

The HTML Story

What is Markup Language?

Ans: - A **markup language** is a computer language used to structure, format, and annotate text in a way that is both human-readable and machine-readable. It "marks up" the content by adding **tags** or **elements** that define how parts of the content should appear or behave.

Why is it Called a "Markup"?

Historically, editors would mark up manuscripts with notes about formatting—like where to make text bold or italic. In the same way, markup languages annotate content with tags to define structure or style.

Difference Between Markup and Programming Languages:

Feature	Markup Language	Programming Language
Main Purpose	Structure and format content	Perform logic, calculations
Example Languages	HTML, XML, Markdown	Java, Python, C++
Contains logic?	No	Yes
Output	Text/web content	Programs/software

Summary:

A **markup language** is used to **organize and present content**, particularly in web development or data representation. It tells the browser or software **what each part of the content means or how it should look**, not how it behaves logically (which is the job of programming languages).

1. Pre-Computer Era (Manual Markup)

- **Before computers**, editors manually marked up manuscripts using symbols to indicate formatting (e.g., bold, italic, headings).
- These editorial notes were called "**markups**", hence the name **markup language**.

2. 1960s–1970s: The Rise of Digital Markup

- IBM's **Generalized Markup Language (GML)** was developed in the 1960s by Charles Goldfarb, Ed Mosher, and Raymond Lorie.
- GML allowed users to define document structure using tags.
- It became the foundation for **SGML** (Standard Generalized Markup Language).

3. 1986: SGML (Standard Generalized Markup Language)

- SGML was standardized by ISO in 1986.
- It was a **very flexible but complex** markup language used for structuring large documents.
- SGML was mainly used in publishing, military, and government systems.

4. 1991: HTML (Hypertext Markup Language)

- **Tim Berners-Lee**, the inventor of the World Wide Web, developed **HTML** based on SGML.
- HTML became the **standard language for creating web pages**.
- The first version was simple: headings, paragraphs, links, and images.

5. 1998: XML (eXtensible Markup Language)

- Developed by **W3C**, XML is a simplified version of SGML.
- It focuses on **data storage and transport**, not display.

- XML is **self-descriptive** and widely used in APIs, config files, and web services.

6. 2004–Present: Markdown & Modern Markup

- **Markdown**, created by John Gruber in 2004, is a lightweight markup language for easy formatting, especially on the web (e.g., GitHub, blogs).
- **Other modern markup languages** include:
 - **LaTeX** (for academic documents and math)
 - **YAML** and **JSON** (for data representation and configuration)

Timeline Summary:

Year	Markup Language	Key Contribution
1960s	GML	First digital markup system by IBM
1986	SGML	Standardized flexible markup framework
1991	HTML	Created for web page structure
1998	XML	Data-centric markup, easy to parse
2004	Markdown	Simple and readable for blogs/docs

Conclusion:

The **evolution of markup languages** reflects the growing needs of communication, data exchange, and web development. From **manual editing** to **web-based formats**, markup languages have shaped the way we structure, share, and present content on both local systems and the internet.

What is HTML?

HTML (Hypertext Markup Language) is the **standard language used to create webpages**. It provides the **structure and content** of a webpage by using **tags and elements** to define things like:

- **Headings**
- **Paragraphs**
- **Links**
- **Images**
- **Lists**
- **Tables**
- **Forms**

Key Points:

- "**Hypertext**" refers to the ability to link to other web pages.
- "**Markup Language**" means it uses tags to "mark up" text to tell the browser how to display it.

