Web Design using Dreamweaver

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Fundamentals of Web and Dreamweaver

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Web Standards

Web Standards??

Web standards are defined as technologies that are used in building websites.

Web Standards consist of technical documents known as specifications, which provide detailed information on how web technology should work.

OR

It is the specifications or best practices that define different aspects of the WWW technologies, such as coding standards.

In 1994, Tim Berner's Lee founded the WWW.

www.w3.org

Challenges in Early Web Development

- WWW started with HTML – Started out as a basic language with a small number of tags, etc. But as it grew in use it became more complex (e.g. Imaging and font control)
- Developers didn't worry about standards, instead focused on getting the page to look/work correctly. rather than following any official standards
- Early generation of browsers, such as Netscape Navigator and Microsoft Internet Explorer tolerated nonstandard-markup and would only partially support web standards (HTML or CSS) or did incorrectly.
- Forced developers to ignore standards as well. For example if browsers didn't support PNG format then developers wouldn't use them.

Web Standards

Why Web Standards??

- Inconsistency Across Browsers Isolated New Technologies
  features might work in one browser but completely fail in another.

- CSS Example: Netscape vs Internet Explorer:
  Suppose Netscape 4 ignored CSS rules
  Internet Explorer applied them. hard for developers to rely on CSS consistently, leading many to avoid it altogether.

- Birth of "Best Viewed In" Culture: developers started building websites that worked only in specific browsers

- **Code-Forking Became Common**
  Developers ended up creating multiple versions of the same webpage—one for each major browser.

Web Standards

Benefits of web standard

1) Interoperability: Web standards (HTML, CSS, and JavaScript) ensure that web pages and applications work across different browsers and devices.

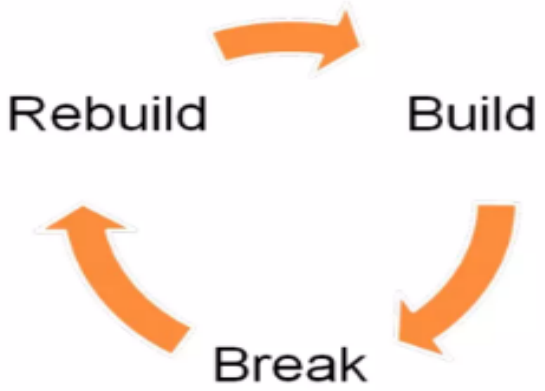
2) Accessibility: Creating content that is usable by people with various impairments, ensuring inclusivity.

3) Performance: Standards promote best practices that can improve the performance of web applications.

4) Security: Web standards include security best practices that help protect users from threats such as cross-site scripting (XSS).

Benefits of web standard

- Forward compatibility
  - Using web standards, ensures that scripts you write will be always be readable in the future.
  - End the costly cycle of:



Benefits of web standard

"build" refers to the process of creating a web application from source code.

"Rebuild" refers to the process of reconstructing a project or component from scratch,

"Break" refers to situations where the development process, codebase, or application encounters an issue or failure, leading to a malfunction or error.

