ASSIGNMENT BRIEF

HTU Course No: 40201260	HTU Course Name: Website Design & Development
BTEC Unit Code: Y/618/7419	BTEC UNIT Name: Website Design & Development

Student Name/ID Number/Section	
HTU Course Number and Title	40201260 Website Design & Development
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Academic Year	2024-2025 1
Assignment Author	Razan Alquran
Course Tutor	Razan Alquran - Hana' Alrashid - Shehab
Assignment Title	Designing and Developing a Full-Stack Web Application
Assignment Ref No	1
Issue Date	14/11/2024
Formative Assessment dates	From 15/11/2024 to 09/01/2025
Submission Date	27/01/2025
IV Name & Date	Ashraf Alsmadi 13/11/2024

Submission Format

The submission for this assignment is divided into 6 deliverables:

1. An individual written Report. (**word document**)
2. A Design Document. (**word document**)
3. A Test plan Document. (**word document**)
4. Full working responsive web app (Front-end and Back-end sides) with a minimum of 5-6 pages (signin and signup are included). The webapp is published on the internet and the source code uploaded to eLearning in a zip file.
5. The student assessment submission and declaration form.
6. **Oral Discussion:** You will be called to discuss your assignment with your instructor, and you must be ready to answer any questions the instructor has (**Tracing and writing code, explaining terminologies, and answering any questions related to the course**) and explain the answers you submitted for your assignment. The oral discussion is considered part of the assessment, and failing to answer questions during the oral discussion will result in failing the assessment related to that oral discussion. Please note that in order to fulfill the criterion, it must be correctly implemented in your report (or in the web application if it's related to the app part) and you must be able to clearly explain it during the oral exam. Failure to meet either of these requirements will result in the loss of this criterion.

The report, the design document and the test plan should be submitted as **word documents softcopy** to the university's eLearning system within the deadline specified above on the link: https://elearning.htu.edu.jo. In your report and design document, you should make use of headings, paragraphs, and subsections as appropriate. The expected word limit is 5000-10000 words, although you will not be penalised for exceeding the total word limit, do your best to be within the word limit. Your report, design document and test plan should be:

- In a form of soft copies (**word documents**) submitted to the instructor.
- Written in a formal business style using single spacing and font size 12, of times roman.
- Must be supported with research and referenced using the Harvard referencing system.

Unit Learning Outcomes

LO1 Explain server technologies and management services associated with hosting and managing websites.

LO2 Categorise website technologies, tools and software used to develop websites.

LO3 Utilise website technologies, tools and techniques with good design principles to create a multipage website.

LO4 Create and use a Test Plan to review the performance and design of a multipage website.

You are an **Apprentice Web Developer** participating in a **university apprenticeship program** at **TechForward Solutions**, a digital agency specializing in webapp development. This apprenticeship is a three-month placement designed to help you apply theoretical knowledge in a real-world environment and gain hands-on experience in client-based web projects.

As part of your role, you have been assigned in a project to design, develop, and deploy a responsive, fully functional webapp for a **client organization**. You may choose an organization type that aligns with your interests, such as a small business, community organization, non-profit, or government agency. This project will help you demonstrate your skills in both front-end and back-end web development.

You are asked to submit a **design document** with a brief description of your web app idea, then **design and develop a responsive fully functional web app (front-end and back-end parts) based on the specified requirements, sitemap and wireframes in your design document.** You should prepare a **report** with the core information that explains server technologies and management services associated with hosting and managing websites and categorises web app technologies, tools and software used to develop websites and accordingly you should Utilise web app technologies, tools and techniques with good design principles to **create your multipage web app,** you should also review the performance and the design of your multipage web app by creating a suitable **test plan**.

The web app consisting of **5-6 web pages** should cover the following requirements:

- Users accounts management pages (are included as part of the 5-6 web pages)
  - User's sign up.
  - Users' sign in and sign out.

- The web app should contain dynamic webpages.
  - **Read** data from the database.
  - **Insert** data to the database.
  - **Update** and **delete** data in the database

Based on your work, please be sure to complete all the items **in the following three parts**.

Part 1:

1. **Identify** the purpose and types of DNS, including explanations on how domain names are organised and managed (Report).
2. **Explain** the purpose and relationships between communication protocols, server hardware, operating systems and web server software with regards to designing, publishing and accessing a web app (Report).
3. **Analyse** the impact of common web development technologies and frameworks with regards to web app design, functionality and management, and what options you chose to develop the web app mentioned in this assignment (Report).
4. **Review** the influence of search engines on web app performance and provide evidence-based support for improving a site's index value and rank through search, and explain the techniques followed to improve the ranking of the web app and the process of publishing your web app on google search engine (Report and Web app).

5. **Discuss** the capabilities and relationships between front-end and back-end web app technologies and explain how these relate to presentation and application layers (Report).
6. **Discuss** the differences between online web app creation tools and custom-built sites with regards to design flexibility, performance, functionality, User Experience (UX) and User Interface (UI) (Report).
7. **Justify** the technologies, management services, tools and software chosen to realise a custom-built web app. (Report).
8. **Analyse** a range of tools (such as IDE's, design tools, and other software) and techniques available to design and develop a custom-built web app. (Report).
9. Explain the process you followed to register your domain name (Report).
10. Explain the processes you followed to register the hosting service, and how did you manage uploading the files of the web app to the final production environment (Report)

Part 2:

1. **Create** a design document for a branded multipage web app with the following:
   - Goal and Scope of the web app (Design Document).
   - Write a full set of client and user requirements (Design Document)
   - A sitemap (Design Document).
   - Low or Medium-fidelity wireframes (Design Document)
   - Use your design document with appropriate principles, standards and guidelines to produce a branded, multipage web app supported with realistic content (Web app).
2. **Justify** the multipage web app implementation decisions against the design document. (Report).
3. **Evaluate** the design and development process against your design document and analyse any technical challenges you faced during your development (Report).

Part 3:

1. **Develop** the fornt-end and back-end of the web app with the functionalities that meet the client requirements (Web app).
2. **Create** a suitable Test Plan identifying key performance area and use it to review the functionality and performance of your multipage web app (Web app, Test plan).
3. **Analyse** the Quality Assurance (QA) process and review how it was implemented during your multipage web app design and development stages (Test plan).
4. **Evaluate** the results of your Test Plan and include a review of the overall success of your multipage web app; use this evaluation to explain any areas of success and provide justified recommendations for areas that require future enhancements (Test plan)

Learning Outcomes and Assessment Criteria			
Learning Outcome	**Pass**	**Merit**	**Distinction**
LO1 Explain server technologies and management services associated with hosting and managing websites.	**P1** Identify the purpose and types of DNS, including explanations on how domain names are organised and managed. **P2** Explain the purpose and relationships between communication protocols, server hardware, operating systems and web server software with regard to designing, publishing and accessing a website.	**M1** Analyse the impact of common web development technologies and frameworks with regard to website design, functionality and management. **M2** Review the influence of search engines on website performance and provide evidence-based support for improving a site's index value and rank through search engine optimisation.	**D1** Justify the technologies, management services, tools and software chosen to realise a custom-built website.
LO2 Categorise website technologies, tools and software used to develop websites.	**P3** Discuss the capabilities and relationships between front-end and back-end website technologies and explain how they relate to presentation and application layers. **P4** Discuss the differences between online website creation tools and custom-built sites with regard to design flexibility, performance, functionality, User Experience (UX) and User Interface (UI).	**M3** Analyse a range of tools and techniques available to design and develop a custom-built website.	

LO3 Utilise website technologies, tools and techniques with good design principles to create a multipage website.	**P5** Create a design document for a branded, multipage website, supported with medium fidelity wireframes and a full set of client and user requirements. **P6** Use the design document with appropriate principles, standards and guidelines to produce a branded, multipage website supported with realistic content.	**M4** Justify the multipage website implementation decisions against the design document.	**D2** Evaluate the design and development process of the multipage website against the design document including any technical challenges faced.
LO4 Create and use a Test Plan to review the performance and design of a multipage website.	**P7** Create a suitable test plan, identifying key performance areas to review the functionality and performance of the multipage website developed	**M5** Analyse the Quality Assurance (QA) process and review how it was implemented during the multipage website design and development stages.	**D3** Evaluate the results of the Test Plan and the overall success of the multipage website with recommendations for improvement.