

Software Development

JavaScript

Module 03

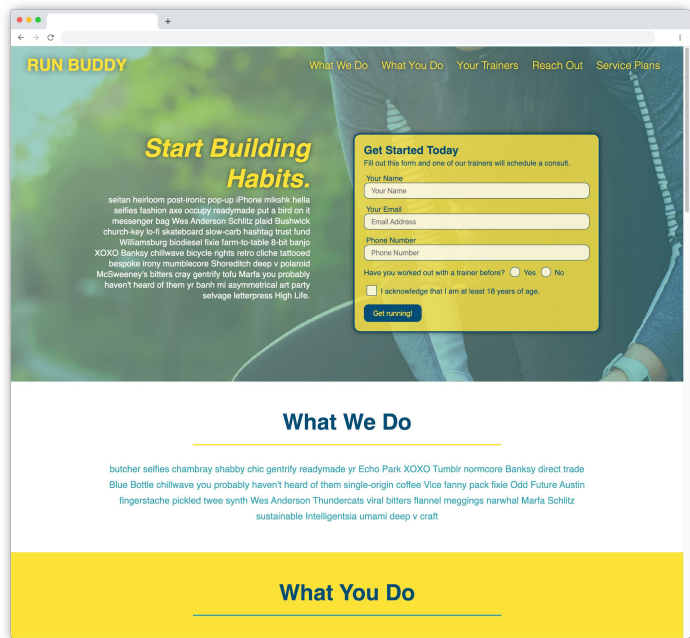
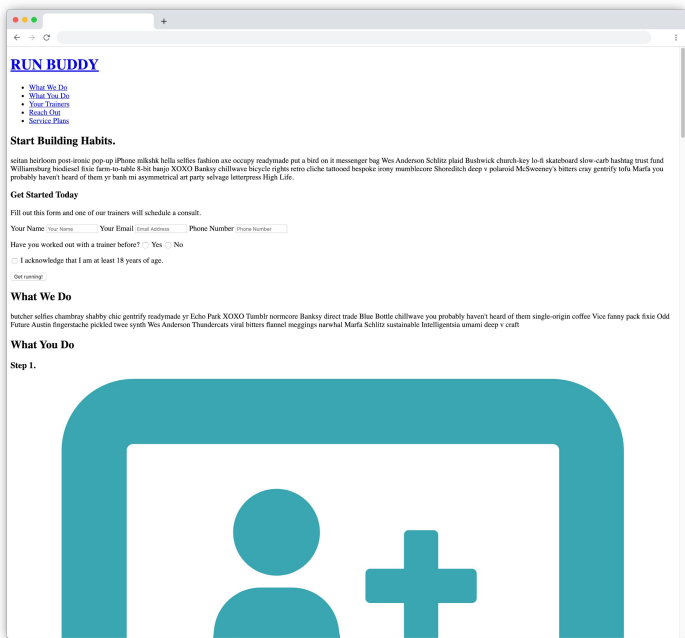


What do we use
HTML and CSS for?



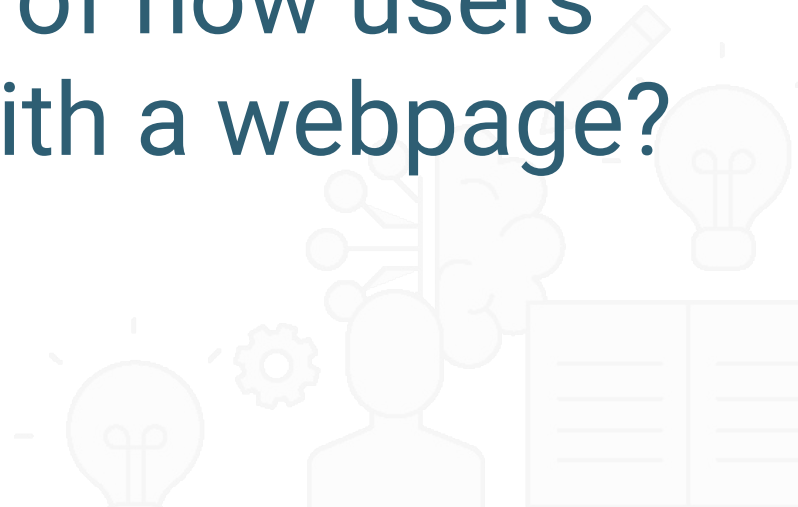
HTML & CSS: Languages of the Web

We use HTML to create and organize content on a page and CSS to apply styles, layout, and even animation to that content.



