Assignment 2 Web Architecture And CMS Website

Start Assignment

Due Thursday by 23:59   **Points** 100   **Submitting** a file upload   **Attempts** 0
Allowed Attempts 2

Overview

This assignment has two parts.

- The first part is to build a single content management system (CMS) based application.
- The second part is to address a scenario and answer a series of questions.

Learning Outcomes

- LO4: Utilise a content management system to allow a user to publish, edit and manage web content from a central interface

- LO5: Analyse web application performance on a variety of platforms to test behaviour of scripts and functional issues resolved

Please note: this assignment will only assess your ability to design and create static web content. You will be assessed on dynamic content in Assignment 3.

Conditions

- It is recommended that you spend between 20-25 hours on this assessment.

- Please refer to the Study Plan and the relevant assessed task in iQualify for the assessment

   due date.

- You can access all course materials and any other resources you wish to use as you work on this assessment.

- The work you submit must be your own work. It is an individual project.

- You can ask a tutor to clarify the instructions and/or for an advice, but they cannot assist you in completing the tasks required – you must carry out the tasks yourself!

Success Criteria

It is required to obtain a minimum of 50% of the total available marks to be successful in this assessment. Your submission will be marked according to the rubrics in the Marking Form document. Please take time to read it.

A maximum of two attempts are allowed to complete this assessment. The maximum percentage to be awarded on a second assessment attempt is 50%.

This assessment contributes to 30% of the final course grade.
Note, the student must pass each assessment task in order to pass the course.

Submission

You are required to submit a supporting document, which may take the form of a blog or a 'how to'. This document should detail the decision-making process undertaken to fulfil the requirements. Moreover, it should include the problems and their solutions that have been encountered with meeting the requirements. Highlight important aspects of the project by using screenshots and annotations. You may wish to submit a link to a short video of your work running.

Submit assessment documentation as a zip file. Include all necessary assignment files, readme files and any other required documentation. If the solution file is a Word document, it should be clearly labelled with the course code, assessment name and student number. Name your zipped folder as IT7744_A2_YourStudentNumber.

Remember to check that the folder does not contain any other material that you do not wish to submit.

TASK 1

The first task of this assessment is to build a single CMS application. This is a website of an Auckland-based personal trainer, Mike Watts. The relevant material is available for download in the Assessment 2 assessable task of iQualify, including a logo and images for use in the theme or template of the application.

You can choose to use:

- WordPress
- Joomla
- Drupal.

It is required to use MySQL database to complete this assessment.

The final application should contain a number of pages. The content of each page needs to be stored in the database. The following sections must be a part of the application.

- Homepage

- About me
- Pricing
- Testimonials
- Contact

The final product needs to meet the following requirements:

- Establish a connection with a database and perform read and write operations.
- Allow an administrator to create and edit page content.
- Reflect changes in CMS content in the website.
- Be fully responsive.
- Perform well on desktop and mobile devices.
- Have a contact form that sends an email to the website owner on submission*

Note: no actual email needs to be sent for this assignment.

TASK 2

In the second part of this assessment, respond to scenario provided and answer the questions below. Feel free to research your responses before answering.

The client is concerned about the security and flexibility of the provided solution. It is required to highlight the important features of the developed website with regards to security and flexibility.

1. Which database language is used for developing the solution? Describe the strengths and weaknesses of that language.

2. Which server-side programming language is used for developing the solution? Describe the strengths and weaknesses of that language.

3. Which operating system will solution be run on? Reflect on whether the chosen database language, server language and operating system have proven reliability and will work together.

4. Describe how the developed solution does, or does not, deal with potential security threats. Provide the description of your solution mitigating at least three security threats. You are not required to implement them, but you need to explain how you would deal with these issues in the CMS.

5. Describe any strategies that are used to improve performance when loading images.

6. Describe any strategies that are used to improve performance through caching.

7. Describe the way to ensure that the developed application is fully responsive.

8. Compare the CMS that is used for developing the solution against the other two CMS options with regards to the following features or limitations:

   a. Support – i.e. how much online or community support is available
   b. Extensibility – i.e. how easy is it to add more functionality, plugins etc c. Learning curve for

developers

    d. Security

    e. Scalability

SUBMISSION

Submission Checklist

Before submitting your work, make sure you have completed all the tasks in this checklist:

Task
Task 1: • The CMS application communicates effectively with the database. • The editable data about the client and their business is stored in the CMS for easy editing and updating. • The solution is usable and effective and performs well. • The solution contains a contact form that allows users to reliably submit a contact request and provides feedback for users. • The contact form includes the CSRF token, and also sanitises and validates any data before forwarding to the recipient. • All the files relating to the developed CMS application are attached.
Task 2: • Provided details of the chosen web server language, database language and operating system that have proven reliability and will work together well. • Described how the chosen CMS offers the client flexibility, support, extensibility, security and scalability. • Described how the chosen solution works effectively to mitigate potential security threats. • Provided the steps taken to improve usability and performance of the solution. • All the documentation relating to the Task 2 is attached.
The submission must include a complete database export, any themes, template, plugins or modules that are used in the developed solution. The provided files can be installed easily, otherwise, please include a stepwise installation guide (installation.txt) in the project root.

Submission Instructions

Once you have completed all the tasks:

- Go through the submission checklist and to ensure you have completed everything to the expected standard.

- Upload the required assessment documentation and files.

- Read the declaration and submit the assessment.

