

Software Development

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# JavaScript

Module 03

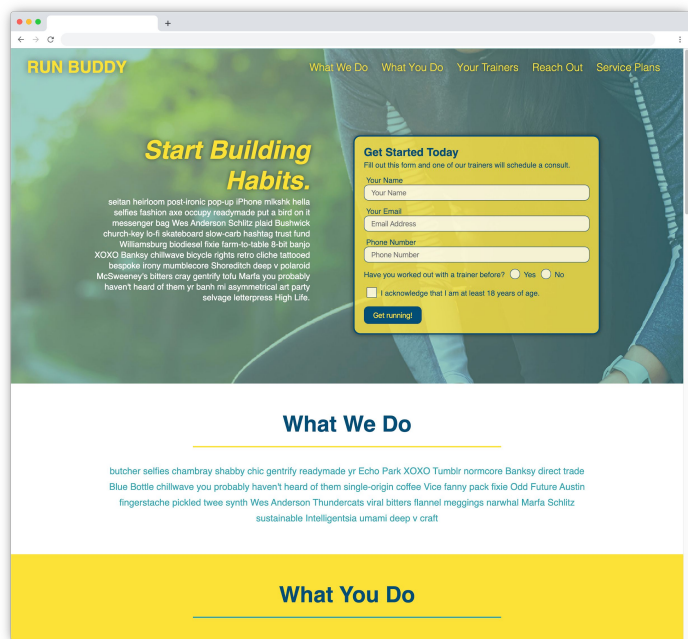
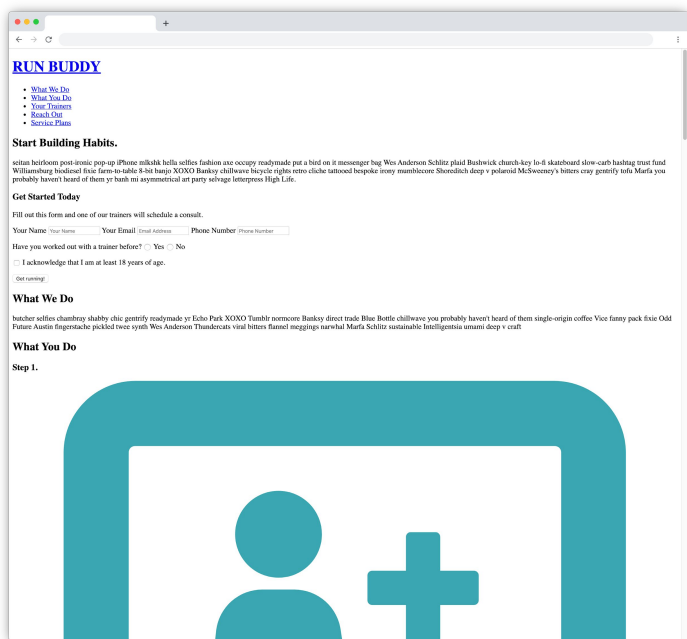


What do we use  
HTML and CSS for?



