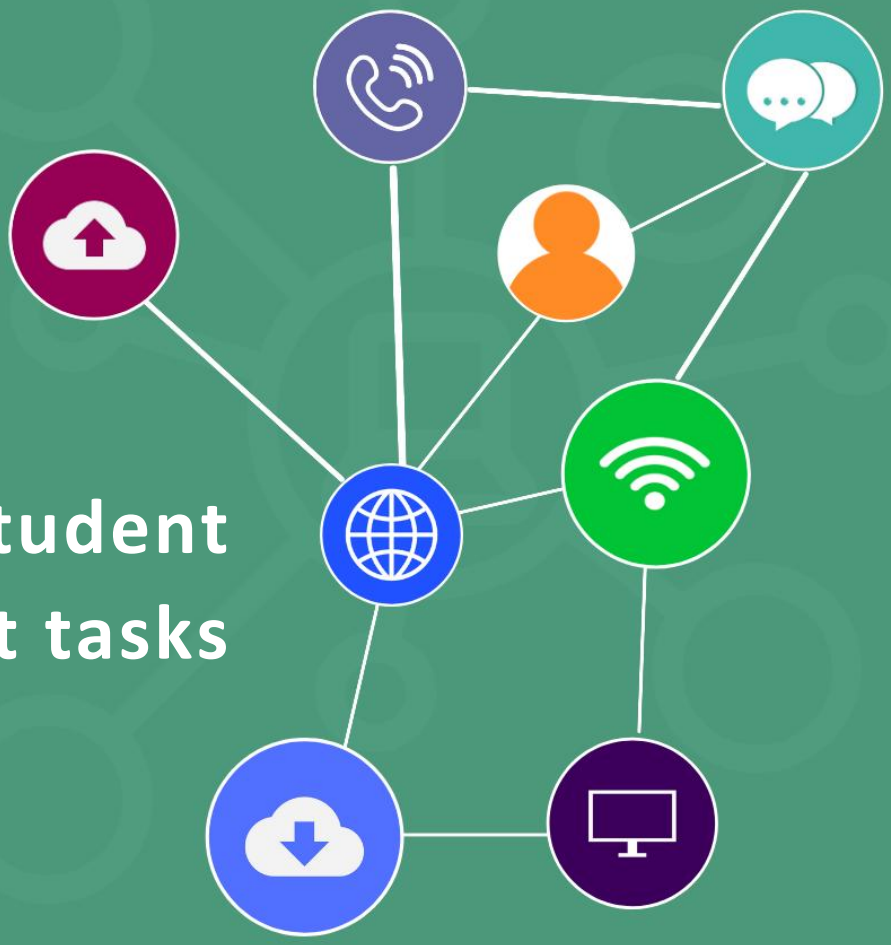
student assessment tasks



ICTPRG535

Build advanced user interfaces

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IT Works is a series of training and assessment resources developed for qualifications within the Information and Communications Technology Training Package.

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Introduction

The assessment tasks for *ICTPRG535 Build advanced user interfaces* 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

ICTPRG535 Build advanced user interfaces describes the skills and knowledge required to design, build and test an advanced user interface (UI), including interaction techniques, rich controls, improved client-side validation, customisation and personalisation, graphics and multimedia.

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.

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 regarding programming concepts related to user interfaces.

	Give a brief description of this term
Client-side programming	Client-side programming: Answer:The client is the party receiving the service in the computer service. Client programming means programming the client, using code, mainly dealing with the user interface that the user interacts with in the Web, and displaying other activities on the client. reference:GeeksforGeeks. (2017, October 26). Server side and Client side Programming. Retrieved September 26, 2022, from https://www.geeksforgeeks.org/server-side-client-side-programming/#:%7E:text=Client-side%20Programming%20%3A%20It%20is%20the%20program%20that,example%20Client%20Side%20codes%20that%20run%20in%20browser.
Object-oriented programming	Object-oriented programming Answer:Object-Oriented Programming (OOP) is a programming method that relies on the concept of classes and objects. Complex things can be modeled as simple, reproducible structures that construct a simple blueprint (often called a class) for a software program to create a single instance of an object. reference:Doherty, E. (n.d.). What is object-oriented programming? OOP explained in depth. Educative: Interactive Courses for Software Developers. Retrieved September 26, 2022, from https://www.educative.io/blog/object-oriented-

	programming
Hypertext markup language (HTML)	Hypertext markup language (HTML) Answer:For user interface design, HTML defines the meaning and structure of user interface content. HTML language is relatively simple and easy to understand for user interface design, and it is not difficult to operate. For user interface design, HTML language is the basis. reference: HyperText Markup Language – HTML. (2020, November 13). Investopedia. Retrieved September 26, 2022, from https://www.investopedia.com/terms/h/html.asp
Cascading style sheet (CSS)	Cascading style sheet (CSS) Answer:CSS plays a role in beautifying the user interface. CSS is mainly used to design the style of web pages and beautify web pages. It can interact with HTML language to form a beautiful user interface, making UI design more attractive. reference: GeeksforGeeks. (2019, January 2). CSS | User Interface. Retrieved September 26, 2022, from https://www.geeksforgeeks.org/css-user-interface/

