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**ICTWEB527**

**Identify and evaluate emerging technologies and practices**

**student assessment tasks**

**Identify and evaluate emerging technologies and practices**

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Introduction

The assessment tasks for *ICTWEB527 Research and apply emerging web technology trends* are outlined in the assessment plan below. These tasks have been designed to help you demonstrate the skills and knowledge that you have learnt during your course.

Please ensure that you read the instructions provided with these tasks carefully. You should also follow the advice provided in the *IT Works Student User Guide*. The Student User Guide provides important information for you relating to completing assessment successfully.

Assessment for this unit

*ICTWEB527 Research and apply emerging web technology trends* describes the skills and knowledge required to identify, research and apply emerging web technologies.

For you to be assessed as competent, you must successfully complete two assessment tasks:

* Assessment Task 1: Knowledge questions – You must answer all questions correctly.
* Assessment Task 2: Project – You must work through a range of activities and complete a project portfolio.

Assessment Task 1: Knowledge Questions

Information for students

Knowledge questions are designed to help you demonstrate the knowledge which you have acquired during the learning phase of this unit. Ensure that you:

* review the advice to students regarding answering knowledge questions in the *IT Works Student User Guide*
* comply with the due date for assessment which your assessor will provide
* adhere with your RTO’s submission guidelines
* answer all questions completely and correctly
* submit work which is original and, where necessary, properly referenced
* submit a completed cover sheet with your work
* avoid sharing your answers with other students.

|  |  |
| --- | --- |
| **i** | **Assessment information**  Information about how you should complete this assessment can be found in Appendix A of the *IT Works Student User Guide*.Refer to the appendix for information on:   * where this task should be completed * the maximum time allowed for completing this assessment task * whether or not this task is open-book.   *Note*: You must complete and submit an assessment cover sheet with your work. A template is provided in Appendix C of the Student User Guide. However, if your RTO has provided you with an assessment cover sheet, please ensure that you use that. |

Questions

Provide answers to all of the questions below:

1. Complete the following table to demonstrate your understanding of the principles of the Internet and technologies that underpin its exist.

|  |  |
| --- | --- |
| Difference between the Internet and the World Wide Web |  |
| Devices required for a person to connect to the internet (you can refer to home users and/or workplaces in your answer) |  |
| Common technologies used to access the Internet |  |
| Purpose of web browsers, including identification of three commonly used browsers. |  |

1. List five key principles that should be taken into account when analysing and designing websites.
2. Identify at least three types of object-oriented programming languages that could be used to develop web applications.
3. Completing the following table by describing each of the following control structures relevant to programming.

|  |  |
| --- | --- |
| Sequence control structure |  |
| Decision control structure |  |
| Loop control structure |  |

1. Complete the following table to explain the purpose of the listed terms.

|  |  |
| --- | --- |
| Hypertext |  |
| HTTP |  |
| Markup language, including HTML and XML. |  |

1. Provide a definition of stateless programming. In your answer, identify the difference between stateless and stateful programming.
2. Explain the purpose of session management and include in your answer a discussion on how cookies are relevant to the process.
3. Explain the purpose of web authentication and how it assists web security. In your answer, refer to the following:

* User authentication
* SSO authentication
* the difference between authentication and authorisation.

1. Provide a definition of client-side programming. In your answer, identify programming languages used by front-end developers as well as which language can be used both client side and server side.
2. Complete the following table. For each web application, describe the client requirements that may necessitate the web application and key features and functions.

|  |  |  |  |
| --- | --- | --- | --- |
| Web application | Requirements | Function | Key features (list at least two) |
| Shopping cart |  |  |  |
| Online form |  |  |  |

Assessment Task 1: Checklist

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Student’s name: | | | | |
| Did the student provide a sufficient and clear answer that addresses the suggested answer for the following? | Completed successfully? | | Comments | |
| Yes | No |  | |
| Question 1 |  |  |  | |
| Question 2 |  |  |  | |
| Question 3 |  |  |  | |
| Question 4 |  |  |  | |
| Question 5 |  |  |  | |
| Question 6 |  |  |  | |
| Question 7 |  |  |  | |
| Question 8 |  |  |  | |
| Question 9 |  |  |  | |
| Question 10 |  |  |  | |
| Task outcome: | * Satisfactory | | | * Not satisfactory |
| Assessor signature: |  | | | |
| Assessor name: |  | | | |
| Date: |  | | | |

Assessment Task 2: Project Portfolio

Information for students

In this task, you are required to demonstrate your skills and knowledge by working through a number of activities and completing and submitting a project portfolio.

You will need access to:

* a suitable place to complete activities that replicates a development environment including a meeting space and computer and internet access, as well as a server and database server, browsers and applicable software
* your learning resources and other information for reference
* *Project Portfolio* template.

Ensure that you:

* review the advice to students regarding responding to written tasks in the *IT Works Student User Guide*
* comply with the due date for assessment which your assessor will provide
* adhere with your RTO’s submission guidelines
* answer all questions completely and correctly
* submit work which is original and, where necessary, properly referenced
* submit a completed cover sheet with your work
* avoid sharing your answers with other students.

|  |  |
| --- | --- |
| **i** | **Assessment information** |
| Information about how you should complete this assessment can be found in Appendix A of the *IT Works Student User Guide*.Refer to the appendix for information on:   * where this task should be completed * how your assessment should be submitted.   *Note*: You must complete and submit an assessment cover sheet with your work. A template is provided in Appendix B of the Student User Guide. However, if your RTO has provided you with an assessment cover sheet, please ensure that you use that. |

Activities

Complete the following activities:

1. Carefully read the following:

|  |  |
| --- | --- |
| Atom | This project requires you to research, investigate and apply emerging web technology trends to a web application.  This project is to be based on the requirements for a web application as described in ICTWEB527 Simulation Pack or you can base it on a business of your choice. Speak to your assessor to get approval if you want to base this on another business or client requirements for a web application.  In either case you will be required to use apply the latest in web technology trends and build a dynamic website and create an online form that can be used for user to register their details and then subsequently review information such as their details and member benefits.  Review the detailed instructions in the ICTWEB527 Simulation Pack. |
|  | Vocational education and training is all about gaining and developing practical skills that are industry relevant and that can help you to succeed in your chosen career. For this reason, basing your project on real requirements will mean that you are applying your knowledge and skills in a relevant, practical and meaningful way! |
|  | You will be collecting evidence for this unit in a Project Portfolio. Before you start, read through the requirements of *Section 1, 2 and 3 of your Project Portfolio* which include detailed guidance relevant to all the assessment activities. The steps you need to take are outlined below.  Before you begin, complete page 4 of your Project Portfolio. |

1. Emerging web technology research

|  |  |
| --- | --- |
| Person eating | Read through the Simulation Pack that includes information on the needs of the web application or find out about the web application needs for your own business – this could be through interviews with stakeholders or reading correspondence or documentation.  Complete Section 1 of your Project Portfolio by:   * Identifying and documenting the web application needs. * Researching and identifying new developments in web technology that meet identified needs of the web application. * Evaluating and selecting each of the web technologies researched. * Identifying legislative and organisation requirements and standards applicable to the implementation of the web application. |
|  | Complete Section 1 of your Project Portfolio. You will present your findings in the next section. |

1. Round table discussion

|  |  |
| --- | --- |
| Chat | In a group round-table style discussion with 4 – 5 other students, you will discuss the web technology trends that you have identified, advocating for and negotiating your selection of the web technology trends that you consider are most appropriate to apply to the web application.  Other students will also discuss the trends they have identified, as well as advocate for and negotiate for the web technology trends they consider are most appropriate to apply to the web application. Each person will have a turn (10 minutes per person).  At the end you will all agree on the two web technology trends to be applied to the web application. Your assessor will also assist in guiding these discussions. Document the discussions and negotiations in your Portfolio.  Your assessor will also be looking to see that you can:   * articulate your ideas based on your research * exchange ideas and find out about the views and opinions of others. * demonstrate effective communication skills including:   + Speaking clearly and concisely   + Using non-verbal communication to assist with understanding   + Asking questions to identify required information   + Responding to questions as required   + Using active listening techniques to confirm understanding. |
| **i** | This can either be viewed in person by your assessor or you may like to video record the session for your assessor to watch later. Your assessor can provide you with more details at this step. Make sure you follow the instructions above and meet the timeframes allocated. |