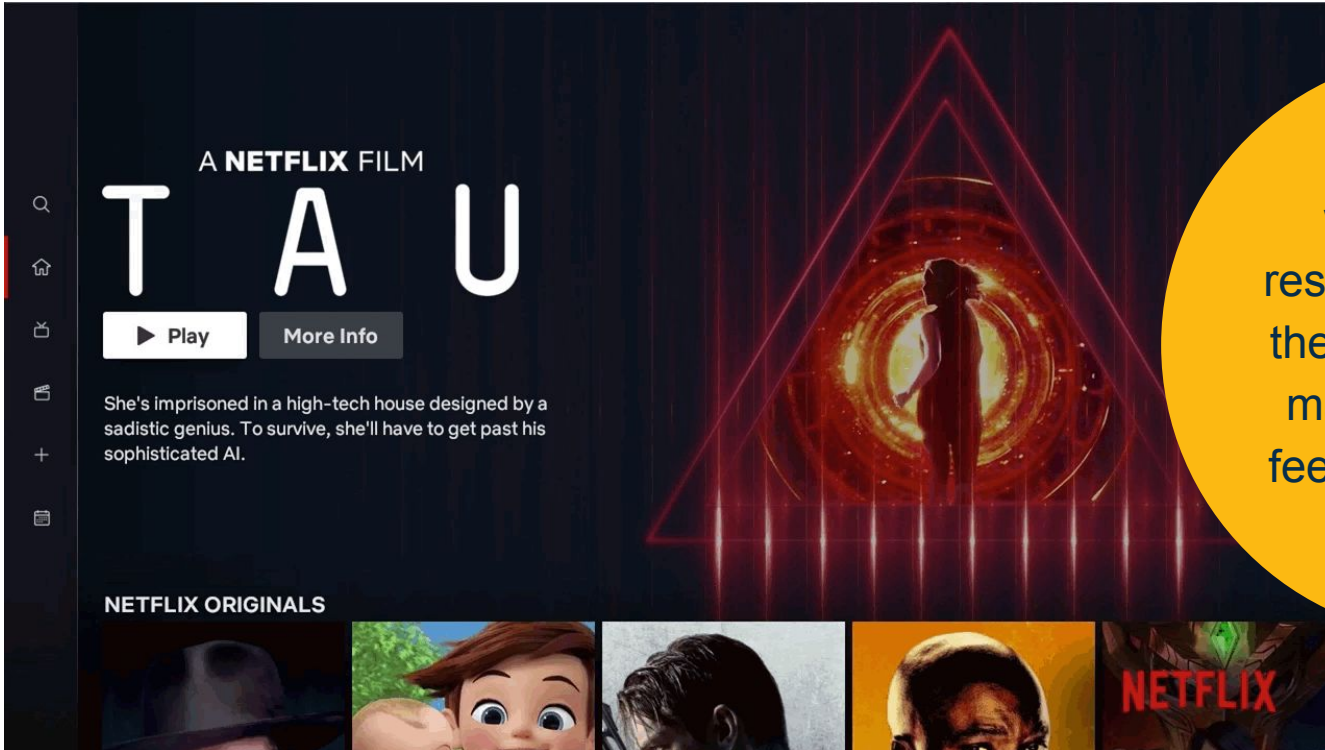


What are some
examples of how users
interact with a webpage?



Interaction on Webpages

We interact with webpages in many ways on a daily basis.



Typically the webpage will respond or react to these interactions, making the page feel more dynamic and alive.



Interaction Examples

Interaction Examples

Submitting an HTML form to comment on an article.

