Competency Based Learning Materials (CBLMs)

Web Design and Development For Freelancing

Level-3

Module: Creating and Editing Website using HTML

Code: CBLM-ICT-WDDF-02-L3-EN-V1

National Skills Development Authority
Prime Minister's Office
Government of the People's Republic of Bangladesh

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The CBLM on "Create and Edit Website using HTML" is developed based on NSDA approved Competency Standards and Competency Based Curriculum under Web Design and Development for Freelancing, Level-3 Occupation. It contains the information required to implement the Web Design and Development for Freelancing Level-3 standard.

This document has been prepared by NSDA with the help of relevant experts, trainers/professionals.

All Government-Private-NGO training institutes in the country accredited by NSDA can use this CBLM to implement skill-based training of Web Design and Development for Freelancing level-3 course.

How to use this Competency-Based Learning Materials (CBLMs)

The module, Maintaining and enhancing professional & technical competency, contains training materials and activities for you to complete. These activities may be completed as part of structured classroom activities, or you may be required to work at your own pace. These activities will ask you to complete associated learning and practice activities to gain the knowledge and skills you need to achieve the learning outcomes.

1. Review the **Learning Activity** page to understand the sequence of learning activities you will undergo. This page will serve as your road map toward the achievement of competence.

2. Read the **Information Sheets.** This will give you an understanding of the jobs or tasks you will learn how to do. Once you have finished reading the **Information Sheets,** complete the questions in the **Self-Check.**

3. **Self-**Checks are found after each **Information Sheet**. **Self-Checks** are designed to help you know how you are progressing. If you cannot answer the questions in the **Self-Check,** you will need to re-read the relevant **Information Sheet**. Once you have completed all the questions, check your answers by reading the relevant **Answer Keys**.

4. Next, move on to the **Job Sheets. Job Sheets** provide detailed information about *how to do the job* you are being trained in. Some **Job Sheets** will also have a series of **Activity Sheets**. These sheets have been designed to introduce you to the job step by step. This is where you will apply the new knowledge you gained by reading the Information Sheets. This is your opportunity to practice the job. You may need to practice the job or activity several times before you become competent.

5. Specification **sheets** specifying the details of the job to be performed will be provided where appropriate.

6. A competency review is provided on the last page to help remind us if all the required assessment criteria have been met. This record is for your information and guidance and is not an official record of competency.

When working through this Module always be aware of your safety and the safety of others in the training room. Should you require assistance or clarification please consult your trainer or facilitator.

When you have satisfactorily completed all the Jobs and/or Activities outlined in this module, an assessment event will be scheduled to assess if you have achieved competency in the specified learning outcomes. You will then be ready to move onto the next Unit of Competency or Module

Approved by

---the Executive Committee (EC) Meeting of NSDA

Held on ----------

Table of Contents

Module Content

Unit Title: Create and Edit Website Using HTML
Unit Code: OU- ICT-WDDF-02-L3-V1
Module Title: Creating and Editing Website Using HTML

Module Descriptor: This module encompasses the necessary knowledge, skills, and attitudes (KAS) for Creating and Editing a website using HTML. It encompasses proficiencies such as planning a website, creating the website using a hypertext markup language, and testing the website.

Nominal Hours: 45

Learning Outcomes:

Upon completion of this module the trainees must be able to:

1. Plan a website
2. Create the website using hypertext mark-up language (HTML)
3. Test the website

Assessment Criteria:

1. The purposes and intended audience of the website are identified as per client requirements.
2. The design requirements and constraints are identified.
3. A conceptual design is developed.
4. Necessary software is installed as per requirements.
5. Web layout is selected and collected as per client requirements.
6. Web layout is converted to HTML using Text editor.
7. Website is saved and executed.
8. The website is tested to ensure functionality and errors are corrected per standard operating procedure.
9. The website is opened with common browsers and checked for accessibility, readability, legibility, and presentation in accordance with client requirements.
10. The website is evaluated for fitness in terms of the purpose, target audience, and specifications of client requirements.

Learning Outcome 1: Plan a website

Assessment Criteria	1. The purposes and intended audience of the website are identified as per client requirements. 2. The design requirements and constraints are identified. 3. A conceptual design is developed. 4. Necessary software is installed as per requirements.
Conditions and Resources	1. Applicable tools, utensils, and equipment as prescribed by competency standard. 2. Supply materials 3. Relevant ingredients 4. CBLM related to the learning outcome. 5. Instructions, job sheets, activity sheets, and standard operating procedures 6. Personal protective equipment 7. Module/reference
Contents	1 Identifying Website Purposes and Intended Audience According to Client Requirements 2 Identifying Design Requirements and Constraints 3 Developing a Conceptual Design 4 Installing Necessary Software Based on Requirements
Training Method	1 Discussion 2 Presentation 3 Demonstration 4 Guided Practice 5 Individual Practice 6 Project Work
Training Materials	1. CBLM 2. Handouts 3. Books, Manuals 4. Module/ Reference 5. Paper 6. Pen
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 1: Plan a website

You must perform the learning steps below to achieve the objectives stated in this learning guide. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Students will ask the instructor about plan a website	1. The instructor will provide the learning materials for` Plan a website.
2. Read the **Information sheet/s**	2. Information Sheet No 1: Plan a website
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No 1: Plan a website Answer key No 1: Plan a website
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet ▪ Job/Activity Sheet: 1 - Plan a Website

Information Sheet 1: Plan a website

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1.1 Website Purposes and Intended Audience According to Client Requirements
1.2 Design Requirements and Constraints
1.3 Conceptual Design
1.4 Necessary Software Based on Requirements

1.1 Website Purposes and Intended Audience According to Client Requirements

In website design and development, understanding a website's purpose and intended audience is crucial for creating an effective online presence. This information sheet aims to provide a comprehensive guide on identifying website purposes and intended audience according to client requirements. By following these steps, you can align your website design and content strategy with the specific goals and target audience envisioned by the client.

1.1.1 Step 1: Client Requirements Assessment

- Gather client input: Initiate a thorough discussion with the client to clearly understand their objectives, expectations, and vision for the website.
- Identify goals and objectives: Determine the primary purpose of the website, such as promoting a product/service, providing information, generating leads, or facilitating online transactions.
- Define target audience: Work closely with the client to define the intended audience's demographics, interests, and preferences. Consider age, gender, location, occupation, and specific user needs.

1.1.2 Step 2: Research and Analysis

- Competitor analysis: Study competitors' websites or businesses in a similar industry to gain insights into their target audience and website purposes. Identify successful strategies and areas for improvement.
- User personas: Create fictional profiles representing different segments of the target audience. Include details about their goals, challenges, and motivations to tailor the website experience accordingly.
- Conduct surveys or interviews: Gather feedback from potential users or existing customers to understand their preferences, expectations, and desired functionalities.

1.1.3 Step 3: Establishing Website Purposes and Objectives

- Clearly define the main purpose: Based on the client requirements and research findings, articulate the overarching purpose of the website. Ensure it aligns with the client's goals and serves the target audience's needs.
- Determine secondary objectives: Identify specific objectives that support the primary purpose, such as increasing brand awareness, driving conversions, enhancing user engagement, or providing valuable resources.
- Prioritize website features: Based on the established purposes and objectives, prioritize the necessary website features, functionalities, and content elements that will resonate with the intended audience.

1.1.4 Step 4: Documenting the Findings

- Create a website brief: Compile all the gathered information, including client requirements, target audience details, and defined purposes and objectives, into a comprehensive website brief. This document will serve as a reference point throughout the development process.
- Share and seek client approval: Present the website brief for review and approval. This step ensures that both parties are aligned and have a shared understanding of the project's direction.

1.2 Identifying Design Requirements and Constraints

When embarking on a website design project, it is essential to identify the specific design requirements and constraints to ensure a successful outcome. This information sheet aims to provide a detailed guide on identifying website design requirements and constraints. Following these steps, you can align your design choices with the project objectives, user needs, and any limitations that may impact the design process.

Responsive Web Design Sample.

1.2.1 Step 1: Understanding Project Objectives

- Meet with the client: Initiate a thorough discussion to clearly understand their goals, objectives, and vision for the website design.
- Identify key design elements: Determine the desired aesthetic, branding guidelines, color schemes, typography, and overall look and feel that align with the client's brand identity and target audience.

1.2.2 Step 2: Analyzing User Needs

- Define target audience: Identify the intended website users' demographics, interests, and preferences. Consider age, gender, location, device preferences, and accessibility requirements.
- Study user behavior: Analyze user expectations and behaviors by reviewing competitor websites, conducting user surveys, or performing user testing. This information will help inform the design decisions and prioritize user-friendly features.

1.2.3 Step 3: Considering Functional Requirements

- Determine website functionality: Work closely with the client to identify the specific functionalities required, such as e-commerce capabilities, contact forms, content management systems, or integration with third-party services.
- Evaluate technical requirements: Consider technical aspects, such as platform compatibility, browser support, mobile responsiveness, and search engine optimization (SEO) best practices. These considerations will impact the overall design and development process.

Understanding Constrains of Website Design.

1.2.4 Step 4: Recognizing Constraints and Limitations

- Budget constraints: Determine any budgetary limitations that may affect design choices, such as limitations on custom development, premium themes, or additional design resources.
- Time constraints: Understand the project timeline and deadlines to ensure the design process aligns with the available timeframe.
- Technical limitations: Identify technical constraints that may impact the design, such as hosting limitations, platform restrictions, or integration challenges.