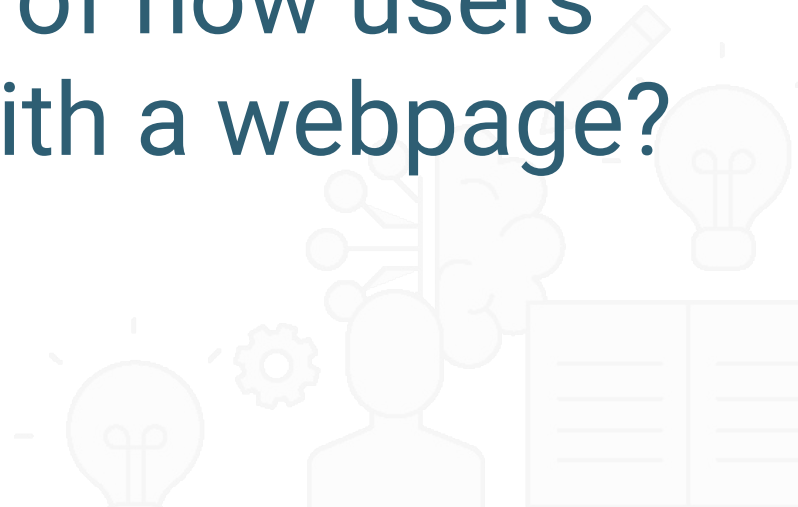
# HTML & CSS: Languages of the Web

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



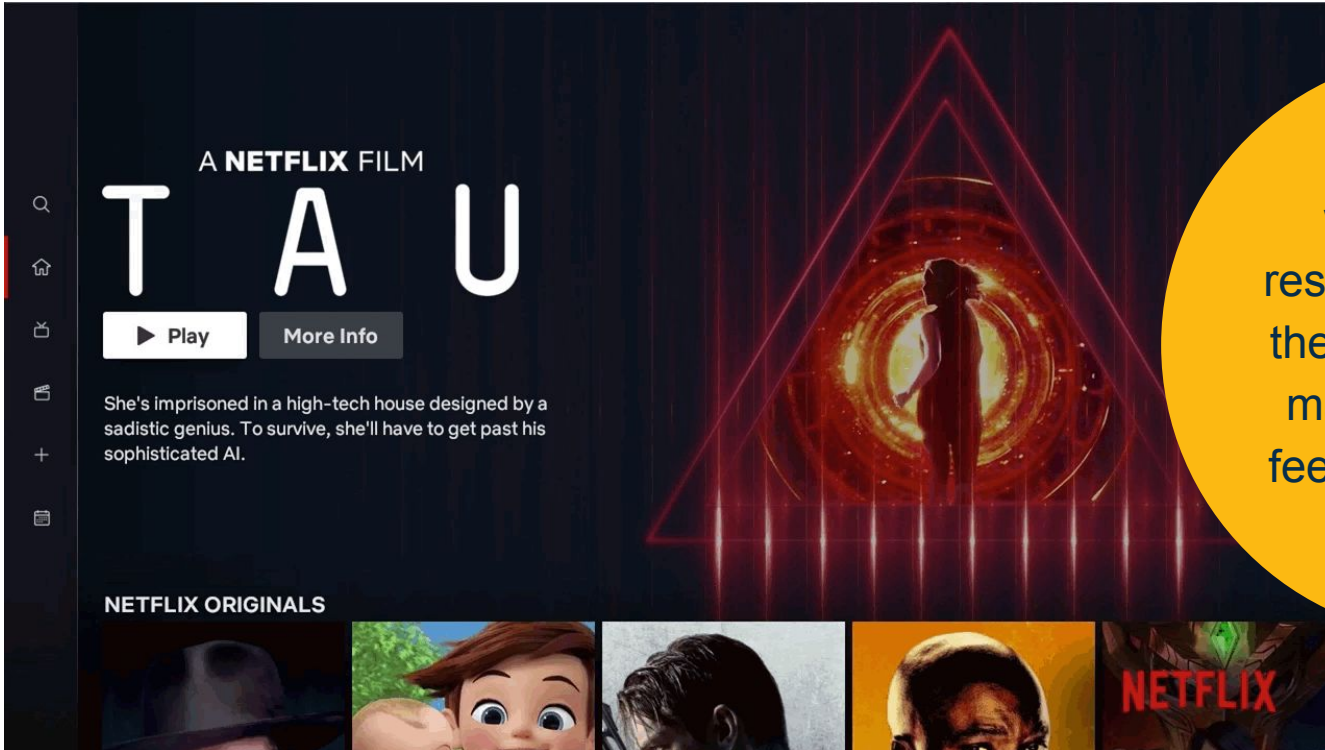


What are some  
examples of how users  
interact with a webpage?