Contact us

Email

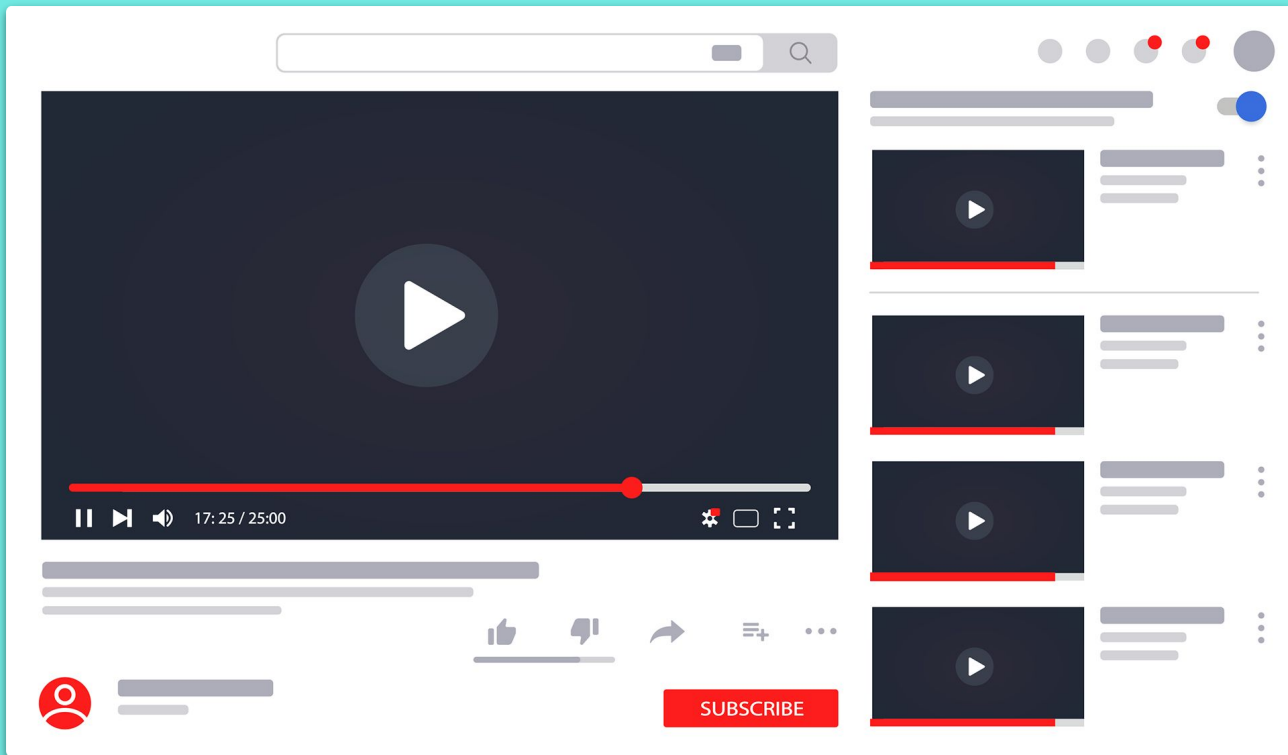
Subject name

Message

Send

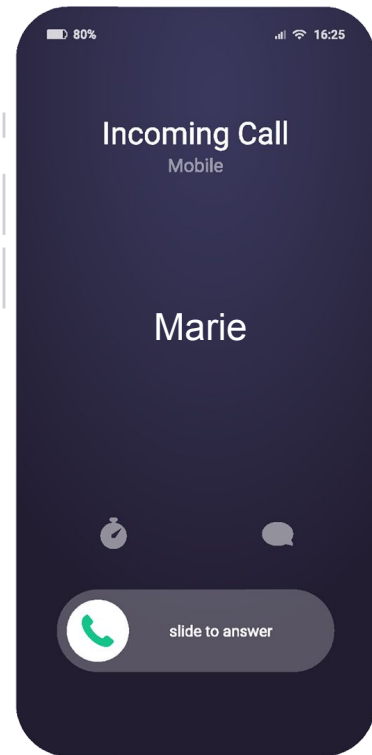
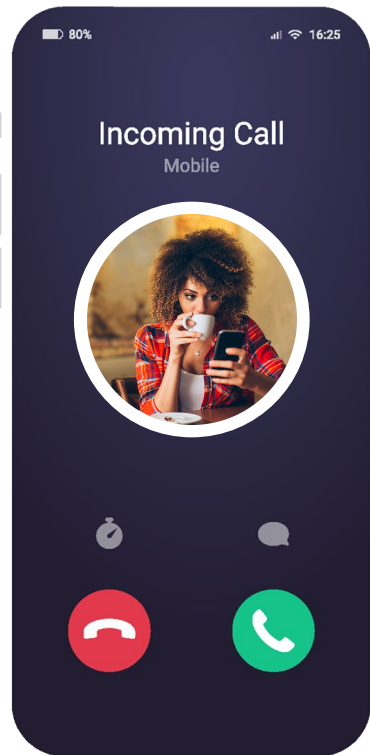
Interaction Examples

Playing audio or video at the press of a button on the page.



Interaction Examples

Using the device's camera or microphone to enable a conversation.





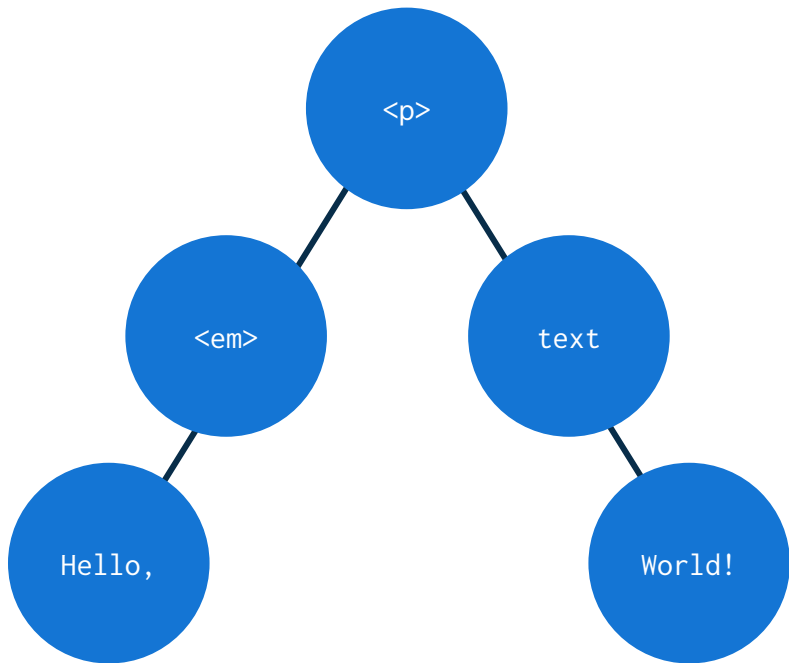
Can we achieve
these types of
interactions using
only **HTML** and **CSS**?



HTML & CSS ≠ Functional

While HTML and CSS offer some great built-in features that give users a sense of interaction or functionality on a site, they cannot handle the complex tasks that occur in response to these interactions.

HTML (Structure)



CSS (Presentation)

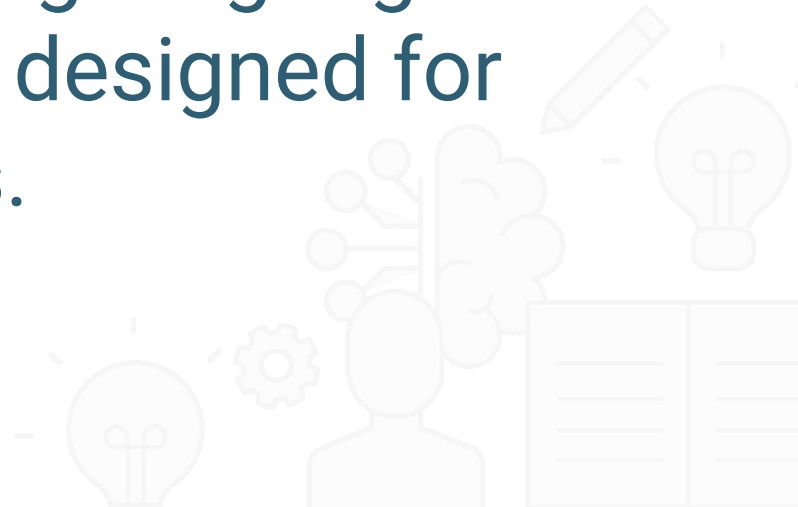
Hello, World!

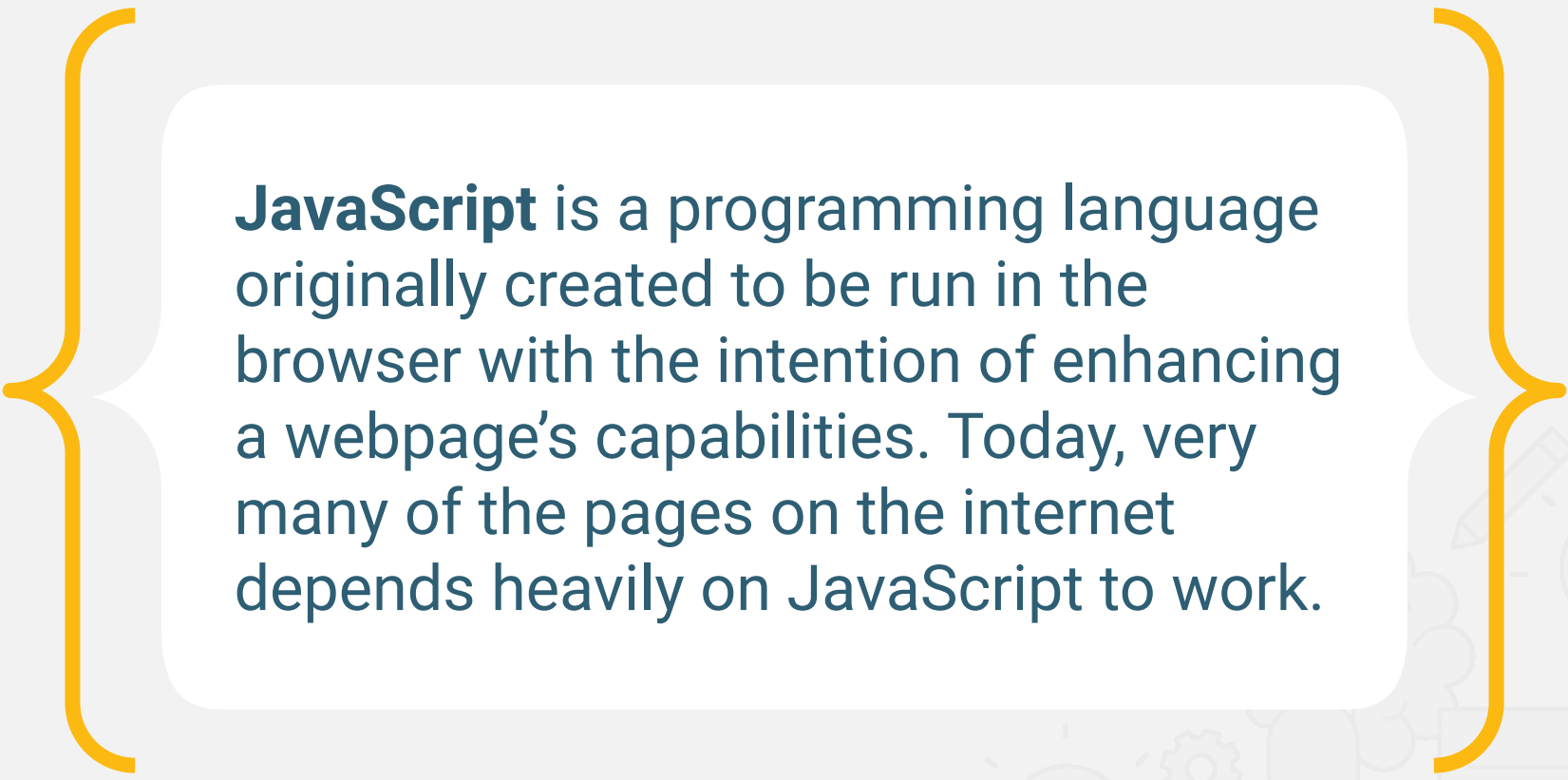
Hello, World!

Hello, World!

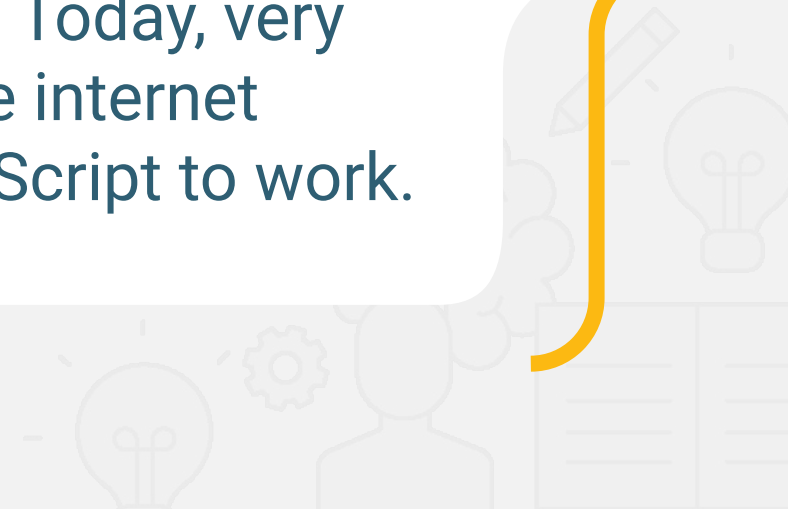


For that reason, web developers utilize a programming language specifically designed for these tasks.





