



Top Five FUNdamental Technologies To Learn

MY OPINION AND MY OPINION ONLY BASED
ON 25+ YRS. EXPERIENCE IN THE
TECHNOLOGY FIELD

HTML - Hypertext Markup Language

- ****1960s****: IBM's Generalized Markup Language (GML) was developed by Charles Goldfarb, Edward Mosher, and Raymond Lorie ⁵.
- ****1980s****: SGML was invented by Charles F. Goldfarb, Ed Mosher, and Ray Lorie at IBM in the 1970s and developed by several hundred people around the world until its eventual adoption as ISO standard 8879 in 1986 ⁷.
- ****1991****: HTML was invented by Sir Tim Berners-Lee in late 1991 and was published in 1995 as HTML 2.0 ⁴.
- ****1993****: HTML 1.0 was released with the intention of sharing information that can be readable and accessible via web browsers ¹.
- ****1995****: HTML 2.0 was published. This contained the features of HTML 1.0 plus new features. This remained the standard markup language for designing and creating websites until 1997 ³.
- ****1996****: SGML (ENR), resulted from a Technical Corrigendum to add extended naming rules allowing arbitrary-language and -script markup ⁵.
- ****1997****: HTML 3.0 was invented ³.
- ****1998****: SGML (ENR+WWW or WebSGML), resulted from a Technical Corrigendum to better support XML and WWW requirements ⁵. HTML 4.01 was published in late 1999 and was a major version of HTML ⁴. SGML was reworked in 1998 into XML, a successful profile of SGML ⁵.
- ****2012****: HTML5, the latest version of HTML, was released ¹.

Source: Conversation with Bing, 11/24/2023 – prompt text “**create a bulleted timeline of the history of html and sgml**”

(1) Standard Generalized Markup Language - Wikipedia. https://en.wikipedia.org/wiki/Standard_Generalized_Markup_Language.

(2) 1.5. The Evolution of XML - XML in a Nutshell, 3rd Edition [Book]. <https://www.oreilly.com/library/view/xml-in-a/0596007647/ch01s05.html>.

(3) What is SGML ? - GeeksforGeeks. <https://www.geeksforgeeks.org/what-is-sgml/>.

(4) HTML History - W3Schools. <https://www.w3schools.in/html/history/>.

(5) HTML - Wikipedia. <https://en.wikipedia.org/wiki/HTML>.

(6) History of HTML - Boston University. <https://www.bu.edu/lernet/artemis/years/2020/projects/FinalPresentations/HTML/historyofhtml.html>.

(7) WebD2: A Brief History of HTML - UW Homepage. https://www.washington.edu/accesscomputing/webd2/student/unit1/module3/html_history.html.

(8) A Short History of SGML - ISGMLUG. <https://isgmlug.org/a-short-history-of-sgml/>.

CSS – Cascading Style Sheet Language

- **1994: CSS proposal** - Håkon Wium Lie proposes CSS as a style sheet language for the Web while working at CERN with Tim Berners-Lee¹².
- **1996: CSS1 recommendation** - The W3C releases the first CSS specification as a W3C Recommendation¹².
- **1998: CSS2 recommendation** - The W3C publishes the second CSS specification, which adds new features such as positioning, media types, and aural style sheets¹².
- **1999-2016: CSS3 development** - The W3C splits the CSS specification into separate modules, each with its own level of development and stability¹². Some of the modules include selectors, backgrounds, borders, fonts, animations, transitions, grids, and flexbox¹.
- **2017-present: CSS4 and beyond** - The W3C continues to develop new CSS modules and update existing ones, as well as define new levels for the core CSS specification¹. Some of the emerging features include custom properties, logical properties, scroll snap, subgrid, and container queries¹..

Source: Conversation with Bing, 11/24/2023 – prompt text “**create a bulleted timeline of the history of css**”

(1) CSS - Wikipedia. <https://en.wikipedia.org/wiki/CSS>.

(2) A brief history of CSS until 2016 - World Wide Web Consortium (W3C). <https://www.w3.org/Style/CSS20/history.html>.

(3) History of CSS - Boston University. <https://www.bu.edu/lernet/artemis/years/2020/projects/FinalPresentations/HTML/historyofcss.html>.

(4) A Brief Introduction To CSS | DigitalOcean. <https://www.digitalocean.com/community/tutorials/a-brief-introduction-to-css>.

(5) History of CSS - DEV Community. <https://dev.to/ziizium/history-of-css-3m0>.

(6) en.wikipedia.org. <https://en.wikipedia.org/wiki/CSS>.

