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HTML



JS



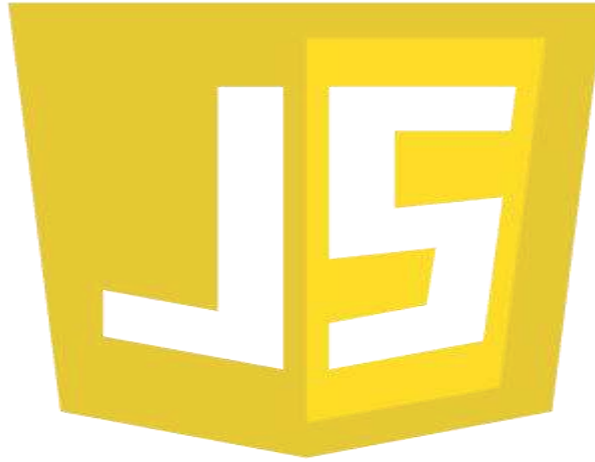
CSS



HTML



JS



CSS



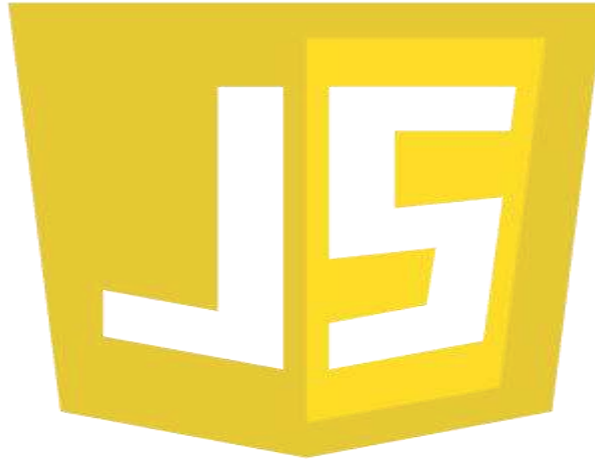
JavaScript is one of the **3 languages** all web developers **must** learn:

1. **HTML** to define the content of web pages
2. **CSS** to specify the layout of web pages
3. **JavaScript** to program the behaviour of web pages

HTML



JS



CSS



Web pages are not the only place where JavaScript is used. Many desktop and server programs use JavaScript. Node.js is the best known. Some databases, like MongoDB and CouchDB, also use JavaScript as their programming language.

What is JavaScript?

- JavaScript was initially created to “make webpages alive”.
- The programs in this language are called scripts. They can be written right in the HTML and execute automatically as the page loads.
- Scripts are provided and executed as a plain text. They don't need a special preparation or a compilation to run.
- In this aspect, JavaScript is very different from another language called Java.

What is Java Script ?

- **JavaScript is a dynamic computer programming language.**

Dynamic programming language, in computer science, is a class of high-level programming languages which, at runtime, execute many common programming behaviour's that static programming languages perform during compilation

Why JavaScript?

When JavaScript was created, it initially had another name: “LiveScript”. But Java language was very popular at that time, so it was decided that positioning a new language as a “younger brother” of Java would help.

But as it evolved, JavaScript became a fully independent language, with its own specification called ECMAScript, and now it has no relation to Java at all.

What is Java Script ?

- It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages.
- It is an interpreted programming language with object-oriented capabilities.

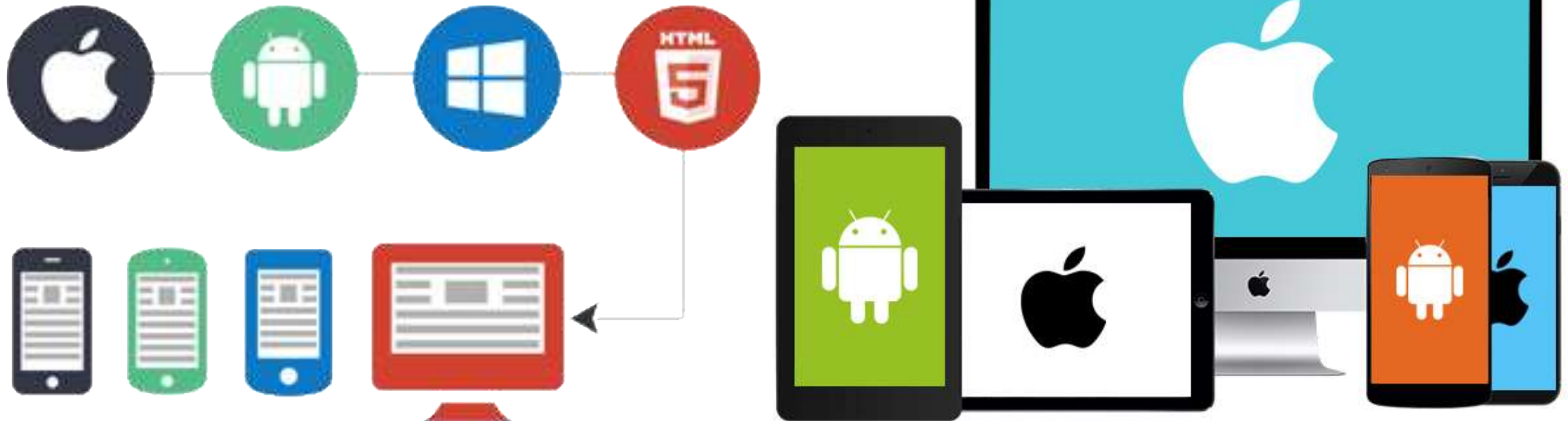
What's the difference between compiled and interpreted language?

- The difference is *not* in the language; it is in the *implementation*.
- In a compiled implementation, the original program is translated into native machine instructions, which are executed directly by the hardware.
- In an interpreted implementation, the original program is translated into something else. Another program, called "the interpreter", then examines "something else" and performs whatever actions are called for. Depending on the language and its implementation, there are a variety of forms of "something else". From more popular to less popular, "something else" might be
 - Binary instructions for a virtual machine, often called *bytecode*, as is done in Lua, Python, Ruby, Smalltalk, and many other systems
 - A tree-like representation of the original program, such as an abstract-syntax tree, as is done for many prototype or educational interpreters

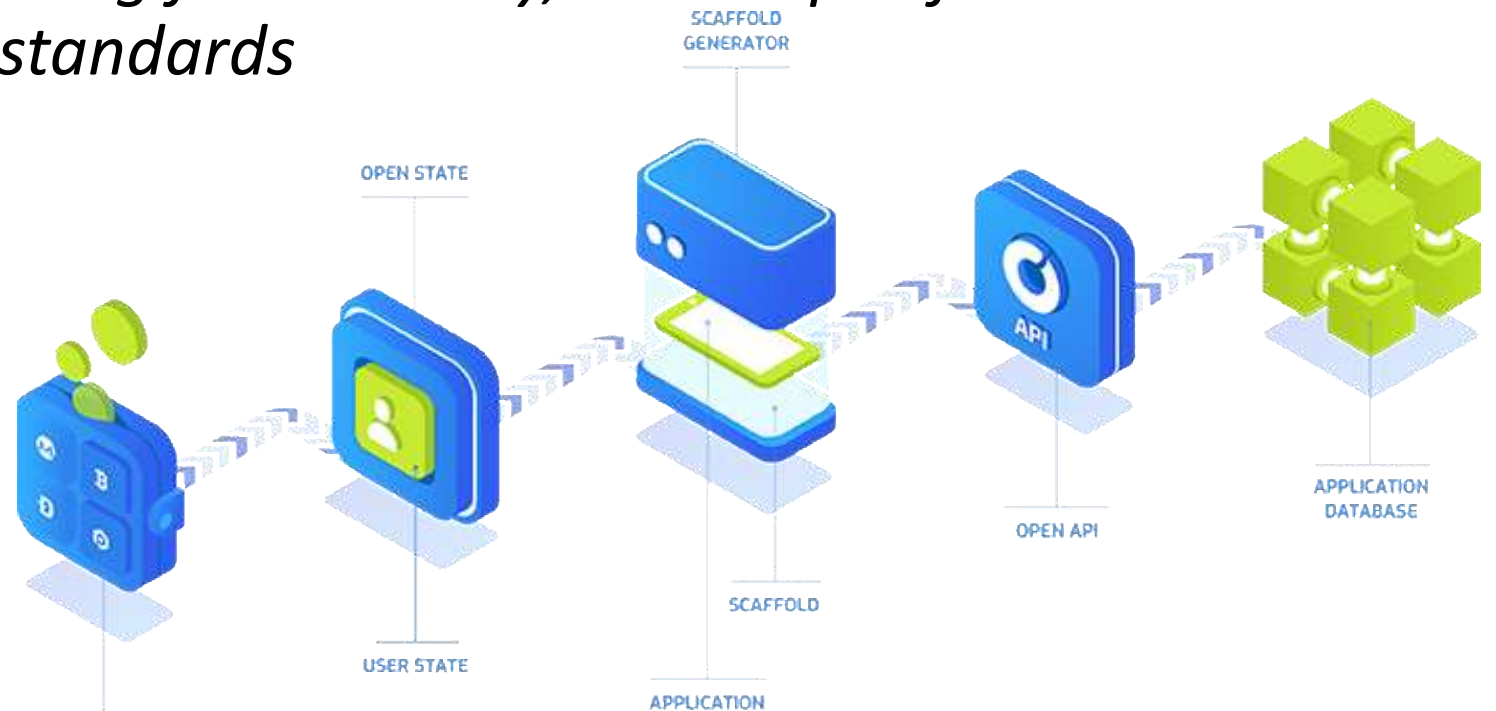
- JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java.
- JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript.
- The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.

- JavaScript is a lightweight, interpreted programming language.
- Designed for creating network-centric applications.
- Complementary to and integrated with Java.
- Complementary to and integrated with HTML.
- Open and cross-platform.

Cross Platform Refers to the capability of software or hardware to run identically on different platforms.



An open platform implies that the vendor allows, and perhaps supports, the ability to Change. Using an open platform a developer could add features or functionality that the platform vendor had not completed or had not conceived of. An open platform allows the developer to change existing functionality, as the specifications are publicly available open standards



Client-Side JavaScript

- Client-side JavaScript is the most common form of the language.
- The script should be included in or referenced by an HTML document for the code to be interpreted by the browser.
- It means that a web page need not be a static HTML, but can include programs that interact with the user, control the browser, and dynamically create HTML content.

Client-Side JavaScript

- The JavaScript client-side mechanism provides many advantages over traditional CGI server-side scripts. For example, you might use JavaScript to check if the user has entered a valid e-mail address in a form field.
- The JavaScript code is executed when the user submits the form, and only if all the entries are valid, they would be submitted to the Web Server.
- JavaScript can be used to trap user-initiated events such as button clicks, link navigation, and other actions that the user initiates explicitly or implicitly