

Programme: BSc Applied Computing Y2

Level: 2

Module and Module Code: UFCF8R-30-2 Webapp Development

UWE Credit Rating: 30

Module Leader: Jason Hill

Assessment Component: Component B

Assessment Type: Project Portfolio

Word Count/Duration: Word Count/Duration: N/A

Submission Date: See Assessment Plan

Handout Date: See Assessment Plan

Submission Method: MS Teams Upload

Feedback Due Within: 20 working days

Assignment Title: WAD A2 – WebApp Project

This assignment covers 70% of the assessment for this unit

LEARNING OUTCOMES COVERED IN THIS ASSIGNMENT

Learning Outcome
<p><u>Learning outcome 1:</u></p> <ul style="list-style-type: none"> Plan, design, implement and test a WebApp to support a business scenario. (Component B, element 1) <p><u>Learning outcome 2:</u></p> <ul style="list-style-type: none"> Implement a secure WebApp back-end demonstrating best practice security and authentication (e.g. SQL injection protection, code injection/data validation, protection from brute force attacks). (Component B, element 1) <p><u>Learning outcome 3:</u></p> <ul style="list-style-type: none"> Build, manage and deploy the completed project into an enterprise hosting environment. (Component B, element 1) <p><u>Learning outcome 4:</u></p> <ul style="list-style-type: none"> All data must be stored and retrieved from an appropriately structured SQL database. (Component B, element 1)

Format: See the programme and module guides for further guidance as to the standard format for this type of assessment.

Note: Students' attention is drawn to the penalties attached to any form of assessment offence. In completing the assessment front sheet, you are declaring that the work is entirely your own. References used in the assignment must be referenced according to the UWE Harvard System, as outlined in the Library Services' iSkillZone (<http://iskillzone.uwe.ac.uk/RenderPages/RenderHomePage.aspx>).

Marking guide:

Grade	Descriptions
90-100%	Meeting all of the requirements for the 89.9% mark and in addition demonstrating a creative and unique synthesis of ideas and concepts including an evaluation of the methodological approach adopted
83-89.9%	Comprehensive coverage of all criteria for assessment, all of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with the development of novel or original ideas and in-depth reflection. Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed demonstrating a confident integration of appropriate ideas and concepts in a succinct and elegant manner. Opportunities taken to refer to and engage critically with module learning outcomes and their implications as appropriate to the submission. The work demonstrates the student's ability to engage with appropriate dimensions of genre and discourse
76-82.9%	Comprehensive coverage of all criteria for assessment, many of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with the introduction of novel or original ideas and in depth reflection. Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed and a confident discussion of ideas and texts is demonstrated. Opportunities taken to refer to and engage critically with module learning outcomes.
70-75.9%	Comprehensive coverage of all criteria for assessment, many of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with abundant evidence of reflection. Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed. Opportunities taken to refer to and engage critically with module learning outcomes.
67-69.9%	Extensive coverage of all criteria for assessment with sound interpretation apparent. Main issues or principles are clearly elaborated in clear, cogent and reflective argument. A good range of sources utilised and the use of primary sources is prioritised. Good analysis and evaluation, coherently and fluently expressed demonstrating a scholarly presentation of ideas and an astute sense of audience. Opportunities taken to refer to module learning outcomes.
63-66.9%	Extensive coverage of all criteria for assessment with some interpretation apparent. Main issues or principles clearly elaborated and with creditable degree of reflection. A good range of sources utilised, with some being original. Good analysis and evaluation, coherently and fluently expressed. Opportunities taken to refer to module learning outcomes.
60-62.9%	Coverage of all criteria for assessment with some interpretation apparent. Main issues or principles clearly elaborated and with creditable degree of reflection. A good range of sources utilised, with some being original. Good analysis and evaluation, coherently and fluently expressed. Opportunities taken to refer to module learning outcomes.
57-59.9%	Largely relevant coverage of the criteria for assessment with the main issues or principles identified explicitly. A satisfactory level of reflectivity upon a range of sources, all relevant but mostly secondary. Analysis and/or evaluation attempted with success. Module learning outcomes acknowledged with some implications reviewed.
54-56.9%	Largely relevant coverage of the criteria for assessment with the main issues or principles identified explicitly. A satisfactory level of reflectivity upon a range of sources, all relevant but mostly secondary. Analysis and/or evaluation attempted with moderate success. Module learning outcomes acknowledged with some implications reviewed.
50-53.9%	Largely relevant coverage of the main criteria for assessment and a satisfactory level of reflectivity upon a range of sources that are largely relevant but mostly secondary. Some attempt at analysis with moderate success. Module learning outcomes acknowledged and some implications reviewed.
47-49.9%	Adequate relevant coverage of the criteria for assessment with some development of the criteria but little interpretation apparent. Some irrelevance and/or inaccuracies in the selection of content. Reflection apparent with beginning of development but erratic analysis and evaluation. Level of study insular.
44-46.9%	Adequate relevant coverage of the main criteria for assessment. Some irrelevance and/or inaccuracies in the selection of content. Reflection apparent but minimal analysis and evaluation. Module learning outcomes referred to appropriately. Level of study insular.
40-43.9%	Barely satisfactory coverage of the criteria for assessment with a substantial degree of irrelevance and inaccuracy apparent. Reflectivity acknowledged but lacking substance. Little analysis and evaluation. Use of secondary sources only and little more than acknowledgment of the module learning outcomes.
Fail	
35-39.9%	Unsatisfactory coverage of the criteria for assessment with a substantial degree of irrelevance and inaccuracy apparent. Reflectivity acknowledged but lacking in substance. A marked absence of analysis and evaluation. Use of secondary sources only and little acknowledgement of the module learning outcomes.
28-34.9%	Failure to meet most of the stated criteria with the work largely irrelevant to the assignment set. Inappropriate reference to the literature and/or relevant experience.
1-27.9%	Failure to meet most of the stated criteria with the work largely irrelevant to the assignment set. Inappropriate reference to the literature and/or relevant experience.
0%	Failure through non-submission.