1. Web technology implementation

|  |  |
| --- | --- |
| Person eating | You are now to create the required code to apply the web technology agreed upon and following the procedures in your Simulation Pack. |
|  | Complete Section 2 of your Project Portfolio.  . |

1. Testing and finalisation

|  |  |
| --- | --- |
| Person eating | You are now to complete Section 3 of your Project Portfolio by:   * Testing the web application in at least three browsers and using two digital devices (e.g. computer and phone). * Reviewing the results of the testing above and documenting this in your Portfolio. * Fixing problems identified   You should also seek feedback on the web application from your assessor and make amendments as required. Request a brief meeting with your assessor to discuss this. |
|  | Complete Section 3 of your Project Portfolio. |

1. Submit your completed Project Portfolio

|  |  |
| --- | --- |
| Document | Make sure you have completed all sections of your Project Portfolio, answered all questions, provided enough detail as indicated and proofread for spelling and grammar as necessary.  Submit to your assessor for marking. |
|  | . |

Assessment Task 2: Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student’s name: | | | | | |
| Did the student: | | Completed successfully? | | | Comments |
| Yes | No | |  |
| Research, investigate and apply at least two emerging web technology trends to a web application, according to an organisation’s needs? | |  |  | |  |
| Identify needs of web application?. | |  |  | |  |
| Research and identify new developments in web technology that meet the needs for the web application? | |  |  | |  |
| Evaluate each web technology trend identified regarding suitability for the web application? | |  |  | |  |
| Select two web technology trends most applicable to web application needs? | |  |  | |  |
| Identify and document legislative and organisational requirements and standards applicable to implementation of new technology? | |  |  | |  |
| Discuss and negotiate selection of web technology developments relevant to the web application? | |  |  | |  |
| Confirm selection of web technology developments relevant to the web application? | |  |  | |  |
| Create and document the required code to apply web technology? | |  |  | |  |
| Apply code to web technology according to given procedures? | |  |  | |  |
| Test web application in three web browsers and two digital devices, and rectify problems as required? | |  |  | |  |
| Review test results and discuss findings with assessor? | |  |  | |  |
| Seek feedback from assessor and amend as required? | |  |  | |  |
| Document work performed and findings according to required procedures? | |  |  | |  |
| Task outcome: | * Satisfactory | | | * Not satisfactory | |
| Assessor signature: |  | | | | |
| Assessor name: |  | | | | |
| Date: |  | | | | |

Assessment Task 2: Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student’s name: | | | | | |
| Did the student: | | Completed successfully? | | | Comments |
| Yes | No | |  |
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| Task outcome: | * Satisfactory | | | * Not satisfactory | |
| Assessor signature: |  | | | | |
| Assessor name: |  | | | | |
| Date: |  | | | | |

Final Results Record

|  |  |
| --- | --- |
| Student name: |  |
| Assessor name: |  |
| Date |  |

Final assessment results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Type | Result | | |
| Satisfactory | Unsatisfactory | Did not submit |
| Assessment Task 1 | Knowledge questions | S | U | DNS |
| Assessment Task 2 | Project Portfolio | S | U | DNS |
| Overall unit results |  | C | NYC |  |

Feedback

* My performance in this unit has been discussed and explained to me.
* I would like to appeal this assessment decision.

Student signature: Date:

* I hereby certify that this student has been assessed by me and that the assessment has been carried out according to the required assessment procedures.

Assessor signature: Date: