

Hello JavaScript

"Unfortunately, because of its dominance in the web, [JavaScript] is now moving into virtually everyplace else. It has become a tragically important language, and we're going to be stuck with it for a time." – Douglas Crockford 8/2012



"Regardless of your personal feelings about JavaScript it is undoubtedly the single most important computer language in the world today." – Joel Cochran
12/2012



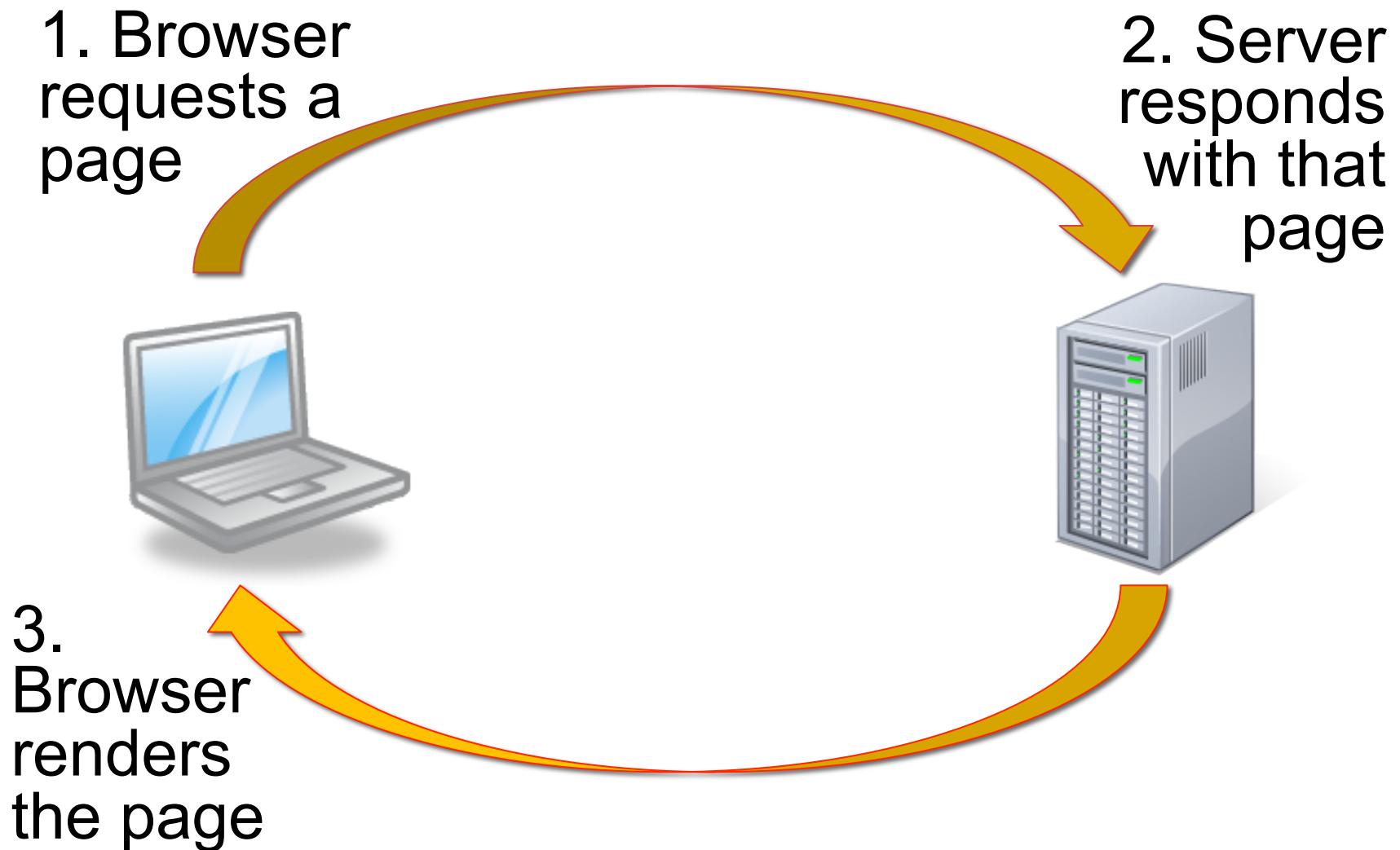
JavaScript is eating the world.

If you want a job, Node.js is the thing to hop into right now. Something different is happening with Node.js. It is flipping the typical script.

Kevin Lacker, CTO/
cofounder of Parse



The web uses a thin-client architecture



JavaScript is a programming language
running in the browser ...



... and/or the server





Hi, I'm Brendan Eich. I wrote JavaScript for Netscape way back in 1995.

I did it in ten days.
Ten... Days...

I wanted to call it "Mocha". But the marketing guys thought "JavaScript" would be cooler.

Microsoft wrote their own version in 1996 which they called "jScript".

We needed a standard that would run in all browsers, so we submitted it to ECMA

Awesome.
Original.

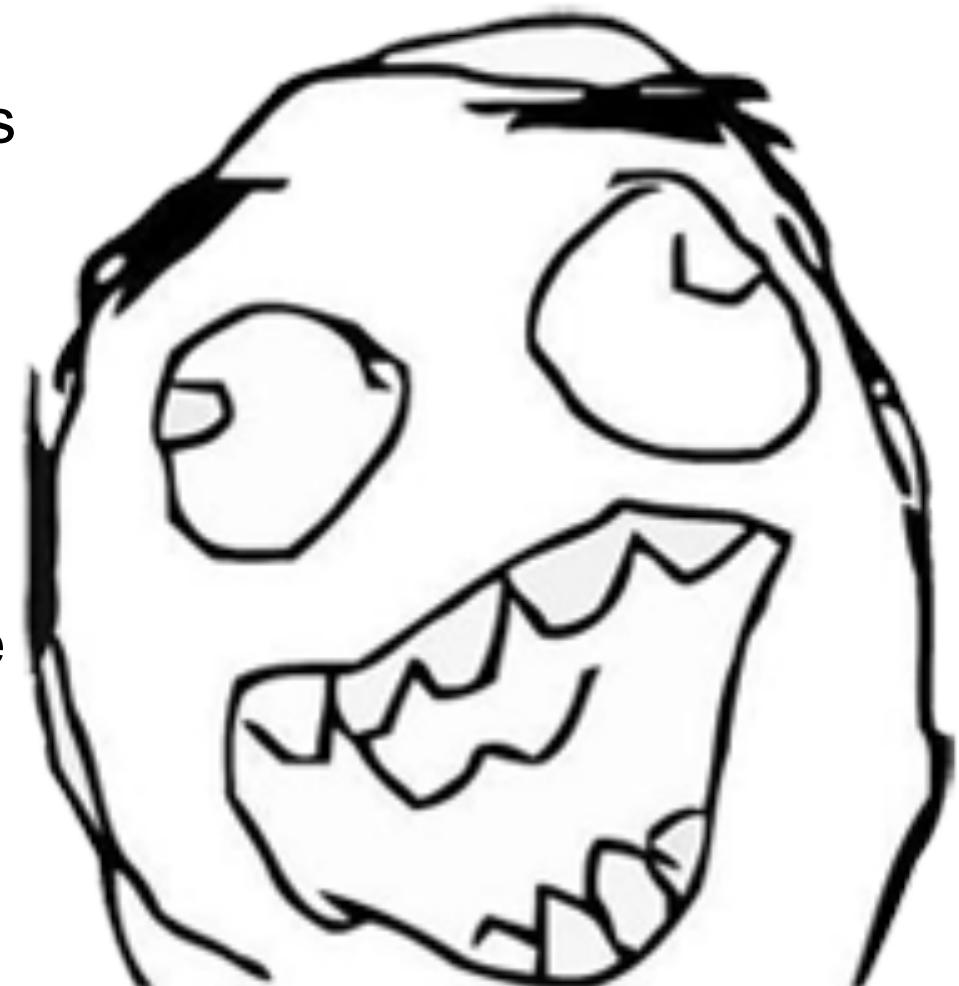
Now, some people call it "ecmaScript".
(Meh.)

JAVA IS TO JAVASCRIPT

WHAT LAUGHTER IS TO
MANSLAUGHTER

JavaScript can be ... weird

- Dynamically typed
- Only three basic data types
- Functions can contain functions
- Objects created on the fly
- Local scoping only works occasionally
- All function parameters are optional



ES2015 is the current standard

- But not all browsers support all the features



You add JavaScript to web pages

- Put it inside <script> tags ...

```
<script>  
function sayHi() {  
    alert("Hello, world.");  
}  
sayHi();  
</script>
```

- ... or add as a separate file

```
<script src="navigation.js"></script>
```

```
var x; // Everything to the right of slashes  
/*  
Anything between slash-splat and  
splat-slash are comments.  
*/
```