Marking Criteria and Distribution:

The following table outlines the weighting on specific tasks/learning outcomes. Please ensure any word counts correlate in accordance with the percentage weighting.

Learning Outcome	Criteria	Related Task	Percentage Weighting
1	Design a web application to meet the provided specification	1	10%
1/2	Application of Client-Side Scripting and UX best practice	2	20%
1/2	Application of Server-Side Scripting and security measures	2	40%
1/4	Database Design	2	10%
1/2	Publication & Security Testing	3	10%
1/2	Additional Functionality / Use of additional frameworks	2	10%

Please note that marking/grades will take into consideration the following:

- Academic writing skills.
- Range of referenced materials used.
- Correctness and accuracy of UWE Harvard referencing.
- Presentation of content and structure.
- Presentation skills (Presentations only).

Assignment Introduction:



You are contracted as a Web Developer for Logical View Solutions LTD, a UK company specialising in providing bespoke web solutions.

You have been assigned a client who requires the modernisation of a staff CPD and training enrolment system. The company has employees based around the country, so it must be securely accessed anywhere on a variety of internet-connected devices. Your platform should be intuitive, easy to use and apply UI/UX best practices.

Key Functionality/Requirements

Access Control	<p>Since this is an internal platform, all information must remain secure. The only public accessible page should be the secure login page.</p> <p>The platform must have two levels of access, via a single login page:</p> <ul style="list-style-type: none">• Administrator/managers access• User Access <p>Full details of users account permissions and functionality may be found below.</p> <p>Once logged in, users should only be able to access the functionality designated to them. A logout feature should also be implemented.</p>
Administrator Access	<p>User Management</p> <p>Administrators are required to be able to manage staff user accounts (add, remove, edit, and list all users). As a minimum, the following user information should be recorded:</p> <ul style="list-style-type: none">• Email• Password• First Name• Last Name• Job Title• Access Level
	<p>Course Administration</p> <p>Administrators are required to be able to add, remove and edit courses that are being offered. As a minimum this should include:</p> <ul style="list-style-type: none">• Course Title• Course Date• Course Duration• Max Attendees• Course Description
	<p>Course Participants</p> <p>Administrators should be able to view the staff members enrolled on a specific course and delete these if required.</p>
User Access	<p>Course Listing</p> <ul style="list-style-type: none">• Users should be able to view a list of the courses available, with access to full course details.• Users should be able to view the number of other users enrolled on each course. (e.g. "3 of 10 spaces booked").
	<p>Course Enrolment</p> <ul style="list-style-type: none">• Users should be able to select and enrol on courses.• Users should be able to view the courses they are currently enrolled on and remove their booking if necessary.• Users should be prevented from enrolling on a full course.

