# Student Version

| Section A – Program/Course details | | | |
| --- | --- | --- | --- |
| **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:** | Enter CRN number |

| Section B – Assessment task details | | | |
| --- | --- | --- | --- |
| **Assessment number:** | 2 of 2 | **Semester/Year:** | 1/2022 |
| **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.  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 section.  For all parts in this assessment   * Learners are required to correctly answer all questions to a satisfactory level for each question of this assessment task to be given a satisfactory result by the assessor. If this is not achieved on the first attempt, then an opportunity to resubmit is allowed. * Once learners have completed all the questions, the assessment must be uploaded and submitted along with the signed assessment coversheet via Brightspace. * If a supplied answer is incorrect or requires further information, the learner will be requested to correct the issues and resubmit the assessment via Brightspace. * Learners must contribute to and abide by organisational standards including intellectual property and privacy laws. * Learners 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:**  Student to complete and attach Assessment Submission Cover Sheet to the completed Assessment Task. | |
| * 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 (one resubmit allowed per 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. * The learner may use the internet for research purpose only. | |
| **Equipment/resources students must supply:** | **Equipment/resources to be provided by the RTO:** |
| Students intending to learn remotely will require access to: 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:   * Microsoft Word - access through Holmesglen MyHorizon * WebEx - free to download * Visual Studio Code – free to download * 7Zip or an equivalent compression utility - free to download * Google Chrome – recommended web browser * Onedrive or google drive/dropbox account for storage * w3schools account * Web accessibility validation tools * Web design tool * Visual Studio Code | 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:   * Microsoft Word - access through Holmesglen MyHorizon * WebEx - free to download * Visual Studio Code – free to download * 7Zip or an equivalent compression utility - free to download * Google Chrome – recommended web browser * Onedrive or google drive/dropbox account for storage * w3schools account * Web accessibility validation tools * Web design tool * 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:** | **100655651** | **Student name:** | **Jovan Mostanovski** |

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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. | **Jovan Mostanovski** |

| 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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| **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 |
| **Student ID:** | 100655651 | **Student name:** | Jovan Mostanovski |
| **Date of submission:** |  | **Student signature:** | Jovan Mostanovski |

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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

**NOTE FROM JOVAN:**

**I HAVE CREATED A “SITE MAP”, WHICH I THINK IS THE SAME THING AS A “PAGE HEIRARCHY”. IT IS INCLUDED AS A PDF FILE WITH THIS SUBMISSION.**

**SEE “SITE MAP.PDF”**

* content structure of each page

**NOTE FROM JOVAN:   
I HAVE CREATED THE CONTENT STRUCTURE OF ONLY MY HOME PAGE. MY OPINION IS THAT THIS PROVES THAT I KNOW HOW TO DO IT, AND AS I HAVE VERY LIMITED ENERGY DUE TO ILLNESS, I HAVE NOT CREATED IT FOR EVERY PAGE, BUT IF YOU REQUIRE ME TO DO SO, PLEASE LET ME KNOW AND I WILL DO SO.**

**SEE “Content Structure of Home Page.docx”.**

* wireframe design of each page

**NOTE FROM JOVAN:**

**I HAVE CREATED A WIREFRAM DESIGN OF THE HOME PAGE ONLY, AS I AM VERY SHORT ON TIME AND ENERGY DUE TO ILLNESS. IF YOU NEED ME TO DO A WIREFRAME DESIGN FOR EVERY PAGE, THEN PLEASE LET ME KNOW AND I WILL DO IT. BUT, MY OPINION IS THAT BY DOING THE WIREFRAME DESIGN FOR THE HOME PAGE I HAVE PROVEN THAT I UNDERSTAND HOW TO DO IT, AND DOING IT FOR ALL 5 OTHER PAGES ON MY WEBSITE IS JUST A REPETITIVE AND TIME CONSUMING PROCESS.**

**SEE “Wireframe\_Design.pdf”.**

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:**  I have read through the project brief to understand the requirements of this project.  As such, I have created a website that meets the requirements of the project brief.  The website can be found at [www.jovanmostanovski.com](http://www.jovanmostanovski.com). |
| **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. W3C CSS Standard  2. W3C HTML Standard  Principles  1. Accessibility for people with disabilities who need to use technologies such as a screen reader  2. Responsive design in order to facilitate the use of one’s website by users using a mobile phone or tablet. |
| **Q1.3.** Identify the appropriate hardware and software required to develop the website |
| **Answer:**  I have developed this website using a Windows 11 based laptop with an Intel Core-i7 processor, 16GB of RAM and 1.52TB of hard drive storage space.  These specifications exceed the minimum specifications for developing the website, as mentioned in the project brief. The minimum hardware and software specifications as per the project brief are as follows:  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:   * Microsoft Word - access through Holmesglen MyHorizon * WebEx - free to download * Visual Studio Code – free to download * 7Zip or an equivalent compression utility - free to download * Google Chrome – recommended web browser * Onedrive or google drive/dropbox account for storage * w3schools account |
| **Q1.4.** Use the template below and conduct user analysis and determine user profile and needs. |
| **Answer:**  Who they are (profile)  The user of my website will be prospective employers who are looking to hire a competent Software Engineer.  What they do, when and where (context)  They are hiring managers or job recruiters.  Why they do it (needs, goals, tasks)  They are seeking to fill a job role in the area of Software Engineering.  How they do it (experience)  They will come to my website ([www.jovanmostanovski.com](http://www.jovanmostanovski.com)) via a Google search or via Socia Media.  When I am looking for a job I will be actively promoting my website via Social Media and Google adwords.  What they like or dislike  Have not asked them yet. |
| **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  web hosting operating system and its requirements  I am using a web hosting company called “HostMate” to host my website.  I believe that they are running a Linux operating system. |
| **Q1.6.** Determine applicable design principles for website (based on the identified principles in Q1.2) |
| **Answer:**  Accessibility.   * I have run an accessibility checking tool on a website called “Siteimprove.com” on my website and it only found two accessibility issues:  1. Image with no alt attribute. 2. Language of page has not been set.  * I have included a “lang” attribute in my HTML to denote the natural language of the page. * I have updated the image missing the “alt” attribute to include one.   Responsiveness   * After discussion with the client, Qiao Li, I have been assured that a responsive design is unnecessary for this project. * Responsiveness will be implemented for version 2.0 of this website instead. |
| **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 two-level navigation system. The first level is a horizontal navbar with multiple nav items, and the second level are dropdown vertical list with multiple list items. The dropdown list will be displayed upon hovering the curse onto the level 1 nav item.* 2. Image gallery – 3. … 4. … |
| **Q1.8.** Design and create page hierarchy and content structure of each page according to design protocol |
| **Answer:**  I have created a “Site Map” for this website’s home page.  You will find it in a PDF file submitted with this document. |
| **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:**  I have included the wireframe design for the home page of this website.  You will find it in a PDF file called “Wireframe\_Design.pdf” submitted with this document. |
| **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 section | | **2** | for user who visit this website for the first time | Home page 🡪 Introduction Video  Home page 🡪 Introduction text | | **3** | For users who want to see my resume | Home page 🡪 Resume 🡪 Resume hyperlink to open PDF of resume | |
| **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** | Test that the domain name and webhosting are working correctly by visiting [www.jovanmostanovski.com](http://www.jovanmostanovski.com) from a number of computers on different networks. | The webpage should load without any problems. | Asked my colleagues, Jesselyn Juniper and Christopher Pongrac, to test the website from their computers at their homes.  The website loaded with no problems from both locations. | | **2** | Check that all the links in the navbar work. | Each page linked to should open up without any issues. | Each page opens up as expected. | | **3** | Check that the pictures on every webpage load up correctly. | Each picture should be displayed. | All pictures are displayed properly. | |
| **Q1.13.** Use the template below to complete and document web design structure |
| **Answer:**   |  |  | | --- | --- | | **Item** | **Screenshots** | | **Page hierarchy (website structure)** | Included in “Site Map.pdf” | | **Content structure of each page** | Included in “Content Structure of Home Page.docx” | | **Wireframe of each page** | Included in “Wireframe\_Design.pdf” | |
| **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:**  Test Plan.xlsx |
| **Q2.2.** Select appropriate markup language |
| **Answer:**  The markup language that I’m using for this website is HTML. |
| **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:**  The content structure of each page is the same as the content structure of the “web design” section of this assessment, because I actually coded the website first and designed it as I went, rather than designing it beforehand. |
| **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 Header component**   |  |  |  | | --- | --- | --- | |  | **Screenshot** | | | **Browser view** |  | | | **HTML code** |  | | | **CSS codes** |  | | | **I confirm styling of this component meets document specifications and requirements** | |  |   **#2 Portfolio 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, logo/picture, embedded YouTube video, images | Everything works.  Clean layout.  Not responsive for mobile/tablet use. Version 2.0 will be responsive. | | Blog | Wordpress Blog | Pre-packaged Wordpress blog. Content is my own original content.  Works well. | | Resume | Navbar, logo/picture, images of company’s I’ve worked for, text | The logos of the companies I’ve worked for is a nice touch.  There is a link to a PDF resume which I created.  Everything works well. | | Portfolio | Navbar, logo/picture, text, images of past engineering project | Simple portfolio page.  Could use more work.  Will include more information in v2.0. | | Pictures | Navbar, logo/picture, images | Simple pictures page.  Could use better CSS styling.  Will implement more advanced CSS styling in v2.0. | | Contact | Navbar, logo/picture, images of my social media profiles with clickable links, webform that submits an email to me using PHP | All the social media profile links work properly and open in a new tab.  The contact form works properly and sends an email to me using PHP. | |
| **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 Blog**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** | There is no HTML to view as this Blog is implemented using Wordpress. | | **CSS codes** | There is no CSS to view as this Blog is implemented using Wordpress. |   **#3 Resume**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  |   **#4 Portfolio**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  |   **#5 Pictures**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  |   **#6 Contact**   |  |  | | --- | --- | |  | **Screenshot** | | **Browser view** |  | | **HTML code** |  | | **CSS codes** |  | |
| **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:** Test Plan.xlsx   |  |  | | --- | --- | | **Item** | **Your answer** | | **Q2.7-1: Provide test report file name.** |  | | **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.** | |  | | --- | |  | |  | |  | |  | |  | | | **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** |  | | **Website source code** |  | | **Test plan** |  | | **Test report** |  | |
| **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. |
| **Answer:** www.jovanmostanovski.com |
| **Q3.2.** Provide screenshot to each page of the website. |
| **Answer:** |

