users can access.
- Configuration (set and change basic settings and security measures).
- View and manage transactions (for example, handle refunds in an online store).

Admin Privileges are important for:

- Practical organisation and management within an organisation (for example, setting up new employee accounts on the organisation's computer systems).

- Ensuring that certain key actions (for example, modifying prices) can only be done by people with training and accountability to reduce the risk of errors and fraud.
- Ensuring that identifiable people (the admins) can be considered responsible for blocking malicious attacks.
- Facilitating the retrieval of accounts (for example after lost passwords or a person leaving an organisation), which allows for continuity.

Unit 10- Enhancing User Experience with CSS, HTML5, and JavaScript

Consolidate Task 1: Responsive navigation menu that includes at least three primary menu items and a dropdown submenu.

Task Notes:

Part 1:

GitHub Link: [https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week 10-Enhancing User Experience with CSS HTML5 and JavaScript](https://github.com/Uchii1/Web-Technologies-Module/tree/main/Week%2010-Enhancing%20User%20Experience%20with%20CSS%20HTML5%20and%20JavaScript)

This is a website for a fictional web development company, NavDev. The website contains two pages, as the focus is on the drop-down navigation menu design.

The dropdown menus contain hyperlinks to sections of the page, and they can be used to access a specific section of one page from another. There are three options in the menu on the navigation bar and one of these include a drop-down menu with 3 options that are linked within the home page.

JavaScript is included within the html file to control the hyperlinks and ensure that the user returns to the top of each page when it is reloaded. To facilitate file management, there is not a separate JavaScript file because the script used was succinct enough to be included within <script> tags in the html file.

Part 2:

I have created a WordPress blogpost using the Jetpack plugin to add images in the post and place a ‘Contact Us’ form at the bottom.

WordPress Link: <https://projectdynamicdotblog.wordpress.com/2026/01/31/study-tips/>

Consolidate Task 2

Describe two key security measures to protect a website from common cyber threats (e.g., SQL injection, cross-site scripting).

- Content Security Policies can help to prevent cross-site scripting (XSS), by controlling which resources users can load into the site. Sites can also treat user input as data strings before it is verified, rather than as executable code. This can prevent SQL injection.
- Web Traffic monitoring can protect a site from malicious use such as DoS and DDoS attacks. This can include CAPTCHA checks to ensure site traffic is from human users, IP blocklisting for sources that are known to be malicious, and the use of DDoS mitigation services.

Briefly explain the importance of keeping your website's software (e.g., CMS, plugins) up to date.

- Keeping website plugins up to date help to ensure the website protection from newly developed malicious technologies.

Identify and explain the purpose of one security plugin or tool that can help protect a WordPress website from vulnerabilities.

- Cloudflare: Cloudflare's WordPress login can protect a WordPress website from automated malicious use such as spam in the comment section. It can also provide a Web Application Firewall (WAF) to filter traffic to and from the web application, which can reduce the risk of SQL injection.

Bibliography

Images Included

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