# 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

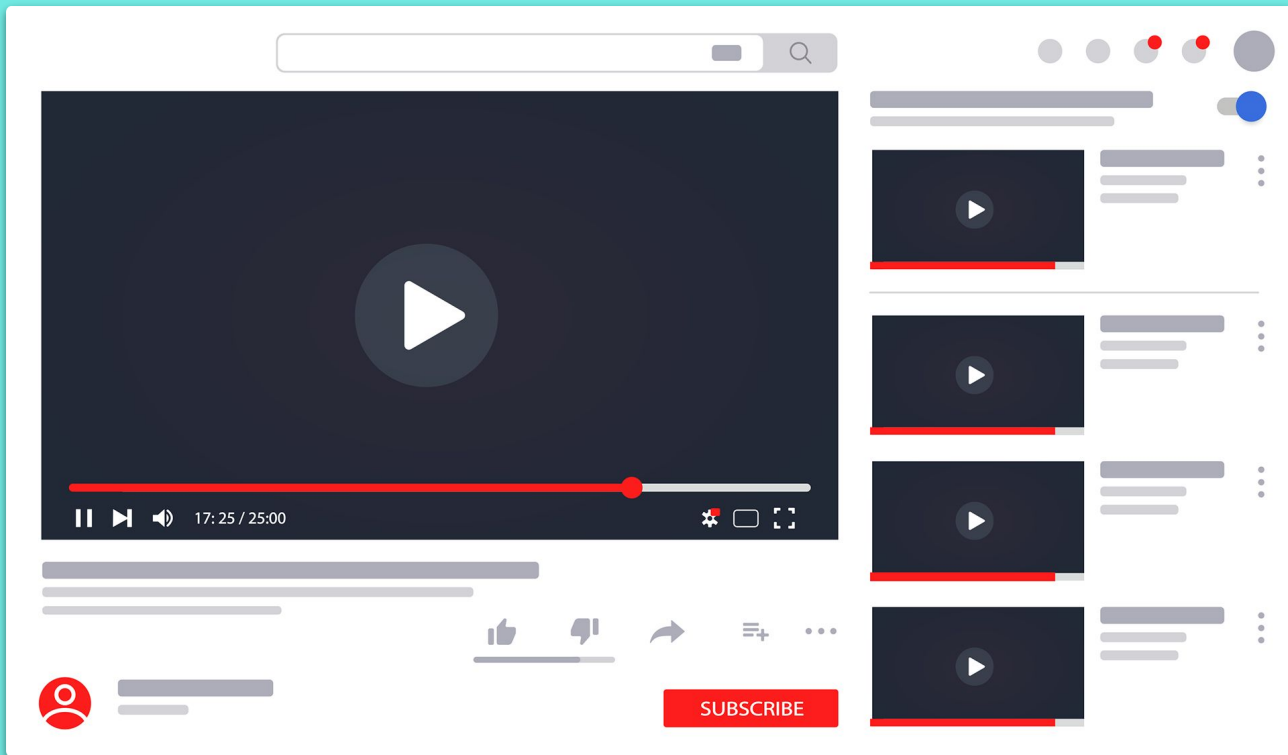
Subject name

Message

Send

# Interaction Examples

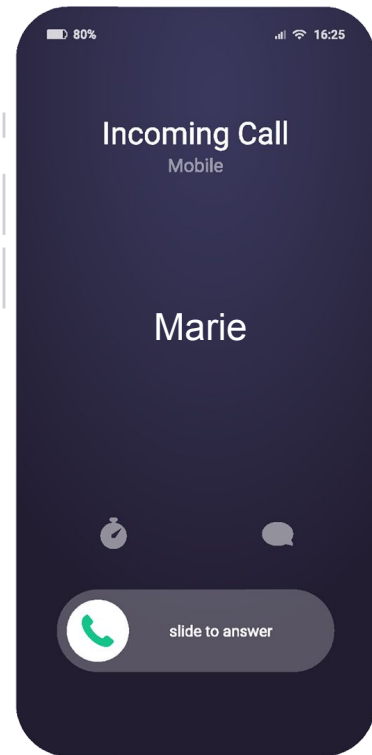
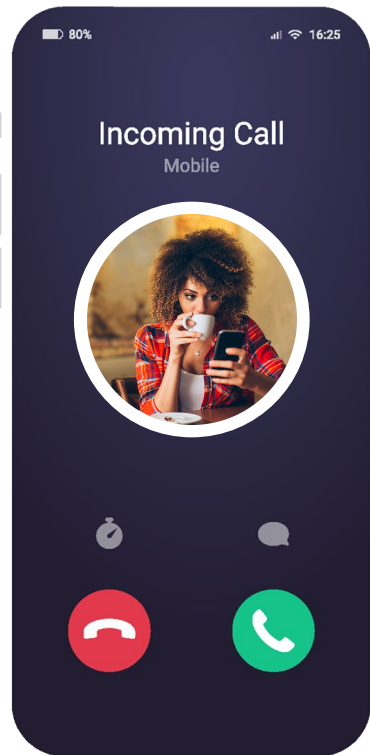
Playing audio or video at the press of a button on the page.