## 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** | **W3C HTML validator** | | **Screenshot the results** |  | | **Results analysis** | Error number 1 is because I used “%” in the “width” attribute for the <img> tag, but it seems to work in Google Chrome, Microsoft Edge, and Mozilla Firefox.  Error number 2 is the same as error 1, except that it’s for the “height” attribute. | | **Change recommendation** | Ideally, I should change the width and height attribute to the number of pixels, or according to my teacher, Qiao Li, we should put the width and height styling in a css file, not in the HTML  I tried to change the “width” and “height” into pixels, but it completely warped my image, so I took the easy way out and kept it in “%” because that seems to work just fine. | | **Change Priority**  **(Low/Medium/High)** | Low priority. | |
| **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** | As my website is quite simple, it displays quite well in a text only browser. | | **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** | “Web Developer” extension for Google Chrome | | **Screenshot the results** |  | | **Results analysis** | The result of disabling CSS stylesheets is not great, but not too bad.  The pictures at the bottom of the webpage appear as full size 5-10 megapixel images. | | **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** | “Grayscale the Web” Google Chrome extension | | **Screenshot the results** |  | | **Results analysis** | The webpage appears just fine in grayscale. | | **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** | “Read Aloud: A Text To Speech Voice Reader” | | **Screenshot the results** |  | | **Results analysis** | The voice reader can read out the text on my website quite well. It even says my name quite well!!! Impressive! | | **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** | Rita Mostanovski | | **Transform type** | Text-only web viewer | | **Results analysis** | “I understood the website very clearly” – Rita Mostanovski  No issues with comprehension from the user. | | **Change recommendation** | None. | | **Change Priority**  **(Low/Medium/High)** | Low. |   **User group #2**   |  |  | | --- | --- | | **User name** | Bill Mostanovski | | **Transform type** | Text-to-speech Reader | | **Results analysis** | “The default speed was too quick. Slowing down the speech made it more understandable for me.” | | **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** |  | No changes necessary. |  |  | | **2** |  |  |  |  | |
| **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 designing web layouts.** |
|
| **Answer:**  It is important to be aware of copyright and intellectual property requirements as a web developer. Web layouts may be subject to copywrite. It is important to note that if you use a template as a base for your website then you will not own the copywrite for your work. | |
| **Q5.2.** | **Discuss the role and responsibility of customer and business liaison that is applicable to designing website layouts.** |
|
| **Answer:**  It is important to make a contract between the client and the business doing the web design work.  It is important to clearly spell out how exactly the website should look, what functions it should be capable of, how much it will cost, and whether there will be any ongoing maintenance fees associated with the website. | |
| **Q5.3.** | **Discuss webpage design principles related to different internet connectivity impacts.**  It is important to design your website in such a way that people on different speed internet connections can view your website without having to wait too long for each page to load.  Some content, such as videos and large images can put a strain on the Internet connections of low bandwidth connections. |
|
| **Answer:**   |  |  | | --- | --- | | **Internet connectivity type** | **Design principles** | | **High speed** | Use as much rich content such as videos and images as you’d like. | | **Low speed** | Limit the use of rich content, mainly focus on text. | | **Unlimited data** | Use as much rich content such as videos and images as you’d like. | | **Limited data** | Limit the use of rich content, mainly focus on text. | | |
| **Q5.4.** | **Identify at least two page loading times measurement tools.** |
|
| **Answer:**   |  |  |  | | --- | --- | --- | | # | Tool Name | URL | | 1 | Pingdom | <https://tools.pingdom.com/#6006dcf60c000000> | | 2 | Google PageSpeed | <https://pagespeed.web.dev/report?url=http%3A%2F%2Fwww.jovanmostanovski.com%2F> | | |
| **Q5.5.** | **Explain technical specifications procedures and documentation procedures. Please discuss the procedure of creating the following specification and documentation.**   * **Website structure diagram** * **Wireframes** * **Colour scheme** * **Graphic design** |
|
| **Answer:**   * **Website structure diagram**   By “website structure diagram” I am assuming you are referring to the “Site Map”.  The Site Map is very easy to create. It is like a “tree diagram”.  You put the home page at the top of the diagram and then all the pages that are linked to from the home page go below the home page and you draw lines from the home page to all the pages that are linked to.   * **Wireframes**   The wireframe is easy to create using a tool such as Lucidchart.  It is simply a basic “mock up” of how you want the web page to look.  It provides you with a basic structure to follow during the development phase.   * **Colour scheme**   For this assessment it is not necessary to create a colour scheme. Personally I do not have any colour scheme on my personal website.   * **Graphic design**   Graphic design is not necessary for this assessment as graphic design is more of a “Web Designer’s” domain, rather than that of a Web Developer. | |
