Case study / Scenario

CLIENT DETAILS: ABC Optical - Optical Store

We sell ophthalmic glasses, sunglasses and contact lenses. We specialise in optical requirements for children.

About ABC Optical

We are a Brisbane based company which is well regarded locally. We are recognised as being able to manage children's needs with a professional caring approach. We employ two full-time, in-store qualified optometrists able to diagnose and treat a number of eye related problems. Our optometrists strive to make a positive difference to the health and well-being of our customers, endeavoring to obtain the best visual outcome so that customers realise their full potential in work, study, sport and leisure.

Services

Services supplied are as follows:

- Eye Examinations (may be bulk-billed)
- Spectacles (may be bulk-billed to private Health Fund optical cover)
- Diabetic eye examinations
- Colour Vision assessments
- Macular Degeneration tests
- Glaucoma & eye pressure testing
- Checks for Cataracts
- Clearness of vision (myopia, hyperopia, astigmatism)
- Focusing ability (Presbyopia)
- Eye muscle movement and control
- Amblyopia (lazy eye)
- Contact lens fitting and management
- Referrals for eye laser surgery
- Mining & Industrial Safety Spectacles
- Advice on the correct fitting of good quality sunglasses (both prescription and non-prescription, in both adults and children, particularly in a sporting environment)

Contact

Our premises are within The Myer Centre in the Queen Street Mall on Level 1, Shop number 36. Our phone number is 07 3256 7101.

Our trading hours are:

Mon – Thurs: 9am - 5.30pm
Fri: 9am - 9pm
Sat: 9am - 5pm
Sun: 10am - 5pm

The site footer should contain copyright information, your name and student number, as a minimum

PART 1 - Identifying the page content and designing the HTML page structure

> ⚠ **Important**
>
> You should use the **UptownIT Assessment Report** to complete this assessment. You should include all screenshots and images within this document.
>
> Ensure you have followed the file naming convention given in the Submission Details section above before submitting your final assessment

Task 1. Identify the HTML page requirements

You are an employee at Uptown IT and you work in the Commercial Creative Department. Your role is to design and develop websites and you have specialised in designing single page websites (Brochure Websites). Your manager has assigned you to a new project and you have received documentation regarding the client's requirements and attended two project meetings.

Your task is to create a single web page for the client. Single page websites, if they are well designed, are cost effective and provide the means to showcase business services in a straightforward and engaging way. This is a popular option for many websites today, as all the information exists on a single page, and is delivered to the user one screen at a time, as they click on targets within the page.

Before proceeding to design the page ensure that you understand the message that the client intends to convey to their potential customers with the page's content and layout.

For sections 1.1 to 1.3, write a response below each question. Provide detailed answers.

1.1   What does the client want to achieve with this web page?

1.2   Who is the target audience for the page?

1.3   Are there any legislative or organisational standards that the designer/developer must comply with in the development of the web page?

Research legal obligations for online business and complete the table below. A good starting point is visiting Business Queensland. You should also consider web and accessibility standards in your research.

LEGAL OBLIGATION	ACTIONS REQUIRED	SOURCE
E.g. Privacy		
Add rows as necessary		

Task 2. Prepare site environment: folder structure, naming convention

1.4   Create an appropriate folder structure. All folders must contain relevant files and each folder should not exceed 1 MB.

1.5   The index.html file must be placed in the root folder

1.6   Naming convention:

> **≣ Note**
>
> All filenames must be descriptive of the content, lowercase, and no spaces are allowed in the names of files and objects as specified in the style guide.

Task 3. Page layout sections design considerations

1.7   Create a wireframe or skeletal outline of the page layout, that is, a diagram or sketch that identifies each section of the page (*based on the content given in the scenario*), with elements positioning and dimensions. Name all sections in the layout diagram. This diagram will be used as the blue print to create the HTML page.

You need **two versions** of the page layout (wireframe) to suit the layout of at least two (2) devices, for example a PC/laptop screen and a mobile phone screen.

1.8   Access the style guide provided and **document** the typography, iconography and colour scheme for each elements/section of your website outlined in the wireframe diagram. *You can use the style guide given as an example of how to document this information.*

> **≣ Note**
>
> This information will form the basis for the styling of your site so you should refer to this as you are developing your website

1.9   Although the markup language has already been selected by your manager, you have been asked to research and evaluate three (3) markup languages and identify the most appropriate one for the task. Use five (5) selection criteria items. You can use the table below to present your finding and your selection.

SELECTION CRITERIA	MARKUP LANGUAGE 1	MARKUP LANGUAGE 2	MARKUP LANGUAGE 3
E.g. Browser compatibility			

Justify your selection *(minimum 30 words)*:

Task 4. Create HTML page layout sections

1.10 Create the page as per your wireframe structure diagram using HTML5 (*you should include images within your content as appropriate*) and making sure that you:

a) Use **semantic elements only** for the layout structure

b) Create sections with ID attributes to be used as targets

c) Create the menu with *HREF* elements that target the required page sections

d) Ensure that the content sections alternate between an image background and a coloured background

e) Ensure that content is delivered one screen at a time with internally targeted hyperlinks

f) Correct indentation of HTML code

PART 2 - Cascading style sheet (CSS) to format page layout

2.1 Before creating the CSS to format the page layout appearance, access and review the documentation created in Part 1- 1.7 and ensure that it complies with the organisational procedures presented in the style guide.

2.2 In PART 1 you designed and implemented the HTML layout structure using HTML elements. In this part you need to create and apply the CSS necessary to format the layout of the page. The CSS must include:

a) Responsive layout to suit multiple device sizes – tested in at least two (2) devices

b) Extensive use of CSS box model to ensure sufficient white space between sections

c) Inline CSS methodology: inline-block

d) Layout should be in flow. No position: absolute (*position: fixed for menu permitted*)

e) Styling should predominantly be on semantic elements. The use of *ID* or *CLASS* styles should be kept to an absolute minimum.

f) Demonstrated use a CSS combinator

g) Ensure the CSS complies with your style guide

PART 3 – Test, debug and validate web page

3.1 Test the webpage functionality to confirm that it has been developed according to the client's requirements and the layout design. You should add the relevant client and design requirements (including your styling requirements from Task 1.8) to the **UptownIT Functionality Test Report Template** (*available for download in the Course Hub*) and complete this document.

> **🔆 Tip**
>
> For Task 3.1 you should review the client/site requirements:
>
> > design requirements, wireframe layouts, styling requirements (refer to your style guide), page layout etc
>
> and add these to the test report and use these as the basis for your testing to ensure you have met the requirements.

3.2 Use browser developer tools to debug page design and functionality as required until it meets the client's requirements. Check with your manager (teacher/assessor) to confirm requirements, as required. You should add the relevant functionality tests to the ***UptownIT Functionality Test Report Template*** and complete this document.

> **🔆 Tip**
>
> For Task 3.2 you should review the functional requirements for the site:
>
> > section links, page display, validation, browser/device and accessibility
>
> and add these to the test report and use these as the basis for your testing.

3.3 Validate both the **HTML** and **CSS** using the **appropriate** W3C Markup Validation services. Provide screenshots of your validation. You should correct any errors in your code and revalidate until the code is error free and provide updated screenshots.

3.4 In order to confirm accessibility has been met at the required level, you can use Achecker or similar tool. The tool checks HTML elements (sections are also HTML elements) compliance with WCAG 2.1 on each page in the website. The tool outputs a comprehensive report that identifies errors, warnings and tips.

Your task is to run an accessibility checker tool on your completed website. Test for WCAG 2.1 Level-AA. Provide report or screenshot. However, if there are errors, fix them and provide a new report and screenshot. If some errors cannot be fixed, explain why this is the case. For example, it may require assistive technology that you don't have access to. Once all errors are fixed you can add the WCAG 2.1 compliance logo to your website.

3.5 Test cross-browser compatibility. The test should include at least two (2) browsers and two (2) devices. Fix as necessary. Re-test. Provide suitably labelled screenshots as evidence.

3.6 There are areas of concern in terms of cyber security for this project. Recommend and outline at least 1 cyber-security measure that the client could adopt to avoid or reduce cyber security attacks for each of the following areas:

a) Authentication process
b) Programmatically engineered solutions to avoid cyber-attacks

c) Protocols

3.7 Attend a meeting with your manager seeking confirmation of project completion. *For this component you can conduct the meeting with a family member, friend, another student or work colleague.* To complete this you should:

- Create a video recording of the meeting. This can be a screen capture of the site demonstration with your audio presentation.
- You should give a brief overview of the project requirements
- You should describe how you have met the project requirements and gather confirmation that the requirements have been met from your participant/s asking appropriate questions
- The recording should be between 5 - 10 minutes in length
- You should include the recording in your submission.
- Obtain sign off from the client representative.

PROJECT SIGNOFF	
Signing off on this document signifies that the client representative is satisfied with the completed project. The client acknowledges satisfaction and completion with all elements of the project.	
Client Representative Signature: Date:	Developer Signature: Date:
PROJECT NOT APPROVED Please provide feedback below and attach any relevant information to assist the project team in making the changes needed.	

PART 4 - Knowledge questions related to CSS, HTML, XHTML and web design

4.1 **Propose** three (3) methods that could be used to apply CSS to web pages and **outline** their main features and attributes.

4.2 Simplicity, visual hierarchy and grid-based layout are web design principles. **Discuss** how each of these could be applied to the single page web project.

4.3 Evaluate two (2) web design principles used in front end web development mostly enabled by the use of software frameworks.

4.4 **Compare** HTML and XHTML. I**dentify** three (3) differences between HTML and XHTML.

4.5 What are the advantages of creating and implementing organisational procedures to develop CSS? **Present** and **outline** at least three (3) advantages.

4.6 The items listed below are CSS standard rules. **List** four (4) more standard rules and **evaluate** what the advantage of using each of these rules is.
- Use soft-tabs(spaces) with a two space, indent
- Use double quotes
- Place spaces after: (colon) in property declarations
- Place spaces before { (braces) in rule declarations

4.7   The terms web libraries and web frameworks are often mistakenly interchange. Research the terms and clarify the following:

   a) What are web libraries and web frameworks?
   b) Outline the differences between web frameworks and web libraries. Provide examples to illustrate your answer.

4.8   **Contingency task**. Assume that you have completed the project and you are ready to attend the schedule testing session in a few hours. Three people were required for the testing:

   - Yourself – as the web developer
   - Project Lead (your manager)
   - Tester

The tester communicates to you that due to illness he cannot attend the planned testing session.

Explain how you would resolve this situation.

End of Assessment

DELIVERABLES:

For this assessment item you need to complete the written sections in this document, then rename it to:

   - **AT2_Written_Surname_Student Number**

For this assessment item you also need to complete the testing spreadsheet, then rename it to:

   - **AT2_Functionality_Surname_Student Number**

Complete the website project and rename the site folder as:

   - **AT2_Website_Surname_Student Number**

Create a folder:

   - **AT2_ICTWEB519_520_Project_Surname_Student Number**

Insert the three files you renamed above **_and your meeting recording_** into this folder, compress it (e.g. with WinZip) and upload it to the Assignment Folder in Connect for ICTWEB519_520 Assessment 1 (AT2).