# Interaction Examples

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





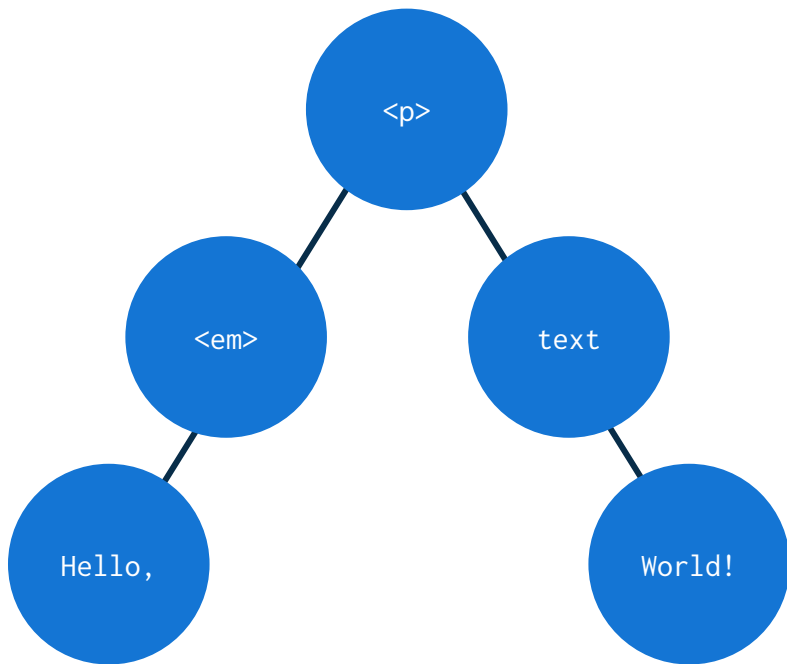
Can we achieve  
these types of  
interactions using  
only **HTML** and **CSS**?