Example of HTML code:

```
<html>  
<head>  
  <title>My First Webpage</title>  
</head>  
<body>  
  <h1>Welcome to My Website</h1>  
  <p>This is a paragraph. </p>  
  <a href="https://www.google.com">Visit Google</a>  
</body>  
</html>
```

History

HTML 1.0 (1991–1993) — *The Beginning*

- **Created by:** Tim Berners-Lee (1991)
- **Purpose:** Basic way to share documents on the web
- **Features:**
 - Very simple structure
 - Headings (<h1> to <h6>)
 - Paragraphs (<p>)
 - Links (<a>)
 - Lists (,)
 - Images ()
- No styling, no tables, no forms
- Only used for displaying plain content

HTML 2.0 (1995) — *Standardization Begins*

- **Created by:** IETF (Internet Engineering Task Force)
- First official version of HTML
- **Features Added:**
 - Forms (<form>, <input>, <textarea>, <button>)
 - Tables (<table>, <tr>, <td>)
 - Text formatting (, <i>, <u>)
- Still very basic
- CSS not available yet

HTML 3.2 (1997) — *More Control*

- **Created by:** W3C
- **New Features:**
 - Support for **CSS (Cascading Style Sheets)** for better styling
 - More form elements and table features
 - Scripts via JavaScript
 - Applets (Java content)
- Browser war era (Netscape vs. Internet Explorer)
- Some features were browser-specific (caused compatibility issues)

Note: HTML 3.0 was proposed but never officially released — it was too ambitious and hard to implement.

HTML 4.0 (1997) — Foundation for Modern Web

- **Created by:** W3C
- **Major Shift:** Separation of content and presentation
- **New Features:**
 - Support for **CSS** to handle layout and styling
 - Introduction of **scripting** with JavaScript
 - Enhanced support for **forms** and **frames**
 - Support for **internationalization** and **accessibility**
- **Variants:** Strict, Transitional, and Frameset
- Focused on **clean structure** and **better user experience**

HTML 4.01 (1999) — Bug Fixes and Refinement

- **Created by:** W3C
- **Purpose:** Minor revision to HTML 4.0
- **Fixes:**

- Corrected errors and inconsistencies in HTML 4.0
- Improved definitions and clarifications in the spec
- **Still widely used** during early 2000s
- **Served as the basis** for XHTML

XHTML 1.0 (2000) — Stricter Version

- **Created by:** W3C
- **HTML reformatted using XML syntax**
- **Goals:**
 - Make HTML more consistent and stricter
 - Improve error handling and parsing
- **Rules:**
 - Tags must be properly nested and closed
 - Lowercase tag names
 - Quoted attribute values
- **Variants:** Strict, Transitional, Frameset
- **Not backward-compatible** with older browsers if not well-formed

The Story of W3C and WHATWG: Guardians of the Web

The history of HTML is closely tied to two major organizations — **W3C** (World Wide Web Consortium) and **WHATWG** (Web Hypertext Application Technology Working Group) — both of which played crucial roles in shaping the modern web.

The W3C was founded in 1994 by Tim Berners-Lee, the inventor of the World Wide Web. Its goal was to standardize web technologies such as HTML, CSS, and **XML** to ensure the Web would remain open, accessible, and interoperable across all platforms and devices. Over the years, W3C released multiple versions of HTML including HTML 3.2, HTML 4.01, and XHTML 1.0. However, as the web evolved and demanded more interactivity and media support, W3C's

approach became slower and overly formal, especially with its focus on **XHTML** 2.0 — a stricter, XML-based version that many developers found too rigid and impractical for real-world web development.

In response to this, a group of developers from Apple, Mozilla, and Opera came together in 2004 to form a new group called **WHATWG**. Their mission was to continue developing **HTML** in a way that matched the needs of modern websites and applications. They believed in improving HTML rather than replacing it, and started working on what eventually became **HTML5**.

WHATWG's approach was more practical and browser-oriented, focusing on real-world implementation rather than theory. They introduced powerful new features like `<video>`, `<audio>`, `<canvas>`, semantic tags, and local storage — all of which helped modernize the web without relying on external plugins like Flash.

For several years, **W3C** and **WHATWG** worked independently on different versions of **HTML5**, causing confusion and duplication. While W3C created formal specifications, **WHATWG** maintained a more flexible and constantly evolving "Living Standard" of HTML. This rivalry continued until 2019, when both organizations finally agreed to work together. According to this agreement, **WHATWG** would take the lead in maintaining the official HTML and **DOM** specifications, while **W3C** would support their work and focus on other web standards.