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Criteria	Ratings				Pts
Task 1: Create a CMS application that communicates effectively with a database. [10 marks]	**10 to >8.0 pts** **CMS database uploads without error New page creation and editing is simple and works**	**8 to >5.0 pts** **CMS database uploads New page creation and editing works**	**5 to >2.0 pts** **CMS database uploads New page can be created**	**2 to >0 pts** **CMS database fails to upload New page unable to be created**	10 pts
Task 1: Store editable data about the client and their business in the CMS to allow for easy editing and updating. [10 marks]	**10 to >8.0 pts** **CMS displays all provided content Almost all text or images are updateable**	**8 to >5.0 pts** **CMS displays most provided content Most text and some images are updateable**	**5 to >2.0 pts** **CMS displays some provided content Some text is updateable**	**2 to >0 pts** **CMS displays little of the provided content Almost no text is updateable**	10 pts
Task 1: Ensure the solution performs well and is usable and effective. [10 marks]	**10 to >8.0 pts** **Theme displays the content in aesthetically pleasing manner and in a suitable layout. The site loads quickly and is optimized. The site is fully responsive. Navigation is usable, simple and works well, even on mobile.**	**8 to >5.0 pts** **Theme displays the content in a suitable layout. The site loads quickly. The site is mostly responsive. Navigation is simple and works well, even on mobile.**	**5 to >2.0 pts** **Theme displays the content in a consistent layout. The site loads somewhat slowly or is not well optimized. The site is not very responsive. Navigation does not work well on mobile.**	**2 to >0 pts** **Theme displays the content in a layout that is inconsistent. The site loads slowly and is not optimized. The site is not responsive. Navigation does not work on mobile.**	10 pts
Task 1: Create a contact form that allows users to reliably submit a contact request, which gives effective feedback for users. [10 marks]	**10 to >8.0 pts** **All form inputs are validated on the client side The form always displays clear and effective feedback to the user**	**8 to >5.0 pts** **Most form inputs are validated on the client side The form generally displays clear and effective feedback to the user**	**5 to >2.0 pts** **Some form inputs are validated on the client side The form generally displays some feedback to the user**	**2 to >0 pts** **No form inputs are validated on the client side**	10 pts
Task 1: Ensure the contact form includes a CSRF token, and also sanitises and	**10 to >8.0 pts** **The contact form includes strong CSRF protection All form data is**	**8 to >5.0 pts** **The contact form includes CSRF protection Most form data is**	**5 to >2.0 pts** **The contact form includes little weak CSRF protection Some**	**2 to >0 pts** **The contact form does not include CSRF protection No**	10 pts

Criteria	Ratings				Pts
validates any data before forwarding to the recipient. [10 marks]	sanitised and validated on the server side	sanitised and validated on the server side	form data is sanitised and validated on the server side	form data is sanitised and validated on the server side	
Task 2: Describe the chosen web server language, database language and operating system that have proven reliability and will work together well. [10 marks]	10 to >8.0 pts Accurately names and describes each part of the stack. Provides in-depth detail of both the advantages and shortcomings of each selection. Reflects on whether the chosen selections will work reliably together.	8 to >5.0 pts Accurately names each part of the stack. Provides detail of both the advantages and shortcomings of each selection. Reflects on whether the chosen selections will work reliably together.	5 to >2.0 pts Names each part of the stack. Provides detail of either the advantages or shortcomings of each selection. Reflects on whether the some of the chosen selections will work reliably together.	2 to >0 pts Fails to accurately names all parts of the stack (it should be very easy!!!) Provides limited or no detail of either the advantages or shortcomings of each selection	10 pts
Task 2: Describe how the chosen CMS offers the following features to the client: • Build flexibility • Support • Extensibility • Security • Scalability [20 marks]	20 to >16.0 pts Accurately identifies how their CMS compares to the other two main options with an in-depth explanation for each criterion	16 to >10.0 pts Identifies how their CMS compares to the other two main options with an explanation for each criterion	10 to >5.0 pts Identifies how their CMS compares to the other two main options with an explanation for some of the criterion	5 to >0 pts Fails to accurately identify how their CMS compares to the other two main options, or does so without with an explanation	20 pts
Task 2: Describe how the chosen solution works to effectively mitigate security threats. [10marks]	10 to >8.0 pts Explains in depth how the solution can mitigate common security threats.	8 to >5.0 pts Explains how the solution can mitigate some of the common security threats.	5 to >2.0 pts Partial explanation of how the solution can mitigate some of the common security threats is provided.	2 to >0 pts Fails to explain how the solution can mitigate common security threats.	10 pts
Task 2: Describe steps taken to improve usability and	10 to >8.0 pts Explains fully the implementation of an effective form of live	8 to >5.0 pts Explains the implementation of a form of image	5 to >2.0 pts Explains two of the following: • the implementation	2 to >0 pts Explains one or none of the following: • the implementation	10 pts

Criteria	Ratings				Pts
performance of the provided solution. [10 marks]	**image compression Explains fully the implementation of an effective CMS or third- party caching method that refreshes on editing Explains fully how the theme or template is fully responsive**	**compression Explains the implementation of a CMS or third- party caching method Explains how the theme or template is fully responsive**	**of a form of image compression • the implementation of a CMS or third-party caching method • how the theme or template is fully responsive**	**of a form of image compression • the implementation of a CMS or third-party caching method • how the theme or template is fully responsive**	

Total Points: 100