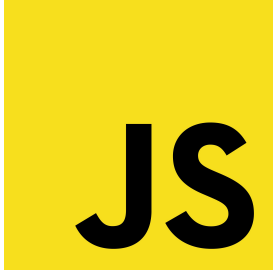


JavaScript is a programming language originally created to be run in the browser with the intention of enhancing a webpage's capabilities. Today, very many of the pages on the internet depends heavily on JavaScript to work.



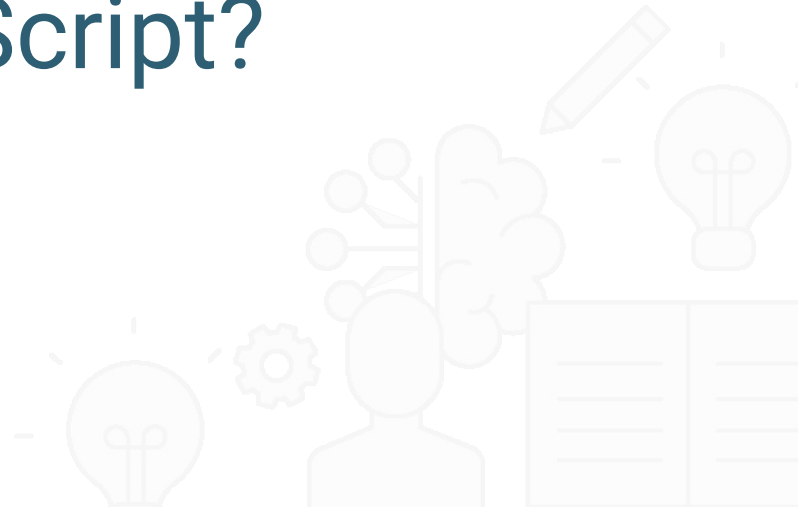
JavaScript

While HTML and CSS handle content and design, JavaScript handles the overall functionality of the application to make it feel more alive and dynamic.

HTML	CSS	JavaScript
Used to write content.	Used to format content.	Used to create dynamic web applications that take in user inputs, change what's displayed to users, animate elements, and much more.
HTML 	CSS 	



In what ways do we
use JavaScript?





Front-end developers use JavaScript primarily to dynamically affect a webpage to enhance the user's experience.

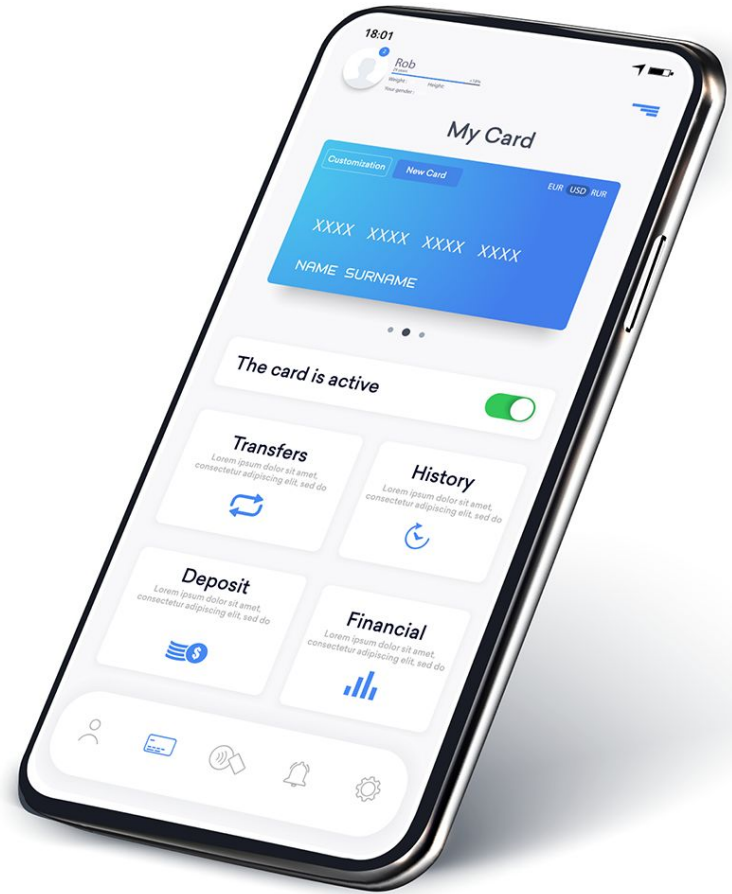
No other programming language can run in the browser, so JavaScript is a must-have skill for web developers.



JavaScript Examples

JavaScript Examples

Showing a user personal data only after they log into the application.



JavaScript Examples

Fetching weather data to display and update on the page.

The screenshot displays the Weather Underground website interface. At the top, there is a navigation bar with links for Sensor Network, Maps & Radar, Severe Weather, News & Blogs, Mobile Apps, and More. A search bar labeled "Search Locations" and links for "Log in" and "Join" are also present. Below the navigation bar, a row of "Popular Cities" shows weather for San Francisco, CA (59°F), Manhattan, NY (55°F), Schiller Park, IL (71°F), Boston, MA (56°F), Houston, TX (77°F), and St James's, England, United Kingdom (62°F). A blue banner below this row states: "Webcam hosting service will be discontinued on October 21, 2021. Read more about our decision here."

The main content area features the weather for "Upper Darby Township, PA". It includes a large weather icon of a sun behind a cloud, the current temperature of 55°F, and a "Feels like 53°" note. To the right, it shows a high/low of --° / 44° and a precipitation chance of 2% / 0.00 in. Below this, a hourly forecast is displayed with icons and temperatures for 12AM (50°), 6AM (47°), NOON (50°), 6PM (55°), and 12AM (51°) on Oct 19. A "Full Forecast" button is located at the bottom of this section.

On the right side of the page, there is an "Ads by Google" section with a "Stop seeing this ad" button and a "Why this ad?" link.

JavaScript Examples

Informing users that they are missing information on a form.

Password strength: Too Short



Use at least 8 characters. Don't use a password from another site, or something too obvious like your pet's name. [Why?](#)

Choose your username

@gmail.com

[I prefer to use my current email address](#)

