JavaScript

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What? Why? Where?

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"Java is to JavaScript as car is to carpet"

So what is it?

Created by Brendan Eich in 1995.

"JavaScript often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterised as dynamic, weakly typed, prototype-based and multi-paradigm."

(https://en.wikipedia.org/wiki/JavaScript)

General language features

Should look familiar:

- Types
    - Boolean
    - Null
    - Undefined
    - Number
    - String
    - Symbol
    - Object
- if, for, while, switch, break, continue etc.
- Classes...(functions)

Not so familiar:

- Variable and function hoisting
- Function level scope
- Global scope
- Closures

So why does it exist?

The web browser

Netscape

- Needed a scripting language
- Wanted it to be Java "like" (marketing !?!)
- Built in 10 days

What it's good at (kind of...)

- Moot point, it's all you've got.
    - What about Java applets (dead)
    - What about Flash (dead)
- If you want to anything "dynamic" in a web page you will have to write JavaScript
- Asynchronous - non blocking

What it's not so good at (quite a bit...)

What it's not so good at (quite a bit…)

Know the limits of the language

- Don't write spacecraft control systems in JavaScript
- Don't write complex financial processing systems in JavaScript
- Don't write 3D animation engines in JavaScript

So it's just web pages?

Not any more

Turns out one part of JavaScript is really powerful:

- Asynchronous - non blocking

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Beyond the niche
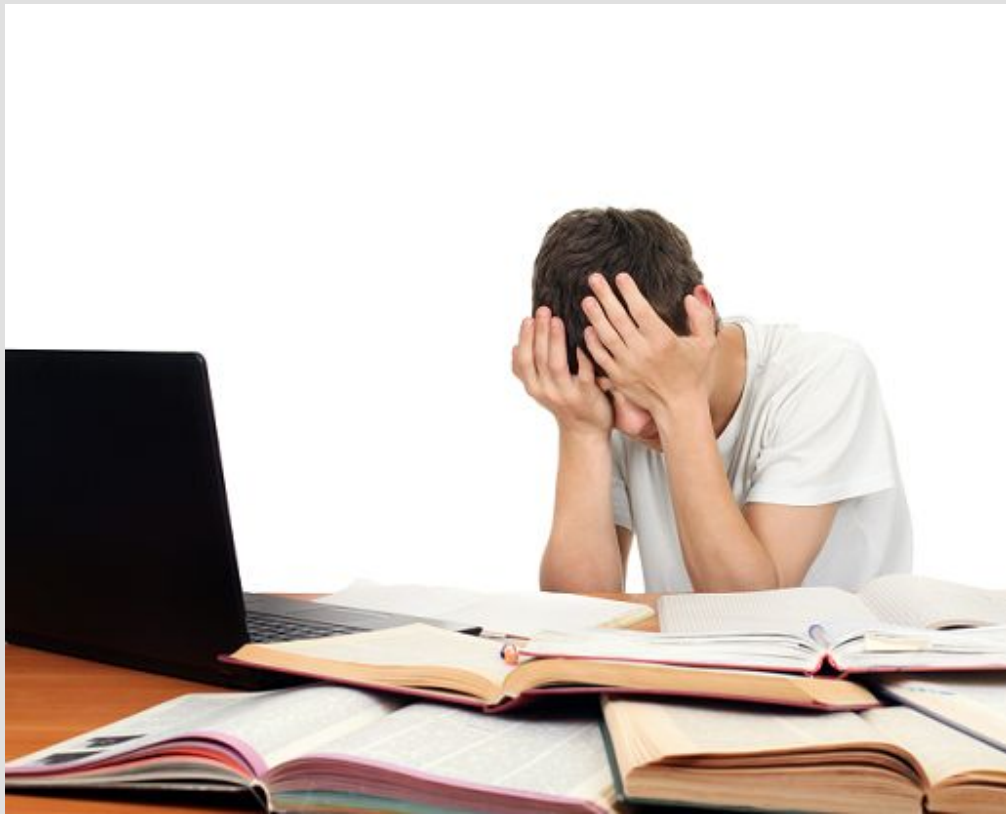
Node.js
(https://nodejs.org)

Created by Ryan Dahl in 2009

Run JavaScript outside the browser

(Thanks in part to Google Chrome and the V8 JavaScript engine)

It's still JavaScript though…

What can you use it for?

- Web applications - in the browser
- Websites - with Node.js
- REST APIs - with Node.js
- Command line scripts - with Node.js
- Desktop apps with Node.js e.g. Visual Studio Code, GitHub Desktop, Postman, Slack, loads more.

What's next?

Increased competition

WebAssembly
(https://webassembly.org)

- Compile other languages to run in the browser

Questions?