# Student Version

| Section A – Program/Course details | | | |
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| **Qualification code:** | ICT40120 | **Qualification title:** | Certificate IV in Information Technology (Programming) |
| **Subject Code:**  **Unit code:** | (CPRO5)  ICTWEB431  ICTWEB432  ICTWEB433  ICTWEB452 | **Subject Title:**  **Unit title:** | (Website Design Fundamentals)  Create and style simple markup language documents  Design website layouts  Confirm accessibility of websites  Create a markup language document |
| **Department name:** | BDIT, Computer and Information Technology | **CRN number:** | 54706, 54705, 54707, 54693 |

| Section B – Assessment task details | | | |
| --- | --- | --- | --- |
| **Assessment number:** | 2 of 2 | **Semester/Year:** | 2/2022 |
| **Due date:** | Session 9 | **Duration of assessment:** | 3 weeks |
| **Assessment method** | Portfolio | **Assessment task results** | Ungraded result (S/NS) |
| Other: Click here to enter text. |

| Section C – Instructions to students |
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| **Task instructions:** |
| This assessment is comprised of 5 steps.   Step 1. Design website layout Step 2. Develop website  Step 3. Deploy website to w3schools  Step 4. Confirm accessibility of websites  Step 5. Answer knowledge questions  In step 1, you are required to design a personal website for a client using a design software according to the requirements.  In step 2, you are required to develop the website, according to the design created in step 1, using HTML and CSS.  In step 3, you are required to deploy the website developed in step 2 to w3schools.  In step 4, you are required to run several accessibility tools to confirm the accessibility of the website deployed in step 3.  In step 5, you are required answer knowledge questions.  You will find detailed information for each step in the [supporting document](#_Supporting_document) section in the document.  For all parts in this assessment   * You are required to correctly answer all questions and complete all tasks as per instructions and assessment criteria to a satisfactory level for each question/task of this assessment to be given a satisfactory result by the assessor. * Once you have completed all the questions, the assessment must be uploaded and submitted along with the signed assessment coversheet via Brightspace. * If the result is not satisfactory within the enrolment period as per Holmesglen assessment procedure, you will be requested to resubmit within seven days of receiving feedback. You are permitted two resubmissions per assessment task. * You must contribute to and abide by organisational standards including intellectual property and privacy laws. * You may use the internet for research purpose however the learner’s answer must be in their own words. * See supporting documentation for further instructions |

| Section D – Conditions for assessment | |
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| **Conditions:**   * This assessment is to be completed individually. * You must meet all criteria listed in the marking guide to be satisfactory in this task. * You may resubmit this task if not successful within the enrolment period as per Holmesglen conducting assessment procedure. * This is an individual task; however, you are required to get information, feedback and ideas from your assessor, peers and industry to help complete the assessment planning guide. * It is expected all documents will be completed and submitted electronically but if this is not possible, make alternative arrangements for submitting the documents with your assessor. * You will have the opportunity to resubmit if any part of the assessment is deemed unsatisfactory * You will be permitted TWO (2) resubmissions per assessment task * You can appeal an assessment decision according to the Holmesglen Assessment Complaints and Appeals Procedure. * If you feel you require special allowance or adjustment to this task, please decide with your assessor within one week of commencing this assessment. | |
| **Equipment/resources students must supply:** | **Equipment/resources to be provided by the RTO:** |
| Students intending to learn remotely will require access to: A PC/laptop with the following minimum specification:   * Quad Core CPU * 8GB of RAM * CPU with minimum 2ghz processor or faster * 200GB of Storage * Access to internet connection (ADSL or cable connection desirable) * Headset with microphone & webcam   Access to Applications:   * Office 365 (including Word, Excel, PowerPoint…) – free to download through office.com login with your Holmesglen email * WebEx - free to download * 7Zip or an equivalent compression utility - free to download * OneDrive or google drive account for storage * Visual Studio Code * 2 web browsers (e.g Google Chrome + Edge) | A Mac or PC/laptop with the following minimum specification:   * 8GB of RAM * CPU with minimum 2ghz processor or faster * 200GB of Storage * Monitor 24" (PC only, dual monitor optional but preferred) * Headset with microphone (webcam optional but preferred) * Access to internet connection (ADSL or cable connection desirable)   Applications:   * Office 365 (including Word, Excel, PowerPoint…) * WebEx * 7Zip * OneDrive * Web browsers * Visual Studio Code |

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| Section E – Marking Sheet - Student Answer Sheet | | | |
| **Subject code:**  **Unit code:** | (CPRO5)  ICTWEB431  ICTWEB432  ICTWEB433  ICTWEB452 | **Subject Title:**  **Unit title:** | (Website Design Fundamentals)  Create and style simple markup language documents  Design website layouts  Confirm accessibility of websites  Create a markup language document |