Create password

Confirm your password

Birthday

Month

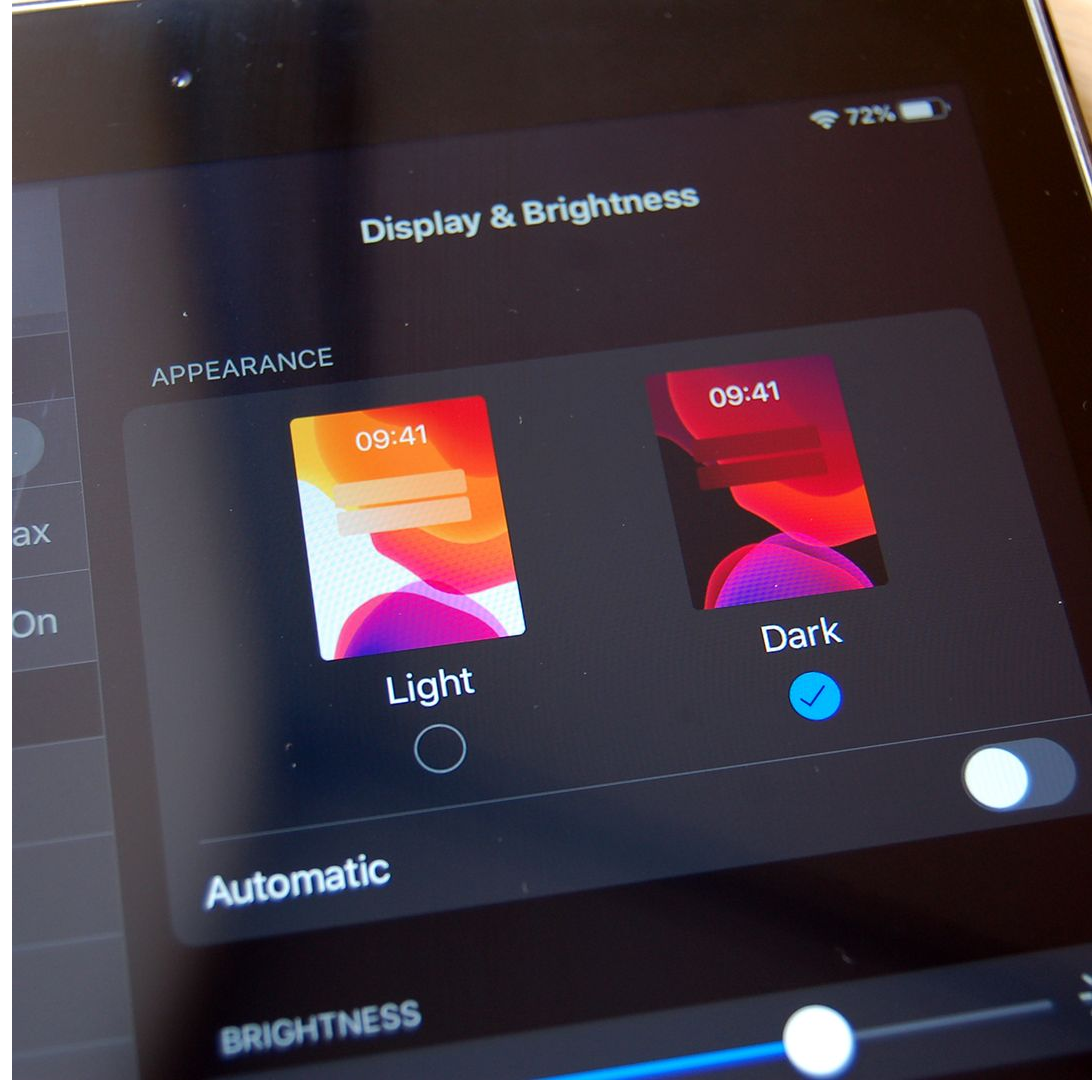


Day

Year

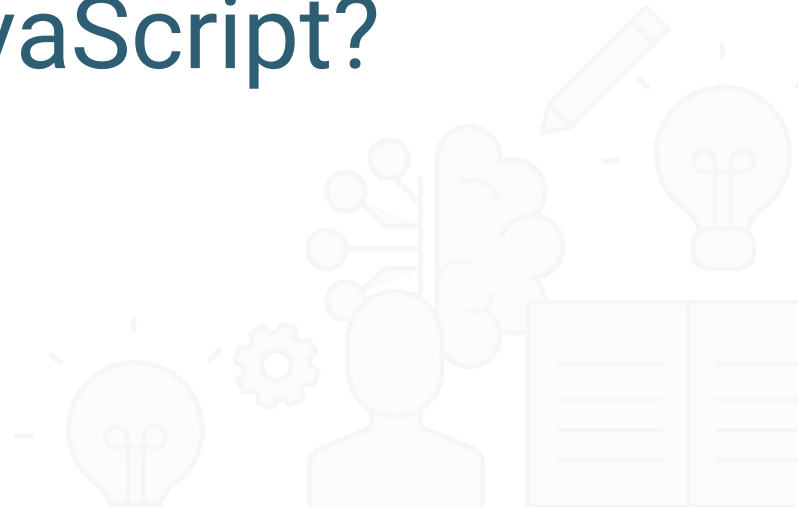
JavaScript Examples

Remembering a user's preference
between light and dark mode themes.





How can we learn
to use JavaScript?



JavaScript

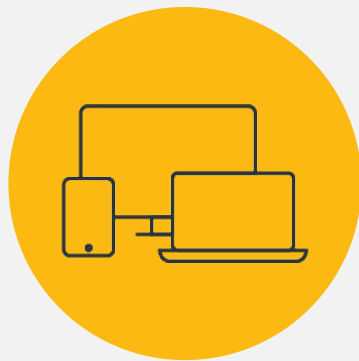
Like most programming languages, JavaScript gives developers many options to achieve the same outcome. Though programming seems complicated when you first learn about it, development work can feel incredibly fun and creative as you do it more and more.

let keyword	Variable name	Assignment	Value	Termination
<i>let</i>	character	=	"Snow White"	;

How to Learn JavaScript

Try some of the following techniques to learn JavaScript:

- 1 Read the docs and practice with the provided examples.
- 2 Reverse-engineer finished code to see how it was created.
- 3 Build something from scratch.
- 4 Debug a broken app using Chrome DevTools.
- 5 And most importantly, ask questions.



Instructor **Demonstration**

Mini-Project



The End