

# Use 10,000 Browsers

- or -

How to Crowdfsource, Archive and Share User Agent Data in the Open with Browserscope



# about:me

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Google Front-End Developer

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- AdWords
- App Engine
- i18n
- Closure library
- Search
- Google Translate
- Google+





**browser testing**

**how does it f\*\*king work?**

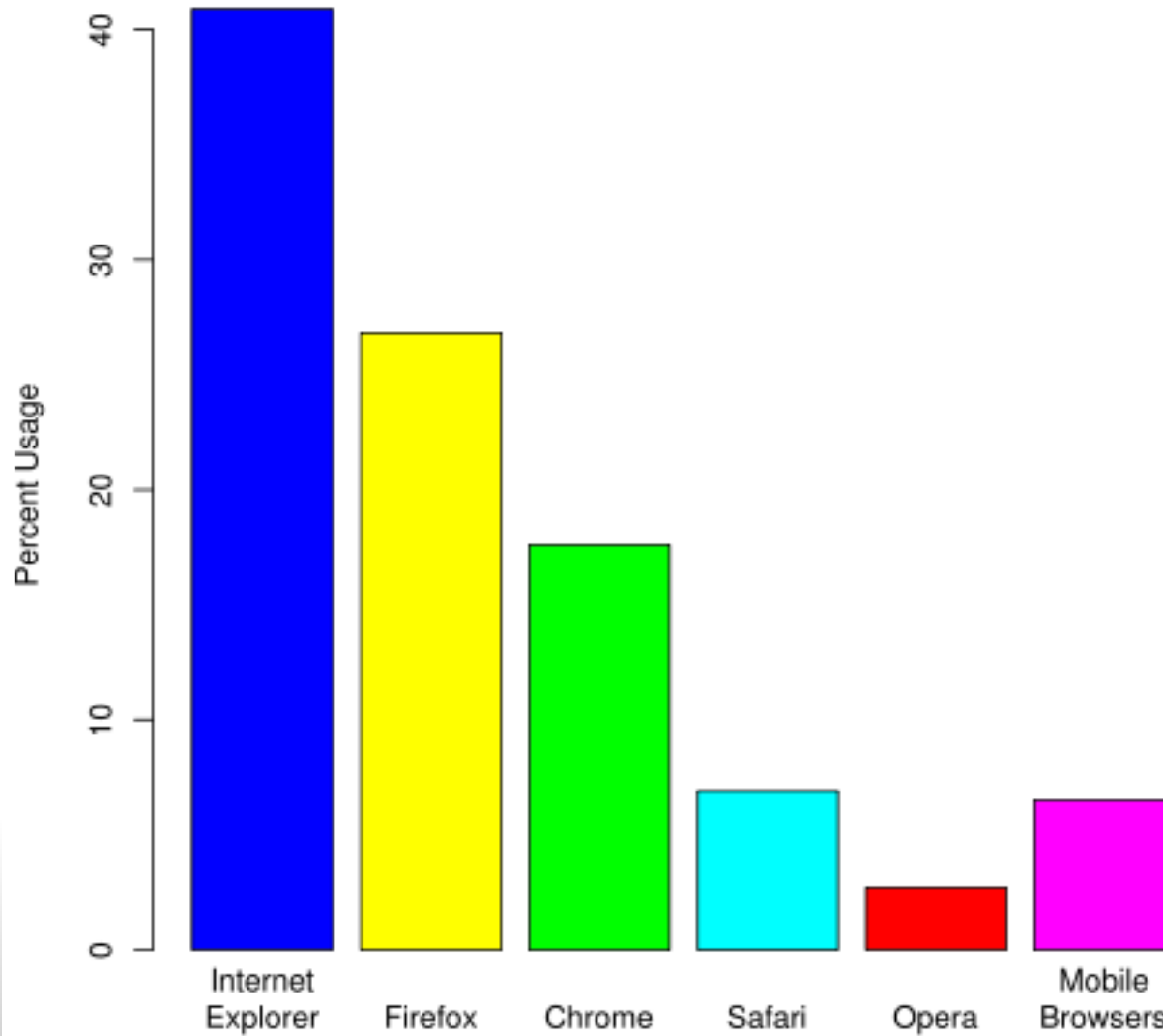
# Your Development Test Environment



# Your Mobile Test Environment



Usage share of web browsers: June 2011



understanding  
capabilities and performance

# Multi-Prong Attack Strategy



# Browserscope



Open-source, community-driven project for profiling browsers.

Explicit Goals:

- foster innovation by tracking functionality
- push browser innovation, uncover regressions
- historical resource for web developers

Born September 13th, 2009

crowdsourcing the results

# crowdsourcing

- no dedicated test resources

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- real world test conditions
- aggregating results reduces bias

# power of crowdsourcing

- no dedicated test resources
- project runs in perpetuity
- real world test conditions
- aggregating results reduces bias
- new browsers show up immediately

[How Does Your Browser Compare?](#)

# key characteristics

- more matrix than benchmark

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- reproducible tests and results (no video or control setup)
- gather & display historical data, trends

# anatomy of a browserscope test

1. create a web page that populates a JS object.
2. login and "Add a test" on browserscope.
3. add browserscope JS snippet(s) to your test page.
4. get lots of users to hit your page

**DEMO!**

<http://goo.gl/LGRqA>

# Hosted Tests



# test categories

## Network Performance

- Steve Souders' original UA Profiler tests
- connections, caching, parallel downloads, etc...

## Rich Text Edit Mode

- Annie Sullivan, Roland Steiner, Ehsan Akhgari
- i.e. cut and paste in browsers, w/ bold, italic, formatting

## Acid3

- Ian Hickson's tests, added by Jacob Moon
- javascript, css, rendering

## Selectors API Test Suite

- John Resig's tests, added by Lindsey Simon
- querySelectorAll DOM retrieval syntax