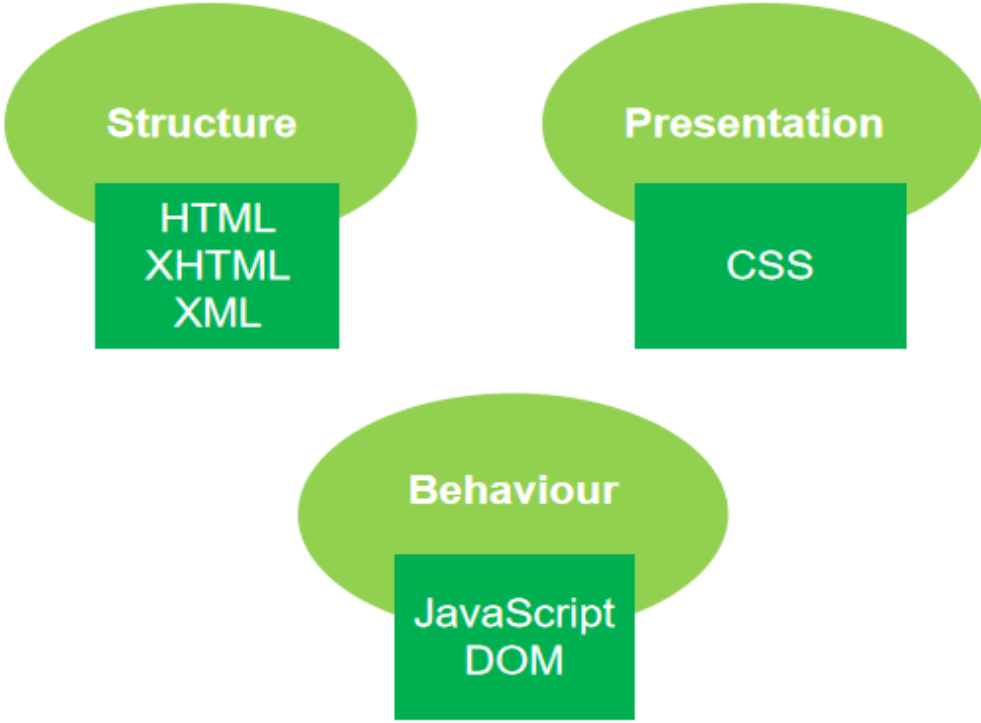
This can occur due to bugs, compatibility issues, or other problems in the code or environment.

compatibility issues and reduced accessibility.

Web Standards

How to use web standard

- Web Standard Technolgies:
  - XHTML
  - CSS
  - JavaScript (ECMAScript)
  - W3C DOM
- Been supported in browsers for last 10 years.



These standards are created and maintained by organizations such as the World Wide Web Consortium (W3C)

How to use web standard

1. ARIA (Accessible Rich Internet Applications) and WCAG (Web Content Accessibility Guidelines) provides guidelines to make web content accessible to people with disabilities. those who use assistive technologies like screen readers.

2. **HTML**: The standard language for creating and structuring web pages

3. **CSS:** A style sheet language used to control the presentation and layout of web pages

4. **JavaScript**: A programming language that enables interactive elements and dynamic content on web pages.

How to use web standard

XML (eXtensible Markup Language):
XML allows users to create their own tags,
predefined tags for structuring web content, XML's tags are defined by the user or application

XHTML (eXtensible Hypertext Markup Language) is a web standard that combines elements of HTML (Hypertext Markup Language) and XML (eXtensible Markup Language).
adhere to XML rules. This means all tags must be properly nested, all elements must be closed, and all attribute values must be quoted.

How to use web standard

DOM (Document Object Model) is a programming interface for web documents.

DOM represents a document's structure as a tree. The document itself is the root node, with child nodes representing elements, attributes, and text within the document.

It allows programming languages like JavaScript to interact with the content, structure, and style of web pages.

DOM Example

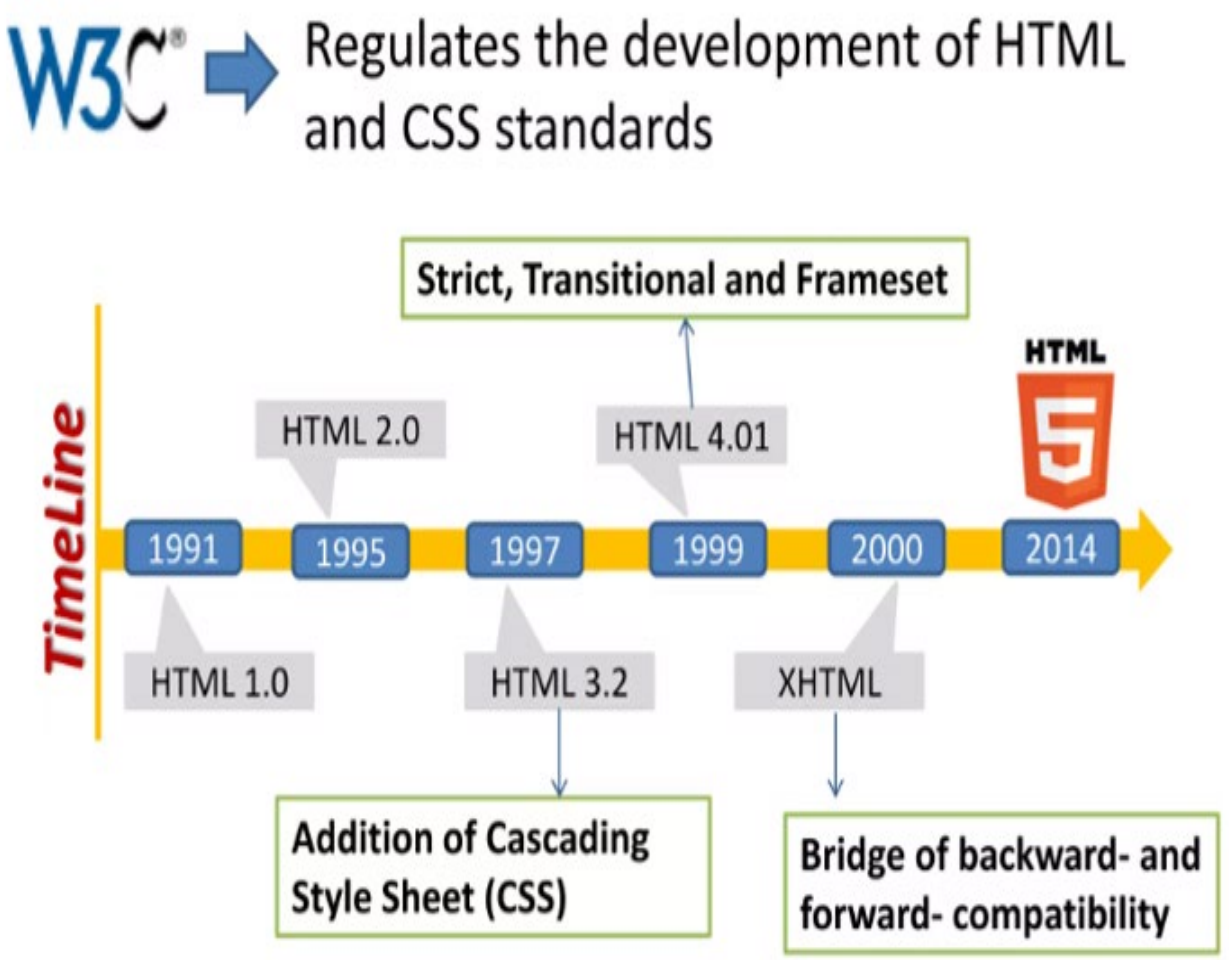
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>DOM Example</title>
</head>
<body>
    <h1 id="main-heading">Hello, World!</h1>
    <p class="intro">This is an example of the DOM.</p>
   <p>This is some content inside a div.</p>

 <script>
        // Accessing elements using DOM methods
        var heading = document.getElementById('main-heading’);
    </script>

</body>
</html>
```

Evolution of HTML Standards.

The **World Wide Web Consortium (W3C)** is an international community that develops open standards to ensure the long-term growth of the web.



Evolution of HTML Standards.

•**HTML 1.0**: Introduced the basic structure and fundamental elements of web pages.

•**HTML 2.0**: Added support for forms and improved tables.

•**HTML 3.2**: Enhanced presentation and introduced basic scripting.

•**HTML 4.0/4.01**: Emphasized the separation of content and presentation with CSS, introduced new semantic elements.

•**HTML5**: Revolutionized web development with new semantic elements, multimedia support, enhanced forms, modern APIs, and improved performance.

What's New in HTML 5

What's New in HTML 5

New Semantic Elements
<header>, <footer>, <article>, <section> etc…

Multimedia Support
<audio>, <video>.

Offline and Storage Capabilities
Local Storage and Session Storage: allowing data to persist across sessions or within a single session.

Graphics and 3D
<canvas>

Device Access
Camera and Microphone Access, Geolocation API(can be used for location-based services, such as maps and nearby services), Bluetooth API (smartwatches, fitness trackers).

Performance
Page Load Time, JavaScript Performance, Network Performance, Mobile Performance

Tools to get started with coding

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CELEBRATING 50 YEARS

THANK YOU

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