JavaScript	JavaScript Answer:In terms of UI design, JavaScript is widely used. Most designers need to use JavaScript to make the designed user interface more comprehensive. It can bring more various UI components to the user interface, making the user interface more functional. reference:Banga, S. (n.d.). Top 10 JavaScript UI library You should know in 2022 [Updated]. Hackr.io. Retrieved September 26, 2022, from https://hackr.io/blog/javascript-ui-library

2. Describe the purpose of UI prototyping.

Answer:

The purpose of UI prototyping is to realize the idea of solving user needs. It is also the process of user interface prototyping and user experience design. It can transform the whole design from paper to digital form. It can fully digitize a product model. It is reflected in the form of the designer's continuous update and modification and the user's continuous testing and makes suggestions for the designer to modify it until it becomes a model that conforms to the design team and the user's ideas, so that the final version that meets the design expectations and user needs can be released. product. But it is not the final product, it is just a rough model based on design ideas, it carries most of the key design ideas, but not many details.

3. List two methods that can be used for prototyping.

Manual method: Sketches. In the early stage of design, sketches can record the designer's ideas about the application or the interaction method of the application. The advantage is that sketches can be recorded quickly, and only the key parts of the project need to be recorded, not the details of the project. The disadvantage is that when modifying elements, you need to make the same changes to other places, which is very tedious.

Digital method：Mockups, is a more detailed prototype. The advantage is that it can reflect more elements and visual details than other prototypes. The disadvantage is that compared with sketches and wireframes, model building requires more time and labor costs.URL:(https://www.mockplus.com/blog/post/prototyping-method#:~:text=8%20prototyping%20methods%20and%20examples%201%201.Sketches%20-,prototypes%20with%20more%20details%20and%20visuals%20...%20%E6%9B%B4%E5%A4%9A%E9%A1%B9%E7%9B%AE)

prototyping tools

tool1:Figma: The main advantage is that it allows many people to work on a project at the same time. There are all the basic tools for prototyping. This production process takes place on the tools. The whole process is simple. We can display code fragments of any element. The disadvantage is that it cannot work offline, and must be connected to the network if necessary. There is no image editing tool, so it is difficult to control the image.

tool2:Justinmind: I think this is a powerful prototyping tool that can be used to design mobile interfaces, websites and desktops. It has free templates for reference. And it allows you to integrate with other software, such as Sketch and Adobe Suite. You can install plug-ins for efficient design. The disadvantage is that the cost of long-term use is high. A large number of operation modules are not very friendly to novices. It takes a lot of time to practice and operate skillfully to use them normally.URL:(https://www.justinmind.com/)

I prefer Figma. I like its function of multiple people working at the same time, which is very suitable for group work.

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			
Task outcome:	☐ Satisfactory		☐ Not satisfactory
Assessor signature:			
Assessor name:			
Date:			

Assessment Task 2: Project

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 an integrated development environment including a digital device (e.g. computer, tablet or mobile), UI development software, multimedia and internet access
- your learning resources and other information for reference
- *Project Portfolio* template
- *Simulation Pack*.

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.

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:

This project requires you to design, build and test an advanced user interface (UI). The advanced user interface you develop can be for a project of your choice. Review the information in the ICTPRG535 Simulation Pack for more information.

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, developing an advanced user interface for a project your choice means 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. The steps you need to take are outlined below.

2. Plan UI design.

You are to plan your UI design. This involves:

- Identifying and documenting the UI to be developed.
- Determining the technology, development tools and platforms that will be used for the UI.
- Designing and documenting a UI layout and structure (wireframes).

As you need to seek feedback on your UI design you are to submit Section 1 of your Portfolio to your assessor. Your assessor will provide you with feedback which you must document and respond to.

3. Build UI.

Now that you have planned your UI design, you are to build and test the UI according to your design, including the planned interaction techniques. Remember that your UI must reflect the following key principles:

- Use words, phrases and concepts familiar to users.
- Allow for users to exit easily from unwanted action.
- Ensure consistency in, for example, fonts, colours and visuals.
- Follow industry conventions.
- Prevent user errors.
- Help users to remember things e.g. Wishlists.

- Flexibility and efficiency of use e.g. shortcuts for experts.
- Aesthetic and minimalist design.
- Make error messages easy to understand and provide a solution.
- Include a help function.

Follow the detailed instructions in your Portfolio.

Complete *Section 2* of your Portfolio.

4. Submit your completed Project Portfolio.

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	
Identify and document the UI to be built?			
Determine and document technology, development tools, and platforms to be used for the UI?			
Design and document UI layout and structure according to UI requirements (wireframes)?			
Review conceptual design (wireframes) with assessor and seek feedback?			
Respond to assessor feedback?			
Apply interaction design patterns according to UI design plan including: • using words, phrases and concepts familiar to users • allowing for users to exit easily from unwanted action • ensuring consistency in, for example, fonts, colours and visuals • following industry conventions • preventing user errors • helping users to remember things e.g. Wishlists • allowing flexibility and efficiency of use e.g. shortcuts for experts • aesthetic and minimalist design • making error messages easy to understand and providing a solution • including a help function?			

Build a customisable/personalised UI so that users can select their own customised version of the underlying application?			
Create and display the graphics as per UI design?			
Add required multimedia content to the interface?			
Provide complete prototype based on UI design for feedback?			
Implement client-side validation for UI interface by providing the prototype to the assessor?			
Implement required updates to prototype based on feedback and confirm improvement to user experience?			

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: