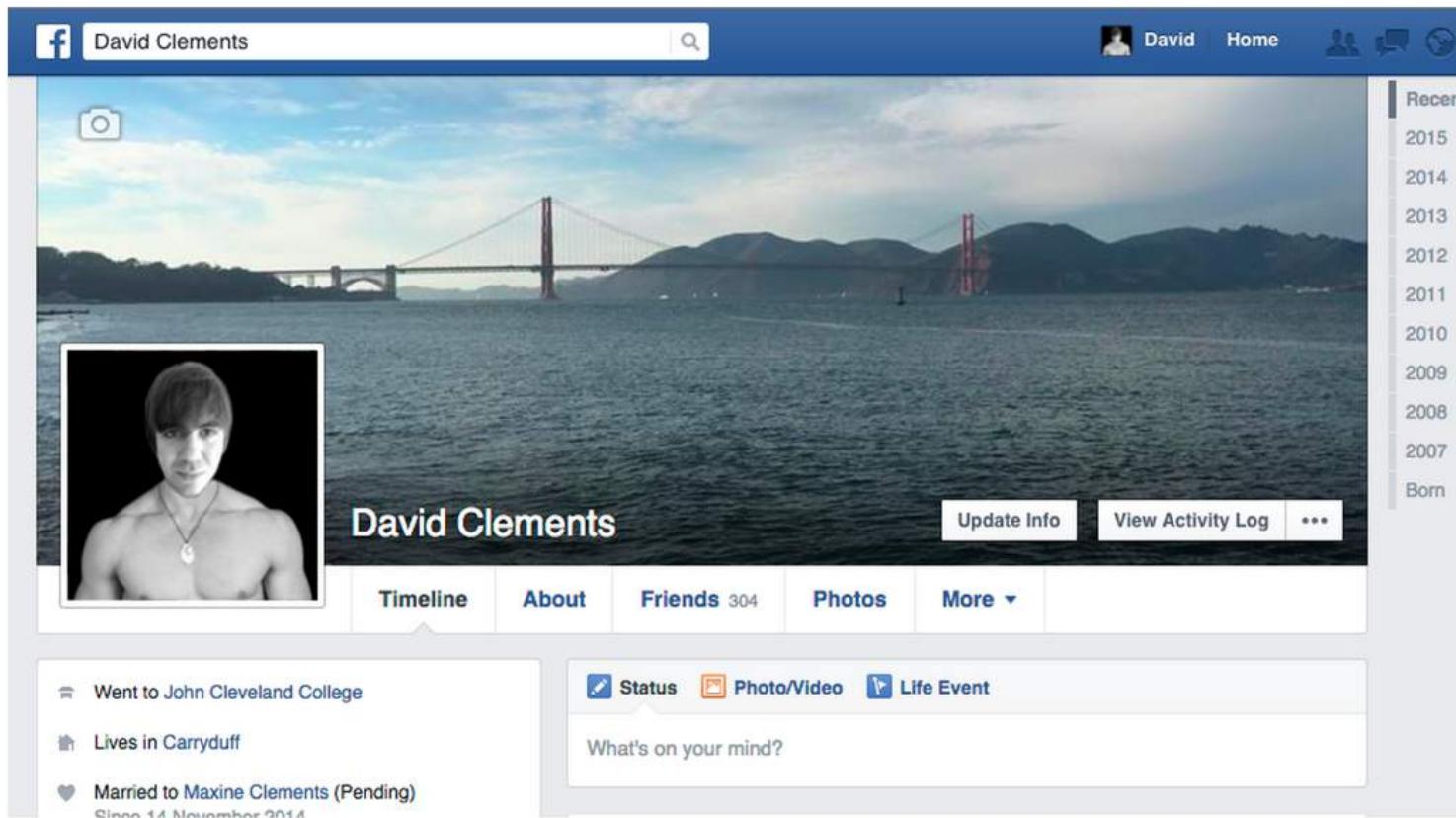


Growing up with JavaScript

History & Future of an Oddball

@davidmarkclem

Warning: Gratuitously Egotistical



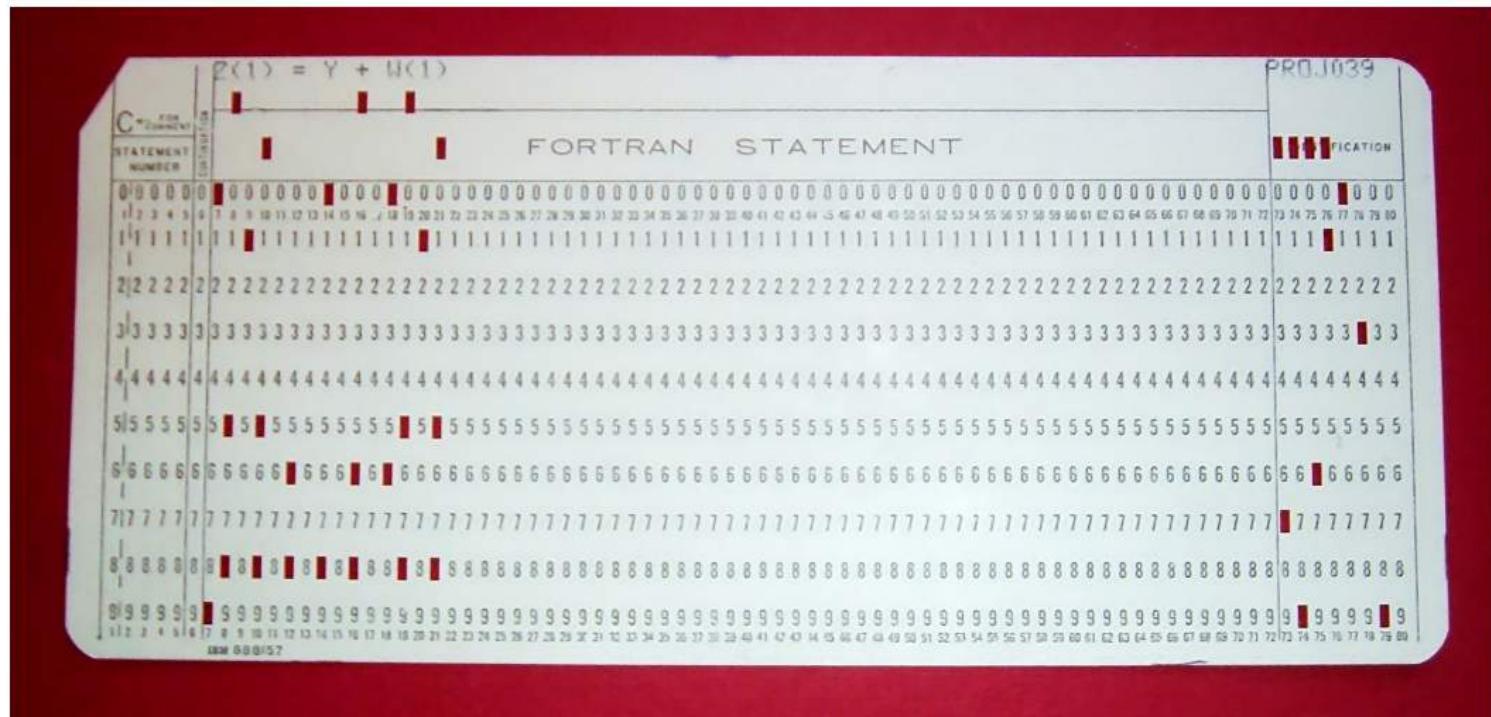
...more self-involved than a Facebook Profile

32 BD

32 BD

(1953)

FORTRAN



FORTRAN

```
C AREA OF A TRIANGLE - HERON'S FORMULA
C INPUT - CARD READER UNIT 5, INTEGER INPUT
C OUTPUT - LINE PRINTER UNIT 6, REAL OUTPUT
C INPUT ERROR DISPLAY ERROR OUTPUT CODE 1 IN JOB CONTROL

      INTEGER A,B,C
      READ(5,501) A,B,C
501 FORMAT(3I5)
      IF(A.EQ.0 .OR. B.EQ.0 .OR. C.EQ.0) STOP 1
      S = (A + B + C) / 2.0
      AREA = SQRT( S * (S - A) * (S - B) * (S - C) )
      WRITE(6,601) A,B,C,AREA
601 FORMAT(4H A= ,I5,5H B= ,I5,5H C= ,I5,8H AREA=
      STOP
      END
```

27 BD

(1958)

ALGOL

```
FLOATING POINT ALGOL TEST'
BEGIN REAL A,B,C,D'

READ D'

FOR A:= 0.0 STEP D UNTIL 6.3 DO
BEGIN
  PRINT PUNCH(3),EEL??'
  B := SIN(A)'
  C := COS(A)'
  PRINT PUNCH(3),SAMELINE,ALIGNED(1,6),A,B,C'
END'
END'
```

LISP

```
(LABEL, LENGTH, (LAMBDA, (Y), (COND, ((NULL, Y),  
(QUOTE, 0.0)), (T, (SUM, (LENGTH, (CDR, Y)),  
(QUOTE, 1.0))))))
```

25 - 15 BD

(1960 - 1970)

15 - 5 BD

(1970 - 1980)

3 BD

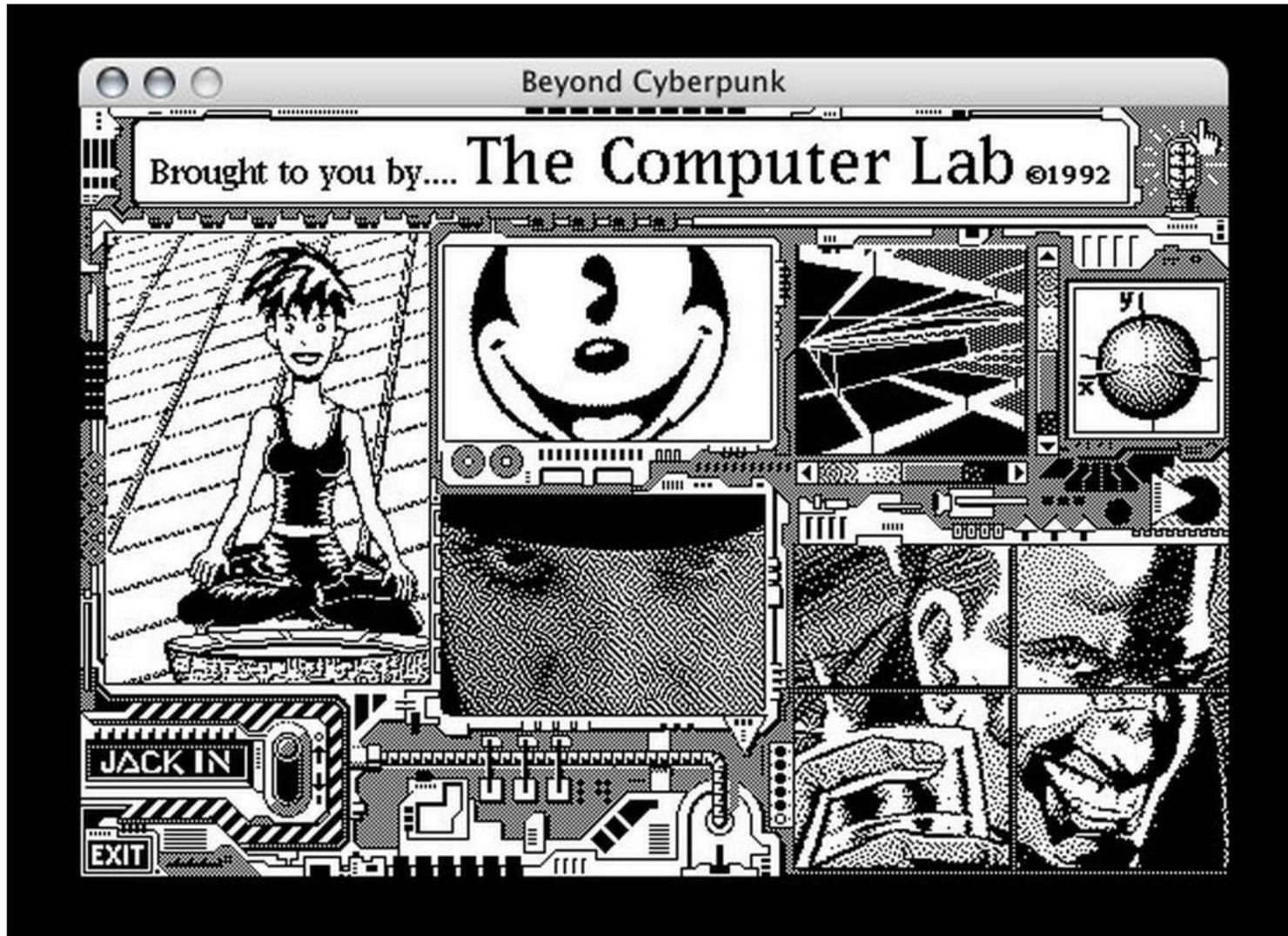
(1982)

3 BD

(1982)

0 DB (1985)

Hypercard



1986

Self



Hypertalk

```
on mouseDown
    answer file "Please select a text file to open."
    if it is empty then exit mouseDown
    put it into filePath
    if there is a file filePath then
        open file filePath
        read from file filePath until return
        put it into cd fld "some field"
        close file filePath
        set the textStyle of character 1 to 10 of card field "some field" to bold
    end if
end mouseDown
```

1987

CompuServe brings us GIF



GIFAK.NET

I was watching Rainbow

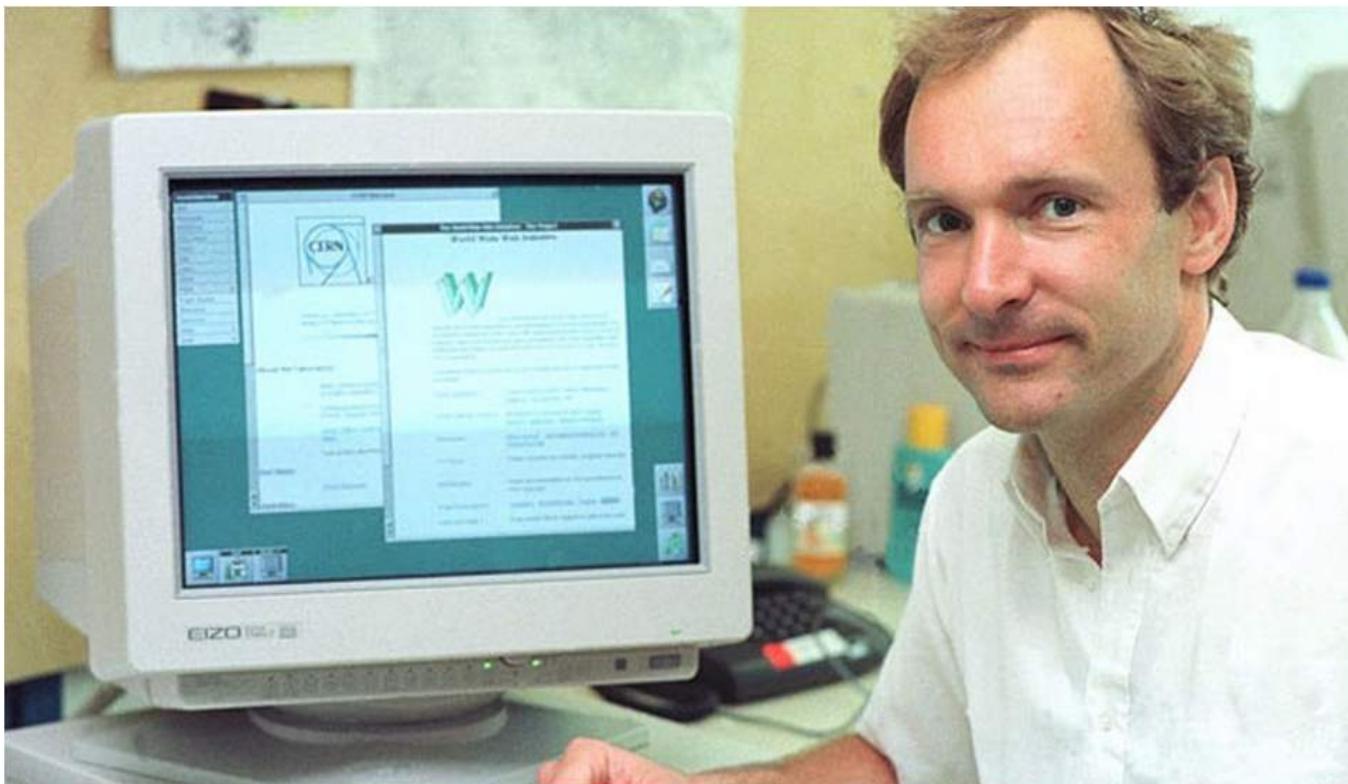


1989

1989

1990

The Architect



| 99 |

| 99 |

| 99 |

This is what he showed me...

```
***** COMMODORE 64 BASIC V2 *****  
64K RAM SYSTEM 38911 BASIC BYTES FREE  
READY.  
10 PRINT "DAVID"  
20 GOTO 10  
RUN■
```

...I was astounded.

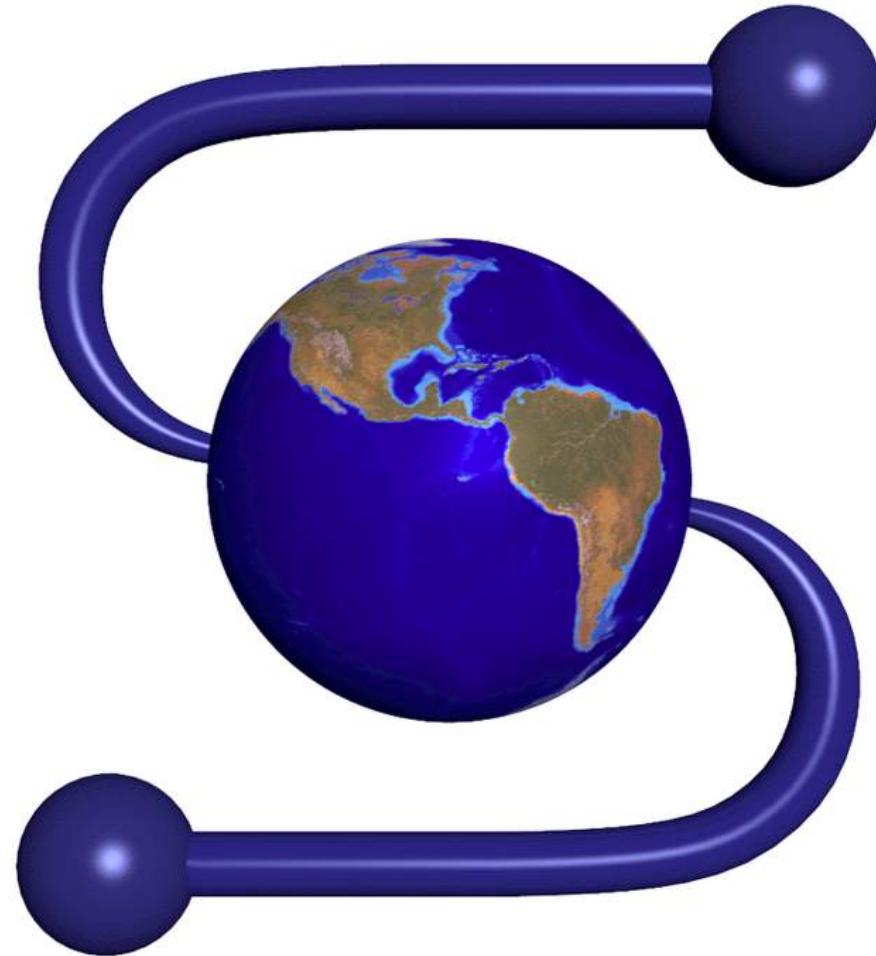
1992

Got me a mega drive

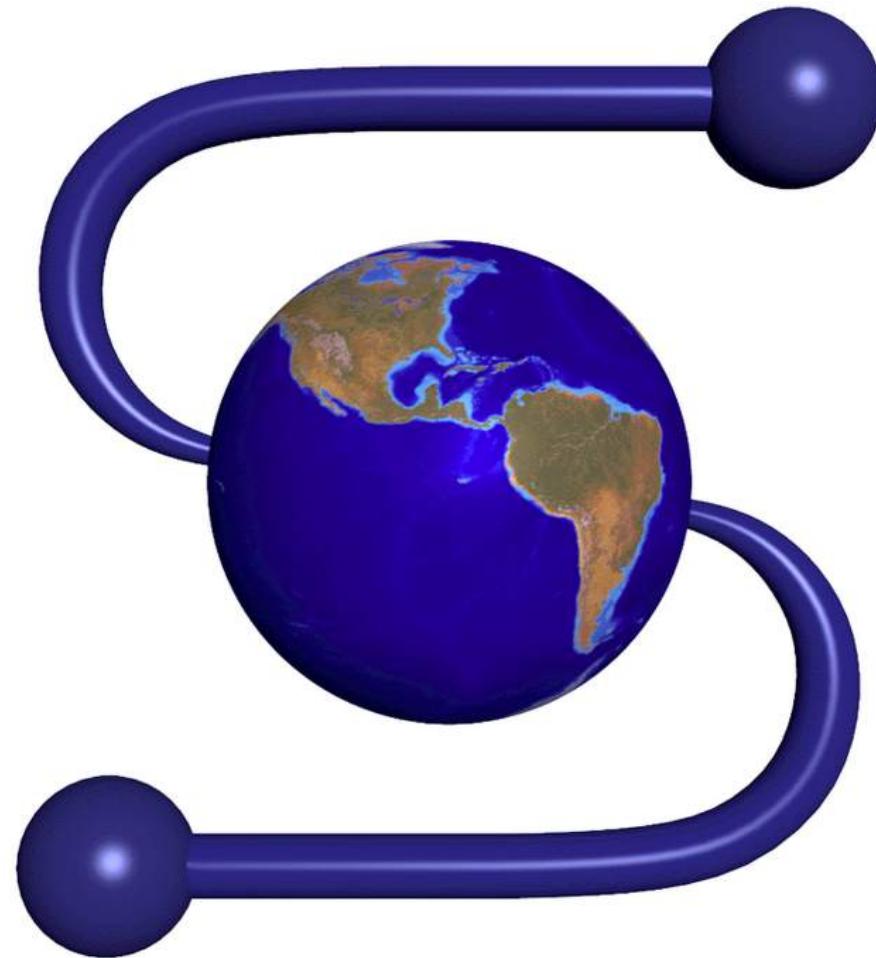


1993

Mosaic Released to the Public



Mosaic Released to the Public



Ataris!!!



Ataris!!!



Ataris!!!



Ataris!!!



1994

Browsers Wars I

Browsers Wars I

1995

I ruined my Grandmas education



I ruined my Grandmas education



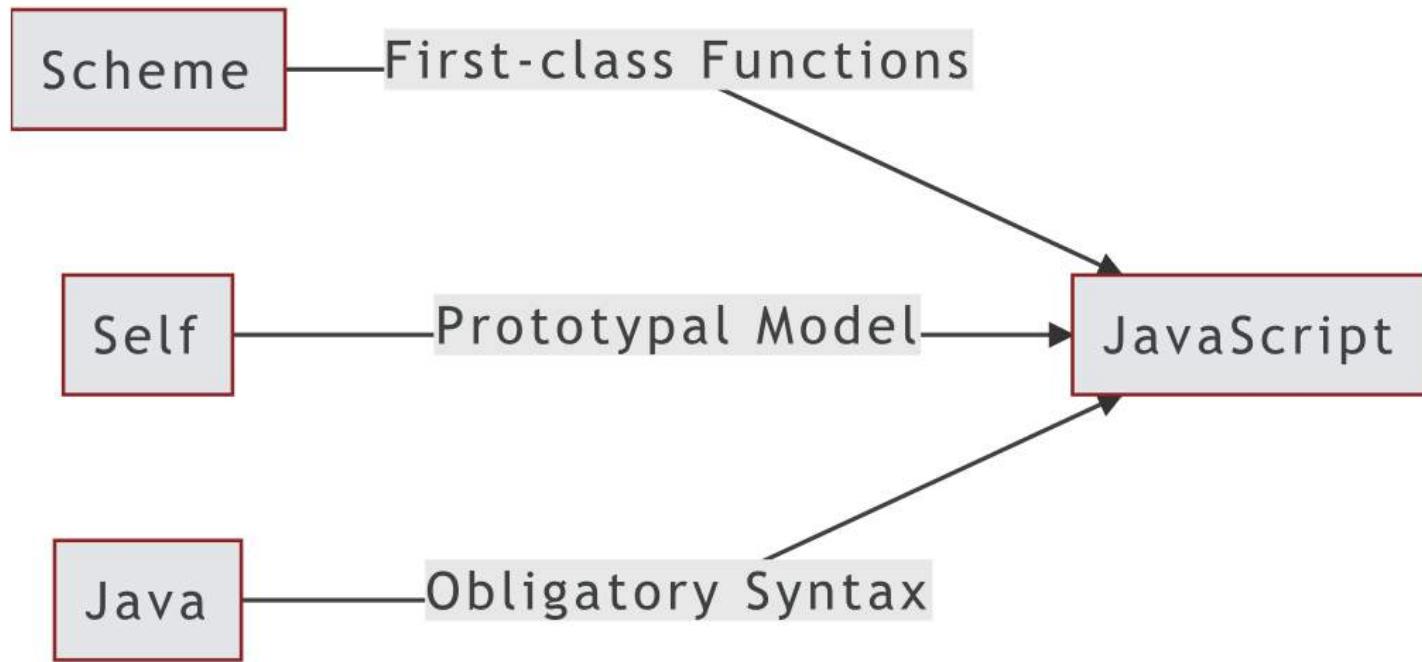
Internet Explorer is born



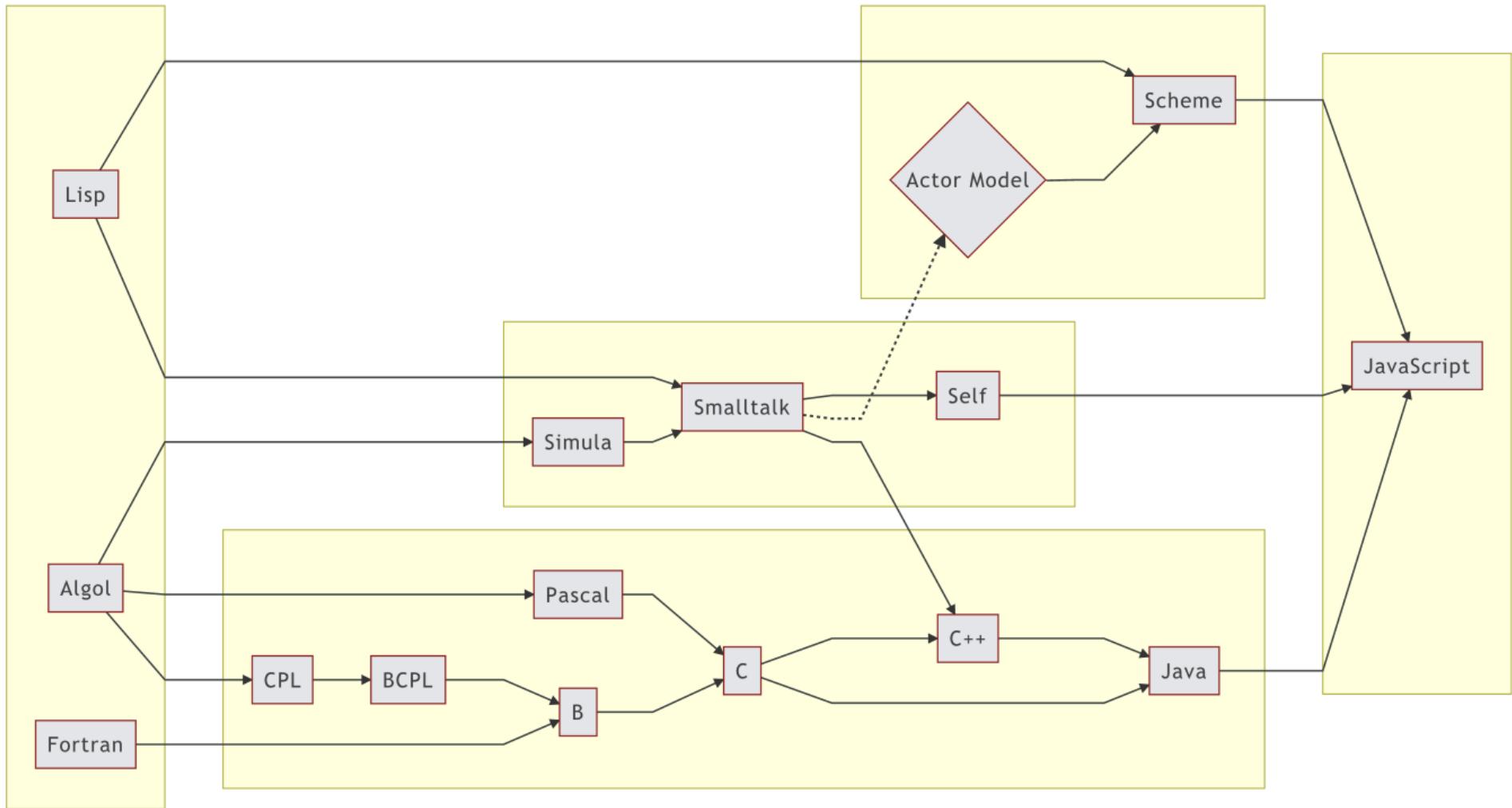
Internet Explorer is born



JavaScript Ingredients



JavaScript Heritage



1996

Netscape 2.0, Netscape 3.0

JavaScript 1.0, JavaScript 1.1