# 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)

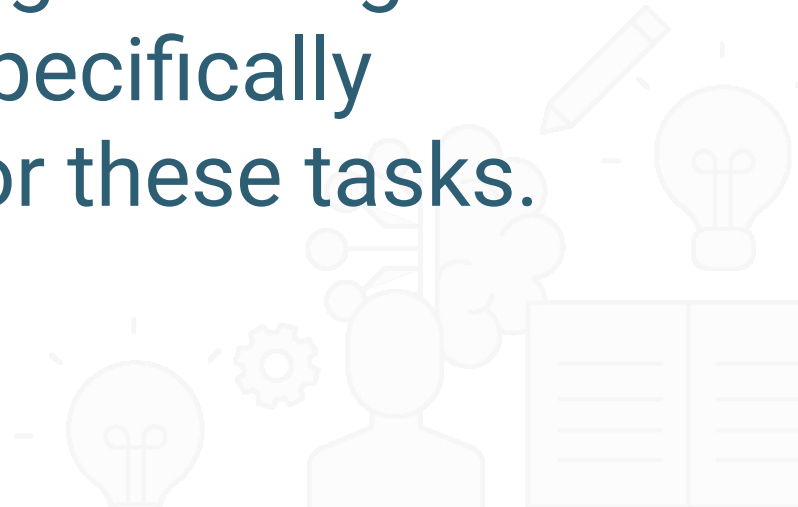
*Hello, World!*

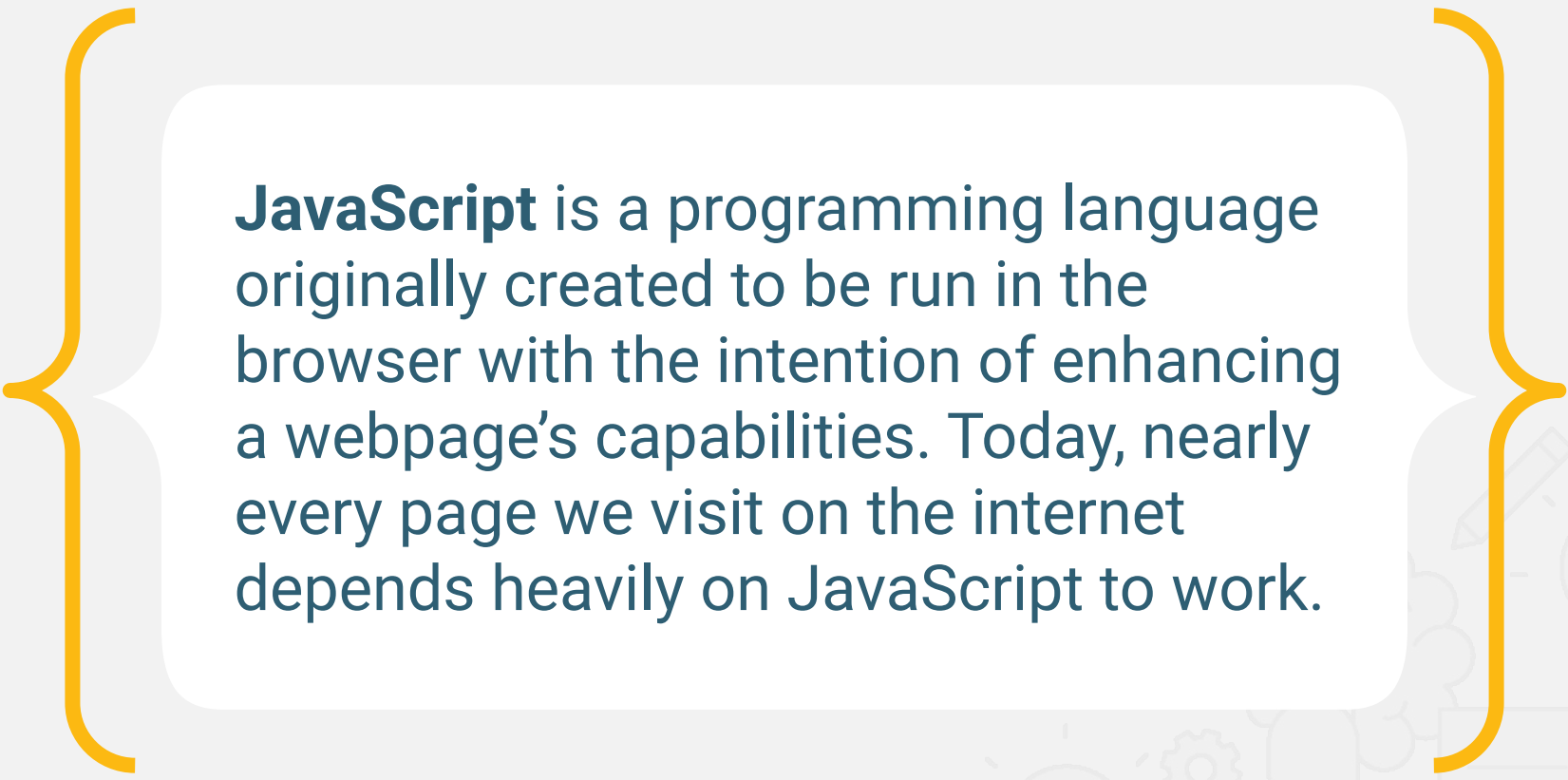
*Hello*, World!

*Hello*, World!