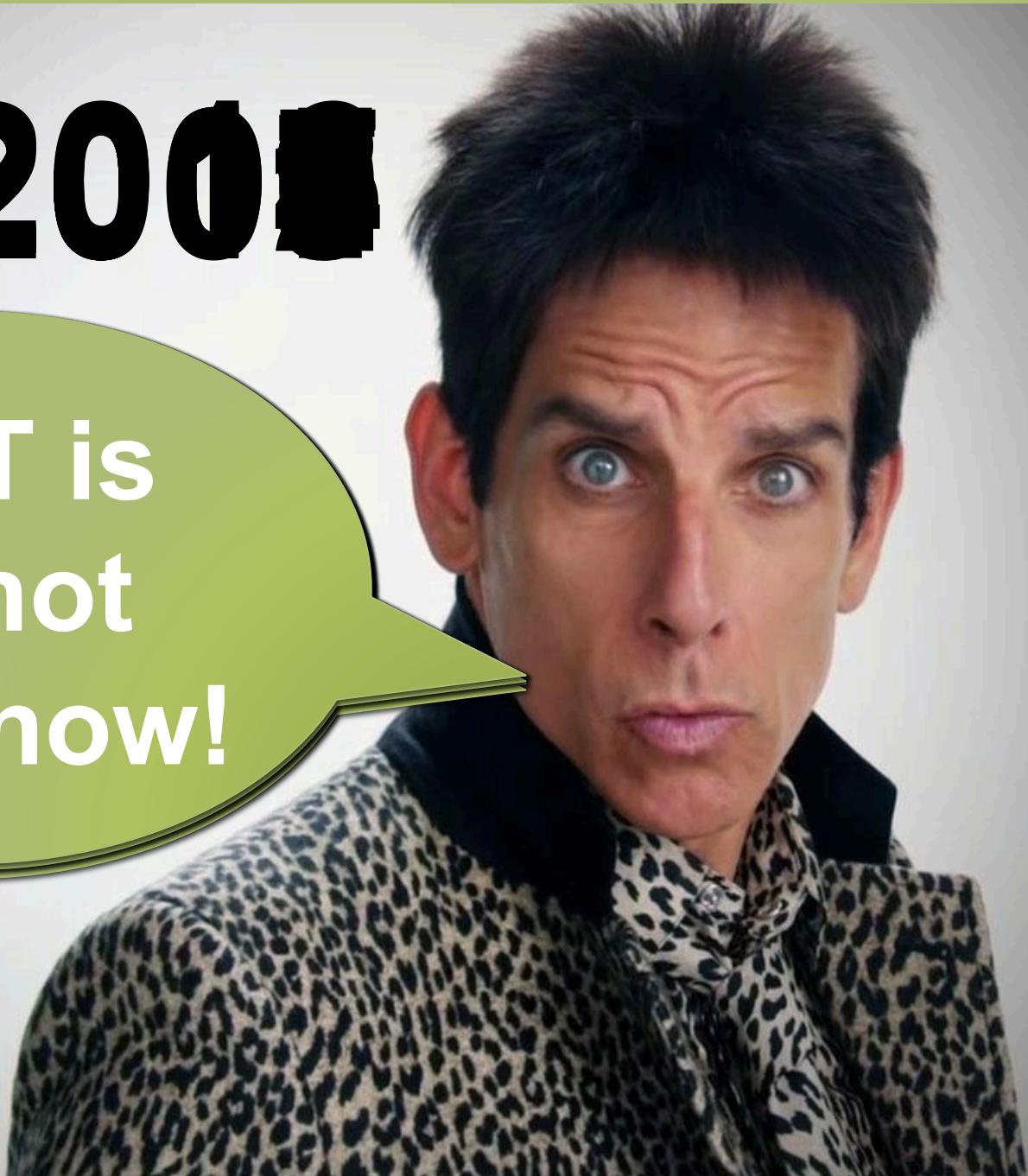
I comment my code – but I
still don't know what I
did or why.

You can comment your code

JAVASCRIPT FRAMEWORKS

200~~8~~

GWT is
so hot
right now!



Transpilers

- Babel - ES2017 to ES5
- TypeScript - Proprietary dialect to ES5
- Traceur - ES2015-to-ES5
- CoffeeScript - Proprietary dialect to ES5
- Scala.js
- JS++
- ST-JS

Package managers

- Download and install components in a controlled, easy way
- Like system package managers but for JavaScript
 - bower - Good for static assets. Has been called "abandonware"
 - npm - Most popular

Testing tools

- Mocha - A nodeJS testing framework/test runner
 - Can test node code and server-side JavaScript using PhantomJS as a headless browser
- Karma - Just like Mocha
- Jasmine
- Chai - Just like Jasmine
- Usually Mocha/Chai or Karma/Jasmine

Linters

- Tell you when your code is not following best practices.
- Helps to maintain high code quality.
- ESLint - Newer and better
- JSLint - Older

Minifying makes your JavaScript load quickly



- YUI Compressor
- <http://developer.yahoo.com/yui/compressor>
- <http://refresh-sf.com/yui>

Minifiers

- Uglify - Very popular
- Browserify - conceptually easier
- Webpack - more capable and does more for you.

Task runners/build systems

- Transpiles your code, lints it, minifies js and css, compiles documentation from comments, produce source maps, checks in to git, runs tests, deploys your code, etc.
- Task runners/build systems
 - WebPack
 - gulp - Streams - code over configuration
 - grunt - Files - configuration over code
 - npm run

tl;dr

- JavaScript (aka. ECMAScript) is taking over the world because it runs on nearly every machine known to man.
- It can be different
 - Dynamic
 - Not OO
 - Strange practices and patterns
- JavaScript fatigue and JavaScript friction are very real! Try not to get discouraged
- Many libraries and tools built for JavaScript make your job easier ... and in some ways harder.