| **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.**   It is important to maintain consistent branding across all your contact points with your customers.  You should have a consistent logo, colour scheme and “voice” across all your customer touchpoints.  This will enable customers to easily identify your brand and be able to build positive associations with your brand.   * **Clear CTAs**   “CTA” means call to action.  It is where you implore your customer to take a certain action, such as buying a product, subscribing to your newsletter, following you on social media, etc..   * **Intuitive navigation**   The navigation of your website should be “intuitive” to users. That is to say that it should follow industry standards, such as other popular websites that your prospective customers may be used to using.   * **Clean design**   It’s important not to overload your user with too much information on your webpage.  You should keep the content of the webpage down to meaningful content.   * **Storytelling**   Your website should tell a story in order to help the user get to know the story behind the website. People remember stories better than just a bunch of facts thrown at them.   * **Visuals**   Today’s website users typically have short attention spans and low tolerance for text-heavy content. The user wants to know what the website is about just by quickly scanning the page. So, you should include many visual elements on your page such as pictures, photos, videos, etc..   * **Mobile-first design**   These days mobile usage accounts for 52.2% of all Internet traffic, therefore it’s important to develop your website with a “mobile first” mindset.   * **Accessibility**   It is important to realise that some people have disabilities such as motor disabilities, vision impairment, cognitive disabilities, etc…and they also need to access the web, therefore it’s important that web developers are aware of this and create their websites with this in mind.  You can use an accessibility auditing tool in order to scan your website and determine what needs to be improved upon in order to meet accessibility standards.   * **Prioritize search engine optimization (SEO)**   There are ways that a web developer can improve their website’s ranking in search engines such as Google and Microsoft Bing.  You can use targeted keywords in order to attract more traffic from search engines.  There are other things that you can do in order to optimise your website for search engines, such as designing a responsive website, using a relevant header tag, using proper title tags and meta descriptions, etc.   * **Monitor site speed**   You need to make sure that your website loads quickly. Frustrated users may abandon a slow loading site. Google also rewards fast loading websites with better search result rankings.   * **Heatmaps**   You can use a heatmap in order to track your user’s mouse movements so you can identify the areas that receive the most attention.  **A/B Testing**  A/B testing is a method of comparing different versions of a webpage to see which one performs the best for a given goal. For instance, you may be trying to sell a product, and using A/B testing you will have 2 versions of the product page and you will monitor which one sells more product. That is A/B testing. | |
| **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 consists of a number of phases. Without doing any research I can tell you from my Computer Engineering degree that the Waterfall methodology is linear and requires the completion of one phase before beginning the next phase.  So, you begin with Requirements Analysis, then you move on to the Design Proposal, then you move onto Development, then Testing, then Installation/Maintenance.  The Waterfall methodology can be very costly if the project requirements change mid-project. | | Agile | The Agile software development methodology is a very flexible way of developing software.  The customer tends to be very involved in the development process and the objective is to develop a minimal viable product as early as possible in the development process in order to demonstrate it to the customer and get their feedback.  The Agile software development methodology uses short term blocks of time, known as “sprints”, which usually last for a few weeks. It is an iterative model whereby improvements are successively made from sprint to sprint.  One of the strengths of this methodology is that the customer can change the requirements, but it can also be a weakness as it can result in too many changes to the project’s requirements, leading to a blowout of the project timeline and budget. |   Standard website structure   |  |  | | --- | --- | | **Structure type** | **Your answer** | | Hierarchical | This is where the information in a website is structured in a “parent-child” relationship. You start with broader categories of information (parent) and then go further down into the structure to find more detailed information (child). | | Sequential | This is where you go through information in a website in a sequential matter – rather, the structure of the website forces you to go through the information in a sequential manner.  For example, if you’re buying a product on a website, then you will first enter your contact details, then you will be taken to the checkout page where you will pay, then you will be taken to an order confirmation page. This is an example of sequential website structure. | | Matrix | A Matrix website structure allows the user to navigate the content in numerous ways as the content is linked in numerous ways. One user may choose to navigate content based on date while another might navigate the website based on topic. | | |