# test categories

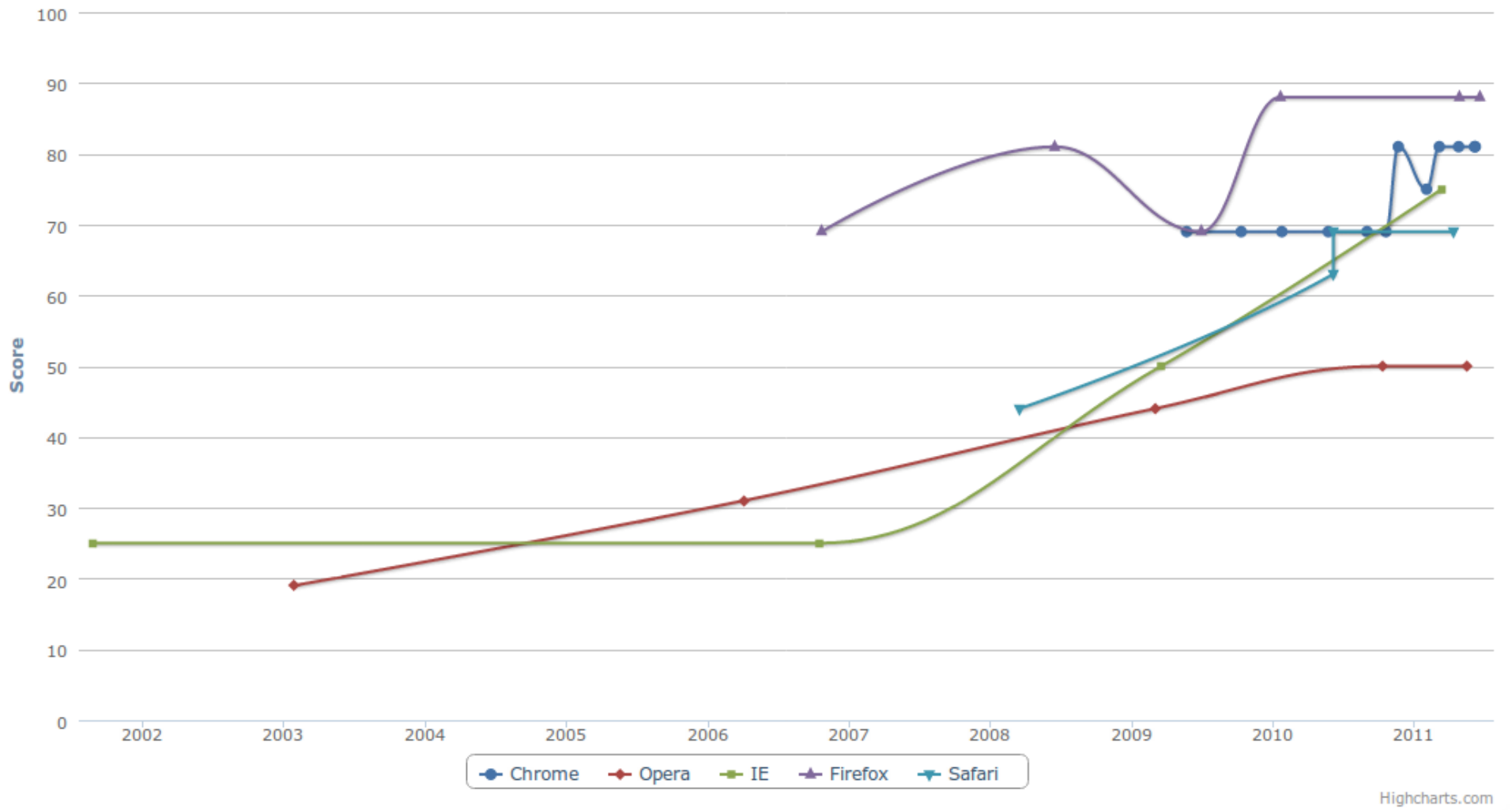
## Security

- Collin Jackson(CMU) & Adam Barth(Berkeley) & team
- JSON, x-origin, XSS, sandbox, etc..

## JSKB

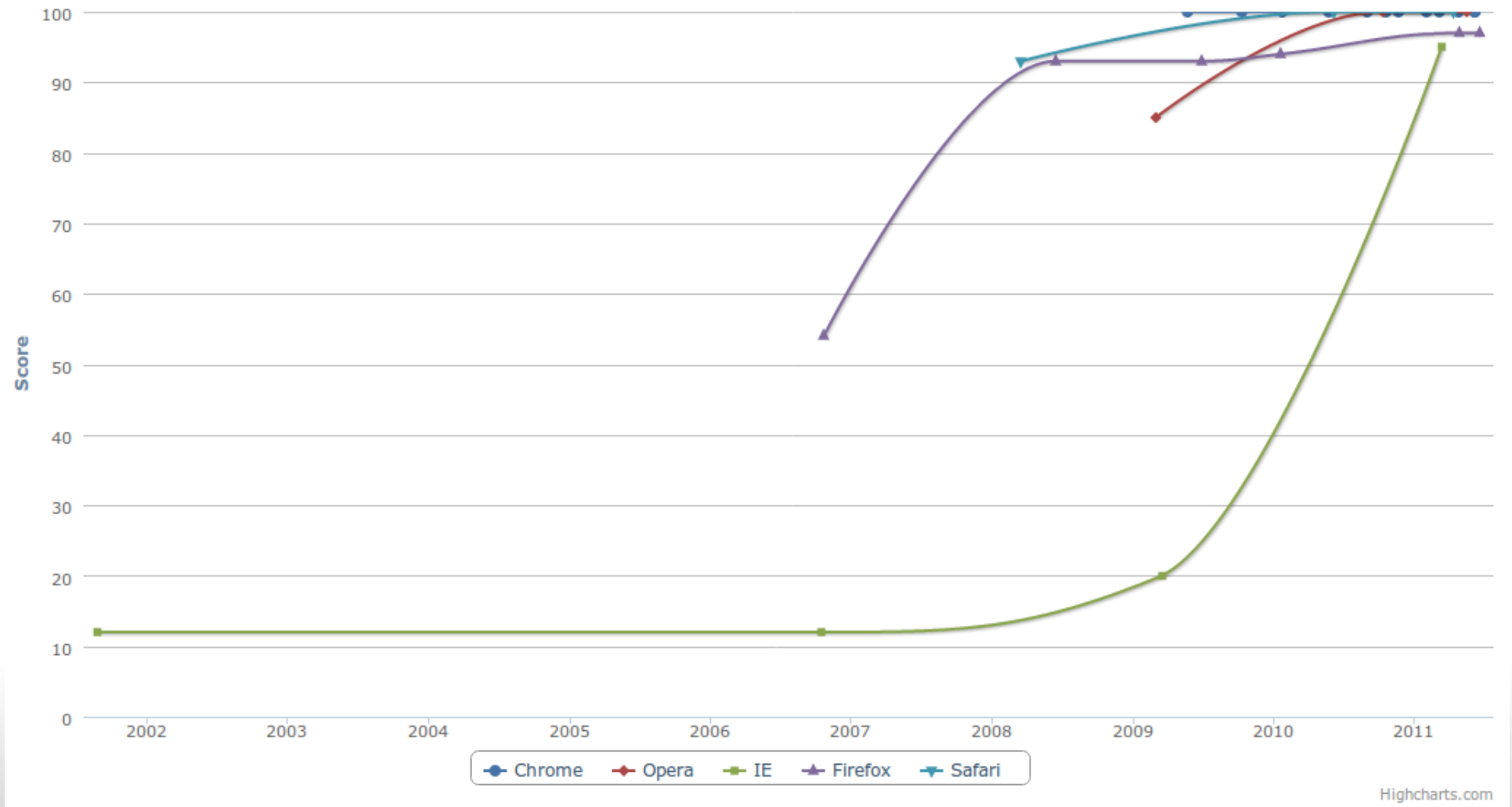
- Mike Samuel (Google Caja)
- JavaScript compliance -> compilation
- similar to Joe Hewitt's new hascan

# Network Results Timeline



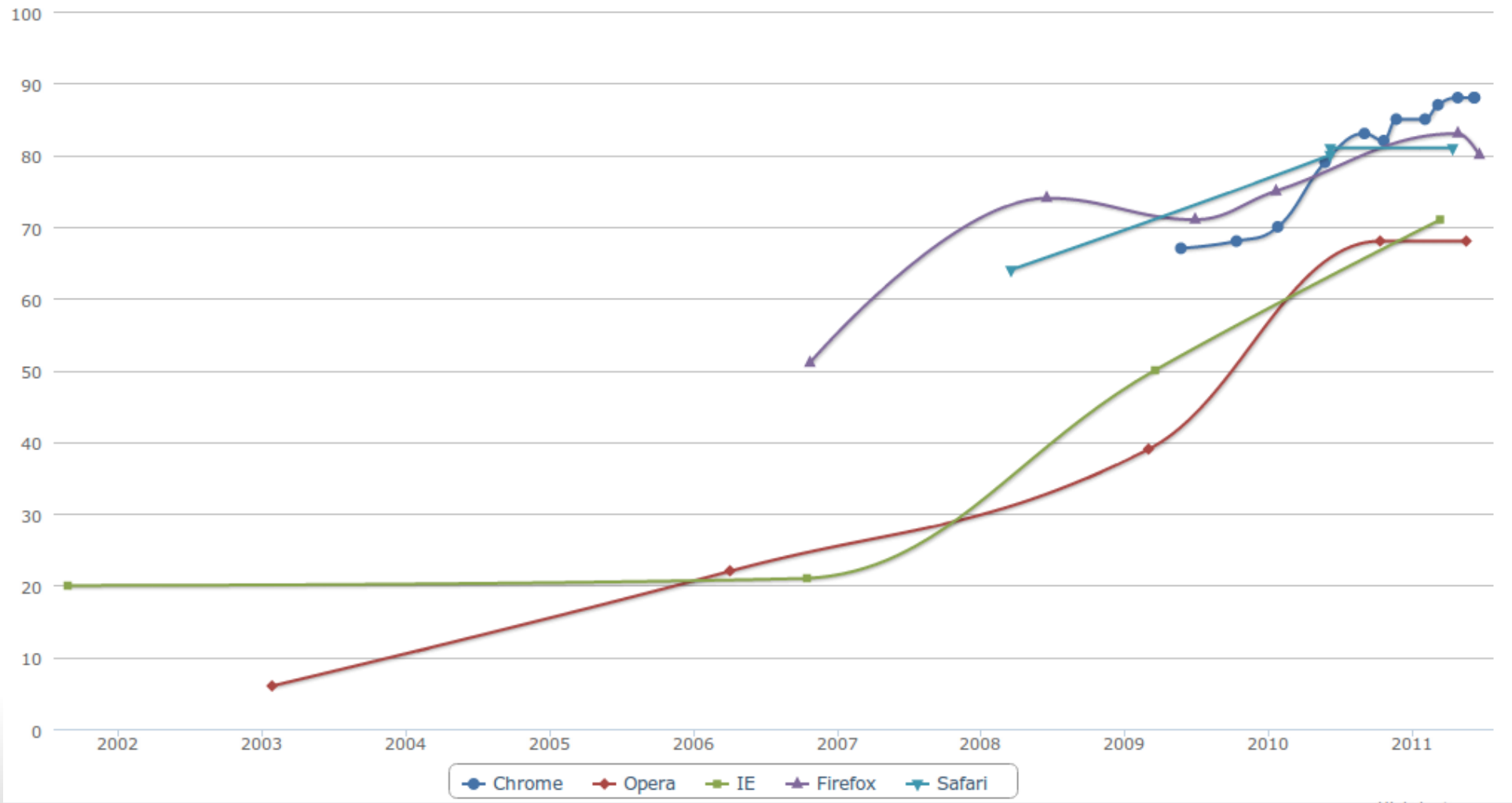
[browserscope.org/timeline?category=summary](http://browserscope.org/timeline?category=summary)

# Acid3 Results Timeline



[browserscope.org/timeline?category=acid3](http://browserscope.org/timeline?category=acid3)