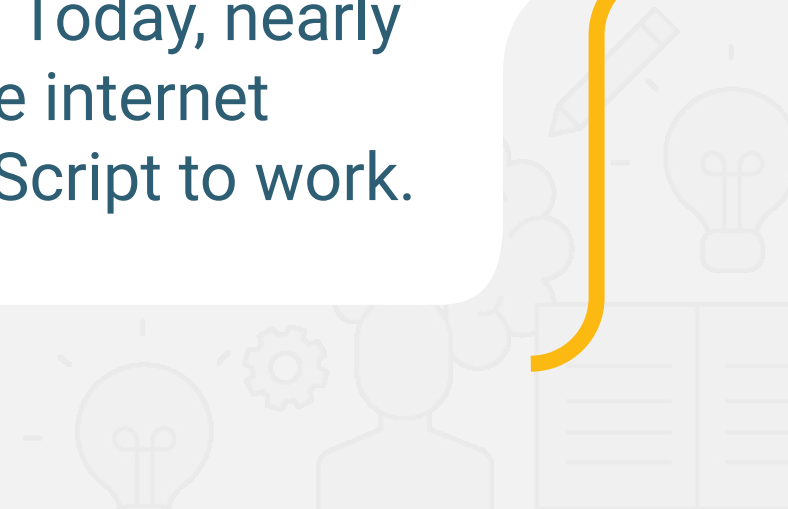


For that reason, web developers utilize another programming language specifically designed for these tasks.





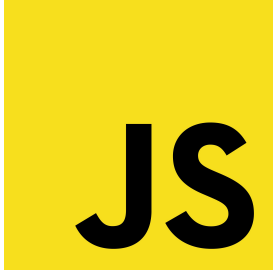


**JavaScript** is a programming language originally created to be run in the browser with the intention of enhancing a webpage's capabilities. Today, nearly every page we visit on the internet depends heavily on JavaScript to work.



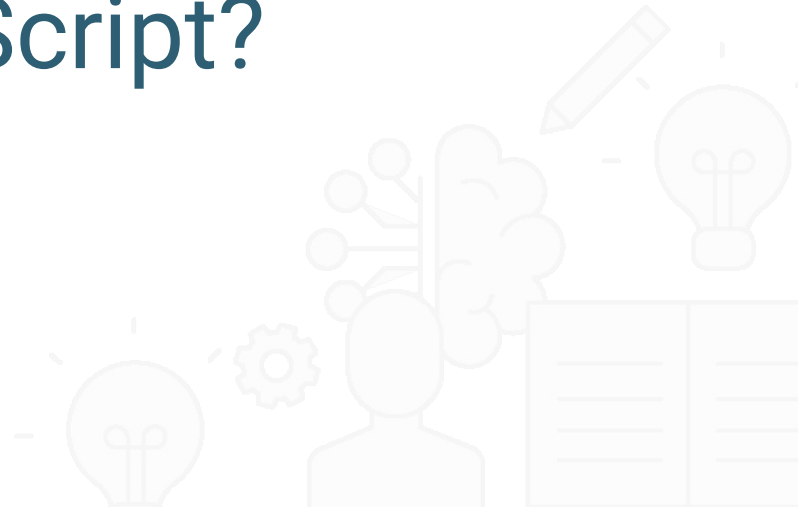
# JavaScript

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.
<b>HTML</b> 	<b>CSS</b> 	



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.

