Unit 7: Introduction to Website Development

Level: **2**
Unit type: **Internal**
Guided learning hours: **60**

Unit in brief

Learners investigate the key features of website development to design, develop and test a website.

Unit introduction

With the internet being central to how most organisations and individuals communicate and do business, the creation and maintenance of websites is an important job role. There is a strong demand in the job market for website-developers with appropriate technical and creative skills.

In this unit, you will investigate the features and uses of websites by exploring their purpose and function in different contexts, and how their integrated components and applications interact with each other. You will also learn how to design, develop, and test a website to meet a given brief and user requirements.

Learning aims

In this unit you will:

A Understand the uses and features of websites

B Design a website to meet user requirements

C Develop and test a website to meet user requirements.

Summary of unit

Learning aim	Key content areas	Assessment approach
A Understand the uses and features of websites	**A1** Uses of websites by organisations **A2** Components of websites	An investigation into different websites to explain their uses and the key components used in meeting their purposes.
B Design a website to meet user requirements	**B1** Factors affecting website design **B2** Design documentation for a website	Design and develop a website for a given brief. Test and optimise the website based on testing.
C Develop and test a website to meet user requirements	**C1** Developing websites **C2** Testing websites	

Content

Learning aim A: Understand the uses and features of websites

Factors affecting effective website design, characteristics, and performance.

A1 Uses of websites by organisations

- Purpose of websites, including:
  - promoting products, e.g. e-commerce, or providing a service, e.g. news site, information site, social media, education
  - targeting specific audiences, e.g. gamers, buyers, social networkers, students
- Performance of websites, including:
  - mobile compatibility
  - user friendly and accessible to all users
  - fast load times
  - well formatted content.

A2 Components of websites

- Common frontend components of a website, including:
  - navigation, e.g. hyperlinks, action buttons, hot spots, email links
  - branding, e.g. company logo, organisational colours and font
  - aesthetics, e.g. colours, layout, graphics/video/animation, audio, text, styles (use of style sheets)
  - accessibility, e.g. text to speech.
- Common backend components of a website, including:
  - e-commerce facilities, e.g. order processing
  - shopping cart
  - search facility
  - chat facility, e.g. customer services portal
  - contact forms.

Learning aim B: Design a website to meet user requirements

B1 Factors affecting website design

- Interpreting user requirements, to include:
  - purpose of the website
  - complexity of the website, e.g. frontend and backend components
  - target audience, e.g. age, interests, accessibility.

B2 Design documentation for a website

Components and preparation of design documentation.

- Description of website tasks.
- Description of website features.
- Accessibility considerations, where relevant:
  - vision
  - hearing
  - physical and motor skills
  - learning and literacy.

- User experience (UX) design:
  - information architecture
  - wireframing
  - clickable prototype.
- User interface (UI) design:
  - style guides
  - rendered design
  - rendered click-through design.
- Assets to be used:
  - graphics
  - audio
  - video.
  - animation.
- Application of common frontend/backend website components.

Learning aim C: Develop and test a website to meet user requirements

C1 Developing websites

Tools, features and processes for creating web pages.

- Tools and features including:
  - text
  - tables
  - forms, e.g. text field, text area, buttons, radio buttons, check boxes
  - frames
  - navigation, e.g. menus, hyperlinks (internal and external), anchors
  - interactive components, e.g. hot spots, pop-ups, buttons, menus, rollover images
  - colour schemes, styles and templates, e.g. cascading style sheets, page layout,
  - size and position (text, links, assets, forms), text wrapping, background colours.
- Processes including:
  - embedded multimedia/digital asset content, e.g. digital graphics, digital video, digital audio, digital animation
  - other formatting, e.g. HyperText Markup Language (HTML), Dynamic HyperText Markup Language (DHTML)
  - accessibility features, e.g. alternative tags, zoom features, text-to-speech
  - check browser compatibility to present web pages.

C2 Testing websites

Procedures for testing and refining websites during development.

- Testing websites for functionality, quality and usability.
- Collecting and responding to feedback from others, e.g. on content, presentation, navigation, usability, accessibility, performance and purpose.
- Improve and/or refine the website to improve accessibility, e.g. alternative text tags, zoom features, text to speech features.
- Improve and/or refine the website to enhance performance, e.g. export and compress digital assets, add dynamic functionality.

Assessment criteria

Pass	Merit	Distinction
Learning aim A: Understand the uses and features of websites		**A.D1** Evaluate the effectiveness of different websites used by organisations in relation to their purposes and key components.
A.P1 Outline key purposes of different websites used by organisations. **A.P2** Outline key components of different websites used by organisations.	**A.M1** Explain purposes and key components of different websites used by organisations.	
Learning aim B: Design a website to meet user requirements		**B.D2** Produce a comprehensive website design for a given brief. **C.D3** Develop a website using own comprehensive design, refining against the test results, including a justified rationale for changes and further improvement.
B.P3 Identify the purpose and user requirements for a given website brief. **B.P4** Produce a basic website design to meet user requirements.	**B.M2** Produce a detailed website design for a given brief.	
Learning aim C: Develop and test a website to meet user requirements		
C.P5 Develop a website using own design, testing and refining for functionality, quality and usability using feedback from others. **C.P6** Explain reasons for changes made to website following feedback and testing.	**C.M3** Develop a website using own detailed design, refining the website against the test results, including rationale for changes made.	

Essential information for assignments

The recommended structure of assessment is shown in the unit summary, along with suitable forms of evidence. *Section 6 Internal assessment* gives information on setting assignments and there is also further information on our website.

There is a suggested maximum number of two summative assignments for this unit. The relationship of the learning aims and criteria is:

Learning aim: A (A.P1, A.P2, A.M1, A.D1)

Learning aims: B and C (B.P3, B.P4, C.P5, C.P6, B.M2, C.M3, B.D2, C.D3)

Further information for teachers and assessors

Resource requirements

For learners to have every opportunity to achieve success in this unit, they will require full access to at least one web development application for creating their website.

Essential information for assessment decisions

Learning aim A

For Distinction standard, learners will provide a clear and considered evaluation of how two different websites are effective in relation to their purpose and key components. The frontend and backend components must also be considered. The two websites must have different purposes, e.g. one could be to provide a news service and the other could be selling products.

The evidence will make clear connections between the website design and its purpose, and demonstrate learners' sound awareness of ways in which the key components aid or inhibit the purpose.

For Merit standard, learners will explain the purpose and key components of two different websites. They must explore the frontend and backend components as outlined in the unit content.

The evidence will make some connections between the website design and its purpose.

Learners will demonstrate an awareness of ways in which the key components aid or inhibit the purpose. Some well-reasoned judgements will have been made about the user-experience for a wide range of potential users.

Overall, the evidence will be logically structured. It may be basic in parts, for example covering more generic statements that do not link to the context. The evidence may contain minor inaccuracies or omissions, for example, the name of a regulation may be incorrect.

For Pass standard, learners will outline the key purpose of each website along with the key components as outlined in the unit content.

Overall, the evidence will be logically structured. It may be basic in parts, for example covering more generic statements that do not link to the context. The evidence may contain minor inaccuracies or omissions, for example, the name of a regulation may be incorrect.

Learning aim B

For Distinction standard, learners must draw on knowledge across the learning aim to produce a comprehensive design for a website. The website must contain a minimum of five linked pages.

Learners must thoroughly consider the factors affecting the design of the website, e.g. the user requirements must be fully understood. The design documentation will fully examine considerations needed to produce the desired user experience and user interface, these will meet all criteria given in the design brief. For example, learners will have considered accessibility, have UX and UI designs as well as assets to be used and frontend/backend components to be used.

For Merit standard, learners must consider the factors affecting the design of the website. The design documentation will evidence that they have generally considered the desired user experience and will meet the criteria given in the design brief, although some of their approaches may be generic in nature. For example, learners will have considered accessibility, produced some UX and UI designs, but they may not have considered suitable assets to be used or suitable frontend/backend components to be used.

For Pass standard, Learners must consider the factors affecting the design of the website. The design documentation will evidence that they have generally considered the desired user experience, although there may be some omissions, and will mostly meet the criteria given in the design brief. Their approaches to the design will be appropriate but may be limited in scope. For example, learners will have attempted UX and UI designs, but they may not have fully considered accessibility and may not have considered assets to be used or frontend/backend components to be used.

Learning aim C

For Distinction standard, learners must draw on knowledge across the learning aim to develop a website based on their own comprehensive designs and fully justify their thinking and decisions in the completed rationale. The finished product must fully link to the designs and should make use of all the tools and features as outlined in the unit content.

The website must be fully tested for functionality, quality and usability as well as obtaining feedback from others. Learners must produce evidence to demonstrate they have interpreted and fully responded to this feedback.

Learners must produce evidence of refining the website based on testing and produce a justified rationale for changes made and possible further improvements.

For Merit standard, learners must develop a website based on their own detailed designs.

The finished product must provide some link to the designs and should make use of most of the tools and features as outlined in the unit content.

There must be some evidence of the website being tested for functionality, quality and usability as well as obtaining feedback from others as outlined in the unit content.

Learners must produce some evidence of refining the website based on testing and produce a rationale for changes made.

For Pass standard, learners must develop a website based on their own designs. The finished product may not provide an obvious link to the designs but has used some of the tools and features as outlined in the unit content.

There must be evidence of the website being tested for functionality, quality and usability as well as obtaining feedback from others as outlined in the unit content, although this evidence may be brief in parts.

Learners must produce an explanation of why any changes or refinements were made to the website following testing.

Overall, the evidence will be logically structured. It may be basic in parts, for example covering more generic statements that do not link to the context. The evidence may contain minor inaccuracies or omissions, for example, the name of a regulation may be incorrect.

Links to other units and curriculum subjects

This unit links to:

· Unit 8: Introduction to App Development
· International GCSE/core curriculum in Information Technology.

Opportunities to develop transferable employability skills

In completing this unit, learners will have the opportunity to develop skills in:

· research and planning
· critical thinking
· problem solving
· creativity
· innovation.