# Summary Results Timeline

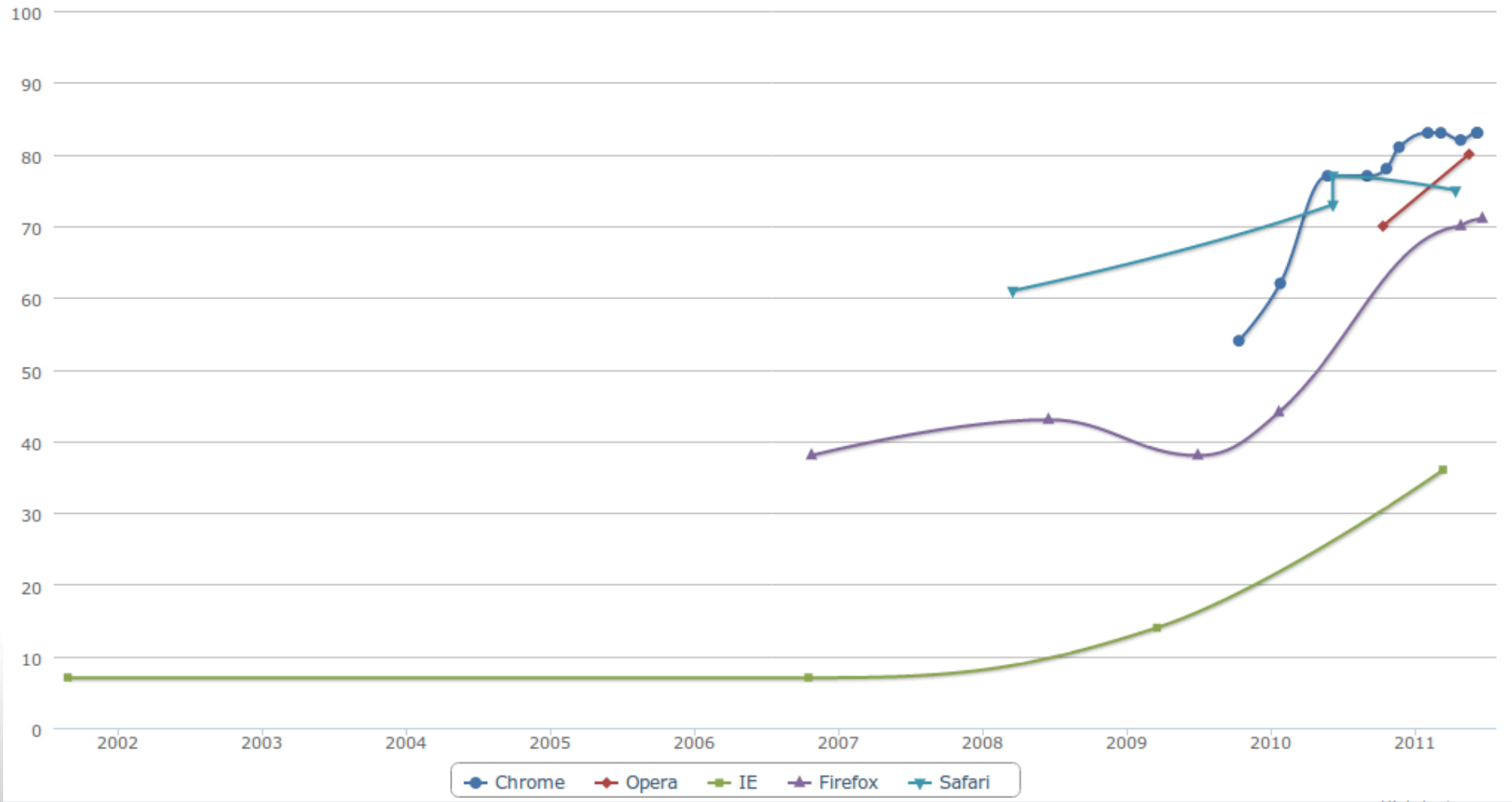


[browserscope.org/timeline?category=summary](http://browserscope.org/timeline?category=summary)