| **Criteria for assessment** | | **Satisfactory** | | **Comment** |
| --- | --- | --- | --- | --- |
| **Yes** | **No** |
| **The following has been submitted for assessment:** | | | | |
| Website design documentation | |  |  |  |
| Website test plan documentation | |  |  |  |
| All website source codes | |  |  |  |
| Test report documentation | |  |  |  |
| Supporting document with all questions answered | |  |  |  |
| Signed cover sheet | |  |  |  |
| **Marking criteria for each product document/s supplied:** | | | | |
| **Part 1. Design website layout** | | | | |
| Q1.1 | Candidate identified the client business requirements to develop the website, using listening and questioning techniques when communicating with client. |  |  |  |
| Q1.2 | Candidate identified applicable standards and design principles required in website development. |  |  |  |
| Q1.3 | Candidate identified the appropriate hardware and software required to develop the website |  |  |  |
| Q1.4 | Candidate used the template below and conducted user analysis and determined user profile and needs. |  |  |  |
| Q1.5 | Candidate identified user content, operating system and requirements. |  |  |  |
| Q1.6 | Candidate determined applicable design principles for website. |  |  |  |
| Q1.7 | Candidate determined user experience design requirements according to user needs |  |  |  |
| Q1.8 | Candidate designed and created page hierarchy and structure according to design protocol |  |  |  |
| Q1.9 | Candidate reviewed content and confirmed user content requirements are met |  |  |  |
| Q1.10 | Candidate applied required information hierarchy to site design. |  |  |  |
| Q1.11 | Candidate designed and implemented process flow according to client requirements. |  |  |  |
| Q1.12 | Candidate tested website layout against user needs and amended as required. |  |  |  |
| Q1.13 | Candidate completed and documented design structure |  |  |  |
| **Part 2. Develop website** | | | | |
| Q2.1 | Candidate developed testing approach and test cases based on requirements and refine with user, using provided test plan template. |  |  |  |
| Q2.2 | Candidate selected appropriate markup language |  |  |  |
| Q2.3 | Candidate identified and confirmed required documentation, and defined document structure |  |  |  |
| Q2.4-1 | Candidate created and assigned basic elements of document considering accessibility and document requirements |  |  |  |
| Q2.4-2 | Candidate markup and defined sections of document and described structure and layout according to document requirements |  |  |  |
| Q2.4-3 | Candidate styled and formatted documents using CSS according to user requirements |  |  |  |
| Q2.4-4 | Candidate laid out document elements using CSS according to user requirements |  |  |  |
| Q2.4-5 | Candidate confirmed styling of web page meets document specifications and requirements |  |  |  |
| Q2.5 | Candidate, for each web page, identified and evaluated the components required |  |  |  |
| Q2.6 | Candidate incorporated required web page components into the web pages |  |  |  |
| Q2.7-1 | Candidate recorded test result in a report and report file was attached. |  |  |  |
| Q2.7-2 | Candidate verified the website in two different browsers and results were recorded in the test report. |  |  |  |
| Q2.7-3 | All issues identified in the test have been corrected and the correction has been re-tested and recorded in the test report |  |  |  |
| Q2.7-4 | All gaps identified in the test have been recorded, and changed has been implemented. |  |  |  |
| Q2.7-5 | Candidate listed any outstanding issues and corrective actions. |  |  |  |
| Q2.7-6 | Candidate recommended, agreed, and undertook any outstanding corrective actions with the user to achieve user acceptance |  |  |  |
| Q2.8 | Candidate confirmed requirements were met and finalised documentation |  |  |  |
| Q2.9 | Candidate presented the finalized website and test result to client and obtained sign-off from client |  |  |  |
| **Part 3. Deploy website to w3schools** | | | | |
| Q3.1 | Candidate provided a valid URL to the website hosted on w3schools. |  |  |  |
| Q3.2 | Candidate provided screenshot to each page of the website |  |  |  |
| **Part 4. Confirm accessibility of websites** | | | | |
| Q4.1 | Candidate checked text equivalent for every non-text element is present in website where feasible |  |  |  |
| Q4.2 | Candidate checked text-only pages were logical and accessible |  |  |  |
| Q4.3 | Candidate checked document could be read without style sheets. |  |  |  |
| Q4.4 | Candidate checked information and pages were not dependent on colour and could operate in monochrome environment. |  |  |  |
| Q4.5 | Candidate check pages operate on text-to-speech browser. |  |  |  |
| Q4.6 | Candidate tested site with different user groups and confirmed site transforms and maintained accessibility. |  |  |  |
| Q4.7 | Candidate applied and documented changes to all pages according to the test results. And confirmed priorities identified in analysis of web development standards were met and completed. |  |  |  |
| Q4.8 | Candidate confirmed website was compliant with accessibility checklist requirements, and obtained signed off from client |  |  |  |
| **Part 5. Answer Knowledge Questions** | | | | |
| Q5.1 | Candidate understood copyright and intellectual property requirements applicable to designing web layouts. |  |  |  |
| Q5.2 | Candidate understood the role and responsibility of customer and business liaison that is applicable to designing website layouts. |  |  |  |
| Q5.3 | Candidate understood webpage design principles related to different internet connectivity impacts. |  |  |  |
| Q5.4 | Candidate identified at least two page load times measurement tools |  |  |  |
| Q5.5 | Candidate understood technical specifications procedures and documentation procedures |  |  |  |
| Q5.6 | Candidate understood standards applicable to website design. |  |  |  |
| Q5.7 | Candidate understood website design methods and standard website structures |  |  |  |
| Q5.8 | Candidate understood design and cyber security procedures and protocols |  |  |  |
| Q5.9 | Candidate understood media queries relevant to designing website layouts documentation techniques applicable documenting website layout designs |  |  |  |
| Q5.10 | Candidate understood what applications are relevant to designing website layouts and how they are budgeted for. |  |  |  |
| Q5.11 | Candidate understood markup languages, including HTML and CSS, and their associated standards, advantages, and disadvantages |  |  |  |
| Q5.12 | Candidate understood standard web and CSS design principles |  |  |  |
| Q5.13 | Candidate understood the application of HTML/XHTML to CSS |  |  |  |
| Q5.14 | Candidate understood CSS standards for design |  |  |  |
| Q5.15 | Candidate understood hypertext transfer protocol (HTTP) and HTTP Secure (HTTPS) |  |  |  |
| Q5.16 | Candidate correctly explained at least two CSS testing tools and processes and associated advantages and disadvantages |  |  |  |
| Q5.17 | Candidate understood troubleshooting processes relating to CSS and websites |  |  |  |
| Q5.18 | Candidate understood features and limitations of at least two common web browsers, and their accessibilities |  |  |  |
| Q5.19 | Candidate understood organisational procedures to document test results |  |  |  |
| Q5.20 | Candidate understood the use of the following markup languages including  •hypertext markup language (HTML)  •virtual reality modelling language (VRML)  •extensible markup language (XML) |  |  |  |
| Q5.21 | Candidate understood the standards set by the World Wide Web Consortium (W3C) applicable to markup language |  |  |  |
| Q5.22 | Candidate correctly explained at least two common website accessibility issues |  |  |  |
| Q5.23 | Candidate understood documentation techniques, web page components and organisational procedures and guidelines relevant to creating a markup language document to specification. |  |  |  |
| Q5.24 | Candidate understood document validation procedures |  |  |  |
| Q5.25 | Candidate understood browser and device compatibility |  |  |  |
| Q5.26 | Candidate researched and identified, specific user groups with particular accessibility requirements. |  |  |  |
| Q5.27 | Candidate identified general legislated and industry accessibility standards and requirements |  |  |  |
| Q5.28 | Candidate identified at least two web development standards |  |  |  |
| Q5.29 | Candidate consolidated specific and general standards and requirements, and generate an accessibility checklist, with at least 6 items. |  |  |  |
| Q5.30 | Candidate identified legislation, regulations and codes of practice, applicable to access, equity and security |  |  |  |
| Q5.31 | Candidate identified computing and programming standards applicable to access and equity |  |  |  |
| Q5.32 | Candidate technical performance measurement principles |  |  |  |
| Q5.33 | Candidate listed at least three automatic testing tools and software |  |  |  |
| Q5.34 | Candidate Web Accessibility Initiative (WAI), and its mission |  |  |  |
| Q5.35 | Candidate understood standards and guidelines including:  •World Wide Web Consortium (W3C)  •Web Content Accessibility Guidelines (WCAG)  •Authoring Tool Accessibility Guidelines (ATAG)  •User Agent Accessibility Guidelines (UAAG) |  |  |  |

**Assessment Submission Cover Sheet (VET)**

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| **Student Declaration – Must be signed before submission** |  |
| By submitting this assessment task and signing the below, I acknowledge and agree that:  • This completed assessment task is my own work.  • I understand the serious nature of plagiarism and I am aware of the penalties that exist for breaching this.  • I have kept a copy of this assessment task.  • The assessor may provide a copy of this assessment task to another member of the Institute for validation and/or benchmarking purposes. | |

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| **Student ID:** | **100660526** | **Student name:** | **Yanan Wu** |

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| **Submission or observation date:** |  |
| **Student signature**  For electronic submissions: By typing your name in the student signature field, you are accepting the above declaration. |  |

| Section F – Feedback to Student | | | | | | |
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| **Has the student successfully completed this assessment task?** | | | | | **Yes** | **No** |
|  |  |
| **Additional Assessor comments (as appropriate):** | | | | | | |
|  | | | | | | |
| **Resubmission allowed:** | **Yes** | **No** | **Resubmission due date:** |  | | |
| **Assessor name:** |  | | | | | |
| **Assessor signature:** |  | | | | | |
| **Date assessed:** |  | | | | | |

# Supporting document

# Project Brief and Instructions

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| **Project Brief** Read through the brief below take note of the needs and requirements outlined in the brief. |
| **Introduction**  This assessment task requires you to develop a personal website for a client using HTML5 and CSS3. Your teacher will be playing the role of the client & user for this assessment task. Alternatively, the website you develop may be about or for any other topic, company or community of your choice. As long as the website meets the requirements outlined in this project.  This project has been divided into 5 key steps. Each step must be completed as per the instructions.  Step 1 - Design the website layout  Step 2 - Develop the website  Step 3 - Deploy the website to w3schools  Step 4 - Confirm accessibility of the website  Step 5 - Answer knowledge questions  **General requirements**   * Home Page and one additional page * Ensure correct flow of information architecture * The overall colour scheme and style is up to your own discretion * Fonts must be suitable for web design: web safe / google fonts * Images must be copyright free * You must consider good accessibility and usability standards * Browser support: Chrome, Firefox, MS Edge etc. * Website to be deployed on w3schools * Website to be validated with accessibility testing tools. * All questions to be answered for each step.   **Technical requirements**   * HTML5 & CSS3 are to be used to develop page structure, layout and design * The website must be accessible to people with disabilities * The design style for the web consistent, keeping with what is currently on trend   **Website design requirements**   1. A home page with the at least 3 sections 2. A second page with the content you selected 3. A navigation bar for all pages 4. A web form 5. At least one section with images 6. At least one internal link (i.e. go to a section in the same page or another page) 7. At least one external link (i.e. go to social media) 8. Accessibility considerations in design and function 9. Test website in at least TWO browsers 10. All styles and layouts are coded in an external CSS file 11. Validate HTML and validate CSS   **Other Standards**   * HTML Standards must be adhered to wherever possible * CSS Standards must be adhered to wherever possible * HTML accessibility standards   Refer to W3C website for the standards and specifications  <https://www.w3.org/Style/CSS/specs.en.html>  Refer to w3cschools for more information  <https://www.w3schools.com/html/default.asp>  <https://www.w3schools.com/css/default.asp> |

## Step 1. Design website layout

Note: for this step you are required to complete the following designs

* create page hierarchy
* content structure of each page
* wireframe design of each page

You are not required to design

* colour theme
* graphic design of each page

For design tool, you are free to choose any one of the following tools

* <https://wireframepro.mockflow.com/>
* Adobe Photoshop
* Adobe Illustrator
* Any other equivalent tools

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| **Q1.1.** Read the project brief and communicate with client to identify the business requirements for the website.  You are required to uses listening and questioning techniques when communicating with client, and record the requirements below. |
| **Answer:**   1. A home page with the at least 3 sections 2. A second page with the content you selected 3. A navigation bar for all pages 4. A web form 5. At least one section with images 6. At least one internal link (i.e. go to a section in the same page or another page) 7. At least one external link (i.e. go to social media) |
| **Q1.2.** Identify applicable standards and design principles required in website development. You are required to discuss at least two standards AND two principles |
| **Answer:**  Standards  1. HTML & CSS: HTML and CSS are the fundamental technologies for building web pages, HTML for structure and CSS for style & layout.  2. JavaScript is the programming language we use to add interactivity to web sites, from dynamic style switching, to fetching updates from the server, right through to complex 3D graphics.  Principles  1. Add images to engage and inform readers  2. Select a typography that’s easy to read and skim |
| **Q1.3.** Identify the appropriate hardware and software required to develop the website |
| **Answer:**  Hardware: computer, memory, hard disk space, screen  Software: framework, development environment, database, programming language. |
| **Q1.4.** Use the template below and conduct user analysis and determine user profile and needs. |
| **Answer:**  Who they are (profile)  They are pug owner and pug lovers  What they do, when and where (context)  They express people how much they love their fur kids no matter where they are.  Why they do it (needs, goals, tasks)  They want to show how great it is to have pugs in their lives and inspire more people to get to know pugs.  How they do it (experience)  They have an Instagram account for this website to link to, they also provided some photos of their pug to be used on the website.  What they like or dislike  They like simple and clean website; they don’t like too many colours. |
| **Q1.5.** Communicate with client to identify user contents of the website, web hosting operating system and its requirements |
| **Answer:**  User contents of the website:  The website is designed to demonstrate pug information,  Content structure of each page   1. page one (Home page)  * Navbar * Home * Intro * Contact * Follow me * Intro section * Image gallery section * Footer section  1. page two (Contact page)  * Navbar * Home * Intro * Contact * Follow me * Webform section * Footer section   Web hosting operating system and its requirements:  Linux, system requirements are: Any typical processor with minimum 6GB RAM and 200GB shared hard drive. Local or Remote Desktop access with administrative rights to install the software and manage the server. Must have at least one static IP address assigned to server. |
| **Q1.6.** Determine applicable design principles for website (based on the identified principles in Q1.2) |
| **Answer:**  I’ll add five images received from client in the image gallery section to engage users.  I’ll choose Montserrat which is easy to read and skim, as the website font. |
| **Q1.7.** Determine user experience design requirements according to user needs. Explain the user experience design for each part of the webpage. An example has been given. |
| **Answer:**   1. Navbar design – *the navbar is a one-level navigation system. It is a horizontal navbar with multiple nav items.* 2. Image gallery – the image gallery is a five images system, with text content described for each image. The images have to be relevant and good quality. 3. Web form – the web form section is a system which contains inputs to allow user to send personal information, a checkbox to subscribe to the newsletter and a submit button. 4. Footer – the footer section should be consistent with the overall theme of the website, words used in the footer section should be clear and unambiguous. |
| **Q1.8.** Design and create page hierarchy and content structure of each page according to design protocol |
| **Answer:**  Screenshot of the page hierarchy    Content structure of each page   1. page one (Home page)  * Navbar * Home * Intro * Contact * Follow me * Intro section * Image gallery section * Footer section  1. page two (Contact page)  * Navbar * Home * Intro * Contact * Follow me * Webform section * Footer section |
| **Q1.9.** Review content and confirm user content requirements are met |
| **Answer:**   |  |  | | --- | --- | | User content requirements are all met and confirmed with client. |  | |
| **Q1.10.** Apply required information hierarchy to site design. Provide screenshots of the wireframe design of each webpage. |
| **Answer:** |
| **Q1.11.** Design and implement process flow according to client requirements. You are required to design at least 3 process flows, and an example has been given. |
| **Answer:**   |  |  |  | | --- | --- | --- | | **#** | **Description** | **Process flow(s)** | | **1** | For user who know this website and need to find the contact information | Home page 🡪 Contact page 🡪 Contact section | | **2** | For user who visit this website for the first time and need to find the introductions | Home page 🡪 Intro section | | **3** | For user who’s on the contact page and want to go back to home page | Contact page 🡪 Home page | | **4** | For user who want to follow us on Instagram | Home page 🡪 Follow me 🡪 External Instagram page | |
| **Q1.12.** Test website layout against user needs and amend as required. You must design at least three test cases, then conduct the test and record the results. |
| **Answer:**   |  |  |  |  | | --- | --- | --- | --- | | **Test Case #** | **Test steps** | **Expected result** | **Actual result** | | **1 Verify three sections on page one** | 1. Launch the webpage in browser  2. Check if there are three sections on page one as designed | 1. Be able to view the webpage as required  2. Be able to view three different sections on page one | 1. Be able to view the webpage as required  2. Be able to view three different sections on page one | | **2 Verify if image gallery is correctly applied** | 1. Launch the webpage in browser  2. Check if image gallery is correctly applied as designed, as well as texts | 1. Be able to view the webpage as required  2. Image gallery and text layout are correctly applied | 1. Be able to view the webpage as required  2. Image gallery and text layout are correctly applied | | **3 Verify if web form layout is correct** | 1. Launch the webpage in browser  2. Check if web form is correctly applied as designed | 1. Be able to view the webpage as required  2. Web form and text layout are correctly applied | 1. Be able to view the webpage as required  2. Web form and text layout are correctly applied | |
| **Q1.13.** Use the template below to complete and document web design structure |
| **Answer:**   |  |  | | --- | --- | | **Item** | **Screenshots** | | **Page hierarchy (website structure)** |  | | **Content structure of each page** |  | | **Wireframe of each page** |  | |
| **Documentation generated in the part are listed below. You are required to include all the documentations in your final submission.** |
| |  |  | | --- | --- | | **Documentation Name** | | | 1. Website design documentation (wireframe) |  | |

## Step 2. Develop website

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| **Q2.1.** Develop testing approach and test cases based on requirements and refine with user, using provided test plan template. |
| **Answer:**  Provide the file name of the test plan documentation.  Test\_Plan&Result.xlsx |
| **Q2.2.** Select appropriate markup language |
| **Answer:**  HTML&CSS |
| **Q2.3.** Identify and confirm required HTML documentation, and define HTML document structure. Please explain how many webpages are to develop and what is the content structure of each webpage. |
| **Answer:**  HTML document is a text document saved with extension ‘.html’, it contains texts and some tags written between ‘< >’ which give the instructions needed to configure the web page.  There are two pages in the Pug Lover website, home page and contact page.  There are three sections on home page which are navigation bar, intro section and image gallery section. On the contact page, we have navigation bar and contact form section. |
| **Q2.4.** Create HTML document structure, format, style and layout each element. Specifically, you are required to   * **Q2.4-1**: Create and assign basic elements of document considering accessibility and document requirements * **Q2.4-2**: Markup and define sections of document and describe structure and layout according to document requirements * **Q2.4-3**: Style and format documents using CSS according to user requirements * **Q2.4-4**: Lay out document elements using CSS according to user requirements * **Q2.4-5**: Confirm styling of web page meets document specifications and requirements   You must finish creating and styling all components of the website. And for each component, provide three screenshots as evidence   * A screenshot of the component displayed in the browser view * A screenshot of the HTML code of the component * A screenshot of the CSS codes of the component |
| **Answer:**  **#1 Navbar component**   |  |  |  | | --- | --- | --- | |  | **Screenshot** | | | **Browser view** |  | | | **HTML code** |  | | | **CSS codes** |  | | | **I confirm styling of this component meets document specifications and requirements** | |  |   **#2 Image gallery component**   |  |  |  | | --- | --- | --- | |  | **Screenshot** | | | **Browser view** |  | | | **HTML code** |  | | | **CSS codes** |  | | | **I confirm styling of this component meets document specifications and requirements** | |  |   **#3 Webform component**   |  |  |  | | --- | --- | --- | |  | **Screenshot** | | | **Browser view** |  | | | **HTML code** |  | | | **CSS codes** |  | | | **I confirm styling of this component meets document specifications and requirements** | |  |   Add more sections using the template above as needed. |
| **Q2.5.** For each web page, identify and evaluate the components required. |
| **Answer:**   |  |  |  | | --- | --- | --- | | **Page Name** | **Components included** | **Evaluation** | | Home page | Navbar, intro section, image gallery section, footer section | Different background colours to separate different sections. Headers to identify different sections. | | Contact page | Navbar, webform section, footer section | Different background colours to separate different sections. Headers to identify different sections. |   Add more rows as needed. |
| **Q2.6.** Incorporate required web page components into the web pages. For each web page, provide three screenshots as evidence  • A screenshot of the web page displayed in the browser view  • A screenshot of the HTML code of the web page  • A screenshot of the CSS codes of the web page |
| **Answer:**  **#1 Home page**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  |   **#2 Contact page**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  |   Add more sections using the template above as needed. |
| **Q2.7.** Test and validate the web pages. Specifically, you are required to   * Validate markup language document against specifications and record outcomes * Test website in different browsers according to test approach and cases, and correct and re-test issues * Validate compatibility of markup language document in different browsers and devices and record outcomes * Identify gaps between specifications and requirements and markup language document and apply changes as required, according to organisational procedures * Confirm requirements are met and finalise documentation according to organisational procedures * Document test results and provide to user to explain any outstanding issues and corrective actions * Recommend, agree, and undertake any outstanding corrective actions with the user to achieve user acceptance |
| **Answer:**   |  |  | | --- | --- | | **Item** | **Your answer** | | **Q2.7-1: Provide test report file name.** | **Test\_Plan&Result.xlsx** | | **Q2.7-2: I confirm the test has been done in at least two different web browser and result has been recorded in the test report.** | **Yes, and evidence has been recorded in the test report.** | | **Q2.7-3: I confirm all issues identified in the test have been corrected and the correction has been re-tested and recorded.** | **Yes, and evidence has been recorded in the test report.** | | **Q2.7-4: I confirm all gaps identified in the test have been recorded, and changed has been implemented.** | **Yes, and evidence has been recorded in the test report.** | | **Q2.7-5: List any outstanding issues and corrective actions.** | |  | | --- | | **Issue: the external link works on the home page, does not work on the contact page** | | **Corrective actions: open contact.html file, go to navbar section, add the correct URL to the tab** | |  | |  | | | **Q2.7-6: Recommend, agree, and undertake any outstanding corrective actions with the user to achieve user acceptance.** | **Client name:**  **Client Signature:**  **Date:** | |
| **Q2.8.** Confirm requirements are met and finalise documentation |
| **Answer:**  **I confirm that all requirements for the website are met.**  **I confirm that all the following documentation has been submitted.**   |  |  | | --- | --- | | **File Type** | **File Name** | | **Design document** | **design (folder name)** | | **Website source code** | **website\_codes (folder name)** | | **Test plan** | **Test\_Plan&Result.xlsx** | | **Test report** | **Test\_Plan&Result.xlsx** | |
| **Q2.9.** Present the finalized website and test result to client and obtain sign-off from client. |
| **Answer:**  **Client name:**  **Client Signature:**    **Date:** |
| **Documentation generated in the part are listed below. You are required to include all the documentations in your final submission.** |
| |  |  | | --- | --- | | **Documentation Name** | | | 1. Website test plan documentation |  | | 2. All website source codes |  | | 3. Test report documentation |  | |

## Step 3. Deploy website to w3schools.com

|  |
| --- |
| **Q3.1.** Provide the URL to the website hosted on w3schools. Make sure the website is accessible from the Internet. |
| **Answer:**  <https://ywuu.w3spaces.com> |
| **Q3.2.** Provide screenshot to each page of the website. |
| **Answer:**  **Home page**      **Contact page** |