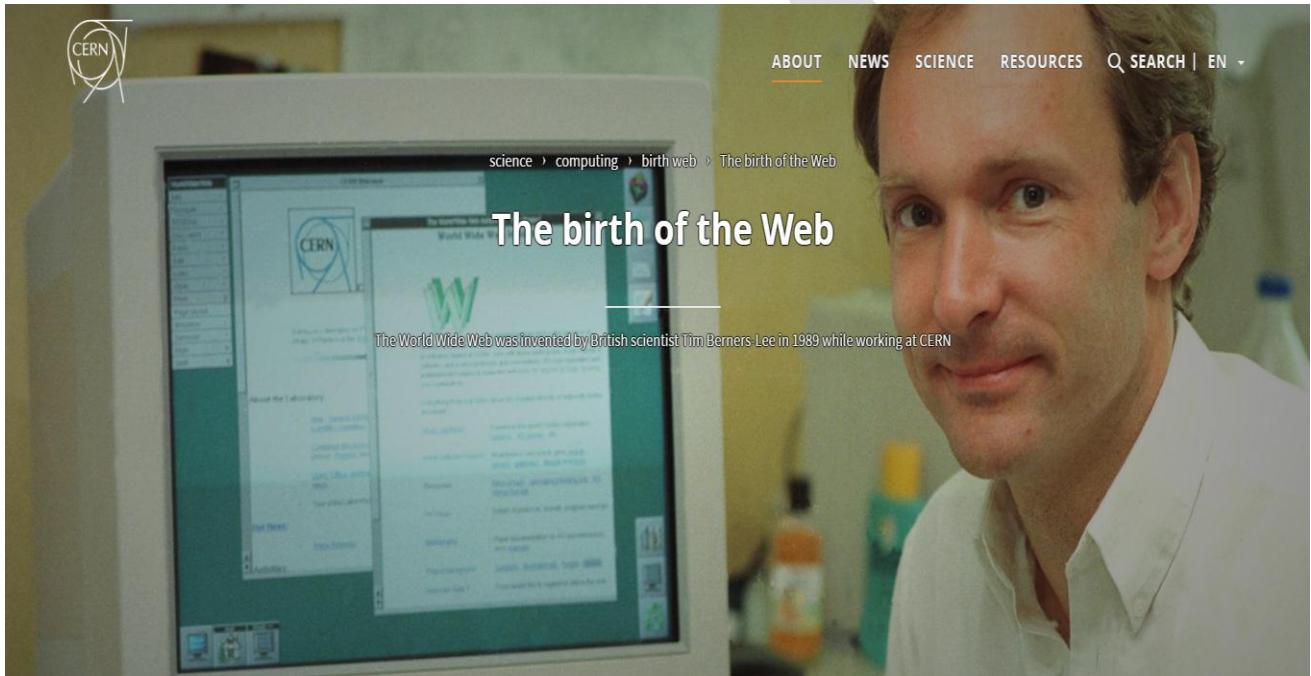
Today, **HTML** is maintained as a Living Standard by **WHATWG**, ensuring it can adapt and evolve continuously with the needs of developers, browsers, and users. Meanwhile, **W3C** still plays a vital role in guiding web accessibility, security, and best practices. Together, these two groups have helped transform the web into what it is today — powerful, dynamic, and user-friendly.

HTML5 (2014) — The Modern Standard

- **Jointly developed by:** W3C and WHATWG
- **Purpose:** To support modern web applications
- **New Features:**
 - Multimedia: `<audio>`, `<video>`, `<canvas>`
 - Semantic tags: `<section>`, `<article>`, `<header>`, `<footer>`, `<nav>`

- Form enhancements: <date>, <range>, <email>, etc.
- Support for **local storage, offline apps, geolocation**
- **Mobile-friendly** and responsive design capabilities
- **Removed:** Deprecated tags like , <center>, etc.

Focus: Clean code, interoperability, and better user experience



Sir Timothy John Berners-Lee (born 8 June 1955), also known as TimBL, is an English computer scientist best known as the inventor of the World Wide Web, the HTML markup language, the URL system, and HTTP.