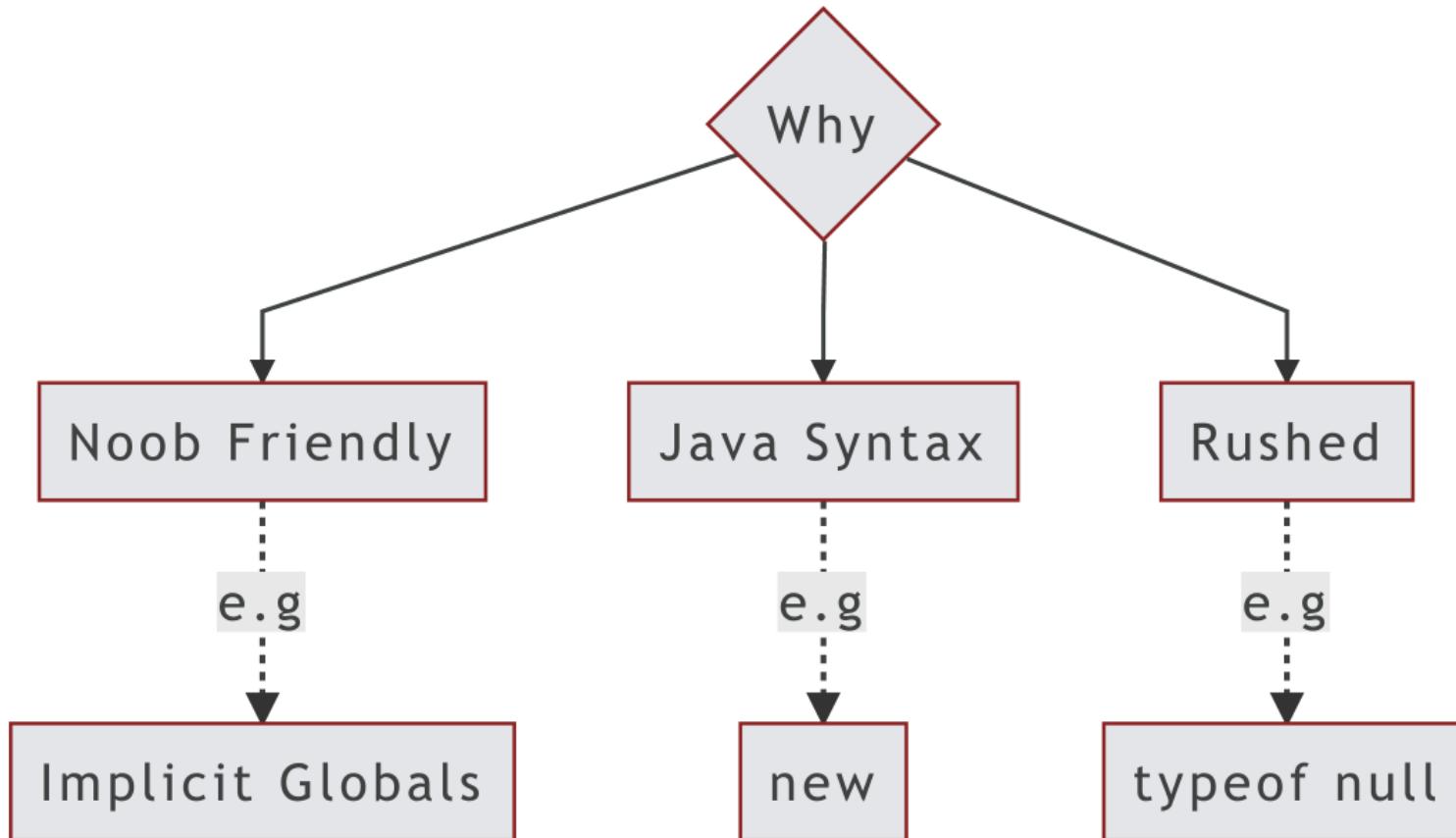
IE3 - JScript



JavaScript Sux

JavaScript Has Sucky Parts

Sucky Parts

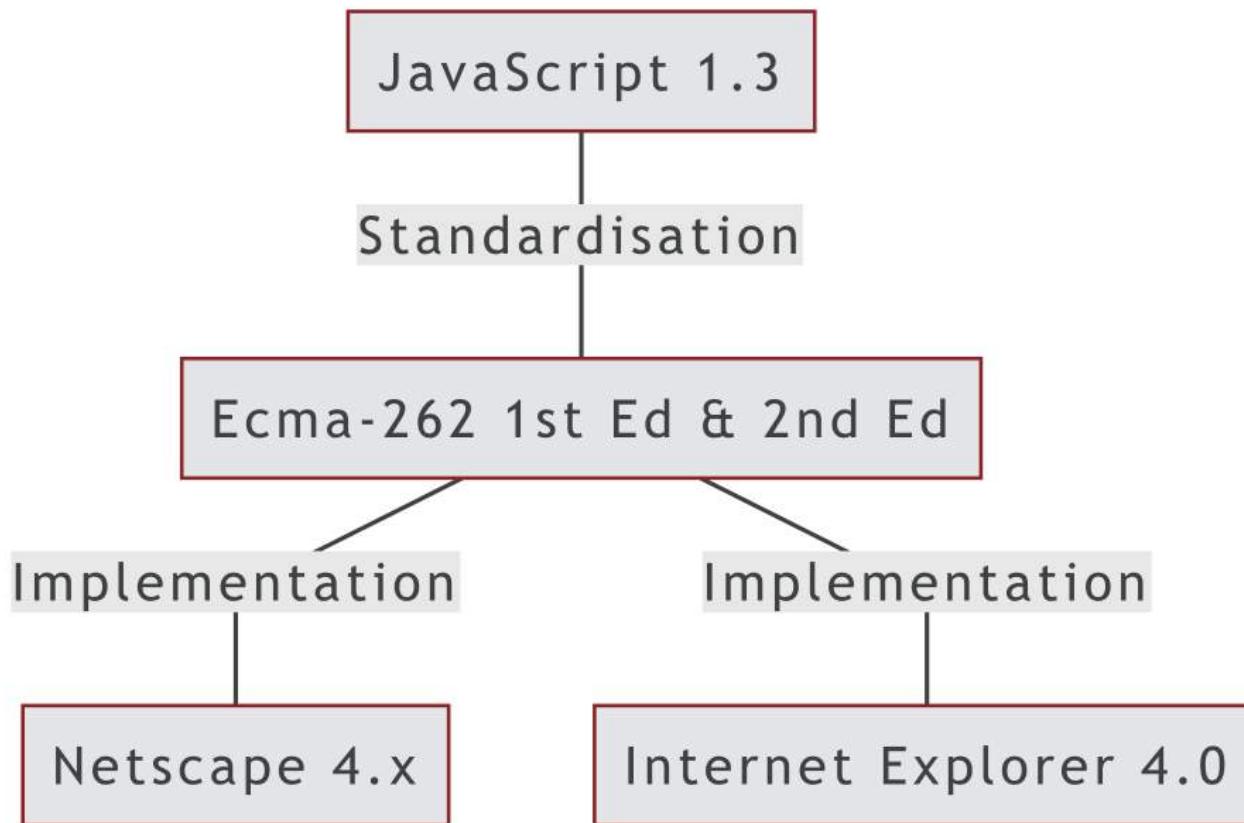


1997-1998

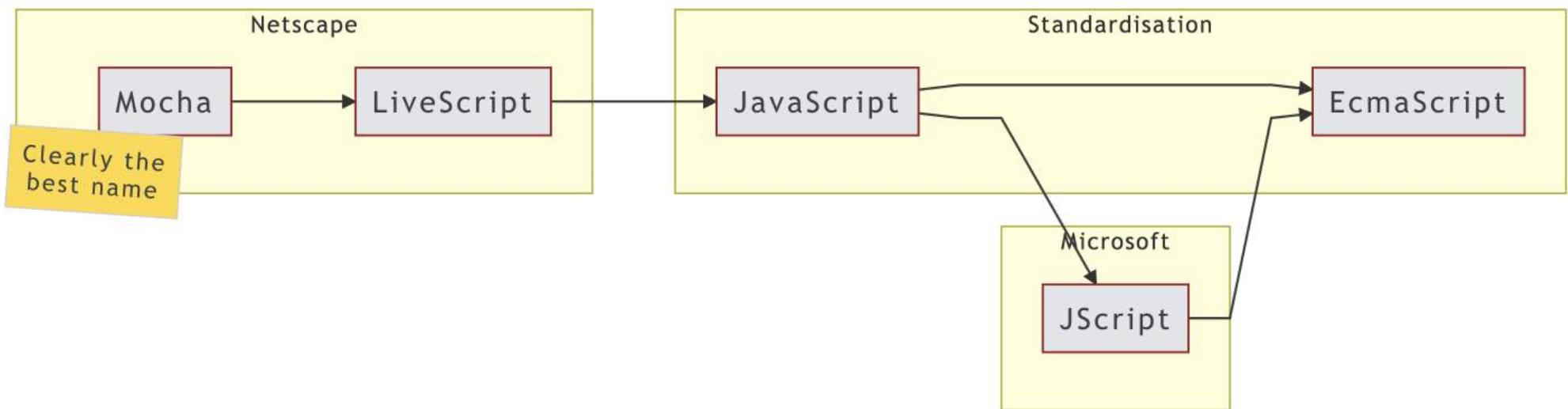
JavaScript Gets Standardised



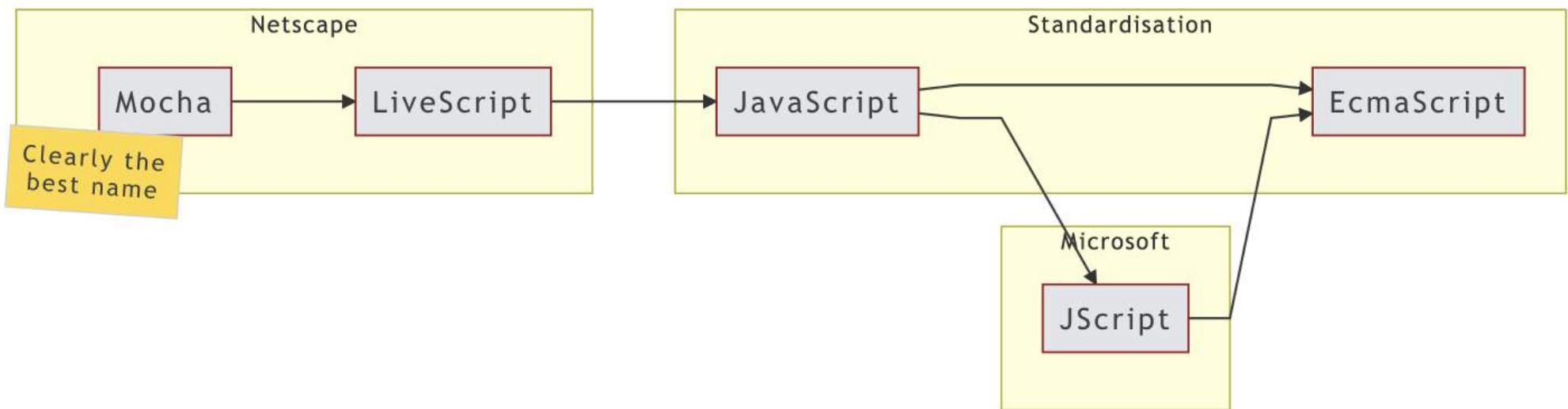
JavaScript Gets Standardised



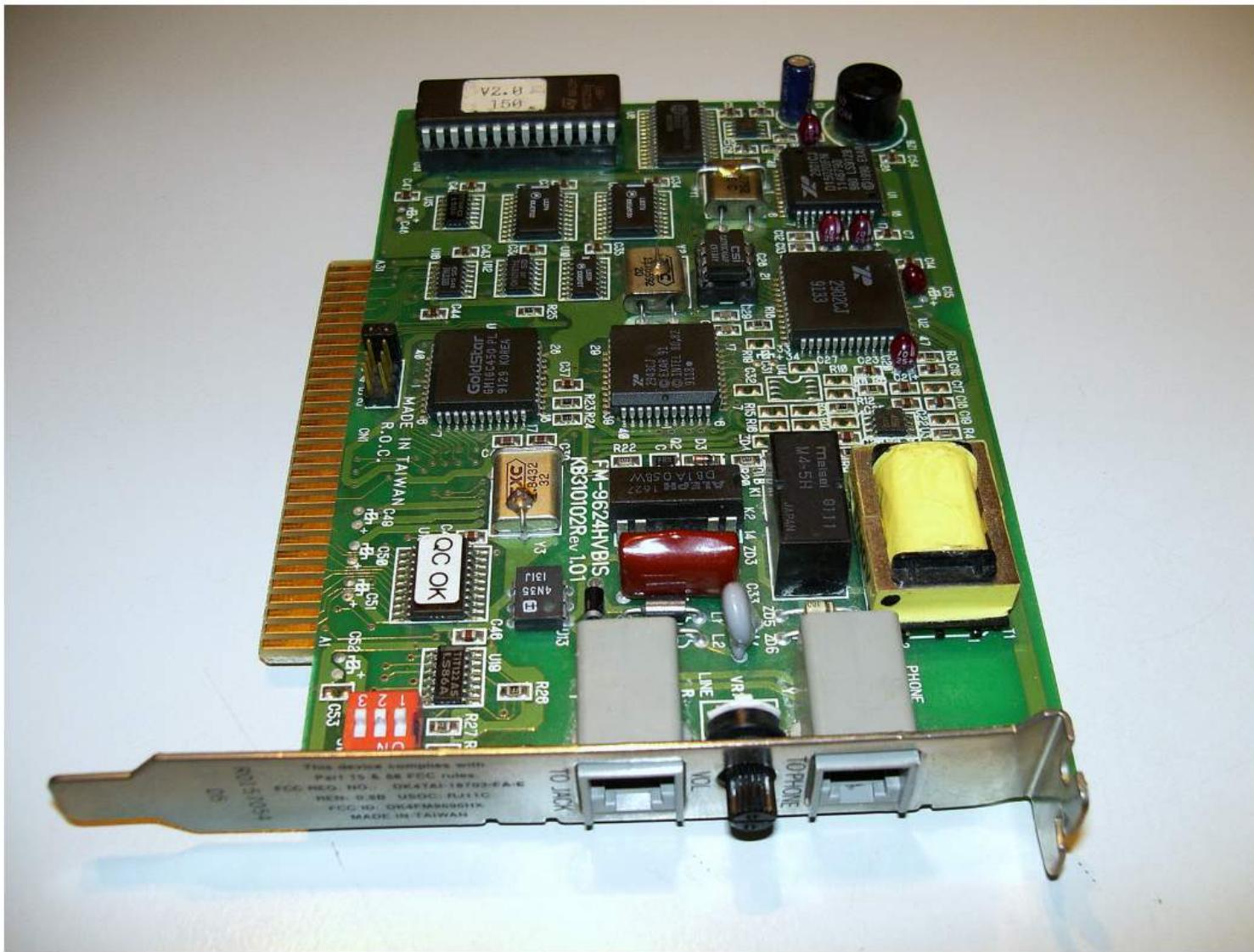
One of the two hard things...



One of the two hard things...



I "rung up" up a £300 phone bill



1998

Netscape Open Sources Codebase, Calls it Mozilla



2000

IE 5.5 - EcmaScript 3rd Edition



Netscape 6

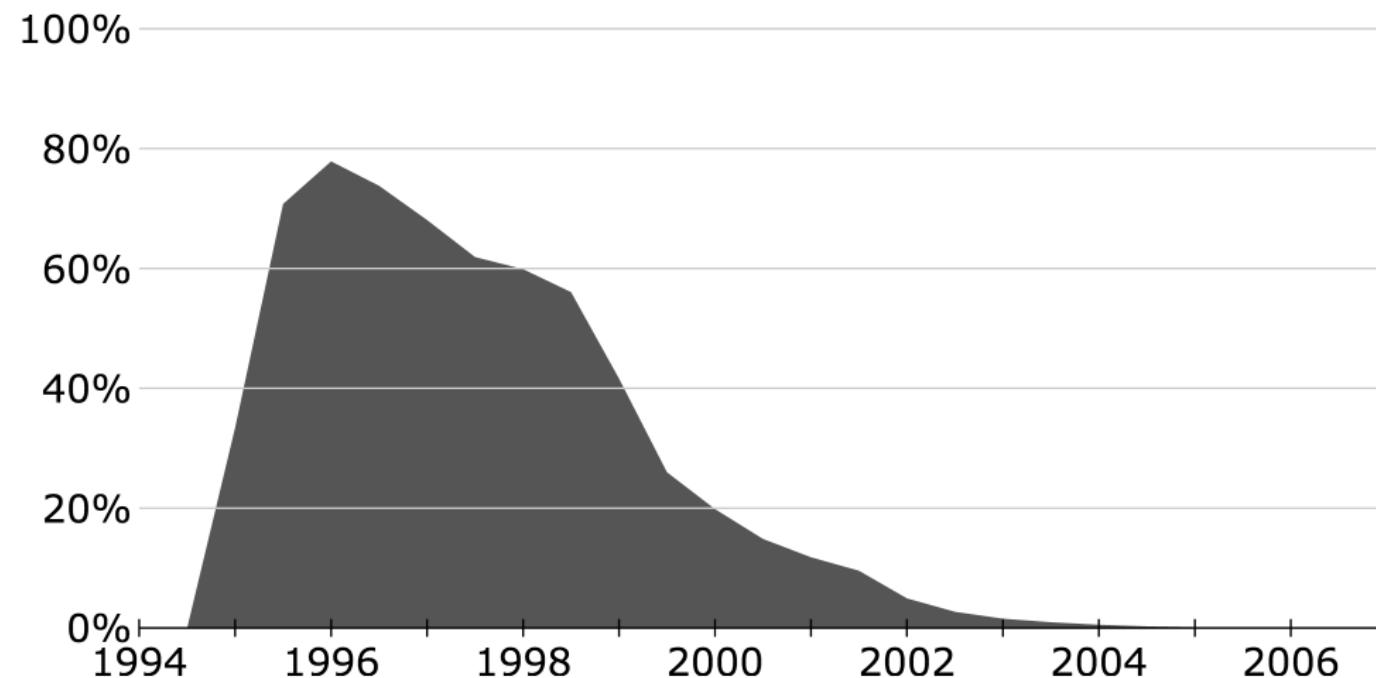
It isn't good.

2001

IE 6 - EcmaScript 3rd Edition

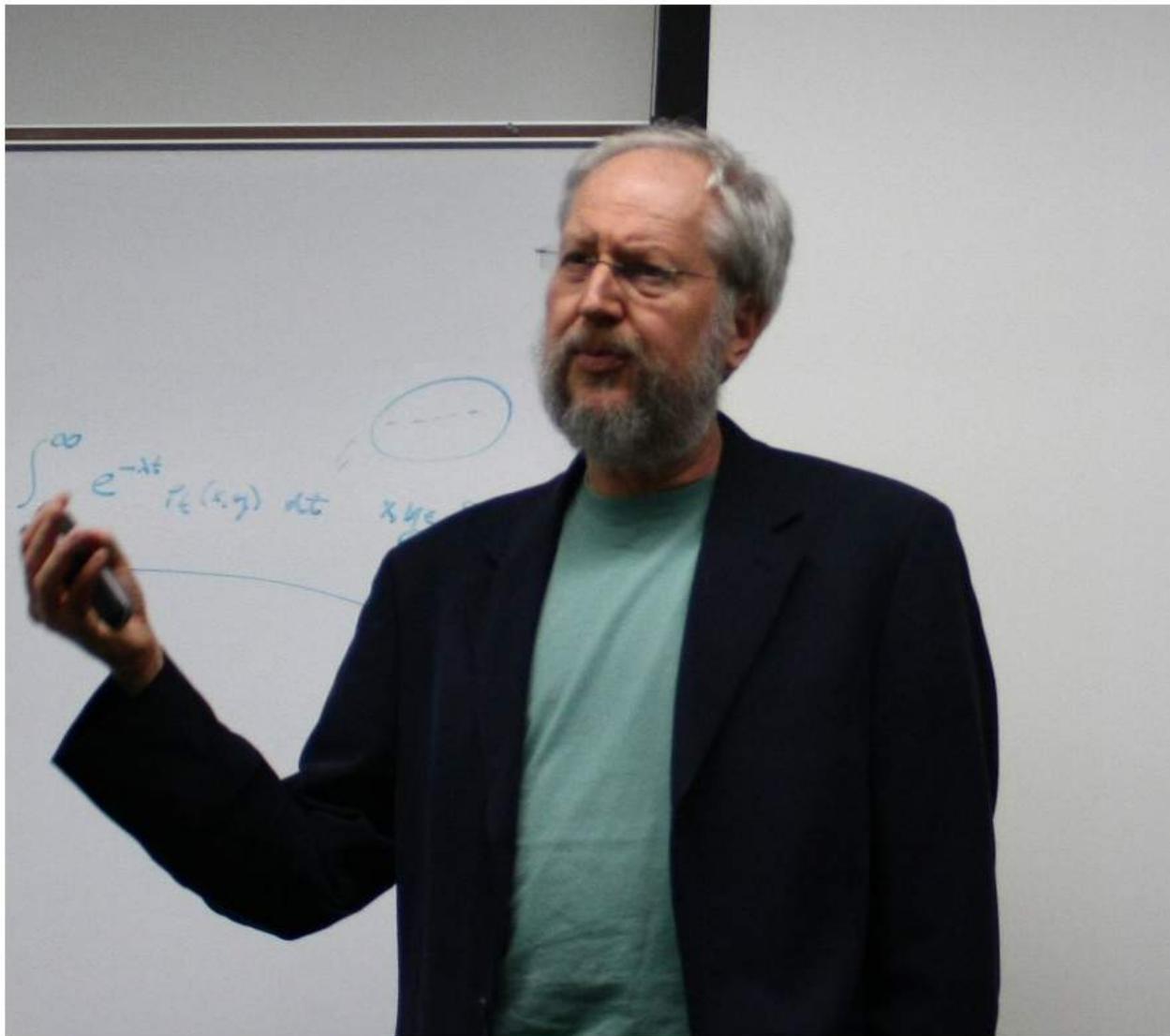


Netscape Market Share: 9%



2002

This guy...



This guy...



2007

EcmaScript 4 Whitepaper

Proposed ECMA Script 4th Edition – Language Overview

Revised 23 October 2007

The fourth edition of the ECMA Script language (ES4) represents a significant evolution of the third edition language (ES3), which Ecma approved as the standard ECMA-262 in 1999. ES4 is compatible with ES3 and adds important facilities for programming in the large (classes, interfaces, namespaces, packages, program units, optional type annotations, and optional static type checking and verification), evolutionary programming and scripting (structural types, duck typing, type definitions, and multimethods), data structure construction (parameterized types, getters and setters, and meta-level methods), control abstraction (proper tail calls, iterators, and generators), and introspection (type meta-objects and stack marks).

It was not well received...

2008

This guy...



This guy...



Google launch Chrome, and
with it the v8 JavaScript engine



**TC39 Moves in new
direction: EcmaScript 3.1**

These guys were catalysts...



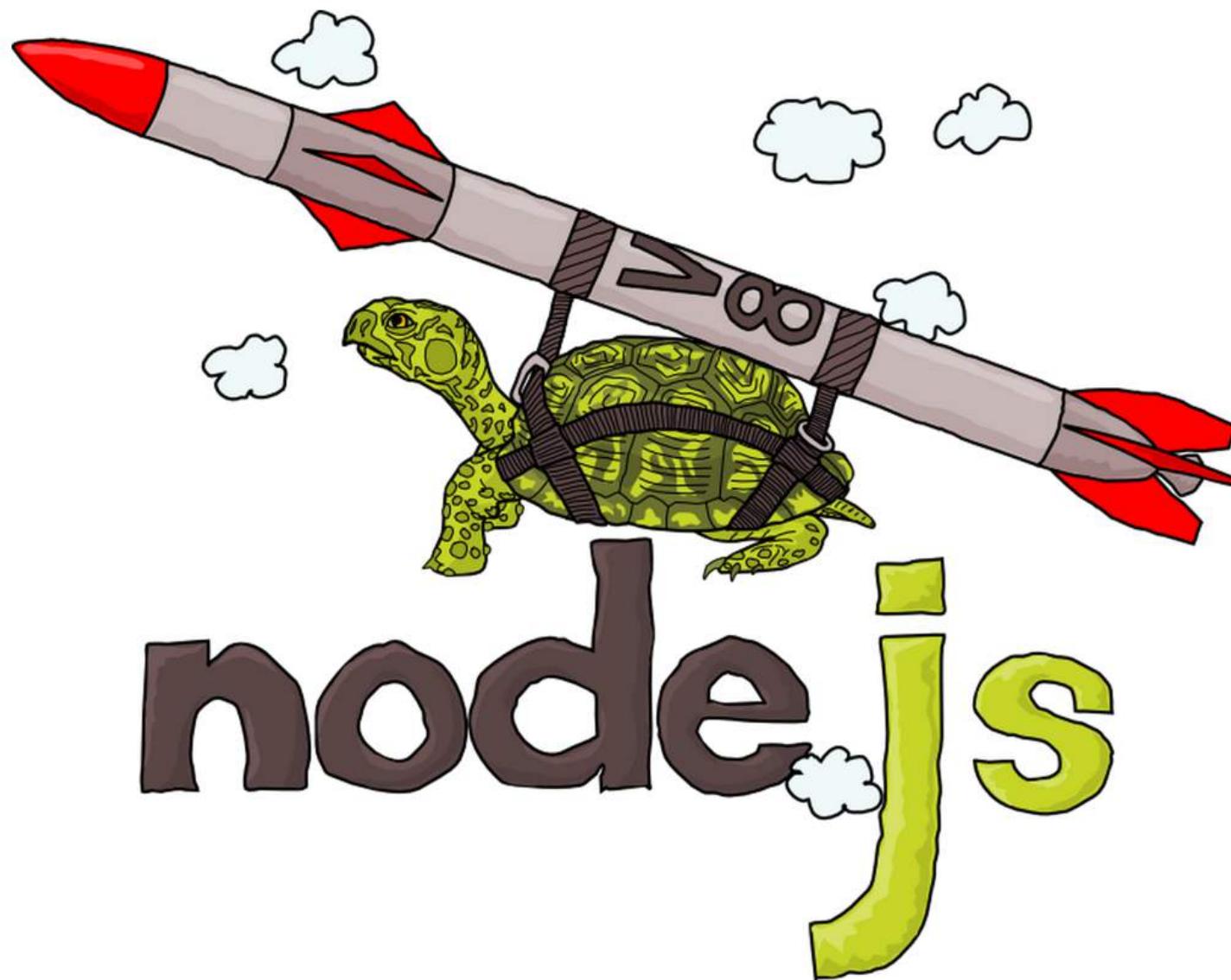
"ES.next" (ES6) also
announced as syntactic
extensions specification

2009

EcmaScript 3.1 becomes EcmaScript 5

Final TC39 Approved Draft Released

Ryan Dahl creates Node.js



**Firefox 3.5 comes with the
SpiderMonkey JS engine**



Firefox® 3.5

Firefox 3.5 comes with the
SpiderMonkey JS engine



Firefox® 3.5

Chris Williams writes node-
serialport, triggering...

The rise of JS Robots

2011

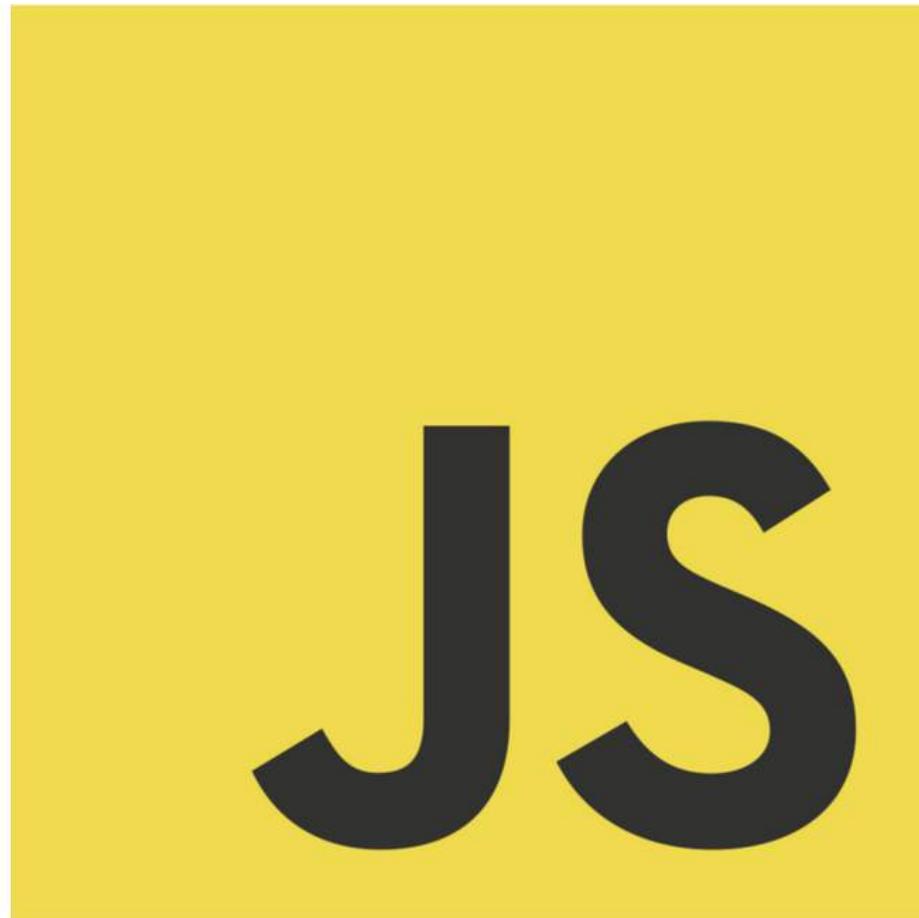
EcmaScript 5.1

EcmaScript 5

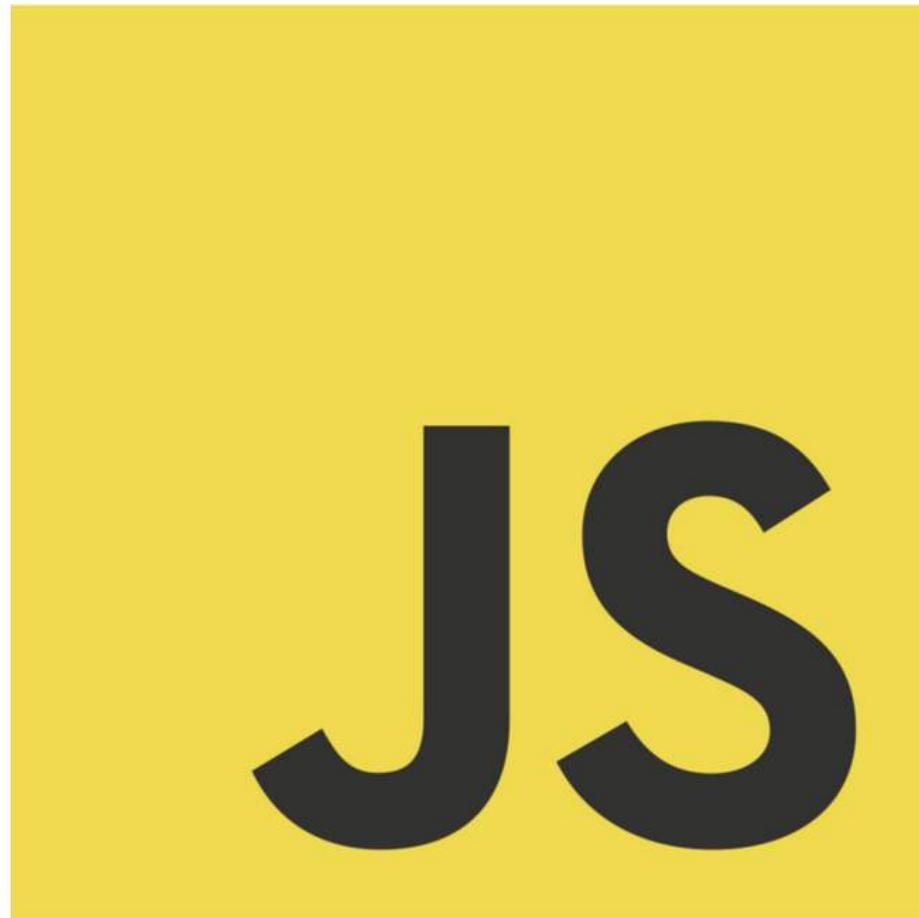
- Strict mode
- Array
 - forEach, map, reduce, filter
- Object
 - keys, create, defineProperties, freeze
- String
 - trim
- Function
 - bind
- JSON

2012

Chris Williams creates unofficial JS logo



Chris Williams creates unofficial JS logo



2013

Node reaches 0.8



Early-adopters in Enterprise
begin to use it in production

2014

Node reaches 0.10



Good, stable all round improvements, easy migration

Node reaches 0.10



Good, stable all round improvements, easy migration

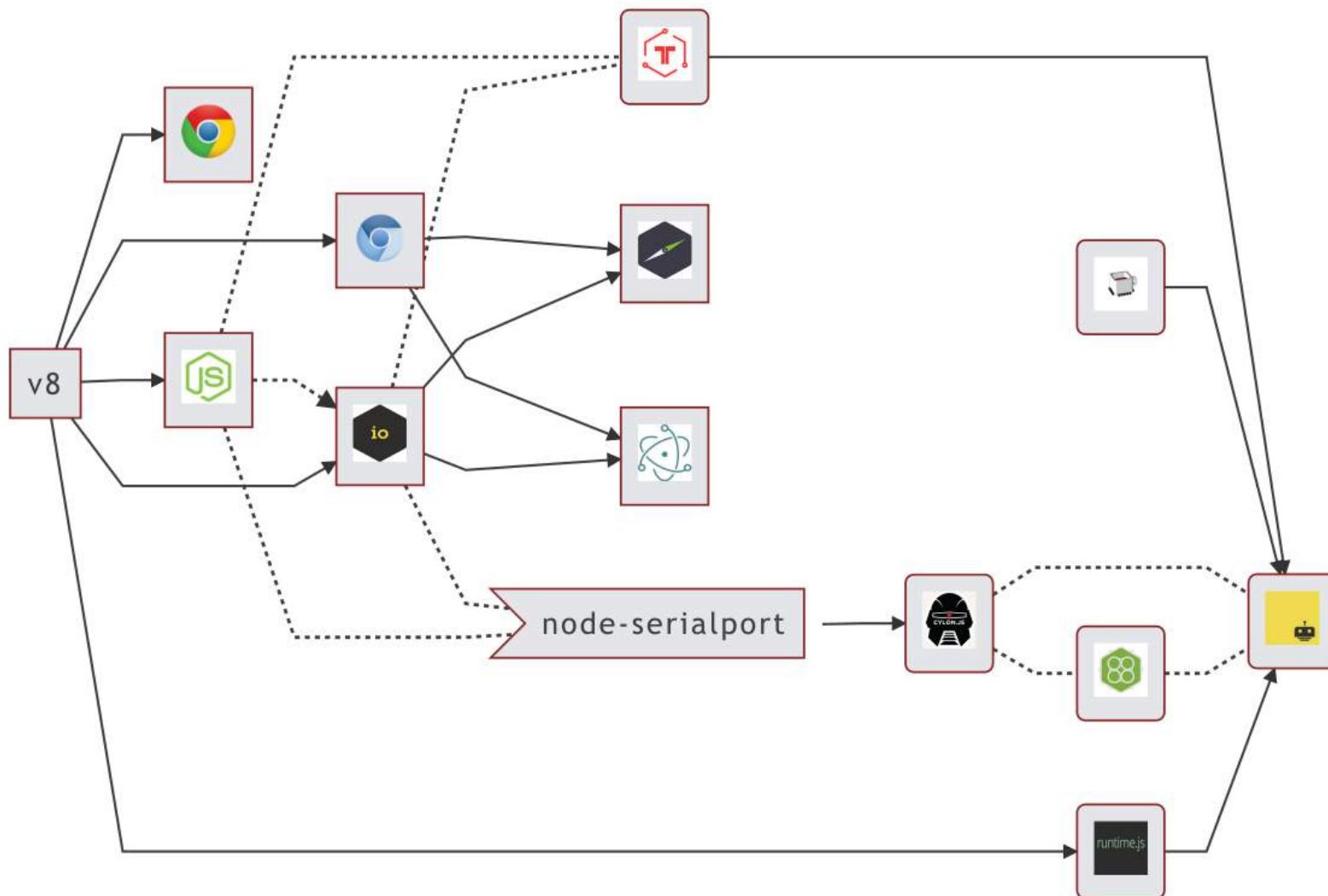
io.js fork



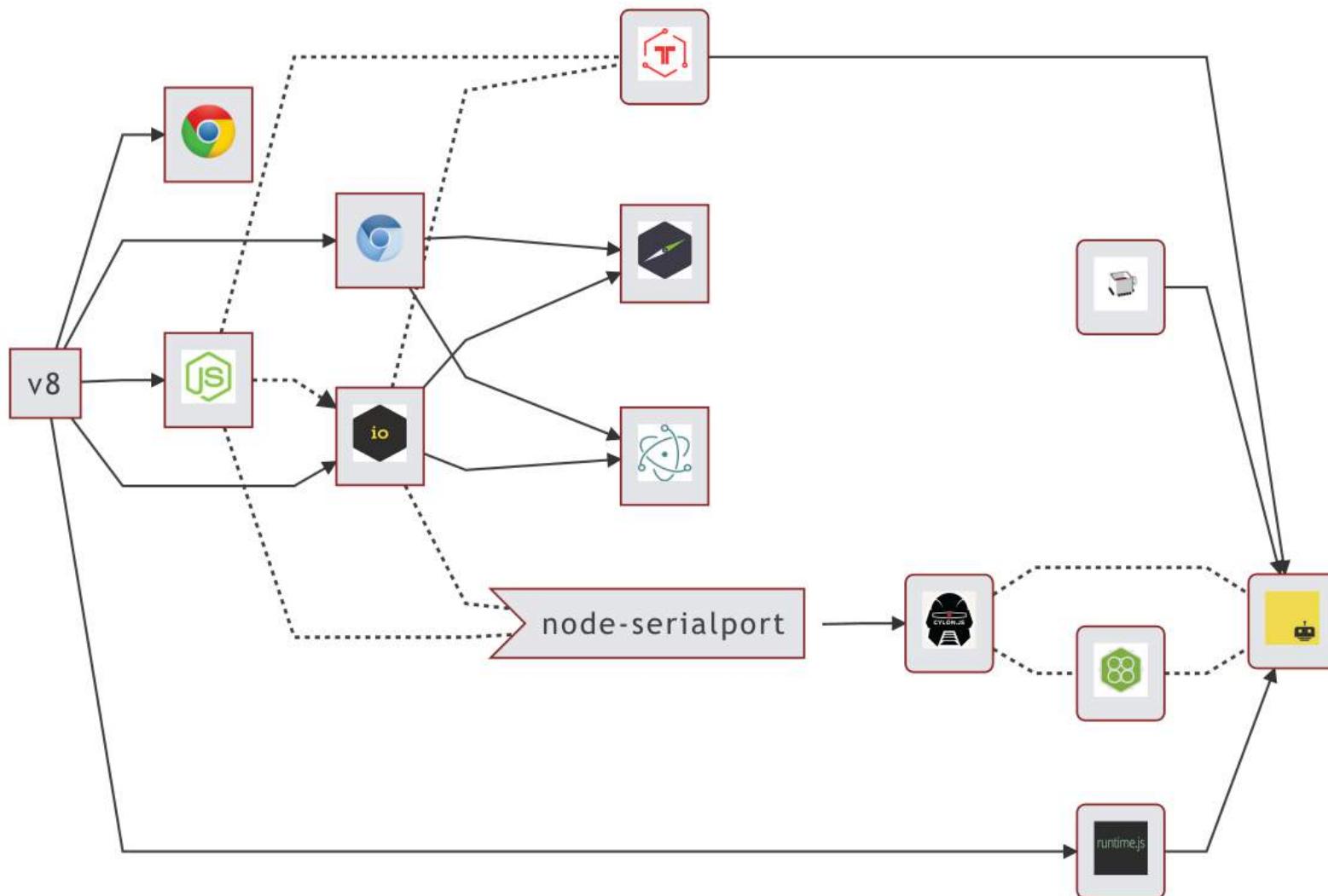
Developer discontent leads to fork

2015

JS Overview



JS Overview



Node reaches 0.12



Projects stewards motivated by fork to release
Best to stick with 0.10 while 0.12 matures a little

Creation of Node Foundation

Agreement between io.js and node
project to merge

ES6 renamed to ES2015

ES7 === ES2016 ...?

ES2015 Approved

June 17th 2015

Future

Soylent



Soylent



EcmaScript 6

- Lots of implementing to be done yet
- Chrome, Firefox, io.js - latest support
- Transpilers
- let, const (block scoping)
- Promises, Generators
- Classes (sugar), Modules
- Spread, rest, destructuring
- Lambdas, and lots more

EcmaScript 7 (2016?)

- Async/Await
- Guards
 - Enforcing arbitrary constraints
 - Typing Primitives
- Event loop concurrency
 - Sharing state between event-loops
 - (instead of workers/multiple processes)

Future future

EcmaScript 8 (2017?)

- Macros
- SIMD
 - Single instruction, multiple data
 - Parallel array processing

EcmaScript 8 (2017?)

- Macros
- SIMD
 - Single instruction, multiple data
 - Parallel array processing

Thank you.

Thank you.

@davidmarkclem