JavaScript / JSON - JavaScript Object Notation

- **1995**: Brendan Eich created the first version of JavaScript in 10 days for Netscape Navigator ⁵⁹ [^10^].
- **1996**: Microsoft introduced JScript in Internet Explorer to compete with Netscape ⁹.
- **1997**: JavaScript was submitted to Ecma International as the starting point for a standard specification ⁹.
- **1999**: ECMAScript 3 was released, which added new features such as exception handling, regular expressions, and more ⁹.
- **2000**: Douglas Crockford created the prototype for JSON for a virtual card game called Cartoon Orbit ².
- **2001**: JSON was first released in March 2001 and has been an international standard since 2013 ¹².
- **2008**: ECMAScript 5 was released, which added new features such as strict mode, getters and setters, and support for JSON ⁹.
- **2015**: ECMAScript 6 (ES2015) was released, which added new features such as arrow functions, classes, and modules ⁹.
- **2017**: ECMAScript 2017 was released, which added new features such as async functions and shared memory ⁹.
- **2023**: JavaScript is currently one of the most popular programming languages in use worldwide ⁵.

Source: Conversation with Bing, 11/24/2023 prompt text “**create a bulleted timeline of the history of javascript including json**”

(1) History of JavaScript - GeeksforGeeks. <https://www.geeksforgeeks.org/history-of-javascript/>.

(2) History of JavaScript on a Timeline - RisingStack Engineering. <https://blog.risingstack.com/history-of-javascript-on-a-timeline/>.

(3) The Timeline Of 25 Successful Years Of JavaScript. <https://www.agiratech.com/the-timeline-of-25-successful-years-of-javascript>.

(4) JSON (JavaScript Object Notation) – Complete history. <https://history-computer.com/json-complete-history/>.

(5) JSON - Wikipedia. <https://en.wikipedia.org/wiki/JSON>.

(6) The Rise and Rise of JSON - Two-Bit History. <https://twobithistory.org/2017/09/21/the-rise-and-rise-of-json.html>.

(7) A brief history of JSON | The Official SQLizer Blog. <https://blog.sqlizer.io/posts/json-history/>.

(8) JavaScript History - W3Schools. https://www.w3schools.com/js/js_history.asp.

(9) The History of JavaScript: A Journey from Netscape to Frameworks. <https://www.techaheadcorp.com/knowledge-center/history-of-javascript/>.

(10) JavaScript - Wikipedia. <https://en.wikipedia.org/wiki/JavaScript>.

(11) The History of JavaScript | Ample Blog. <https://www.ample.co/blog/javascript-history>.

SQL – Structured Query Language

- **1970s**: E.F. Codd, a computer scientist at IBM, introduced the concept of a relational model for data management ².
- **1974**: Structured Query Language (SQL) appeared ¹.
- **1976**: Entity-Relationship (ER) database model was proposed by P. Chen .
- **1979**: The first commercially available RDBMS, Oracle, was released by Relational Software Inc. (later renamed to Oracle Corporation) ².
- **1981**: IBM released the first commercial implementation of SQL as part of their System R RDBMS ³.
- **1986**: SQL became an ANSI standard ³. Structured English Query Language (SEQUEL) was developed by IBM Corporation, Inc., to use Codd's model. SEQUEL later became SQL ⁴.
- **1987**: SQL became an ISO standard ⁵.
- **1998**: NoSQL databases were introduced as a response to the limitations of RDBMS ¹.
- **2010**: Salesforce introduced SOQL (Salesforce Object Query Language), a SQL-like language for querying data in the Salesforce platform ⁵.

Source: Conversation with Bing, 11/24/2023 prompt texts – “**create a bulleted timeline of the history of structured query language and rdbms**” and “**create a bulleted timeline of the history of structured query language, rdbms, nosql, soql**”

(1) Chapter 1. SQL History and Implementations - O'Reilly Media. <https://www.oreilly.com/library/view/sql-in-a/9781492088851/ch01.html>.

(2) A brief history of databases: From relational, to NoSQL, to distributed SQL. <https://www.cockroachlabs.com/blog/history-of-databases-distributed-sql/>.

(3) SQL History - W3Schools. <https://www.w3schools.in/sql/history>.

(4) What is Structured Query Language (SQL)? - Corporate Finance Institute. <https://corporatefinanceinstitute.com/resources/data-science/structured-query-language-sql/>.

(5) SQL - Wikipedia. <https://en.wikipedia.org/wiki/SQL>.

XML – eXtensible Markup Language

- ****1960s****: IBM's Generalized Markup Language (GML) was developed by Charles Goldfarb, Edward Mosher, and Raymond Lorie ⁵.
- ****1986****: SGML (Standard Generalized Markup Language) was adopted as an ISO standard ².
- ****1991****: HTML (Hypertext Markup Language) was created by Tim Berners-Lee ⁵.
- ****1998****: XML (Extensible Markup Language) was released as a markup language for storing, transmitting, and reconstructing arbitrary data ¹.
- ****2008****: HTML5 was released, which included support for XML and HTTP ¹.