| **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:**  **Buffer Overflows**  This type of attack is where a lot of data is sent into an application that does not limit the length and type of input, thereby resulting in an “overflow” of the memory buffer, potentially overwriting system memory which the program should not be accessing.  **Logging**  It is important to log as much data in your organisations network and servers as possible.  Log files are often required in any legal proceedings.  You should synchronise your server’s date and time to a time server in order to ensure that the date and time stamps in your logs are accurate.  You should log all Administrator activity.  You should log the deletion of any data.  **Web Application and Server Configuration**  Out of the box, servers are filled with vulnerabilities. They must be patched before web services are installed. Unnecessary services should be deleted of disabled.  The server should be configured in such a way that separate disks house the operating system and the web server, which will reduce the chances of bad actors gaining access to your operating system disk.  It is important to check your file and directory permissions and that they are applied using “least privilege” mode, which means that each user is granted the minimum privileges that they need to do what they need to do.  You should delete default accounts and their default passwords because this is a common way that bad actors can gain access to a 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 CSS media query is a way of interrogating the device that your user is using and finding out a number of things about it.  For instance, you can find out whether your user is using a “screen”, such as a computer screen, tablet or smartphone. You can also use it to find out whether your user is using a screenreader that reads the page out loud.  Best practices of using media query  - Choose the right CSS breakpoints.  - Design for mobile from the start.  - Make images responsive.  - Use responsive testing tools. | |
| **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/au/products/photoshop.html> | Adobe Photoshop is a raster graphics editing tool and is also used to create digital art. | $29.99 per month | | Adobe Illustrator | <https://www.adobe.com/au/products/illustrator.html> | Adobe Illustrator is a vector graphics editor and design program. | $29.99 per month | | Adobe XD | <https://www.adobe.com/au/products/xd.html> | Adobe XD is used to create design prototypes for websites, mobile apps and other user experiences. | $14.29 per month | | |
| **Q5.11.** | **Discuss markup languages, including HTML and CSS, and their associated standards, advantages, and disadvantages** |
|
| **Answer:**   |  |  |  | | --- | --- | --- | |  | **Advantage** | **Disadvantage** | | **HTML** | - Widely used.  - Every Internet browser supports HTML.  - Easy to learn and use, as it’s a “markup language” not a “programming language”. | - Cannot produce dynamic output, as it’s a static language.  - Can be time consuming.  - Requires writing a lot of “code” for just a simple webpage.  - Limited security features. | | **CSS** | - Specify the style for an element once and it can be applied multiple times to elements of that type.  - Consistency of style across a variety of sites.  - Improved site speed due to less lines of code necessary as a result of using CSS.  - It is less complex than using HTML alone.  - Makes responsive web design more possible. | - Compatibility across web browsers may differ, thereby requiring the web developer to test for compatibility across different browsers.  - CSS can be confusing.  - | | |
| **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:**  It is good practice to put your CSS into a separate “.css” file, rather than putting it into your HTML files.  The CSS file contains your styling information and it can be used to style multiple HTML files. | |
| **Q5.13.** | **Discuss the application of HTML/XHTML to CSS** |
|
| **Answer:**  Web components are created with HTML and styled using CSS.  For example, with a navbar, you will create a list which will form the basis of the navbar, then you will style the navbar in various ways using CSS. | |
| **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. They have been optimised for use with HTML and XML. | | CSS Color Module Level 3 | The CSS Color Module describes CSS properties which allow authors to specify the foreground color and opacity of an element. | | CSS Backgrounds and Borders Module Level 3 | This module deals with the decoration of the border area and with the background of the content, padding and border areas. | | |
| **Q5.15.** | **Explain hypertext transfer protocol (HTTP) and HTTP Secure (HTTPS)** |
|
| **Answer:**  HTTP is the protocol used to transfer data from a web server to a client computer over the Internet. It is not encrypted so it is not secure for transferring passwords from the client to the web server.  HTTPS is basically HTTP with Secure Sockets Layer (SSL) encryption. It can be used to securely transfer data from client computer to the web server and vice versa. A password transmitted over HTTPS will be sent encrypted, whereas using HTTP it will be sent as plain text. | |
| **Q5.16.** | **Discuss at least two web** **testing tools and processes and associated advantages and disadvantages** |
|
| **Answer:**  JMeter is a web testing tool used to test loading times for static and dynamic elements in a web application.  Pros:  - Easy installation.  - User friendly interface or can be use via a command line interface.  Cons:  - High learning curve, so it requires skilled testers.  - Does not support JavaScript.  Selenium WebDriver is an object-oriented API for text modern complex web applications.  Pros:  - Capable of testing across browsers, like Firefox, Chrome, IE, etc..  - Cross platform (Windows, Mac, Linux)  - Can use multiple languages as scripting languages (C#, Java, Perl, PHP, Python, JS Node, and Ruby.  Cons:  - Requires experienced test automation engineer. | |
| **Q5.17.** | **Discuss troubleshooting processes relating to CSS and websites** |
|
| **Answer:**  When you’re having problems with developing a HTML/CSS webpage you should troubleshoot using the browser’s integrated Dev Tools.  Google Chrome dev tools can be accessed by pressing the “F12” key. | |
| **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** | - Sleek and simple design.  - Fast loading of webpages  - Secure due to regular updates.  - Cross platform (Windows, Mac, Linux)  - Sync bookmarks, history, open tabs across your devices.  - Many extensions.  - Powerful developer console. | | **Limitations** | - Privacy concerns due to Google’s record of privacy violations in Europe and being fined by the EU for these violations.  - High memory and CPU usage.  - Limited customization options. | | **Accessibility features** | - TalkBack to browse the web with Chrome.  - Image descriptions even when there is no alt text.  - Page zoom to make the webpage appear larger.  - High contrast |  |  |  | | --- | --- | | **Browser #2 name** | Microsoft Edge | | **Features or advantages** | - Fast.  - Clean interface.  - Allows you to mark up webpages with a highlighter or drawing tool and share them as an image file in an email or using social networking apps.  - “Reading Mode” makes it easier and more comfortable to read webpages.  - Improved security.  - “Cortana” voice assistant capability included with Edge. | | **Limitations** | **THE WEBSITE LINKED TO IN THE “SUPPORTING INFORMATION” DOCUMENT CONTAINS FACTUAL ERRORS.**  **FOR INSTANCE, IT SAYS THAT MICROSOFT EDGE DOES NOT SUPPORT EXTENSIONS – BUT, IT DOES.**  **IT ALSO STATES THAT MICROSOFT EDGE DOES NOT HAVE AN ADDRESS BAR – BUT, IT DOES.**  - There are security holes in Microsoft Edge which were probably adopted from Internet Explorer. | | **Accessibility features** | - Can make text larger.  - Can have webpages read out loud.  - Can get descriptions of images for screen readers.  - Can use high contrast to display webpages for better readability. | | |
| **Q5.19.** | **Explain organisational procedures to document test results** |
|
| **Answer:**  A test plan should be created in writing for the software you are testing.  This should be followed by a test report detailing all the tests performed and their results.  Usually a test plan will be created in a spreadsheet, such as Microsoft Excel. | |
| **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 a markup language which tells the web browser how to format a webpage.  For instance, using HTML you can make text bold, italic, underlined, etc..  VRML is a language for describing three dimensional image sequences and possible user interactions to go with them. It is used for building a sequence of visual images into Web settings with which a user can interact by viewing, moving, rotating, and otherwise interacting with an apparently 3D scene.  You need a plugin for your web browser in order to view a VRML file, or you need a VRML viewer software package.  XML is a markup language, similar to HTML.  It was designed to store and transport data.  XML was designed to carry data, with a focus on what the data is.  Whereas, HTML was designed to display data, with a focus on how the data looks. | |
| **Q5.21.** | **Explain the standards set by the World Wide Web Consortium (W3C) applicable to markup language, such HTML and CSS.** |
|
| **Answer:**  The W3C creates the standards for HTML and CSS. | |
| **Q5.22.** | **Explain at least two common website accessibility issues.** |
|
| **Answer:**   1. Missing alt text on images means that if the user can’t see the image due to vision problems then their screenreader will not have any text to read out regarding the image. Modern browsers, such as Google Chrome, get around this by performing image analysis in order to figure out what the image is of. 2. Low contrast on text was found to be the most common accessibility issue affecting 85% of the top 1 million homepages on the Internet. | |
| **Q5.23.** | **Discuss documentation techniques, web page components and organisational procedures and guidelines relevant to creating a markup language document to specification.** |
|
| **Answer:** | |
| **Q5.24.** | **Discuss HTML/CSS document validation procedures.** |
|
| **Answer:**  If you’re having problems with the way your HTML/CSS pages are displaying, then you should run them through a validator.  There are validators for HTML and CSS.  A validator is a website where you can upload your HTML/CSS files and the validator will then check the code in order to determine whether it’s in line with the HTML/CSS specifications. | |
| **Q5.25.** | **What is browser and device compatibility.** |
|
| **Answer:**  There are many different web browsers freely available on the Internet.  Some of the main browsers are:   * Google Chrome * Microsoft Edge * Mozilla Firefox * Opera * Safari   A browser can be used on different devices.  Some of the main devices are:   * Windows PC. * Macintosh computer. * Apple iPhone. * Android phone. * Apple iPad. * Android tablet.   Browser and device compatibility refers to whether a website can be displayed and function correctly across all these different browsers and devices. | |
| **Q5.26.** | **Research and identify, specific user groups with particular accessibility requirements. You must research at least two user groups** |
|
| **Answer:**  Visual disability   * Blindness   + Screen readers     - A screen reader is a piece of software that reads out the contents of a webpage one line at a time.   + Keyboard accessibility     - Blind people typically navigate the web with a keyboard, so all functionality must be available through the keyboard. * Low Vision   + Types of low vision     - Macular degeneration     - Glaucoma     - Diabetic retinopathy     - Cataracts   + Tools for low vision:     - Screen magnifiers     - Zoom     - High contrast     - Customized colours * Colour blindness   + Inability to distinguish certain shades of colour.   + Strategy for colour blindness:     - Information that is conveyed using colours, such as colours on a pie chart or bar graph, should also be conveyed in some other way, such as with written text, so that a colour blind person can perceive it. | |
| **Q5.27.** | **Identify general legislated and industry accessibility standards and requirements** |
|
| **Answer:**  The Disability Discrimination Act governs the fair access to the web for people with a disability.  All people, regardless of disability, should be able to access the web.  The Australian Human Rights Commission states that government and industry still have a way to go in terms of developing their websites to the required accessibility standards. | |
| **Q5.28.** | **Identify at least two web development standards** |
|
| **Answer:**  Word Wide Web Consortium (W3C) standards such as HTML/XHTML, CSS, Portable Network Graphics (PNG) file format, and Scalable Vector Graphics (SVG) file format.  Standards published by Ecma International such as JavaScript and 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** | | Check information and pages can operate in monochrome environment |  |  | | Check pages operate on text-to-speech browser |  |  | | Check text equivalent for non-text elements |  |  | | Check text-only pages are logical and accessible |  |  | | Check document can be read without style sheets |  |  | | Check that document can be traversed using only a keyboard |  |  | | |
| **Q5.30.** | **Identify legislation, regulations and codes of practice, applicable to access, equity and security.** |
|
| **Answer:**  The code of the Australian Computer Society:  - The Primacy of the Public Interest  - The Enhancement of Quality of Life  - Honesty  - Competence  - Professional Development  - Professionalism | |
| **Q5.31.** | **Identify computing and programming standards applicable to access and equity** |
|
| **Answer:** | |
| **Q5.32.** | **Discuss technical performance measurement principles** |
|
| **Answer:**   1. **Have a clear purpose.**    1. Have a clear purpose for the performance measurement of your business.    2. This sends a strong message to everyone about the priorities for managing the success of the business. 2. **Think systemically.**    1. Think about what other aspects of your business will be affected if you change one part of your business. 3. **Align with processes.**    1. Your business processes should form the framework for defining measures so you can translate your desired performance results into direct and appropriate action. 4. **Drive the right behaviour.**    1. Because their lives are affected by these decisions, people will make choices in what they do and how they do it to influence the numerical values of performance measures, irrespective of how other things might be affected.    2. What you punish and reward powerfully determines the results you end up with. 5. **Build in integrity.**    1. Ensure that your data and measures are valid by being unbiased, accurate enough and clearly defined for your purpose. 6. **Understand variation.**    1. Take account of all the variation in performance levels when you interpret your measures to decide if and when you need to do something about it. 7. **Integrate with decision making.**    1. Design your measurement process so that it provides the most useful information in the most useful way to explore questions, analyse options and make decisions. | |
| **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 Validator | Validates your HTML. | <https://validator.w3.org/> | | Lynx Text Browser | Tests your HTML in a text only browser called Lynx. | <https://lynx.invisible-island.net/> | | Plugins for Chrome or Firefox that disable CSS | Helps you to determine how your HTML pages would render without your CSS stylesheets. | * Google Chrome   <https://chrome.google.com/webstore/detail/web-developer/bfbameneiokkgbdmiekhjnmfkcnldhhm>   * Firefox   <https://addons.mozilla.org/en-US/firefox/addon/web-developer/> | | |
| **Q5.34.** | **What is Web Accessibility Initiative (WAI), and its mission.** |
|
| **Answer:**  WAI develops guidelines which are widely regarded as the international standard for web accessibility.  The World Wide Web Consortium’s (W3C) commitment to lead the web to its full potential includes promoting a high degree of usability for people with disabilities. The Web Accessibility Initiative (WAI) is an initiative of the W3C. | |
| **Q5.35.** | **Discuss the following standards and guidelines.** |
|
| **Answer:**   |  |  | | --- | --- | | **Standards / Guidelines** | **Your answer** | | World Wide Web Consortium (W3C) | The W3C’s mission is to lead the Web to its full potential.  The director of the W3C is Tim Berners-Lee, the man who invented the WWW. | | Web Content Accessibility Guidelines (WCAG) | Web Content Accessibility Guidelines (WCAG) 2 is developed through the [W3C process](https://www.w3.org/WAI/standards-guidelines/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 tools are software and services that “authors” (web developers, designers, writers, etc.) use to produce web content (static web pages, dynamic web applications, etc.). | | User Agent Accessibility Guidelines (UAAG) | The User Agent Accessibility Guidelines (UAAG) documents explain 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. Some accessibility needs are better met in the browser than in the web content, such as text customization, preferences, and user interface accessibility. | | |

*End of document*