Additional Functionality	<p>Additional Functionality</p> <p>Up to 10% additional marks may be awarded for the implementation of any TWO of the following features:</p> <ul style="list-style-type: none"> • Display only future courses to users. Courses that users have attended previously should be listed under a “Course History” Section. It should not be possible to delete a record of a course you have attended. Courses in Administrators pages should be separated into upcoming courses, and course history to track prior attendance. • The login page should restrict the number of login attempts on a per-account basis. For example, if a user enters an incorrect password 3 times in a row for a single account, they should be prevented from making any further login attempts for the next 5 minutes. • When a user is enrolled on a course (either by an admin or independently), they should receive an email confirmation informing them that they have been successfully enrolled.
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Assignment Tasks:

Task 1 – Webapp Design

Based upon the project brief, you are required to design a solution to meet your client’s requirements. The following design documentation is required:

- Annotated Wireframe Diagrams - Storyboarding key application functionality
- Database ERD

Your application designs may be created in a graphics package of your preference. This can include traditional graphics packages, e.g. Adobe Photoshop/Illustrator, or UI/UX wireframe tools, including Adobe Xd, Wireframe.cc and FuldUI may also be used to aid your designs.

Task 2 – Development

You are required to develop a working solution to meet the client's brief provided. Your code should follow professional, best practices, with an emphasis on security.

- Your Client-Side Scripting should be provided in uncompressed, professionally presented and documented HTML, CSS and JS, conforming to relevant standards (e.g. W3C).
- Your Server-Side Scripting must be written in PHP and be provided in an uncompressed, professionally presented documented format.
- Your database must be a Relational SQL Database (e.g., MySQL or MongoDB).

Please see details below regarding the use of frameworks for this assessment.

Task 3 – Testing & Publishing

Once complete you are required to publish your site on an enterprise hosting platform and produce a test plan to assess all key functionality, including security testing e.g.

- User Authentication / Privilege Escalation
- SQL Injection
- Cross-Site-Scripting (XSS)

Although not essential, you may use third-party website vulnerability scanners/tools to aid your testing.

Key Assessment Notes:

- Once completed you must upload your completed website to the college provided webspace and URL. Work not submitted on this domain will not be assessed.
- Your website must be professionally produced and demonstrate good practice throughout (e.g. folder structure, file names, code commenting).
- You must adhere to copyright law: all content including images, media and scripts must be appropriately licenced.
- Your webserver account and uploading instructions for submitting your website may be found at <https://plesk.remote.ac/>
- Your site must be accessible at the following URL, changing the 'x' to your WS number.

`https://WSxxxxxx-wad.remote.ac/`

Submission Instructions

Your WebApp must be accessible as per the instructions above. To complete this assessment, you must upload:

- Your Design Documentation
- Your Website Code and Database Export (.sql) as a compressed archive (.zip)
- Your Testing and Supporting Evidence

Use of Frameworks

Your code must be original, if you are unsure if any components you wish to use are permitted, please contact your lecturer.

- Frameworks such as Bootstrap, Foundation, Semantic UI and UIKit **are** permitted in this assessment, however, templates or template builders may **not** be used.
- JavaScript libraries such as jQuery, Google Charts and plugins for these libraries (e.g., Image Sliders and Photo Galleries) **are** permitted.
- Use of font and icon libraries, e.g., Google Fonts, Font Awesome **are** also permitted.
- Website content management platforms, website builders or unspecified MVCs or frameworks (e.g., Zend, Codeigniter, Laravel, Node, WordPress) may **not** be used.

Additional Recommended Reading/Resources:

Please refer to the module handbook for full recommended reading

UWE Online Library - <http://www1.uwe.ac.uk/library/>

Useful Resources	Recommended Software
Mozilla Developer Network - https://developer.mozilla.org	XAMPP - https://www.apachefriends.org
W3Schools - http://www.w3schools.com/	VS Code - https://code.visualstudio.com/
LinkedIn Learning - https://www.linkedin.com/learning/	Chrome - https://www.google.com/chrome/
Bootstrap Docs - https://getbootstrap.com/docs/5.1/	