## Step 4. Confirm accessibility of websites

|  |
| --- |
| **Q4.1.** Accessibility test #1  Check text equivalent for every non-text element is present in website where feasible. That is all “area” “img” and “input” tags must have a “alt” attribute and proper value. |
| **Answer:**   |  |  | | --- | --- | | **Auto test tool/software** | <https://validator.w3.org/> | | **Screenshot the results** |  | | **Results analysis** | No error regarding non-text element | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.2.** Accessibility test #2  Check text-only pages are logical and accessible |
| **Answer:**   |  |  | | --- | --- | | **Auto test tool/software** | https://adresults.com/tools/text-browser-lynx-viewer | | **Screenshot the results** |  | | **Results analysis** | Text-only pages are logical and accessible | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.3.** Accessibility test #3  Check document can be read without style sheets. |
| **Answer:**   |  |  | | --- | --- | | **Auto test tool/software** | <https://chrome.google.com/webstore/detail/web-developer/bfbameneiokkgbdmiekhjnmfkcnldhhm> | | **Screenshot the results** |  | | **Results analysis** | All documents can be read without style sheets | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.4.** Accessibility test #5  Check information and pages are not dependent on colour and can operate in monochrome environment. |
| **Answer:**   |  |  | | --- | --- | | **Auto test tool/software** | <https://chrome.google.com/webstore/detail/grayscale-the-web-save-si/mblmpdpfppogibmoobibfannckeeleag/related?hl=en> | | **Screenshot the results** |  | | **Results analysis** | All information and pages are not dependent on colour and can operate in monochrome environment. | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.5.** Accessibility test #6  Check pages operate on text-to-speech browser. |
| **Answer:**   |  |  | | --- | --- | | **Auto test tool/software** | <https://chrome.google.com/webstore/detail/read-aloud-a-text-to-spee/hdhinadidafjejdhmfkjgnolgimiaplp/related?hl=en> | | **Screenshot the results** |  | | **Results analysis** | Pages operate on text-to-speech browser. | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.6.** Accessibility test #7  Test site with different user groups and confirm site transforms and maintains accessibility.  You are required to test the website with at least two people from different user groups with transformed site (e.g. text-only view, text-to-speech view …). |
| **Answer:**  **User group #1**   |  |  | | --- | --- | | **User name** | Lucy Lee | | **Transform type** | Text-to-speech view | | **Results analysis** | Pages operate on text-to-speech browser. | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low |   **User group #2**   |  |  | | --- | --- | | **User name** | Brian Las | | **Transform type** | text-only view | | **Results analysis** | Text-only pages are logical and accessible | | **Change recommendation** | None | | **Change Priority**  **(Low/Medium/High)** | Low | |
| **Q4.7.** Apply and document changes to all pages according to the test results. And confirm priorities identified in analysis of web development standards are met and completed.  Provide screenshot of source code (e.g. HTML/CSS) of each change. You must include at least 2 changes. |
| **Answer:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **#** | **Priority** | **Screenshot before change** | **Screenshot after change** | **Accessibility standards are met (Y/N)** | | **1** | **Medium** |  |  | **Y** | | **2** | **Low** |  |  | **Y** | |
| **Q4.8.** Confirm website is compliant with accessibility checklist requirements, and obtain signed off from client. |
| **Answer:**  Website accessibility check list   |  |  |  | | --- | --- | --- | | **Accessibility Test Item** | **Pass** | **Not Pass** | | Text equivalent for every non-text element is present in website where feasible |  |  | | Text-only pages are logical and accessible |  |  | | Document can be read without style sheets |  |  | | Information and pages are not dependent on colour and can operate in monochrome environment |  |  | | Pages operate on text-to-speech browser |  |  | | Test site with different user groups and confirm site transforms and maintains accessibility |  |  |   **Accessibility results have been confirmed with client.**  **Client Name:**  **Client Signature:**  **Date:** |

## Step 5. Answer Knowledge Questions

|  |  |
| --- | --- |
| **Q5.1.** | **Discuss copyright and intellectual property requirements applicable to design web layouts.** |
|
| **Answer:**  There are many intellectual property rights which exist on the website. Any logos or branding are likely to be protected by registered trademark rights or the law of passing off. There are also database rights in any database underlying the website. However, most of the website, including the text, design, graphics, data, website layout and any music, broadcasts, software, and images, will be protected by copyright.  A contract between client and developer should cover scope of work, payment structure, protecting intellectual property, warranties, restraints, confidentiality, disputes and termination. | |
| **Q5.2.** | **Discuss the role and responsibility of customer and business liaison that is applicable to design website layouts.** |
|
| **Answer:**  The liaison is responsible to ensure that the website contains accurate and current information, he/she acts as the main contact between the client and developer.  If any request from both sides, they should contact liaison, this is to prevent multiple people requesting web services to repeatedly change the same information. | |
| **Q5.3.** | **Discuss webpage design principles related to different internet connectivity impacts.** |
|
| **Answer:**   |  |  | | --- | --- | | **Internet connectivity type** | **Design principles** | | **High speed** | Optimising image sizes, minify codes to speed up loading time. | | **Low speed** | Big size images and videos, etc. | | **Unlimited data** | Use unlimited web hosting providers such as hostinger, bluehost, etc. | | **Limited data** | Apply if contains protected information. | | |
| **Q5.4.** | **Identify at least two page loading time measurement tools.** |
|
| **Answer:**   |  |  |  | | --- | --- | --- | | # | Tool Name | URL | | 1 | PageSpeed Insights | https://pagespeed.web.dev/?utm\_source=psi&utm\_medium=redirect | | 2 | Uptrends | https://www.uptrends.com/tools/website-speed-test | | |
| **Q5.5.** | **Explain technical specification procedures and documentation procedures. Please discuss the procedure of creating the following specification and documentation.**   * **Website structure diagram** * **Wireframes** * **Colour scheme** * **Graphic design** |
|
| **Answer:**  A technical specification document outlines how I’m going to address a technical problem by designing and building a solution for it.  Website structure diagram:   * Get basic insights of the business * Keyword research * Competition research * Plan website hierarchy * Create website URL structure   Wireframe:   * Research * Prepare the research for reference * Map out the user flow * Draft and sketch * Add some details and get testing * Start turning it into prototypes   Colour scheme:   * Understand the purpose and theme of the website * Choose a primary colour * Choose additional colours * Choose a background colour * Choose a typeface colour   Graphic design:   * Build a creative brief * Conduct graphic design research * Develop graphic design concepts * Create the design * Collect and implement feedback * Finalize and present final product | |
| **Q5.6.** | **Discuss standards or best practices applicable to website design.**  **You are required to discuss the standards or best practices for the following topics:**   * **Consistent branding.** * **Clear CTAs** * **Intuitive navigation** * **Clean design** * **Storytelling** * **Visuals** * **Mobile-first design** * **Accessibility** * **Prioritize search engine optimization (SEO)** * **Monitor site speed** * **Heatmaps** * **A/B Testing** |
|
| **Answer:**   * Consistent branding: * Know the website target audience * Build a solid brand strategy * Craft a content plan * Pay more attention to guest articles * Clear CTAs: * Motivate audience with strong action words * Use limited time offers to create a sense of urgency * Highlight the benefits and the lack of obligation * Make sure the CTA buttons stand out * Intuitive navigation: * Plan webpage structure and navigation * Follow established standards * Think on users’ side * Use responsive menus * Take advantage of the footer menu * Use colour and white space to separate navigation from other elements * Flatten the structure * Clean design: * Solid webpage layout structure * Good typography * Limited colour palette * Consistent imagery * More white space * Storytelling: * Go beyond the facts, make it relatable * Create suspense in the story from one page to another * Have a narrative arc * Visuals: * Simplicity * Consistency * Responsivity * Accessibility * Navigability * Credibility * Mobile-first design: * Prioritize page content * Deliver intuitive navigation * Avoid disruptive pop-ups * Test on real devices under real conditions * Accessibility: * Choose a content management system that supports accessibility * Use headings correctly to organize the structure * Include proper alt text for images * Give links unique and descriptive names * Use colour with care * Design forms for accessibility * Prioritize search engine optimization: * Add main keyword early in the content * Write unique titles, descriptions and content * Optimize the website loading speed * Use internal links * Publish amazing content * Monitor site speed: * Use a content delivery network * Move website to a better host * Optimize image size * Reduce the number of plugins * Use website caching * Minimize the number of JavaScript and CSS files * Heatmaps: * Organize heatmap investigations by page type, performance, device and channel * Establish context using web analytics and voice of customer data * Determine best-performing and worst-performing content across pages * Measure engagements correlated with on-page elements and page designs * Use tagging and overlay toggles to track and compare page changes * A/B testing: * Test the right items * Pay attention to sample size * Make sure data reliable * Schedule tests correctly * Test one element at one time * Pay attention to data | |
| **Q5.7.** | **Discuss website design methods and standard website structures.**   * For website design methods, you are required to discuss waterfall and agile methodology. * For website structures, you are required to discuss hierarchical, sequential, and matrix structure |
|
| **Answer:**  Web design methods   |  |  | | --- | --- | | **Method name** | **Your answer** | | Waterfall | The waterfall method is moving from one phase to another, one at a time, without revisiting the completed phases until all other phases are complete. | | Agile | The agile process is about getting something to market very quickly, even though it might not be absolutely ready for prime time.  Agile web design is a better process for complex projects with high uncertainty and changing requirements. |   Standard website structure   |  |  | | --- | --- | | **Structure type** | **Your answer** | | Hierarchical | The hierarchical model is one of the most common types of site architecture. The hierarchical model is often used in web applications that contain a large amount of data. The hierarchical model is similar to a tree in that it has a trunk (like a homepage) that branches out into categories and pages. | | Sequential | Sequential models are popular when leading users through a sequence like onboarding or new account creation when the user is taken through the process step-by-step. UX designers can use this model to create flows for a process. | | Matrix | The matrix model is one of the oldest site structure types on the internet. This model is unique and non-traditional in its behavior. A matrix-type structure gives users options to choose where they want to go next. These types of sites are best navigated via search or internal links. | | |
| **Q5.8.** | **Discuss design and cyber security procedures and protocols.**  **Refer to the SANS checklist and discuss at least three of the following cyber security items**  [**https://www.sans.org/white-papers/1389/**](https://www.sans.org/white-papers/1389/)   * **Risk Assessment** * **Authentication** * **Authorization and Access Control** * **Session Management** * **Data and InPut Validation** * **Cross Site Scripting (XSS)** * **Command Injection Flaws** * **Buffer Overflows** * **Error Handling** * **Logging** * **Remote Administration** * **Web Application and Server Configuration** |
|
| **Answer:**  Authentication is the process of verifying the identity of a user, such as password or mobile number.  Session management is the process of securely handling multiple requests to a web-based application or service from a single user or entity. Websites and browsers use HTTP to communicate, and a session is a series of HTTP requests and transactions initiated by the same user.  Logging is a record of the events occurring within an organization's systems and networks. It helps identify malicious attacks on the system. | |
| **Q5.9.** | **What is CSS media query rule?**  **Discuss the best practices of using CSS media queries rules for responsive web design.** |
|
| **Answer:**  What is media query rule  The media query rule is used in media queries to apply different styles for different media types or devices.  Best practices of using media query   * Let content determine breakpoints * Treat layout as an enhancement * Use major and minor breakpoints * Use relative units * Go beyond width * Use media queries for conditional loading * Don’t go overboard | |
| **Q5.10** | **Explain what applications are relevant to designing website layouts and how they are budgeted for.**  **You are required to discuss at least three tools.** |
|
| **Answer:**   |  |  |  |  | | --- | --- | --- | --- | | **Tool Name** | **Tool Link** | **Brief description** | **Cost** | | Adobe photoshop | https://www.adobe.com/products/photoshop.html | A powerful, do-it-all graphic design tool. It supports interface design, video editing, etc. | Free trial, $20.99/m | | Canva | https://www.canva.com/ | Easy to use, drag-and-drop interface, with thousands of templates, produce imagery in a few clicks. | Free or $9.99/m | | GIMP | https://www.gimp.org/ | A cross-platform image editor available for GNU/Linux, macOS, Windows and more operating systems. Can change its [source code](https://git.gnome.org/browse/gimp) and [distribute](https://www.gnu.org/licenses/quick-guide-gplv3.en.html) to the changes. | Free | | |
| **Q5.11.** | **Discuss markup languages, including HTML and CSS, and their associated standards, advantages, and disadvantages** |
|
| **Answer:**   |  |  |  | | --- | --- | --- | |  | **Advantage** | **Disadvantage** | | **HTML** | * HTML helps to build structure of a website and is a widely used Markup language. * It is easy to learn. * Every browser supports HTML Language. * HTML is light weighted and fast to load. * Storage of big files are allowed because of the application cache feature. * Do not get to purchase any extra software because it’s by default in every window. * HTML is simple to edit as being a plain text. * It integrates easily with other languages such as JavaScript, CSS etc. * HTML also allows the utilization of templates, which makes designing a webpage easy. * It is fast to download as the text is compressible. * Very useful for beginners in the web designing field. | * It cannot produce dynamic output alone, since it’s a static language. * Making the structure of HTML documents becomes tough to understand. * Errors can be costly. * It is the time consuming as the time it consume to maintain on the colour scheme of a page and to make lists, tables and forms. * Security features offered by HTML are limited. * HTML can create only static and plain pages so if we’d like dynamic pages then HTML isn’t useful. * Editing of web page need to be done separately , they are not centralized. | | **CSS** | * CSS plays an important role, by using CSS you simply got to specify a repeated style for element once & use it multiple times as because CSS will automatically apply the required styles. * Style is applied consistently across variety of sites. One instruction can control several areas which is advantageous. * It is less complex therefore the effort are significantly reduced. * It helps to form spontaneous and consistent changes. * It has the power for re-positioning. It helps us to determine the changes within the position of web elements who are there on the page. * Easy for the user to customize the online page * It reduces the file transfer size. | * With CSS, what works with one browser might not always work with another. I may need to test for compatibility, running the program across multiple browsers. * There exists a scarcity of security. * After making the changes we need to confirm the compatibility if they appear. The similar change affects on all the browsers. * There might be cross-browser issues while using CSS. * There are multiple levels which creates confusion for non-developers and beginners. | | |
| **Q5.12.** | **Discuss standard CSS design principles for web. How web components are built with HTML and CSS. You may use an example (e.g. a navbar) to explain.** |
|
| **Answer:**  CSS design principles:   * Use ids and classes to target elements * Always start from global rules to more specific ones * Succinctness, be brief and clear with components * Separation, make it more complex rather than completely flat, apply different style rules to different classes, layout as much as possible   Web components allow new custom, reusable, encapsulated tags to be used in web pages . For example, a navigation bar is basically a list of links, so use <ul> and <li> elements to build components of websites, can be styled uniquely and functionally in CSS.  <ul>   <li><a href="">Item1</a></li>   <li><a href="">Item2</a></li>   <li><a href="">Item3</a></li>   <li><a href="">Item4</a></li> </ul> | |
| **Q5.13.** | **Discuss the application of HTML/XHTML to CSS** |
|
| **Answer:**  CSS is used to define a style for a HTML/XHTML page, it is defined in the <head> section of a HTML page with a <style> element.  HTML provides the structure of the navbar, while CSS changes the layout and style of the navbar. | |
| **Q5.14.** | **Briefly describe the following CSS** **standards for design**   * **Selectors level 3:** [**https://www.w3.org/TR/selectors-3/**](https://www.w3.org/TR/selectors-3/) * **CSS Color Module Level 3:** [**https://www.w3.org/TR/css-color-3/**](https://www.w3.org/TR/css-color-3/) * **CSS Backgrounds and Borders Module Level 3:** [**https://www.w3.org/TR/css-backgrounds-3/**](https://www.w3.org/TR/css-backgrounds-3/) |
|
| **Answer:**   |  |  | | --- | --- | | **Standards** | **Your description** | | Selectors level 3 | Selectors are patterns that match against elements in a tree, and as such form one of several technologies that can be used to select nodes in an XML document.  A Selector represents a structure. This structure can be used as a condition (e.g. in a CSS rule) that determines which elements a selector matches in the document tree, or as a flat description of the HTML or XML fragment corresponding to that structure. | | CSS Color Module Level 3 | CSS uses color-related properties and values to color the text, backgrounds, borders, and other parts of elements in a document.  Here are the formats to specify color of an element: keyword values, RGB values, RGBA values, HSL value and HSLA value. | | CSS Backgrounds and Borders Module Level 3 | Backgrounds includes a lot properties such as background-color, background-mage, background-size, background-position, etc, which can be shorthanded as background.  Borders affect the size of box. Use a shorthand property that sets the colour, width and style of the border in one line to add borders to an element with CSS. | | |
| **Q5.15.** | **Explain hypertext transfer protocol (HTTP) and HTTP Secure (HTTPS)** |
|
| **Answer:**  HTTP is a protocol for fetching resources such as HTML documents. It is the foundation of any data exchange on the Web and it is a client-server protocol, which means requests are initiated by the recipient, usually the Web browser.  HTTPS is the secure version of [HTTP](https://www.cloudflare.com/learning/ddos/glossary/hypertext-transfer-protocol-http/), which is the primary protocol used to send data between a web browser and a website. HTTPS is encrypted in order to increase security of data transfer. This is particularly important when users transmit sensitive data, such as by logging into a bank account, email service, or health insurance provider. | |
| **Q5.16.** | **Discuss at least two web** **testing tools and processes and associated advantages and disadvantages** |
|
| **Answer:**  WebLOAD is a web application performance testing tool for web-hosted applications that signifies the load handling capability of the application. Features including: IDE, load generation, correlation, analytics, PMM, web dashboard.  Advantages:   * Robust testing platform. * Provides accurate and efficient load testing for the business. * Contains an IDE that has a wide range of tools including parameterization, correlation, response validation, debugging, messaging, and native JavaScript. * Even by using different virtual clients developers can run the script dynamically.Provides a detailed rundown on the collected data predefined to inform the developers about the analysis report.  Disadvantages:  * AJAX based applications are not supported.   Acunetix is another automated web application security testing tool. It detects and reports on an array of web application vulnerabilities. The Acunetix crawler supports HTML5 and JavaScript and Single-page applications, allowing auditing of complex, authenticated applications.  Advantages:   * Supports importing state files from other popular application tools. * Has other features built-in beyond just scanning for vulnerabilities. * Reporting features   Disadvantages:   * Does not support multiple endpoints well * Not easy to manage | |
| **Q5.17.** | **Discuss troubleshooting processes relating to CSS and websites** |
|
| **Answer:**  I’d like to follow this checklist to troubleshoot:   1. Double check if the file is saved 2. Turn the browser off and then on again to clear cache 3. Check for spelling/syntax errors 4. Check if the selector is specific enough to be applied 5. Check if the element inherits a default browser style 6. Check if the rule is applied to the correct element 7. Use another browser to check if the issue is still there | |
| **Q5.18.** | **Discuss features and limitations of at least two common web browsers, and their accessibility features.** |
|
| **Answer:**   |  |  | | --- | --- | | **Browser #1 name** | Google Chrome | | **Features or advantages** | * High speed * Safe and secure * Sync across devices * Varity extensions * Developer console to use | | **Limitations** | * Fast internet required * Privacy concerns with google tracking * High memory and CPU usage | | **Accessibility features** | * Select-to-speak * ChromeVox spoken feedback * High contrast * Screen magnifier * Sticky keys * Virtual keyboard * Dictation * Keyboard focus highlight * Caret highlight * Auto-click enabled * Large cursor * Cursor highlight * Primary mouse button * Mono audio * Accessibility shortcuts |  |  |  | | --- | --- | | **Browser #2 name** | Safari | | **Features or advantages** | * Runs efficiently in IOS system * Clean design, no unnecessary buttons or menus * Built-in privacy protection and security tools | | **Limitations** | * Not available in other operating systems * Limited availability of extensions or add-ons | | **Accessibility features** | * Keyboard accessibility * Consistent navigation * Text-to-speech * Image alt text, use descriptions to paint a picture * Accessible hyperlinks * Autofill * Screenshot accessibility | | |
| **Q5.19.** | **Explain organisational procedures to document test results** |
|
| **Answer:**   * Define the criteria, make a checklist * Perform the check according to the checklist * Record results * Share, discuss and implement the changes required * Keep all versions of the documents * Double check after the changes are made * Sign off | |
| **Q5.20.** | **Explain the use of the following markup languages including:**   * **hypertext markup language (HTML)** * **virtual reality modelling language (VRML)** * **extensible markup language (XML)** |
|
| **Answer:**  HTML is the standard markup language for Web pages. HTML elements are the building blocks of HTML pages. HTML elements are represented by < > tags.  VRML is a language for describing 3-Dl image sequences and possible user interactions to go with them. To use VRML by building a sequence of visual images inro web settings with which users can interact by viewing, moving, rotating and interacting with a 3-D scene.  XML is a software and hardware independent tool for storing and transporting data. XML is a markup language much like HTML, it stands for eXtensible Markup Language. XML was designed to be self-descriptive. | |
| **Q5.21.** | **Explain the standards set by the World Wide Web Consortium (W3C) applicable to markup language, such HTML and CSS.** |
|
| **Answer:**  HTML and CSS are the fundamental technologies for building Web pages: HTML (html and xhtml) for structure, CSS for style and layout, including WebFonts. HTML is the language for describing the structure of Web pages. HTML lets authors to publish online documents with headings, text, tables, lists, photos; retrieve online information via hypertext links, at the click of a button; design forms for conducting transactions with remote services, for use in searching for information, making reservations, ordering products, etc.  CSS is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens, small screens, or printers. CSS is independent of HTML and can be used with any XML-based markup language. The separation of HTML from CSS makes it easier to maintain sites, share style sheets across pages, and tailor pages to different environments. This is referred to as the separation of structure (or: content) from presentation. | |
| **Q5.22.** | **Explain at least two common website accessibility issues.** |
|
| **Answer:**  Nondescriptive text for hyperlinks. Sometimes the link text provides not enough detail to allow user to understand the purpose of the link.  Image alt text errors. Not including alternative text for images can result in a confusing and negative experience for screen reader users. | |
| **Q5.23.** | **Discuss documentation techniques, web page components and organisational procedures and guidelines relevant to creating a markup language document to specification.** |
|
| **Answer:**   * Analyse specifications and requirements * Identify uses and audience of required document * Determine required mark-up language according to document’s uses and audience * Identify and confirm required documentation according to organisational procedures * Define document structure according to organisational procedures and document requirements * Create and assign basic elements of document considering accessibility and document requirements * Markup and define sections of document and describe structure and layout according to document requirements * Incorporate web page components * Validate documents | |
| **Q5.24.** | **Discuss HTML/CSS document validation procedures.** |
|
| **Answer:**   * Open browser, search for URL: <http://validator.w3.org> * Select the "Validate by URL” or “Validate by file upload” tab to validate   “Validate by direct input” is not used often as it takes too long to upload. | |
| **Q5.25.** | **What is browser and device compatibility.** |
|
| **Answer:**  Browser and device compatibility means the website can be translated effectively via a particular browser or operating system, in this way, it can be accessed by and is fully functional for a user. | |
| **Q5.26.** | **Research and identify, specific** **user groups with particular accessibility requirements. You must research at lest two user groups** |
|
| **Answer:**  People who are [deaf or hearing-impaired](https://webaim.org/articles/auditory/) rely on [captions and transcripts](https://webaim.org/techniques/captions/) of multimedia. Many people with [cognitive disabilities](https://webaim.org/articles/cognitive/) also benefit greatly from the structure and flexibility of web content.  People with [motor disabilities](https://webaim.org/articles/motor/) interact with online content using assistive devices that map their abilities to their hardware. | |
| **Q5.27.** | **Identify general legislated and industry accessibility standards and requirements** |
|
| **Answer:**  Australian companies that have websites or companies that maintain resources that are publicly accessible from Australian servers are required to have equal access for people with disabilities.  The Web Content Accessibility Guidelines (WCAG) developed by the World Wide Web Consortium (W3C) represent the most comprehensive and authoritative international benchmark for best practice in the design of accessible websites. | |
| **Q5.28.** | **Identify at least two web development standards** |
|
| **Answer:**  HTML/XHTML, CSS, JavaScript, JavaScript Object Notation (JSON) | |
| **Q5.29.** | **Consolidate specific and general standards and requirements, and generate an accessibility checklist, with at least 6 items.** |
|
| **Answer:**  Website accessibility check list   |  |  |  | | --- | --- | --- | | **Accessibility Test Item** | **Pass** | **Not Pass** | | Do images have alternative text? |  |  | | Does the web page or document have a title that describes its topic or purpose? |  |  | | Is the web page coded using valid HTML? |  |  | | Have you avoided using content that flashes or flickers? |  |  | | Does the web page or document have a title that describes its topic? |  |  | | Have you avoided using visual characteristics to communicate information? |  |  | | |
| **Q5.30.** | **Identify legislation, regulations and codes of practice, applicable to access, equity and security.** |
|
| **Answer:**  Access and Equity is a Policy standard of the Australian government’s information management office in relation to Online information and Services. The Policy covers all engagement and communication of government departments and agencies with multicultural communities, not just direct service delivery. Websites need to consider access and equity to ensure the information and services meet the needs of a diverse audience. To incorporate the requirements of Multicultural Access & Equity in Online Information and Services, the Website Design should where possible, make:   * The Content written in plain and simplified English at all times use of languages other than English * Translations to other languages available and make them easy to find including navigation guidance provided in the same language. * Non-English content appropriately identified in the meta-data elements and language (lang) elements of HTML. * Use of the online channel to promote services for people from diverse backgrounds that are available through other channels – such as interpreter services. * Use of text-to-speech options considering some people from linguistically diverse backgrounds can understand spoken English better than they can read printed English. * Design should be “user tested” with a focus on culturally and linguistically diverse audience. Usability Testing is an important part of developing a relevant and valuable web presence. Direct engagement with a diverse group is the best way to determine the effectiveness of support to the user group in question. | |
| **Q5.31.** | **Identify computing and programming standards applicable to access and equity** |
|
| **Answer:**  Standards in computer programming are methods of programming that have been declared acceptable and thereafter are recommended as the approach that should be used. Computing and programming standards allow programmers to use a common ground when writing code. Closely tied with programming standards, best practices are simply recommended methods of writing code. Which approaches the human right as access and equity, simply saying to treat everyone the same. | |
| **Q5.32.** | **Discuss technical performance measurement principles** |
|
| **Answer:**   * Have a clear purpose * Think systemically * Align with processes * Drive the right behaviour * Build in integrity * Understand variation * Integrate with decision making | |
| **Q5.33.** | **List at least three automatic testing tools and software. Give the URL of each tool or software.** |
|
| **Answer:**   |  |  |  | | --- | --- | --- | | **Tool or software name** | **Description** | **URL** | | W3C Markup Validation Service | This website can validate any html codes, and there are three ways to upload code | <https://validator.w3.org/> | | Lynx | Lynx is a text-only browser, and it can be used to check if the text-only view of a webpage is logical and accessible. | <https://adresults.com/tools/text-browser-lynx-viewer> | | Google chrome | Check document can be read without style sheet or not | <https://chrome.google.com/webstore/detail/web-developer/bfbameneiokkgbdmiekhjnmfkcnldhhm> | | |
| **Q5.34.** | **What is Web Accessibility Initiative (WAI), and its mission.** |
|
| **Answer:**  Web Accessibility Initiative (WAI) is one of four domains of the World Wide Web Consortium (W3C). The other three domains are Architecture, User Interface, Technology and Society,  The mission is to lead the Web to its full potential to be accessible, enabling people with disabilities to participate equally on the Web, develop guidelines, conduct education and outreach to accessibility. | |
| **Q5.35.** | **Discuss the following standards and guidelines.** |
|
| **Answer:**   |  |  | | --- | --- | | **Standards / Guidelines** | **Your answer** | | World Wide Web Consortium (W3C) | World Wide Web Consortium (W3C) is an international organization that creates standards for the World Wide Web. It is committed to improve the web by setting and promoting web-based standards. Its goal is to create technical standards and guidelines for web technologies worldwide. | | Web Content Accessibility Guidelines (WCAG) | Web Content Accessibility Guidelines (WCAG) is developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally. | | Authoring Tool Accessibility Guidelines (ATAG) | Authoring Tool Accessibility Guidelines (ATAG) is a W3C recommendation for building accessible-authoring tools that produce accessible contents. It provides guidelines for designing web content authoring tools that are both more accessible to authors with disabilities and designed to enable, support, and promote the production of more accessible web content by all authors. | | User Agent Accessibility Guidelines (UAAG) | User Agent Accessibility Guidelines (UAAG) explains how to make user agents accessible to people with disabilities. User agents include browsers, browser extensions, media players, readers and other applications that render web content. | | |

*End of document*