1.2.5 Step 5: Documenting Design Requirements and Constraints

- Create a design brief: Compile all the gathered information, including client objectives, user needs, functional requirements, and design constraints, into a comprehensive design brief. This document will serve as a reference point throughout the design process.
- Share and seek client approval: Present the design brief to the client for their review and approval. This step ensures that both parties are aligned and have a shared understanding of the design requirements and constraints.

Identifying website design requirements and constraints is crucial in the design process. By understanding project objectives, analyzing user needs, considering functional requirements, and recognizing constraints and limitations, you can create a design that meets client expectations and user needs within the given parameters. This process establishes a solid foundation for a successful website design project and ensures that the design choices align with the project's goals and constraints.

1.3 Developing a Conceptual Design

Developing a conceptual design is a vital step in the website development process. It lays the foundation for the visual and structural aspects of the website. This information sheet aims to provide a detailed guide on developing a website's conceptual design. Following these steps, you can create a cohesive and visually appealing design that aligns with the project goals and client requirements.

1.3.1 Step 1: Gather Requirements and Insights

- Understand the project goals: Initiate a thorough discussion with the client to clearly understand their objectives, target audience, and desired outcomes for the website design.
- Conduct research and analysis: Gather insights from competitor websites, industry trends, and user preferences to inform your design decisions. This research will help you identify best practices and innovative design elements.

1.3.2 Step 2: Define Website Structure and Navigation

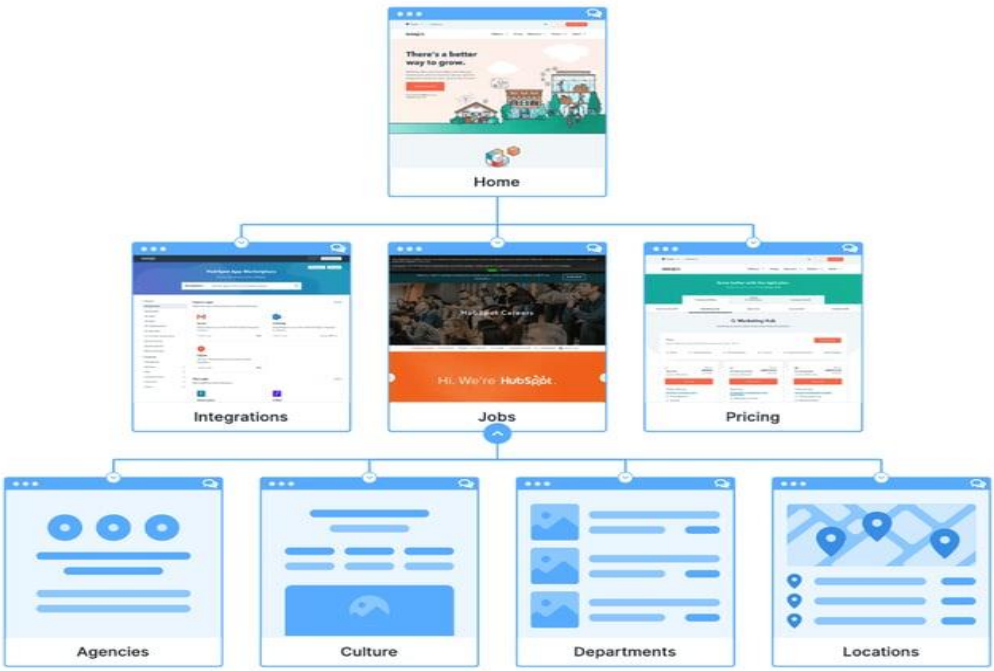
- Establish the site architecture: Create a hierarchical structure that organizes the website's pages and content. This structure should ensure intuitive navigation and a logical flow of information for users.
- Design user pathways: Define how users navigate the website, ensuring that crucial information and desired actions are easily accessible. Consider user experience (UX) principles to create a seamless browsing experience.

1.3.3 Step 3: Wireframing and Layout Design

- Start with wireframes: Develop low-fidelity wireframes to outline the basic structure, placement of key elements, and overall content hierarchy. Focus on functionality and user interactions rather than visual details at this stage.
- Iterate and refine wireframes: Seek feedback from clients and stakeholders to refine them, ensuring that they meet project requirements and effectively communicate the intended user experience.
- Create high-fidelity mockups: Once the wireframes are finalized, transform them into high-fidelity mockups representing the final visual design. Pay attention to typography, color schemes, imagery, and brand elements to create a cohesive and visually appealing design.

1.3.4 Step 4: Incorporate Branding and Visual Identity

- Reflect the brand: Ensure the design aligns with the client's branding guidelines, incorporating their logo, color palette, typography, and visual elements. This consistency reinforces the brand identity throughout the website.
- Visual hierarchy: Use design principles such as contrast, spacing, and size to establish a clear visual hierarchy that guides users' attention and highlights essential information.



Conceptual Design Visual Wireframe Sample.

1.3.5 Step 5: Document and Communicate the Conceptual Design

- Create a design brief: Document the conceptual design, including the site structure, wireframes, and high-fidelity mockups. Provide explicit annotations and explanations for design choices and interactions.
- Share and seek feedback: Present the design brief to the client for their review and feedback. This step ensures that both parties are aligned and have a shared understanding of the design direction.
- Iterative refinement: Based on client feedback, iterate and refine the conceptual design to address any concerns or suggestions while maintaining the project's goals and requirements.

Developing a conceptual design is a crucial step in the website development process. You can create a visually appealing and user-centric design by gathering requirements, defining the website structure, wireframing, incorporating branding elements, and documenting the design. This process ensures that the design aligns with the project goals, client requirements, and industry best practices. With a well-developed conceptual design, you set the stage for a successful website development process.

1.4 Install Necessary Software Based on Requirements

Installing the necessary software is a critical step in the website design module. It gives designers the tools to create, edit, and collaborate on design elements efficiently. This information sheet aims to guide you through the installation process of essential software required for website design. It covers various software categories, including office applications and design-related software like Photoshop, XD, Figma, and PDF readers.

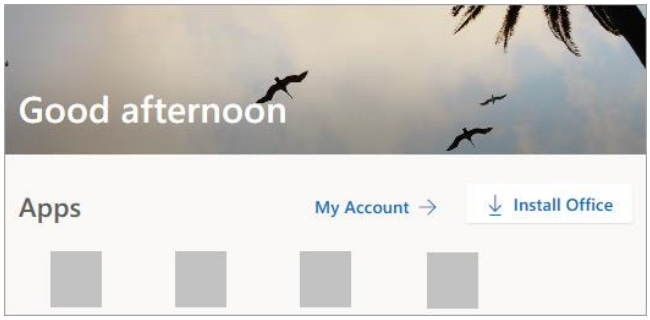
1.4.1 Step 1: Office Application Software (e.g., Microsoft Office, Google Workspace)

- Understand the Requirements: Determine the specific office application software needed for the project. This might include word processing, spreadsheet management, presentation tools, and communication applications.
- Obtain the Software: Purchase or subscribe to the office application software that best suits your needs or use cloud-based services like Google Workspace for collaboration and document sharing.

1.4.2 Download and install Microsoft 365 or Office 2021

Sign in to download Microsoft 365 or Office

- Go to www.office.com and if you're not already signed in, select **Sign in**.
- Sign in with the account you associated with this version of Microsoft 365. This account can be a Microsoft account or a work or school account.
- After signing in, follow the steps matching the account type you signed in with.
    - You signed in with a Microsoft account.
        a. From the Microsoft 365 home page, select **Install Office**.

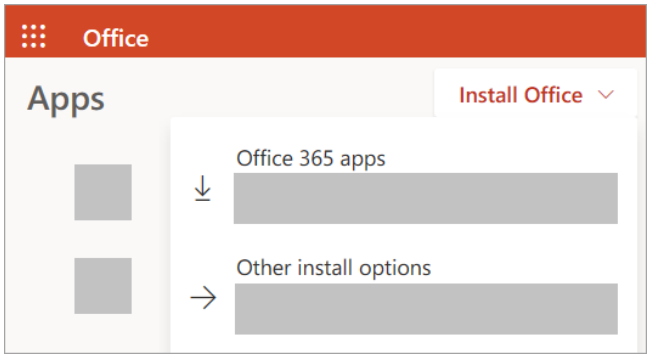


Microsoft 365 home page Install Office Screen.

b. Select **Install** (or depending on your version, **Install apps>**)

- You signed in with a work or school account.

a. From the home page select **Install apps** (If you set a different start page, go to aka.ms/office-install.)



Microsoft 365 apps IInstall Screen.

b. Select **Microsoft 365 apps** to begin the installation.

- This completes the download of Microsoft 365 to your device. To complete the installation, follow the prompts in the "Install Microsoft 365" section below.

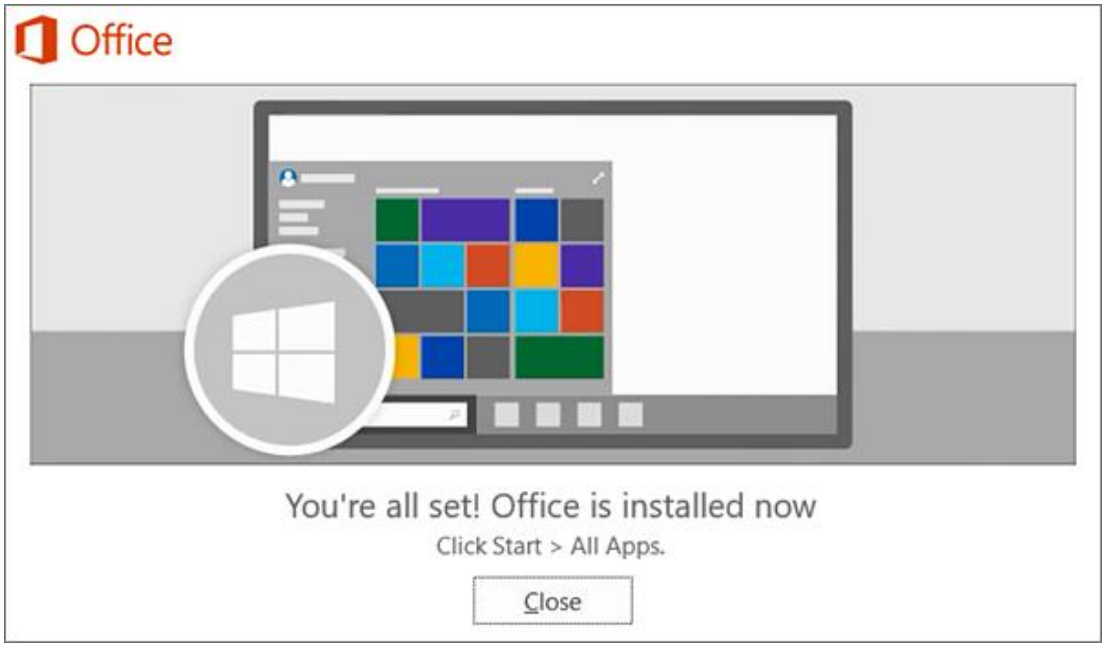
1.4.3 Install Office

- Depending on your browser, select **Run** (in Microsoft Edge or Internet Explorer), **Setup** (in Chrome), or **Save File** (in Firefox).

If you see the User Account Control prompt that says, **do you want to allow this app to make changes to your device?** select **Yes**. The installation begins.

Installing Office Screen on PC.

- Your installation is finished when you see the phrase, **"You're all set! Office is installed now,"** and an animation shows you where to find Microsoft 365 applications on your computer. Select **Close**.



Microsoft Office Complete Installation Screen.

1.4.4 Step 2: Design-Related Software

Photoshop (Adobe Creative Cloud): Photoshop is a powerful and widely used graphic editing software developed by Adobe. It provides a comprehensive suite of tools and features that allow users to create, manipulate, and enhance digital images. With its extensive range of capabilities, Photoshop has become the go-to software for professional graphic designers, photographers, and artists.

- License and Download: Acquire a valid license for Adobe Creative Cloud, which includes Photoshop, and download the latest version from the official Adobe website - https://www.adobe.com/products/photoshop.html.
- Installation: Run the installer and follow the on-screen instructions to install Photoshop on your computer.
- Activation: Sign in with your Adobe ID and activate the software using the provided license key.

Key Features of Photoshop:

- Image Editing: Photoshop offers a wide range of tools for image editing, such as cropping, resizing, retouching, and color correction. It allows precise adjustments to enhance the overall quality of photographs and other digital images.
- Layers and Masks: Using layers and masks in Photoshop provides greater flexibility and control over image editing. Users can stack multiple layers containing different elements and apply various effects and adjustments individually. Masks enable selective editing by hiding or revealing specific parts of an image.
- Graphic Design: Photoshop is widely used for graphic design projects, including creating logos, banners, posters, and website layouts. Its vector-based capabilities allow for the creation of scalable designs, and the integration of text and shapes enables the creation of visually appealing compositions.
- Special Effects and Filters: Photoshop offers a vast array of special effects, filters, and artistic brushes that allow users to add creative touches to their designs. From creating realistic textures to applying unique artistic styles, these features enable users to explore their creativity and achieve the desired visual impact.

- Content-Aware Tools: Photoshop includes content-aware tools that intelligently fill in gaps or remove unwanted elements from images. Features like Content-Aware Fill and Content-Aware Move use advanced algorithms to analyze the surrounding pixels and generate seamless results.
- Advanced Photo Manipulation: Photoshop is known for its advanced photo manipulation capabilities. Users can combine multiple images, remove, or add objects, adjust lighting and shadows, and even perform complex image compositing to create stunning and imaginative visuals.
- Integration with Adobe Creative Cloud: As part of Adobe Creative Cloud, Photoshop seamlessly integrates with other Adobe software like Illustrator, InDesign, and XD, allowing for smooth collaboration and a streamlined workflow.

  XD (Adobe Creative Cloud): XD, short for Adobe XD (Experience Design), is a specialized design software developed by Adobe. It is tailored for creating user interfaces, interactive prototypes, and user experiences for websites and mobile applications. As a part of the Adobe Creative Cloud suite, XD is widely used by UI/UX designers, product designers, and design teams to streamline the design and prototyping process.
  - License and Download: Like Photoshop, obtain a license for Adobe XD through Adobe Creative Cloud and download the latest version from the official website - https://www.adobe.com/creativecloud.html.
  - Installation: Run the installer and follow the installation wizard to install Adobe XD on your computer.
  - Activation: Sign in with your Adobe ID and activate XD using the provided license.

Key Features of XD:

- User Interface (UI) Design: XD provides an intuitive and user-friendly interface that allows designers to create pixel-perfect UI designs. Thanks to its vector-based drawing tools, users can easily design layouts, wireframes, and visual elements.
- Interactive Prototyping: One of the standout features of XD is its ability to create interactive prototypes. Designers can link artboards and create transitions, interactions,

and animations, offering a dynamic and realistic representation of the final product's user experience.

- Component and Style Libraries: XD supports the creation of reusable design elements known as components. These components can be shared across multiple projects, enabling consistent design patterns and rapid prototyping.
- Collaboration and Sharing: XD facilitates seamless collaboration between design teams. Designers can share their prototypes with stakeholders and clients for feedback and review. XD also offers real-time co-editing, allowing multiple designers to work on the same project simultaneously.
- Responsive Design: XD allows designers to create responsive designs for various screen sizes and devices. Designers can easily adapt and resize elements to ensure the user interface looks great on desktops, tablets, and mobile phones.
- Design Specs and Handoff: Designers can generate design specs from XD, providing developers with detailed information about the design, including measurements, colors, and assets. This aids in the smooth handoff of designs from designers to developers.

Figma: Figma is a cloud-based design and prototyping tool that has gained significant popularity among designers and design teams. It enables collaborative design work, seamless file sharing, and real-time feedback, making it a go-to choose for UI/UX designers, product designers, and design professionals.

- Online Access: Figma is a cloud-based design tool. Access it by signing up for an account on the Figma website - https://www.figma.com/.
- Browser Compatibility: Figma runs directly in a web browser, so ensure that your preferred browser supports it.
- Collaboration: Invite team members or clients to collaborate on designs in real-time by sharing the project link.

Key Features of Figma:

- Cloud-Based Collaboration: Figma's cloud-based platform allows designers to collaborate and work on design projects in real time. Multiple users can simultaneously edit and comment on the same design file, enabling efficient teamwork and streamlined communication.

- Design and Prototyping: Figma provides robust design tools for creating user interfaces, wireframes, and interactive prototypes. Designers can create and customize components, apply styles, and create smooth transitions and animations to prototype and showcase the user experience.
- Responsive Design: Figma supports responsive design by allowing designers to create designs that adapt to different screen sizes and devices. Design elements can be easily adjusted and resized to ensure consistency and usability across various platforms.
- Design System and Component Libraries: Figma allows designers to create design systems and component libraries, enabling consistency and efficiency in the design process. Designers can create and share reusable components, ensuring consistent design patterns and faster iterations.
- Version Control and Design History: Figma automatically saves design iterations and provides a design history feature, allowing designers to revert to previous versions or review design changes. This feature helps designers track progress and collaborate effectively.
- Developer Handoff: Figma simplifies the handoff process between designers and developers. It provides design specifications, CSS export, and code snippets, enabling developers to easily understand and implement the design elements.
- Integration with External Tools: Figma integrates seamlessly with various external tools and plugins, extending its functionality. It offers integrations with design handoff tools, project management platforms, and design libraries, enhancing the design workflow.

PDF Reader (e.g., Adobe Acrobat Reader): PDF Reader, such as Adobe Acrobat Reader, is a software application designed to view and interact with PDF (Portable Document Format) files. PDF files are widely used for sharing documents that preserve the original content's layout, formatting, and security across different platforms and devices.

- Download: Obtain a PDF reader like Adobe Acrobat Reader from your device's official website or app store - https://get.adobe.com/reader/.
- Installation: Follow the on-screen instructions to install the PDF reader software on your computer or mobile device.

Key Features of PDF Reader (e.g., Adobe Acrobat Reader):

- Viewing and Navigation: PDF readers provide a user-friendly interface for viewing PDF files. Users can zoom in and out, rotate pages, and navigate through the document using bookmarks, page thumbnails, or a table of contents.
- Text and Image Selection: PDF readers allow users to select and copy text and images from PDF files, making extracting and reusing content from documents convenient.
- Form Filling and Signatures: PDF readers support interactive form fields, enabling users to fill out forms directly within the PDF file. They also offer digital signature capabilities, allowing users to sign PDF documents electronically.
- Annotation and Markup: PDF readers provide tools for adding comments, highlights, underlines, and other annotations to PDF files. These features facilitate collaboration, review, and feedback on documents.
- Document Search: PDF readers include search functionality that allows users to search for specific words or phrases within the document. This helps locate information quickly and efficiently.
- Printing and Sharing: PDF readers enable users to print PDF files with control over page layout and formatting. They also provide options for sharing PDFs via email, cloud storage, or other file-sharing methods.
- Security and Encryption: PDF readers offer security features such as password protection, encryption, and digital rights management (DRM) to safeguard sensitive or confidential information within PDF documents.

Self-Check Sheet 1: Plan a website

1. What is the first step in identifying website purposes and intended audience?
   a) Conducting competitor analysis
   b) Defining target audience demographics
   c) Gathering client input
   d) Conducting user surveys

2. Which of the following is NOT a part of the 'Research and Analysis' step?
   a) User personas
   b) Competitor analysis
   c) Surveys or interviews
   d) Identifying secondary objectives

3. In the Step of "Establishing Website Purposes and Objectives", what is the purpose of identifying secondary objectives?
   a) To align with the client's goals
   b) To prioritize website features
   c) To define the target audience
   d) To support the primary purpose

4. What is the main purpose of the Step "Documenting the Findings"?
   a) To compile the client's objectives
   b) To share the website brief with the audience
   c) To gain insights into the target audience
   d) To serve as a reference point throughout the development

5. Which step is crucial in the website design process to ensure a successful outcome?
   a) Understanding Project Objectives
   b) Analyzing User Needs
   c) Considering Functional Requirements
   d) Recognizing Constraints and Limitations

6. What is the purpose of the Step "Create a design brief" in developing a conceptual design?
   a) To gather insights from competitor websites
   b) To create a cohesive visual design
   c) To define the site's structure and navigation
   d) To understand the project goals and objectives

7. What is the primary focus of "Define Website Structure and Navigation?"
   a) Wireframing and layout design
   b) Creating user pathways
   c) Gathering design requirements
   d) Establishing the site's hierarchy

8. Which design software is commonly used for creating user interfaces and interactive prototypes?
   a) Photoshop
   b) Figma
   c) Adobe XD
   d) Google Workspace

9. What is the key feature of Adobe XD?
   a) Image editing
   b) Vector-based design
   c) Content-aware tools
   d) Creating pixel-perfect designs

10. In the Step "Document and Communicate the Conceptual Design", what is the purpose of iterative refinement?
   a) To incorporate branding elements
   b) To ensure a seamless browsing experience
   c) To address client feedback and suggestions
   d) To create high-fidelity mockups

11. Which software for word processing, spreadsheet management, and presentation tools is used?
   a) Adobe Creative Cloud
   b) Google Workspace
   c) Microsoft 365
   d) Photoshop

12. Which step is crucial in identifying technical constraints that may impact the design process?
   a) Office Application Software
   b) Design-Related Software
   c) Considering Functional Requirements
   d) Recognizing Constraints and Limitations

13. What is the purpose of content-aware tools in Photoshop?
   a) To create high-fidelity mockups
   b) To manipulate photos and images
   c) To integrate with Adobe Creative Cloud
   d) To enhance user experience on the website

14. What is the primary focus of Step 1 in installing necessary software?
   a) To understand the specific software requirements
   b) To activate the software using the provided license
   c) To create pixel-perfect designs
   d) To sign in with your Adobe ID

15. Which software is specifically tailored for creating user interfaces and interactive prototypes?
   a) Adobe XD
   b) Figma
   c) Microsoft 365
   d) Photoshop

Answer Key 1: Plan a website

1. c) Gathering client input
2. d) Identifying secondary objectives
3. d) To support the primary purpose
4. d) To serve as a reference point throughout the development
5. a) Step 1: Understanding Project Objectives
6. d) To understand the project goals and objectives
7. b) Creating user pathways
8. b) Figma
9. b) Vector-based design
10. c) To address client feedback and suggestions
11. c) Microsoft 365
12. d) Step 4: Recognizing Constraints and Limitations
13. b) To manipulate photos and images
14. a) To understand the specific software requirements
15. a) Adobe XD

Job/Activity 1: Plan a website

Objective: To create a user-friendly, visually appealing website that effectively communicates the brand's message and achieves the set goals, whether they are related to sales, brand awareness, or information dissemination.

Working Procedure:

1. Identify the purpose and goals of the website.
2. Conduct thorough market research, including competitor analysis and target audience assessment.
3. Define the unique selling propositions and key differentiators of the website.
4. Develop a comprehensive site map to outline the website's structure and navigation flow.
5. Create wireframes and prototypes to visualize the layout and design of key webpages.
6. Determine the technologies and platforms required to support the website's functionalities.
7. Design the user interface (UI) and user experience (UX) to ensure an intuitive and visually appealing website.
8. Collaborate with web developers to implement the design using appropriate coding languages and frameworks.
9. Ensure the website is responsive and accessible across various devices and screen sizes.
10. Develop a content strategy aligned with the target audience's preferences and the website's goals.
11. Create and curate high-quality, SEO-optimized content, including text, images, and multimedia elements.
12. Integrate content management systems (CMS) to facilitate easy content updates and management.

Learning Outcome 2: Create the website using HTML

Assessment Criteria	1. Web layout is selected and collected as per client requirements. 2. Web layout is converted to HTML using Text editor. 3. Website is saved and executed.
Conditions and Resources	1. Applicable tools, utensils, and equipment as prescribed by competency standard. 2. Supply materials 3. Relevant ingredients 4. CBLM related to the learning outcome. 5. Instructions, job sheets, activity sheets, and standard operating procedures 6. Personal protective equipment
Contents	1 Selecting and Collecting Web Layout Based on Client Requirements. 2 Converting Web Layout to HTML Using a Text Editor. 3 Saving and executing a website.
Training Method	1 Discussion 2 Presentation 3 Demonstration 4 Guided Practice 5 Individual Practice 6 Project Work
Training Materials	1. CBLM 2. Handouts 3. Books, Manuals 4. Module/ Reference 5. Paper 6. Pen
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 2: Create the website using HTML

You must perform the learning steps below to achieve the objectives stated in this learning guide. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Students will ask the instructor about create the website using HTML	1. The instructor will provide the learning materials for` create the website using HTML.
2. Read the **Information sheet/s**	2. Information Sheet No 2: Create the website using HTML
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No 2.1: Create the website using HTML Answer key No 2.1: Create the website using HTML
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet Individual Activity: Job Sheet No 1: Create an HTML Page Specification Sheet 1: Create an HTML Page Job Sheet No 2: Create an HTML Form Specification Sheet 2: Create an HTML Form

Information Sheet 2: Create the website using HTML

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

2.1. Web Layout Based on Client Requirements.
2.2. Web Layout to HTML Using a Text Editor.
2.3. Saving and executing a website.

2.1. Web Layout Based on Client Requirements

Selecting and collecting the appropriate web layout is a crucial step in website development. The web layout is the foundation for a website's overall design and user experience. This information sheet provides a detailed overview of different web layout formats, such as PSD, PDF, Figma, and XD, and guides the selection and collection process based on client requirements.

2.1.1 PSD (Photoshop Document):

PSD is a widely used file format created and edited in Adobe Photoshop. It allows designers to create and manipulate various design elements, such as images, graphics, and layers. When selecting a PSD web layout, consider the following:

- Compatibility: Ensure the client and the development team can access Adobe Photoshop to open and modify PSD files.
- Collaboration: PSD files may require additional software or plugins for collaboration and version control.
- Exporting: For web development, PSD layouts must be exported or converted into other formats, such as PNG or JPEG.

2.1.2 PDF (Portable Document Format):

PDF is a versatile file format that maintains the visual integrity of documents across different platforms and devices. It offers a range of advantages for web layout selection:

- Accessibility: PDF files can be easily viewed and shared using widely available software such as Adobe Acrobat Reader.
- Compatibility: PDF layouts can be opened and reviewed on various devices, including desktops, tablets, and smartphones.
- Design Preservation: PDFs preserve the layout, typography, and formatting of the original design, ensuring accurate representation.

2.1.3 Figma:

Figma is a cloud-based design and prototyping tool that allows real-time collaboration among designers and developers. When considering Figma as a web layout format:

- Collaboration: Figma enables multiple stakeholders to work simultaneously on a design, providing seamless collaboration.
- Interactive Prototyping: Figma offers advanced prototyping capabilities, allowing designers to create interactive and clickable mockups for user testing and feedback.
- Developer Handoff: Figma simplifies the handoff process by generating design specifications, CSS styles, and assets, facilitating a smoother transition from design to development.

2.1.4 XD (Adobe XD):

Adobe XD is a user experience design tool tailored to create web and mobile interfaces. It offers a range of features to support the web layout selection process:

- Vector-based Design: XD uses vectors to create scalable, resolution-independent layouts, ensuring consistency across different screen sizes.
- Prototyping: XD allows designers to create interactive prototypes with built-in animations, transitions, and micro-interactions.
- Design System Integration: XD seamlessly integrates with design systems, enabling designers to maintain a consistent design language and easily update layouts when necessary.

2.1.5 Selecting and Collecting Web Layout:

When selecting and collecting a web layout based on client requirements, consider the following steps:

- Understand Client Needs: Gather comprehensive information about the client's vision, goals, and target audience to align the web layout with their requirements.

- Evaluate Design Tools: Assess the capabilities and compatibility of different design tools, such as Photoshop, PDF editors, Figma, and Adobe XD, based on the project's collaboration and design needs.

- Collaborate with Designers: Work closely with designers to ensure the selected layout format aligns with their preferred design software and processes.

- Obtain Client Approval: Present the selected web layout options to the client, providing visual representations and prototypes, if applicable, to secure their approval and feedback.

- Document and Share: Collect the approved web layout files and share them with the development team, ensuring that all necessary design assets and specifications are provided.

2.2. Web Layout to HTML Using a Text Editor

Converting a web layout design to HTML is a fundamental step in website development. Steps to convert Web Layout are:

- Understand the Web Layout Design.
- Set Up the Development Environment.
- Create the HTML File.
- HTML Document Structure.
- Convert Design Elements to HTML.
- Test and validate.
- Responsive Design Considerations.
- Browser Compatibility.
- Accessibility Considerations.
- Code Optimization.
- Collaboration and Version Control.

Converting a web layout design to HTML using a text editor requires attention to detail, an understanding of HTML markup, and adherence to best practices. By following the steps outlined in this information sheet, you can effectively convert a web layout design into HTML and lay the foundation for further web development and integration with backend technologies.

2.2.1 The Structure of HTML (Hypertext Markup Language)

HTML (Hypertext Markup Language) is the standard language for creating web pages. It defines the structure and content of a web page by using a set of tags and elements. Here is an overview of the structure of HTML:

- **Document Type Declaration (DTD):**
  HTML documents start with a Document Type Declaration specifying the HTML version and document type. For example, in HTML5, the declaration is:

```
<!DOCTYPE html>
```

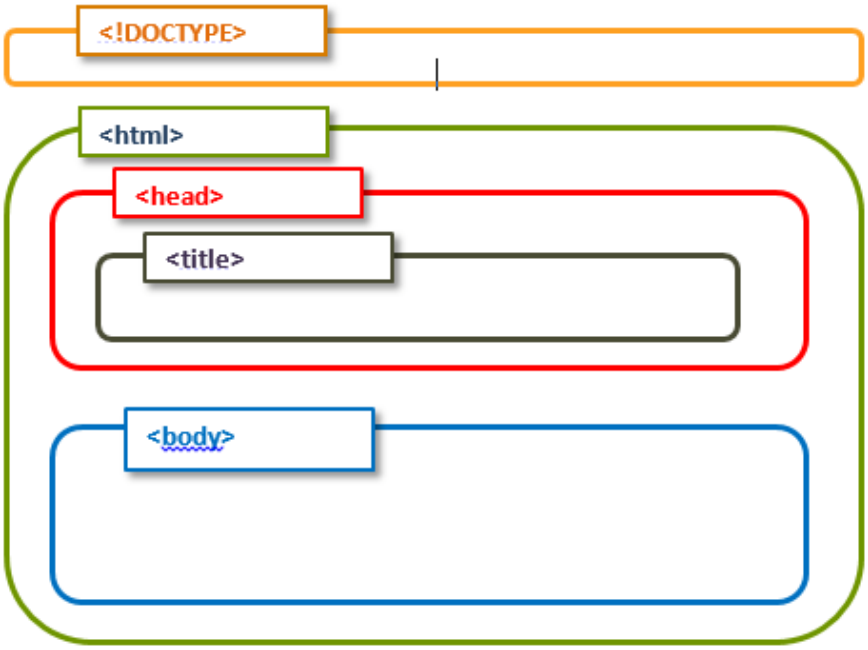
- **HTML Element**:
  The HTML element is the root element of an HTML document. It wraps the page's entire content and is represented by the <html> tag. All other elements are descendants of the HTML element.

```
<html>
<!-- Content goes here -->
</html>
```

- **Head Section:**

The <head> section contains meta-information about the HTML document, such as the page title, character encoding, linked stylesheets, and scripts. It does not directly render any visible content on the page.

```
<head>
<!-- Meta tags, stylesheets, scripts, etc. -->
</head>
```



HTML Structure.

- **Body Section:**
  The **<body>** section contains the visible content of the web page, including text, images, links, and other elements that are rendered in the browser.

```
<body>
<!-- Visible content goes here -->
</body>
```

- **Structural Elements:**
  HTML provides a set of structural elements that define the layout and organization of the content within the <body> section. These elements include headings, paragraphs, lists, divisions, and more. Here are a few examples:

```
<h1>Heading 1</h1>
<p>This is a paragraph.</p>
<ul>
  <li>List item 1</li>
  <li>List item 2</li>
</ul>
<div>This is a division.</div>
```

- **Semantic Elements:**
  HTML5 introduced semantic elements that provide meaning and structure to the content. These elements describe the type of content they contain, making it easier for search engines and assistive technologies to understand the page. Examples of semantic elements include **<header>, <nav>, <article>, <section>, <footer>,** and more.

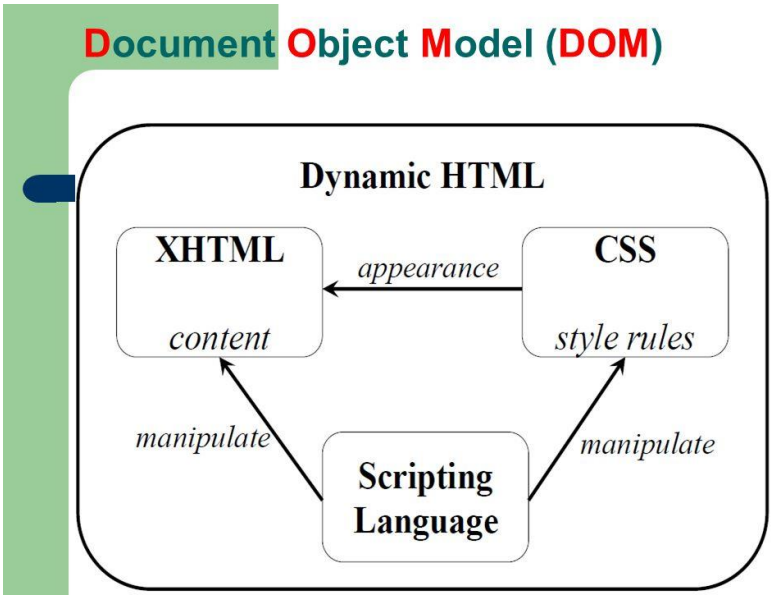
```
<header>
<!-- Header content -->
</header>
<nav>
<!-- Navigation menu -->
</nav>
<article>
<!-- Article content -->
</article>
<section>
<!-- Section content -->
</section>
<footer>
<!-- Footer content -->
</footer>
```

- **Tags and Attributes:**
  HTML tags are used to define different elements and are enclosed in angle brackets (<>). Tags can have attributes that provide additional information or modify the element's behavior. Attributes are specified within the opening tag of an element. Here's an example:

```
<a href="https://example.com">Link</a>
```

  In this example, <a> is the anchor tag for creating links. The 'href' attribute specifies the URL that the link points to.

- **DHTML Tags**
  DHTML (Dynamic HTML) is a combination of technologies used to create dynamic and interactive web pages. It combines HTML, CSS (Cascading Style Sheets), and JavaScript for more dynamic and responsive web content. DHTML enables the manipulation of HTML elements, styles, and behavior on the client side, providing a more interactive user experience.



DHTML Model.

- **DHTML Tags:**
  DHTML doesn't introduce new tags but utilizes existing HTML tags, JavaScript, and CSS to create dynamic effects. Here are some commonly used tags and techniques in DHTML:

  - ** ** and **:** These tags are frequently used in DHTML to create containers for grouping and styling content. They can be manipulated using JavaScript to change their properties, visibility, and position on the page.
  - **<script>**: The <script> tag embeds JavaScript code within an HTML document. JavaScript provides interactivity and dynamic behavior in DHTML, allowing animations, event handling, and DOM manipulation.
  - **Event Handlers**: DHTML heavily relies on event handlers to respond to user actions or specific events. Event handlers can be added to HTML elements using attributes such as **onclick, onmouseover, onmouseout,** etc. These event handlers call JavaScript functions that define the behavior in response to the events.
  - **CSS:** Cascading Style Sheets (CSS) are used in DHTML to control the presentation and styling of HTML elements. CSS can be dynamically modified through JavaScript to change the appearance of elements or create animations and transitions.
  - **Dynamic Content Loading:** DHTML enables the dynamic loading of content into a web page without requiring a full page refresh. This is often achieved using techniques like AJAX (Asynchronous JavaScript and XML) or modern approaches like Fetch API and XMLHttpRequest.
  - **Animation and Effects:** DHTML allows for the creation of animations and effects using JavaScript and CSS. This can include transitions, fade-ins, slide-outs, and other visual effects that enhance the user experience.

Entities and Attributes in HTML

In HTML, entities, and attributes are two different concepts related to the structure and content of an HTML document.

- **Entities:**

Entities in HTML are special character codes used to represent characters with special meanings or cannot be easily typed or displayed directly in HTML. Entities start with an ampersand (&) and end with a semicolon (;). They are primarily used to display reserved characters or avoid HTML syntax conflicts. For example:

- **<** represents the less-than symbol “<”.
- **>** represents the greater-than symbol >.
- **&** represents the ampersand itself &.
- **"** represents the double quotation mark ".

Entities are often used when you want to display special characters or symbols, such as copyright **(©)**, registered trademark **(®),** or non-breaking space **( ).**

- **Attributes:**
  Attributes in HTML provide additional information or modify the behavior of HTML elements. They are specified within the opening tag of an element. Attributes consist of a name and a value, separated by an equal sign (=) and enclosed in quotation marks.

  Attributes can be classified into two types:

- **Global attributes:** These attributes can be used with any HTML element. Some common global attributes include class, id, style, title, and data-* attributes. For example:

  Html code

```
<div class="container" id="myDiv" style="color: red;" data-value="123">Content</div>
```

- **Element-specific attributes:** These attributes are specific to certain HTML elements and provide additional functionality or behavior for those elements. For example, the <a> tag has attributes like href for specifying the link URL and target for determining how the link opens. Example:

  Html code

```
<a href="https://example.com" target="_blank">Click here</a>
```

  Attributes can be used to define the appearance, behavior, or functionality of HTML elements, such as setting the size of an image (**width** and **height** attributes), specifying the source of an iframe (**src** attribute), or defining alternative text for an image (**alt** attribute).

  It's important to note that not all attributes apply to all HTML elements. Each element has its own set of valid attributes, and using inappropriate attributes may result in invalid HTML markup.

  Entities and attributes are integral to HTML, helping to represent special characters correctly and providing additional information to elements.

2.3. Saving and Publishing HTML Pages

Saving and publishing HTML pages involves storing the HTML code and making it accessible to others online. Here's a step-by-step guide on how to save and publish HTML pages:

- Saving the HTML Page:
  - Create or edit your HTML page using a text editor or an integrated development environment (IDE).

- Save the file with a .html extension. For example, you can save it as index.html.
- Choose a relevant file name that reflects the content of your webpage.

- Local Preview:
  - Open the saved HTML file in a web browser to preview and verify that the page appears as intended.
  - Double-click the HTML file, which will open in the default web browser.

- Publishing the HTML Page:
  - To make your HTML page accessible to others online, you need to publish it to a web server or hosting service.
  - Select a web hosting service or set up your web server to host your HTML files. Some popular hosting providers include GitHub Pages, Netlify, and traditional web hosting services.
  - Follow the instructions provided by the hosting service to upload your HTML file to the server. This may involve using FTP (File Transfer Protocol) or a web-based file manager the hosting service provides.

- Accessing the Published HTML Page:
  - Once you have published your HTML page, others can access it using its URL.
  - The URL typically consists of the domain name or hosting provider's address followed by the path to your HTML file. For example, if your domain is "example.com" and your HTML file is named "index.html", the URL would be "http://example.com/index.html".
  - Share the URL with others to allow them to access your published HTML page.

Note: If you don't have a web hosting service or want to share your HTML page locally, you can compress the entire folder containing the HTML file and any associated assets (such as CSS stylesheets or images) into a ZIP file. Then, others can extract the ZIP file and open the HTML file locally on their machines.

Self-Check Sheet 2: Create the website using HTML

1. What does HTML stand for?
   Answer:

2. What is the purpose of HTML?
   Answer:

3. What is the root element of an HTML document?
   Answer:

4. What are the key considerations when selecting a PSD web layout?
   Answer:

5. Name three advantages of using PDF as a web layout format.
   Answer:

6. What are the main benefits of using Figma for web layout design?
   Answer:

7. What are the notable features of XD (Adobe XD) that support web layout selection?
   Answer:

8. What are the five steps in selecting and collecting a web layout based on client requirements?
   Answer:

9. What is the purpose of the "Head" section in an HTML document?
   Answer:

10. Give three examples of structural elements in HTML.
    Answer:

11. How do semantic elements in HTML benefit search engines and assistive technologies?
    Answer:

12. Name two commonly used tags in DHTML for creating containers and styling content.
    Answer:

13. What are entities used for in HTML, and provide an example?
    Answer:

Answer Key 2: Create the website using HTML

1. What does HTML stand for?
   Answer: HTML stands for Hypertext Markup Language.

2. What is the purpose of HTML?
   Answer: HTML is used to structure and present content on the web.

3. What is the root element of an HTML document?
   Answer: The root element is <html>.

4. What are the key considerations when selecting a PSD web layout?
   Answer: Compatibility, Collaboration, Exporting.

5. Name three advantages of using PDF as a web layout format.
   Answer: Accessibility, Compatibility, Design Preservation.

6. What are the main benefits of using Figma for web layout design?
   Answer: Collaboration, Interactive Prototyping, Developer Handoff.

7. What are the notable features of XD (Adobe XD) that support web layout selection?
   Answer: Vector-based Design, Prototyping, and Design System Integration.

8. What are the five steps in selecting and collecting a web layout based on client requirements?
   Answer: Understand Client Needs, Evaluate Design Tools, Collaborate with Designers, Obtain Client Approval, Document and Share.

9. What is the purpose of the "Head" section in an HTML document?
   Answer: The "Head" section contains meta information about the HTML document, such as the page title, character encoding, linked stylesheets, and scripts.

10. Give three examples of structural elements in HTML.
    Answer: Headings, paragraphs, lists.

11. How do semantic elements in HTML benefit search engines and assistive technologies?
    Answer: Semantic elements provide meaning and structure to the content, making it easier for search engines and assistive technologies to understand the page.

12. Name two commonly used tags in DHTML for creating containers and styling content.
    Answer: and .

13. What are entities used for in HTML, and provide an example?
    Answer: Entities are used to represent special characters or symbols. Example: < represents the less-than symbol "<".

Job Sheet 2.1: Create an HTML page

Objective: To create a simple HTML page that contains a heading, a paragraph of text, an image, and HTML graphics, media, and YouTube videos.

Steps:

1. Open a text editor or HTML editor.
2. Type the HTML code:
3. Add an image file, save it in the same directory as the HTML file.
4. Add a video file or an audio file, save it in the same directory as the HTML file.
5. Save the HTML file.
6. Open the HTML file in a web browser.

Specification Sheet 2.1: Create an HTML page

Necessary tools and equipment

Sl. No	Name of Tools & Equipment	Specification	Unit	Quantity
1	Computer	Minimum Corei3 with 4GB RAM	No.	1
2	Code Editor	Any	No.	1
3	Image File	Download Any from Internet	No.	1
4	Video File	Download Any from Internet	No.	1
5	Audio File	Download Any from Internet	No.	1

Other Specifications

1. The HTML page must contain a heading at least 20 characters long.
2. The HTML page must contain a paragraph of text that is at least 100 characters long.
3. The HTML page must contain an image of at least 200 pixels wide and 200 pixels high.
4. The HTML page must contain a canvas element that is 200 pixels wide and 200 pixels high.
5. The HTML page must contain an SVG element 200 pixels wide and 200 pixels high.
6. The HTML page must contain a video element that plays a video file.
7. The HTML page must contain an audio element that plays an audio file.
8. The HTML page must contain an iframe element that embeds a YouTube video.
9. Save the HTML file. as "my_first_html_page.html".

Job Sheet 2.2: Create an HTML Form

Objectives:

- Create a form to collect user input.
- Include various form elements such as text fields, checkboxes, radio buttons, and dropdown lists.
- Apply appropriate attributes to enhance functionality, validation, and usability.
- Ensure accessibility by using proper labels and placeholder text.
- Validate and process the form data on the server-side (if applicable).

Procedure:

- Open a text editor or IDE to create a new HTML file.
- Set up the basic HTML structure with the <**html**>, <**head**>, and <**body**> tags.
- Inside the <**body**> tag, create a <**form**> element to encapsulate the form content.
- Add relevant form elements within the <**form**> element, such as <**input**>, <**textarea**>, <**select**>, and <**button**> elements, based on the requirements and objectives.
- Use appropriate attributes, such as name, type, value, placeholder, required, and disabled, to customize the behavior and appearance of the form elements.
- Associate <**label**> elements with the corresponding form elements using the for an attribute or by nesting the form element within the <**label**> element.
- Apply CSS styling to the form elements to improve the visual presentation and user experience, if desired.
- Test the form in a web browser to ensure proper functionality, including input validation, default values, and interactivity.
- If needed, implement server-side processing of the form data using a programming language or server-side framework.
- Conduct thorough testing to validate the form's behavior, including submitting valid and invalid data, handling required fields, and verifying data storage or transmission.
- Deploy the form to a web server or integrate it into an existing website.

Specification Sheet 2.2: Create an HTML Form

Necessary tools and equipment

Sl. No	Name of Tools & Equipment	Specification	Unit	Quantity
1	Computer	Minimum Corei3 with 4GB RAM	No.	1
2	Code Editor	Any	No.	1
3	Software (Browser)	Latest Version	No.	01
4	Internet connections	High Speed	No.	01

Other Specifications:

1 Text Input Field:
- Attribute: type="text"
- Required Attribute: required
- Optional Attributes: name, placeholder, value, maxlength, pattern

2 Textarea:
- Attribute: <textarea></textarea>
- Required Attribute: required
- Optional Attributes: name, placeholder, rows, cols

3 Select Dropdown:
- Attribute: <select></select>
- Required Attribute: required
- Optional Attributes: name
- Nested Element: <option></option>

4 Radio Buttons:
- Attribute: type="radio"
- Required Attribute: required
- Optional Attributes: name, value, checked

5 Checkboxes:
- Attribute: type="checkbox"
- Optional Attributes: name, value, checked

6 File Uploader:
- Attribute: type="file"
- Optional Attributes: name

7 Submit Button:
- Attribute: type="submit"
- Optional Attributes: value

Validation:
- Implement the required attribute for all fields that must be completed before submission.
- Input Pattern Validation: Use the pattern attribute with regular expressions to validate specific input patterns, such as email addresses, phone numbers, or numeric values.

Learning Outcome 3: Test the website

Assessment Criteria	1. The website is tested to ensure functionality and errors are corrected per standard operating procedure. 2. The website is opened with common browsers and checked for accessibility, readability, legibility, and presentation in accordance with client requirements. 3. The website is evaluated for fitness in terms of the purpose, target audience, and specifications of client requirements.
Conditions and Resources	1. Applicable tools, utensils, and equipment as prescribed by competency standards. 2. Supply materials 3. Relevant ingredients 4. CBLM related to the learning outcome. 5. Instructions, job sheets, activity sheets, and standard operating procedures 6. Personal protective equipment 7. Module/reference
Contents	1. Testing and Correcting Website Functionality and Errors Following Standard Operating Procedure 2. Checking Website Accessibility, Readability, Legibility, and Presentation Across Common Browsers 3. Evaluating Website Fitness Based on Purpose, Target Audience, and Client Requirements Specifications
Training Method	1 Discussion 2 Presentation 3 Demonstration 4 Guided Practice 5 Individual Practice 6 Project Work
Training Materials	1. CBLM 2. Handouts 3. Books, Manuals 4. Module/ Reference 5. Paper 6. Pen
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 3: Test the website

You must perform the learning steps below to achieve the objectives stated in this learning guide. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Students will ask the instructor about test the website.	1. The instructor will provide the learning materials for test the website.
2. Read the **Information sheet/s**	2. Information Sheet No 3: Test the website
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No 3: Test the website Answer key No 3: Test the website
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet Job sheet 3: Test and Correct Website Functionality and Errors Specification sheet 3: Test and Correct Website Functionality and Errors

Information Sheet 3: Test the website

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

3.1 Website Functionality and Errors Following Standard Operating Procedure
3.2 Website Accessibility, Readability, Legibility, and Presentation Across Common Browsers
3.3 Website Fitness Based on Purpose, Target Audience, and Client Requirements Specifications

3.1 Testing and Correcting Website Functionality and Errors

Testing a website for functionality and identifying and correcting errors are crucial steps in web development. A website should perform seamlessly, free from bugs and glitches, to provide the best user experience. This information sheet outlines the essential aspects of testing and correcting website functionality and errors, following a standard operating procedure (SOP). It also includes relevant examples to illustrate the concepts.

3.1.1 Types of Testing:

- Functionality Testing: This type of testing verifies that all the functions and features of the website are working as intended. It includes testing forms, links, navigation, media elements, and interactive components. For example, a website's contact form should be tested to ensure it properly sends messages to the recipient's email.

- Compatibility Testing: This testing ensures the website functions correctly across browsers, devices, and operating systems. It is essential to check how the website appears and behaves on popular browsers like Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.

- Load Testing: Load testing assesses the website's performance under various user loads. It helps identify how the website behaves during peak traffic. For instance, an e-commerce website must be capable of handling a high number of simultaneous user requests during holiday seasons or special promotions.

- Usability Testing: Usability testing involves evaluating the website's user-friendliness. Testers analyze the site's layout, navigation, and overall user experience. Feedback from usability testing helps make informed decisions to enhance user satisfaction.

3.1.2 Standard Operating Procedure (SOP) for Testing and Correcting Websites:

- Define Testing Goals: Clearly outline the testing objectives and goals based on the website's functionalities and client requirements.

- Identify Test Scenarios: Develop a set of test scenarios to cover different aspects of the website, such as form submissions, database connections, or user registrations.

- Select Testing Tools: Choose appropriate tools that align with the website's technologies and requirements. For example, tools like Selenium or Cypress can be used for automated testing.

- Execute Tests: Perform the tests following the defined test scenarios. For manual testing, check all functions across different browsers and devices.

- Bug Reporting: Any issues or bugs identified during testing should be documented precisely and reported for correction.

- Prioritize and Fix Issues: Work with web developers and designers to prioritize identified issues and implement necessary corrections or improvements.

- Retesting: After bug fixes, conduct retesting to ensure the issues have been resolved and no new problems have arisen.

3.1.3 Examples:

Example 1 – Functionality Testing:

Scenario: Testing the login functionality of a social networking website.

Steps:

a. Enter valid credentials (username and password) and click the "Login" button.
b. Verify that the user is redirected to the dashboard upon successful login.
c. Enter invalid credentials and ensure that appropriate error messages are displayed.

Example 2 - Compatibility Testing:

Scenario: Testing the website's responsiveness on different devices.

Steps:

a. Open the website on a desktop using different browsers (Chrome, Firefox, etc.).
b. Check the website on various mobile devices (smartphone and tablet) across different platforms (iOS, Android).

Testing and correcting website functionality and errors are essential for a seamless user experience. By following a standard operating procedure, developers can ensure that the website meets client requirements and functions smoothly across various platforms. Regular testing throughout the development process can significantly reduce the chances of critical errors and enhance the website's overall quality.

3.2 Website Accessibility, Readability, Legibility, and Presentation

Ensuring a website is accessible, readable, legible, and well-presented across common browsers is crucial for providing an inclusive and user-friendly online experience. This information sheet outlines the key aspects of checking website accessibility, readability, legibility, and presentation and guides on performing these checks across popular browsers. Relevant examples are included to illustrate the concepts.

3.2.1 **Website Accessibility**:

- Definition: Website accessibility refers to the practice of designing and developing websites that can be accessed and used by individuals with disabilities. It ensures that people with visual, hearing, mobility or cognitive impairments can navigate and interact with the website effectively.

  Accessibility Testing: Perform the following checks to assess website accessibility:
  - Use screen readers to verify whether the website content is properly read.
  - Verify if all images have appropriate alt text for users who rely on screen readers.
  - Ensure that form fields are properly labeled for easy comprehension and navigation.

3.2.2 **Readability and Legibility:**

- Readability: Readability refers to the ease with which users can understand the content on a website. It involves using clear and concise language, appropriate typography, and well-structured text.

- Legibility: Legibility relates to the clarity and visibility of the website's text. It focuses on font choices, font sizes, contrast ratios, and spacing to enhance readability.

- Readability and Legibility Testing: Perform the following checks to assess website readability and legibility:

  - Check for appropriate font sizes and styles that are easy to read.
  - Verify if there is sufficient contrast between the text and background for optimal visibility.
  - Ensure proper line spacing and paragraph spacing for improved readability.

3.2.3 **Presentation Across Common Browsers:**

- Browser Compatibility: Different web browsers may render websites differently. Therefore, checking how the website appears and functions across common browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge is essential.

- Presentation Testing: Perform the following checks to assess website presentation across common browsers:

  - Open the website in each browser to verify consistent layout, colors, and styling.
  - Check for any visual inconsistencies or misalignments.
  - Ensure that interactive elements like buttons and links function correctly across all browsers.

3.2.4 **Examples:**

Example 1 - Website Accessibility:
Scenario: Testing the website's accessibility for users with visual impairments.
Steps:

a. Use a screen reader to navigate the website and ensure all content is properly read.
b. Verify that all images and other non-text content are provided alternative text descriptions.

Example 2 - Readability and Legibility:
Scenario: Checking the readability and legibility of website text.
Steps:

a. Check the font size and style to ensure they are suitable for comfortable reading.
b. Verify that there is sufficient contrast between the text and background colors.
c. Ensure that line spacing and paragraph spacing are appropriate for improved readability.

Example 3 - Presentation Across Common Browsers:
Scenario: Verifying website presentation on different browsers.
Steps:

a. Open the website in Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.
b. Compare the layout, colors, and styling to ensure consistency across all browsers.
c. Check interactive elements like buttons and links to ensure they function correctly in each browser.

Checking website accessibility, readability, legibility, and presentation across common browsers is essential for providing an inclusive and user-friendly web experience. By conducting thorough tests and following best practices, web developers can ensure their websites are accessible to all users and offer a consistent and visually appealing presentation across different browsers. Regular checks and improvements enhance user experience and broader accessibility for diverse audiences.

3.3 Evaluating Website Fitness

Evaluating the fitness of a website based on its purpose, target audience, and client requirements is crucial for ensuring its effectiveness and alignment with the desired goals.

Understanding the Website Purpose:

- Define the Purpose: Identify the primary purpose of the website, such as promoting a product or service, providing information, facilitating e-commerce transactions, or building an online community.

- Assess Alignment: Evaluate whether the website's content, design, and functionalities align with the defined purpose. Check if the website effectively communicates the intended message and achieves the desired goals. For example, if the purpose is to promote a product, assess whether the website prominently showcases the product features, benefits, and call-to-action elements.

Defining the Target Audience:

- Identify Demographics: Determine the characteristics of the target audience, including age, gender, location, occupation, and specific user needs. Consider their preferences, interests, and behavior when evaluating website fitness.

- Analyze User Experience: Assess whether the website caters to the target audience's expectations and provides a seamless user experience. For example, if the target audience comprises tech-savvy individuals, evaluate if the website incorporates interactive features and modern design elements to engage them effectively.

Evaluating Against Client Requirements Specifications:

- Review Client Requirements: Understand the specific requirements outlined by the client, such as design preferences, functional specifications, content guidelines, and any branding or visual identity considerations.

- Assess Compliance: Evaluate whether the website meets the client's specified requirements. Check if the design elements, color schemes, typography, and overall visual presentation align with the client's brand identity and preferences. Ensure that the website's functionalities meet the outlined specifications.

Assessing Website Fitness:

- Content Evaluation: Analyze the website's content to determine if it effectively communicates the desired information to the target audience. Assess the clarity, relevance, and accuracy of the content.

- Usability and Navigation: Evaluate the website's usability and ease of navigation. Check if the website structure allows users to find information quickly and navigate between pages intuitively. Assess if the website's layout and organization promote a seamless user experience.

- Performance and Speed: Assess the website's performance and loading speed. A slow-loading website can lead to user frustration and abandonment. Ensure the website loads quickly and optimally across different devices and network conditions.

- Mobile Responsiveness: Evaluate the website's responsiveness across various devices, including smartphones and tablets. Verify if the website adapts to different screen sizes and resolutions, providing an optimal user experience on mobile devices.

- SEO Considerations: Assess whether the website incorporates basic search engine optimization (SEO) practices. Check if relevant keywords, meta tags, and structured data are properly implemented to enhance search engine visibility and organic traffic.

Examples:

Example 1 - Purpose and Fitness Evaluation:
Scenario: Evaluating the fitness of an e-commerce website.
Steps:

a. Define the purpose: Is the website's primary purpose to facilitate online transactions and promote products?
b. Evaluate alignment: Check if the website effectively showcases products, offers a secure checkout process, and provides comprehensive product information and reviews.

Example 2 - Target Audience and Fitness Evaluation:
Scenario: Assessing the fitness of a website targeting senior citizens.
Steps:

a. Identify the target audience: Are the website's content and design tailored to the needs and preferences of senior citizens?
b. Analyze user experience: Check if the website incorporates clear and legible fonts, intuitive navigation, and accessibility features such as text resizing and contrast adjustments.

Example 3 - Client Requirements and Fitness Evaluation:
Scenario: Evaluating a website designed for a luxury brand.
Steps:

a. Review client requirements: Are there specific design preferences, color schemes, and brand guidelines outlined by the client?
b. Assess compliance: Check if the website reflects the luxurious aesthetic through high-quality visuals, elegant design elements, and a sophisticated user interface.

Evaluating the fitness of a website based on its purpose, target audience, and client requirements ensures its effectiveness in achieving the desired goals. By assessing alignment, usability, performance, mobile responsiveness, and compliance with client specifications, web developers can optimize the website to meet user expectations and deliver an exceptional online experience.

Self-Check Sheet 3: Test the website

1. Which type of testing focuses on verifying that all functions and features of a website are working as intended?
    a) Compatibility testing
    b) Functionality testing
    c) Load testing
    d) Usability testing

2. Which type of testing ensures that a website functions correctly across different browsers, devices, and operating systems?
    a) Functionality testing
    b) Usability testing
    c) Compatibility testing
    d) Load testing

3. What does load testing assess?
    a) Website Accessibility
    b) Website readability
    c) Website performance under user loads
    d) Website navigation

4. What is the purpose of usability testing?
    a) To check website accessibility
    b) To evaluate website performance
    c) To assess website user-friendliness
    d) To verify website compatibility

5. What is the first step in the standard operating procedure for testing and correcting websites?
    a) Define testing goals
    b) Identify test scenarios
    c) Select testing tools
    d) Execute tests

6. Which testing tool can be used for automated testing?
    a) Selenium
    b) Usability testing
    c) Load testing
    d) Compatibility testing

7. What should be done after identifying issues or bugs during testing?
    a) Prioritize and fix issues
    b) Define testing goals
    c) Identify test scenarios
    d) Select testing tools

8. What should be done after bug fixes have been implemented?
    a) Define testing goals
    b) Identify test scenarios
    c) Execute tests
    d) Conduct retesting

9. What does website accessibility refer to?
    a) The ease of reading website content
    b) The practice of designing websites for individuals with disabilities
    c) The compatibility of a website with different browsers
    d) The performance of a website under user loads

10. What should be checked to assess website accessibility?
    a) Font sizes and styles
    b) Contrast between text and background
    c) Screen reader compatibility
    d) Website responsiveness

11. What does readability focus on?
    a) Font choices and sizes
    b) Interaction with website forms
    c) Performance under user loads
    d) Website navigation

12. Which factor relates to the clarity and visibility of website text?
    a) Readability
    b) Usability
    c) Compatibility
    d) Legibility

13. What should be checked to assess website legibility?
    a) Navigation and layout
    b) Line spacing and paragraph spacing
    c) Contrast between text and background
    d) Website responsiveness

14. What does browser compatibility testing aim to ensure?
    a) Proper functioning of website forms
    b) Performance under user loads
    c) Consistent presentation across different browsers
    d) Accessible content for users with disabilities

15. Which step should be taken to assess website presentation across common browsers?
    a) Check font sizes and styles
    b) Verify proper line spacing and paragraph spacing
    c) Open the website in different browsers and compare the layout and styling
    d) Use screen readers to navigate the website

Answer Key 3: Test the website

1. Which type of testing focuses on verifying that all functions and features of a website are working as intended?
    a) Compatibility testing
    b) **Functionality testing**
    c) Load testing
    d) Usability testing

2. Which type of testing ensures that a website functions correctly across different browsers, devices, and operating systems?
    a) Functionality testing
    b) Usability testing
    c) **Compatibility testing**
    d) Load testing

3. What does load testing assess?
    a) Website Accessibility
    b) Website readability
    c) **Website performance under user loads**
    d) Website navigation

4. What is the purpose of usability testing?
    a) To check website accessibility
    b) To evaluate website performance
    c) **To assess website user-friendliness**
    d) To verify website compatibility

5. What is the first step in the standard operating procedure for testing and correcting websites?
    a) **Define testing goals**
    b) Identify test scenarios
    c) Select testing tools
    d) Execute tests

6. Which testing tool can be used for automated testing?
    a) **Selenium**
    b) Usability testing
    c) Load testing
    d) Compatibility testing

7. What should be done after identifying issues or bugs during testing?
    a) **Prioritize and fix issues**
    b) Define testing goals
    c) Identify test scenarios
    d) Select testing tools

8. What should be done after bug fixes have been implemented?
    a) Define testing goals
    b) Identify test scenarios
    c) Execute tests
    d) **Conduct retesting**

9. What does website accessibility refer to?
    a) The ease of reading website content
    b) **The practice of designing websites for individuals with disabilities**
    c) The compatibility of a website with different browsers
    d) The performance of a website under user loads

10. What should be checked to assess website accessibility?
    a) Font sizes and styles
    b) Contrast between text and background
    c) **Screen reader compatibility**
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    c) **Consistent presentation across different browsers**
    d) Accessible content for users with disabilities

15. Which step should be taken to assess website presentation across common browsers?
    a) Check font sizes and styles
    b) Verify proper line spacing and paragraph spacing
    c) **Open the website in different browsers and compare the layout and styling**
    d) Use screen readers to navigate the website

Job Sheet 3: Test and Correct Website Functionality and Errors

Working Procedure:

Step 1: Preparing for Testing

- Gather all necessary website files, including HTML, CSS, JavaScript, and media assets.
- Ensure the development environment has the required software and tools.
- Familiarize yourself with the website's purpose, target audience, and client requirements specifications.

Step 2: Conducting Functionality Testing

- Use a checklist to test the website's functionality, including links, forms, navigation, and interactive elements.
- Identify any functional issues or errors, and document them for correction.
- Refer to the documented issues and errors and apply the necessary fixes in the website's code.
- Test the corrected functionalities to ensure they are working as expected.

Step 3: Checking Website Accessibility

- Use accessibility evaluation tools to check the website's compliance with accessibility standards, such as WCAG guidelines.
- Identify accessibility issues, including missing alternative text, improper heading structure, and keyboard navigation problems.
- Address the identified accessibility issues by appropriately adjusting the website's code and content.

Step 4: Ensuring Cross-Browser Compatibility

- Test the website across common browsers (e.g., Google Chrome, Mozilla Firefox, Microsoft Edge, Safari) to check for any rendering differences or issues.
- Make necessary adjustments to ensure consistent presentation and functionality across browsers.

Specification Sheet 3: Test and Correct Website Functionality and Errors

Necessary tools and equipment

Sl. No	Name of Tools & Equipment	Specification	Unit	Quantity
1	Computer	Minimum Corei3 with 4GB RAM	No.	1
2	Code Editor	Any - Latest Version	No.	1
3	Software (Browser)	Latest Version - Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari	No.	04
4	Internet connections	High Speed	No.	01
5	HTML Template	Use any Template from the Internet for Testing Purpose	No.	01

Other Specifications:

Functionality Testing Specifications:

1. Verify all internal and external links, ensuring they are working correctly.
2. Test form submissions, including validation and error handling for user inputs.
3. Check navigation menus for proper functionality and active states.
4. Test interactive elements (e.g., buttons, sliders, accordions) for responsiveness and functionality.
5. Ensure all media elements (images, videos) load properly and have appropriate fallbacks.

Accessibility Testing Specifications:

1. Verify that all images have descriptive alternative text (alt attributes) for screen readers.
2. Check heading structure to ensure logical hierarchy (h1, h2, h3, etc.).
3. Test keyboard navigation to ensure all interactive elements are accessible without a mouse.
4. Check color contrast to ensure readability for users with visual impairments.
6. Verify that forms have proper labels and instructions for screen reader users.

Cross-Browser Compatibility Specifications:

1. Test the website on the latest versions of Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari.
2. Check for rendering issues, layout problems, and functionality discrepancies across browsers.

Review of Competency

Below is your assessment rating for module **Create and Edit Website using HTML**

Assessment of Performance Criteria	Yes	No
The purposes and intended audience of the website are identified as per client requirements.		
The design requirements and constraints are identified.		
A conceptual design is developed.		
Necessary software is installed as per requirements.		
Web layout is selected and collected as per client requirements.		
Web layout is converted to HTML using Text editor.		
Website is saved and executed.		
The website is tested to ensure functionality and errors are corrected per standard operating procedure.		
The website is opened with common browsers and checked for accessibility, readability, legibility, and presentation in accordance with client requirements.		
The website is evaluated for fitness in terms of the purpose, target audience, and specifications of client requirements.		

I now feel ready to undertake my formal competency assessment.

Signed:

Date:

Development of CBLM:

The Competency Based Learning Material (CBLM) of '**Create and Edit Website using HTML' (**Occupation: Web Design and Development for Freelancing, Level-3**)** for National Skills Certificate is developed by NSDA with the assistance of SIMEC System, ECF consultancy & SIMEC Institute JV (Joint Venture Firm) in the month of June 2023 under the contract number of package SD-9A dated 07th May 2023.

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