# User Tests



# Modernizr 2.0.4 Results Timeline

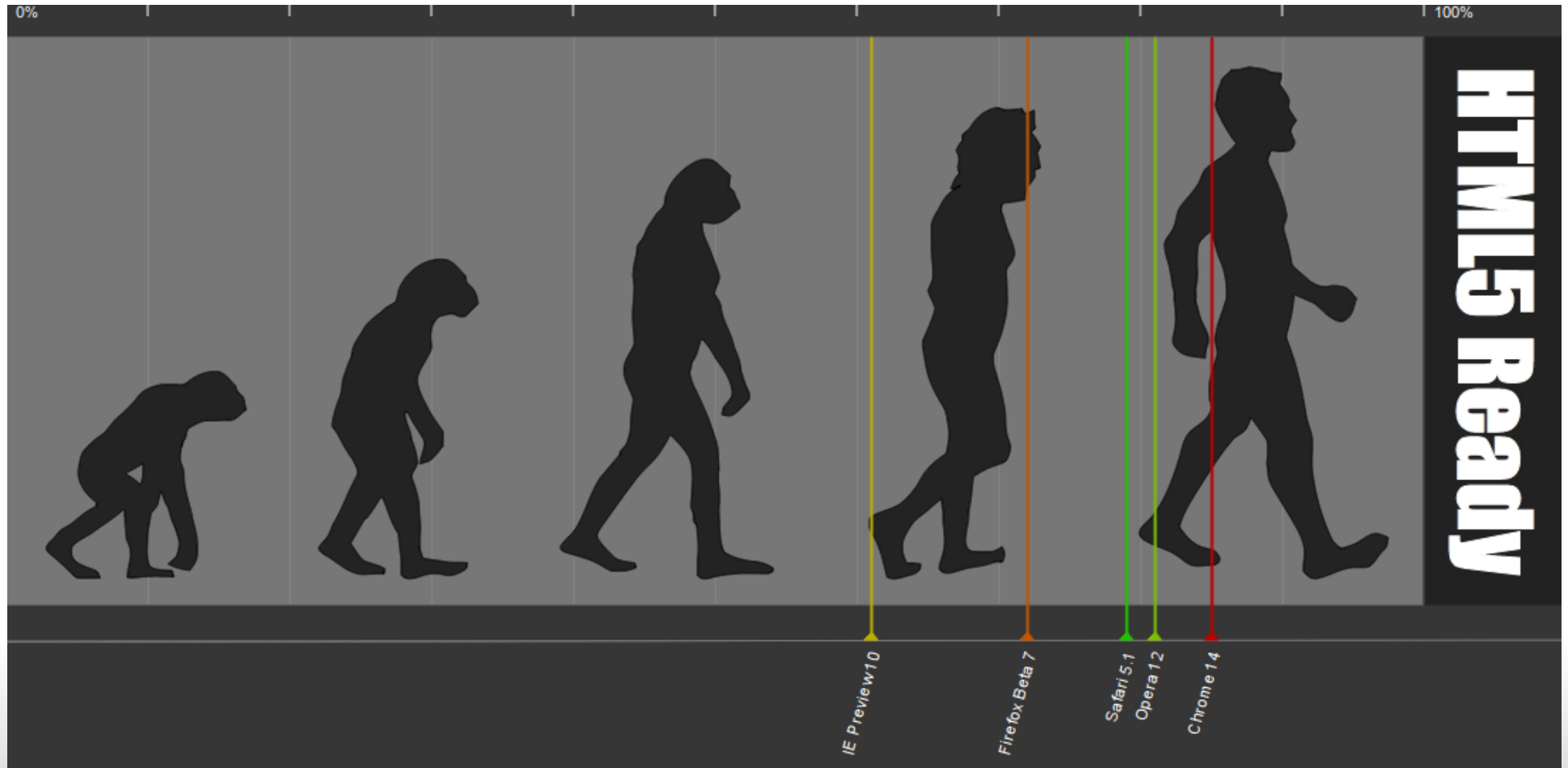


# HTML5 Ready - current desktop



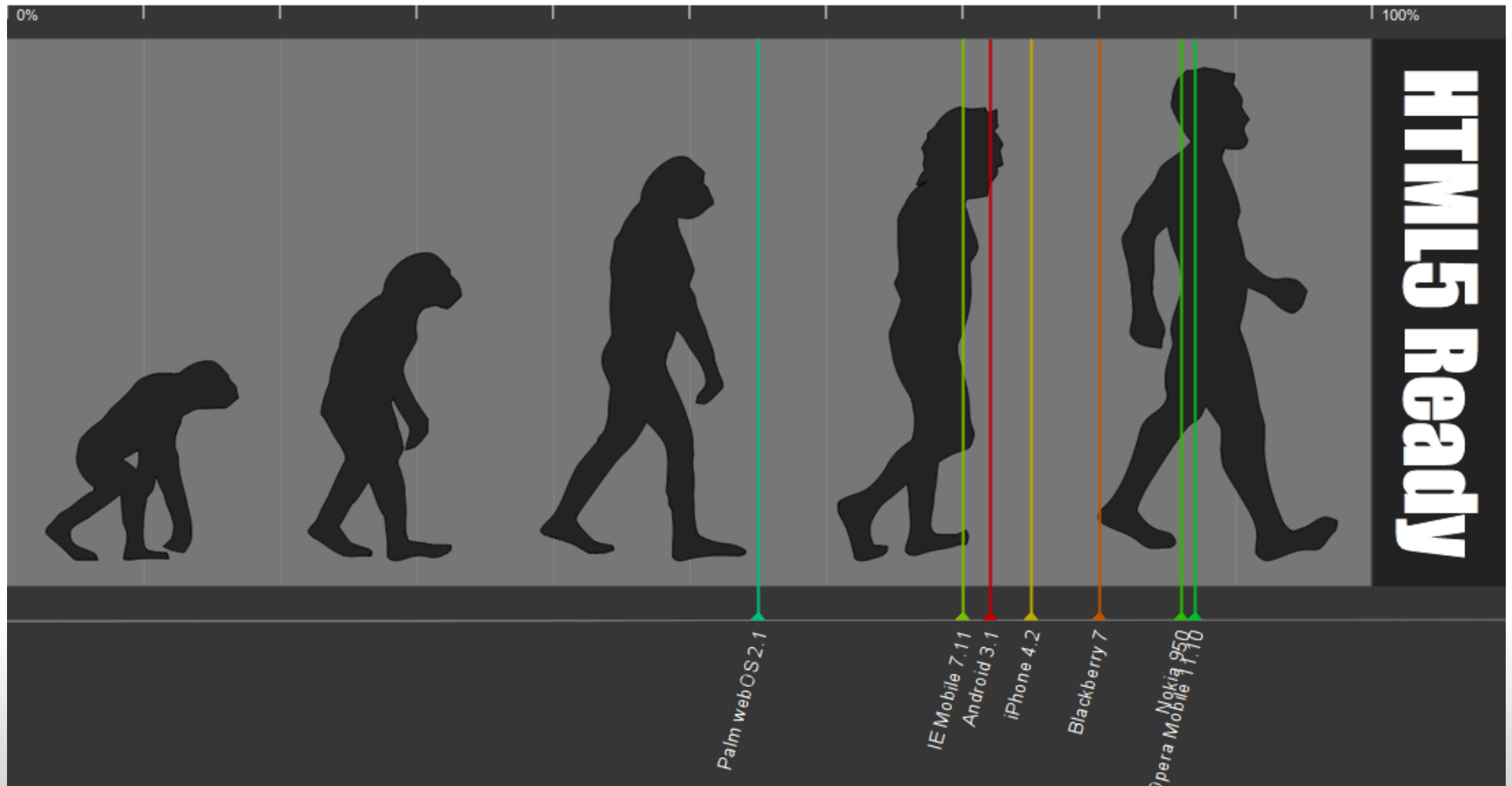
modernizr2 results - [browserscope.org/evolution?v=top-d](http://browserscope.org/evolution?v=top-d)

# HTML5 Ready - edge desktop



modernizr2 results - [browserscope.org/evolution?v=top-d-e](http://browserscope.org/evolution?v=top-d-e)

# HTML5 Ready - mobile



modernizr2 results - [browserscope.org/evolution?v=top-m](http://browserscope.org/evolution?v=top-m)

# under the hood

- App Engine
- runtime median engine driven by task queues
- memcache, lots of it
- closure-library/compiler
- gdata python lib + gviz table component
- cross domain iframe posting

# data points

- 2M tests run
- 100M discrete data points
- 1308 browsers (600K discrete user agent strings)
- 54K User tests
- 21GB of data
- ~ 10QPS
- High traffic integrations:
  - [jsperf.com/popular](https://jsperf.com/popular)
  - [www.modernizr.com](https://www.modernizr.com)

User Test demo: [browserscope-test.appspot.com/](https://browserscope-test.appspot.com/)

Google UI demo: [groupmenuselect.appspot.com/results](https://groupmenuselect.appspot.com/results)

# roadmap

- code linting based on DOM property support
- mobile / OS distinction
- more data viz

links:

[browserscope.org](http://browserscope.org)

[code.google.com/p/browserscope](http://code.google.com/p/browserscope)

[groups.google.com/group/browserscope](http://groups.google.com/group/browserscope)

# Thank You Free Software!

