HTML

**Hypertext Markup Language**

* Language used to mark up documents(ie web pages) in the world wide web
* HTML was used to specify the STRUCTURE and CONTENT of web pages as well as their PRESENTATION
* Modern web development practice, however, uses HTML solely for semantic specification of web page structure and content, with presentational aspects being delegated to style sheets
* Initially developed at CERN then the IETF then the W3C, and then also the WHATWG
* SGML (ISO 8879)

Version history

* Pre-standardization
  + HTML Tags, by Tim Berners-Lee, late 1991
  + HTML Internet Draft, by Tim Berners – Lee and Dan Connolly, published by IETF in mid-1993
  + HTML + (Hypertext Markup Format) Internet Draft, by Dave Raggett, late 1993
* Standards
  + HTML 2.0(RFC 1866,November 1995)
    - Supplemental RFCs
      * Form Based File Upload (RFC 1867,Nov 1995)
      * HTML Tables(RFC 1942, May 1996)
      * Client-Side Image Maps (RFC 1980, Aug 1996)
      * Internationalization(i18n) of HTML (RFC 2070,Jan 1997)
  + HTML 3.2(W3C Recommendation Jan 1997)
  + HTML 4.0(W3C Recommendation Dec 1997)
  + HTML 4.01(W3C Recommendation Dec 1999)
    - Introduced deprecation of Presentational elements and attributes in favor of style sheets
    - Strict, Transitional, Frameset DTDs
  + XHTML
    - 1998 standardized
    - Reformulation of HTML in XML (Extensible Markup language)
      * Intended to facilitate the introduction of new HTML elements and/or attributes, provide interoperability between HTML and XML-based systems, and leverage the use of XML tools in creating, editing and parsing HTML
      * Sought to move the Internet content-development community from the days of **malformed**, **non-standard** HTML markup into the **well-formed**, **valid** world of XML
    - XHTML 1.0(W3C Recommendation Jan 2000)
    - XHTML 1.1 Module Based XHTML(W3C Recommendation May 2001)
  + HTML 5
    - Arose from the effort to **evolve** HTML (instead of replacing it) to address backward compatibility issues that hindered the adoption of XHTML, as well as to address the emerging needs of **modern web applications**
    - Work on HTML 5 was initially undertaken by the **WHATWG** (led by Apple, Mozilla and Opera) in 2004, with the W3C signifying interest to participate in the effort in 2006, the first draft of HTML 5 was published in 2008 (edited by **Ian Hickson**)
    - HTML 5 incorporated specifications from HTML 4, XHTML, and DOM (Document Object Module), and included various extensions of existing APIs and introduced new APIs as well.
  + HTML 5(W3C Recommendation, October 2014)
  + HTML 5.1(W3C Recommendation, November 2016)
  + HTML 5.2(W3C Recommendation, December 2017)
  + HTML Living Standard (WHATWG)
  + Differences Between HTML 4 and HTML 5
    - (Changed elements, new attributes…)

**HTML Document Structure**

* Version Information (i.e. DOCTYPE)
* Root element ( html )
  + Declarative header section containing document metadata, delimited by the **head** element
    - head, title, base, link, meta, style, styling and scripting
  + document body containing the document actual content delimited by either **body** element or the frameset element (obsolete)

**HTML Document Components**

* DOCUMENT TYPE DECLARATION (DOCTYPE)
  + HTML 4.01 DOCTYPES
    - Taste/Flavors
      * HTML 4.01 Strict DTD
      * HTML 4.01 Transitional DTD
      * HTML 4.01 Frameset DTD
  + XHTML 1.0 DOCTYPES
  + HTML 5 DOCTYPE
* Elements (HTML 4.01, XHTML 1.0,HTML 5)
  + Tags – beginning and ending markup
  + Content
    - Content Models
      * Flow content
      * Heading content
      * Palpable content
    - Void Elements
      * No content
      * Images, input, link, br
  + Attributes and Attribute Values (HTML 4.01, XHTML 1.0,HTML 5)
    - Global Attributes
      * Note: All attribute names on HTML elements in the HTML documents get ASCII-lowercase and automatically so the restriction on ASCII uppercase letters doesn’t affect such documents
        + accesskey, class, id
    - Custom Non-visible Data Attributes
      * Custom data attribute – “data-“
      * Bootstrap
    - WAI-ARIA Attribute (Web Accessibility Initiative – Accessible Rich Internet Applications)
      * WCAG (Web Content Accessibility Guidelines)
    - Element-Specific Attributes
  + MathML (Mathematical Markup language)
  + SVG (Scalable Vector Graphics)
    - Vector
    - Bitmapped (PNG, JPEG)
* Character Reference
  + Representation of characters that are not available on keyboard
* Comments
  + “<!-- -->”