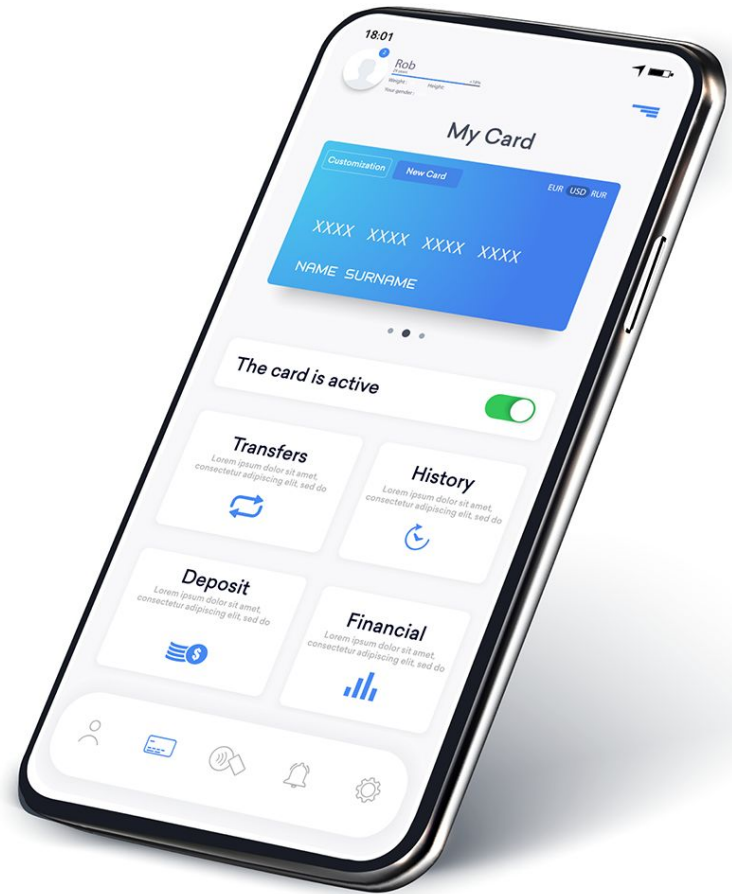




# JavaScript Examples

# 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 for locations is also present. Below the navigation bar, a row of popular cities is shown with their current weather conditions and temperatures: 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 (cloud with rain), the current temperature (55°F), and the feels-like temperature (53°F). Below this, the humidity is shown as 2% and the wind speed as 0.00 in. A horizontal timeline shows the hourly forecast for the next 12 hours, with temperatures ranging from 47°F to 60°F. The timeline includes icons for the weather conditions (cloud, sun, moon) and the time of day (12AM, 6AM, NOON, 6PM, 12AM). A blue button labeled "Full Forecast" is located below the hourly forecast.

On the right side of the page, there is an "Ads by Google" section. It contains a blue button labeled "Stop seeing this ad" and a link labeled "Why this ad?" with a right-pointing arrow.