SGML is the mother of all markup languages like HTML, XML, XHTML, WML etc. ⁶. The versatility of SGML for dynamic information display was understood by early digital media publishers in the late 1980s prior to the rise of the Internet ³. XML is an application profile of SGML (ISO 8879) ¹. XML is a descendant of SGML, the Standard Generalized Markup Language ². The design goals of XML emphasize simplicity, generality, and usability across the Internet ¹. XML is widely used for the representation of arbitrary data structures such as those used in web services ¹.

Source: Conversation with Bing, 11/24/2023 prompt text – “create a bulleted timeline of the history of xml and sgml”

(1) XML: An Introduction - Brief History - Roseindia. <https://www.roseindia.net/xml/xml-history.shtml>.

(2) 1.5. The Evolution of XML - XML in a Nutshell, 3rd Edition [Book]. <https://www.oreilly.com/library/view/xml-in-a/0596007647/ch01s05.html>.

(3) XML - Wikipedia. <https://en.wikipedia.org/wiki/XML>.

(4) HISTORY AND RELATIONSHIPS OF SGML, HTML AND XML - IDC-Online. https://www.idc-online.com/technical_references/pdfs/information_technology/History_and_Relationships_of_SGML_HTML_and_XML.pdf.

(5) HTML - Wikipedia. <https://en.wikipedia.org/wiki/HTML>.

(6) A Short History of SGML - ISGMLUG. <https://isgmlug.org/a-short-history-of-sgml/>.

International Standards Bodies FTW

- The **World Wide Web Consortium (W3C)** is the main international standards organization that governs HTML, CSS, and XML ¹.
- The international standards body for JavaScript is **Ecma International** ¹. ECMAScript is a standard for scripting languages, including JavaScript, and is intended to ensure interoperability across different web browsers ¹. The standard is defined in the document ECMA-262 ¹³.
- The **Internet Engineering Task Force (IETF)** is responsible for the standardization of JSON. The first specification for JSON was published as **RFC 4627** in 2006². Later, in 2013, JSON was standardized by **ECMA International** as **ECMA-404**². In the same year, JSON was also standardized by **ISO/IEC** as **ISO/IEC 21778:2017**². These standards describe the allowed syntax and some security and interoperability considerations².
- The international standards body for SQL is **ISO/IEC 9075** ¹². It is a standard for Structured Query Language (SQL) and specifies the minimum requirements for what a database engine should fulfill in terms of SQL syntax, which is called Core SQL ². The standard also defines a number of optional features ². The current edition of the standard is **ISO/IEC 9075:2023** ¹.

Source: Conversation with Bing, 11/24/2023 - prompt text **“what organization governs html, css, and xml”**

(1) World Wide Web Consortium - Wikipedia. https://en.wikipedia.org/wiki/World_Wide_Web_Consortium.

Source: Conversation with Bing, 11/24/2023 - prompt text **“what is the international standards body for javascript”**

(1) ECMAScript - Wikipedia. <https://en.wikipedia.org/wiki/ECMAScript>.

(2) ECMA-262 - Ecma International. <https://ecma-international.org/publications-and-standards/standards/ecma-262/>.

(3) Web standards - MDN Web Docs Glossary: Definitions of Web-related terms
https://developer.mozilla.org/en-US/docs/Glossary/Web_standards.

(4) TC39 - Ecma International. <https://ecma-international.org/technical-committees/tc39/>.

(5) en.wikipedia.org. <https://en.wikipedia.org/wiki/ECMAScript>.

Source: Conversation with Bing, 11/24/2023 - prompt text **“what is the standards body for json”**

(1) JSON - Wikipedia. <https://en.wikipedia.org/wiki/JSON>.

(2) Is there any standard for JSON API response format?.

<https://stackoverflow.com/questions/12806386/is-there-any-standard-for-json-api-response-format>.

(3) JSON Syntax - W3Schools. https://www.w3schools.com/js/js_json_syntax.asp.

(4) JSON. <https://www.json.org/json-en.html>.

Source: Conversation with Bing, 11/24/2023 - prompt text **“what is the standards body for sql”**

(1) The SQL Standard – ISO/IEC 9075:2023 (ANSI X3.135). <https://blog.ansi.org/sql-standard-iso-iec-9075-2023-ansi-x3-135/>.

(2) ISO/IEC 9075 - Wikipedia. https://en.wikipedia.org/wiki/ISO/IEC_9075.

(3) The History of SQL Standards | LearnSQL.com. <https://learnsql.com/blog/history-of-sql-standards/>.