# 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

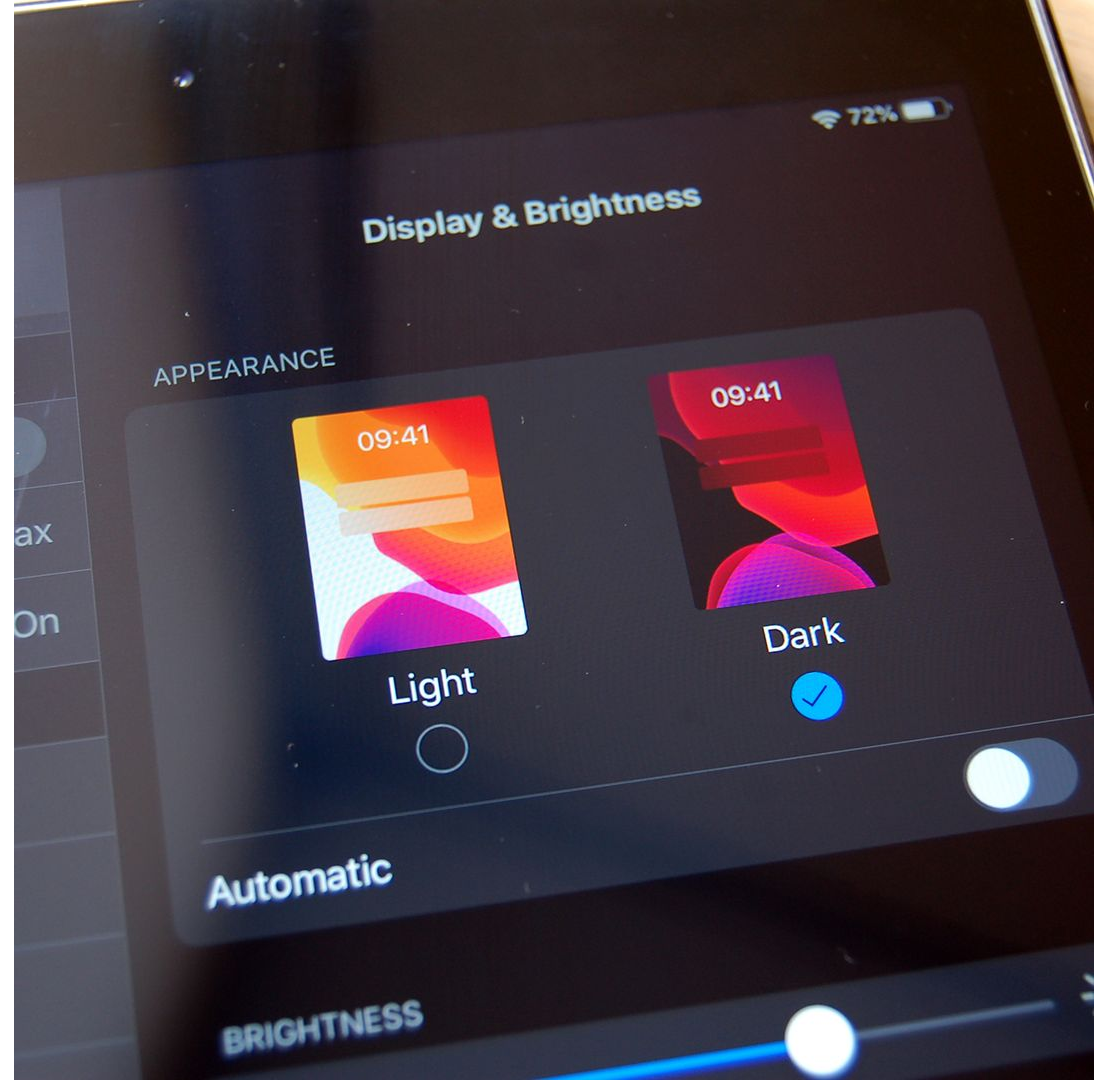


Day

Year

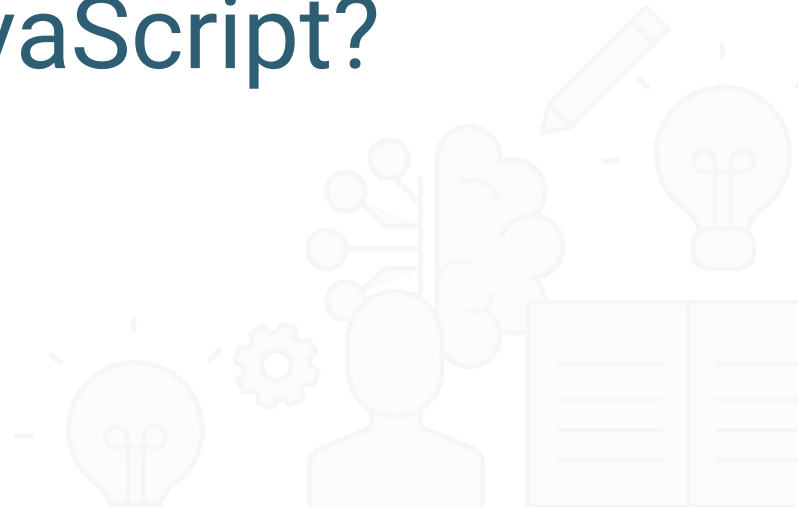
# JavaScript Examples

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





How can we learn  
to use JavaScript?



# JavaScript

Unlike some other programming languages, JavaScript doesn't force developers to write code in a specific way. As a result, JavaScript might seem a bit complicated at first, but it can make development work feel incredibly fun and creative as you get to use it more and more.

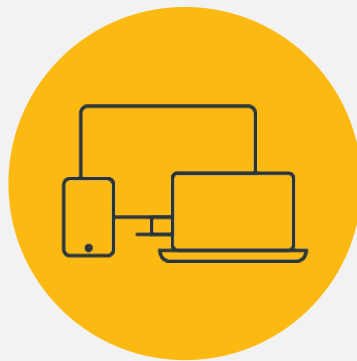
let keyword	Variable name	Assignment	Value	Termination
<i>let</i>	character	=	"Snow White"	;

# 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



**Questions?**





**The End**