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Fluent

THE WEB PLATFORM

Designing for the future

Architecting code and systems with long-term growth and development in mind

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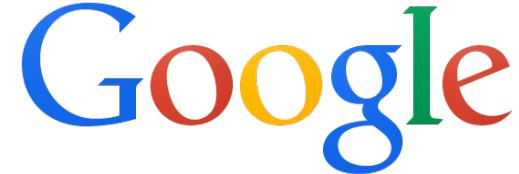
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The most important thing:
Meet your users' needs

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Consistency

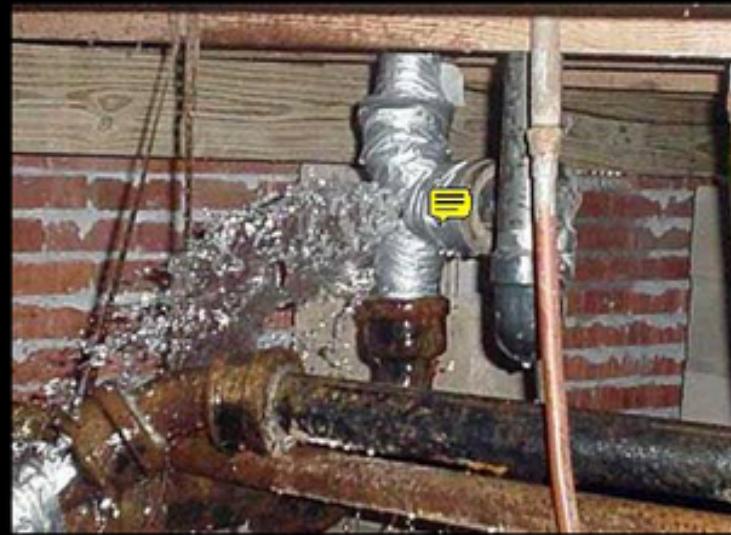


“CRAIG, STOP SCREWING WITH THE FORMAT! YOU
IDIOTS CAN'T LEAVE WELL ENOUGH ALONE?” - CL User

Technical Debt



Customer's view



Developer's view

Program with the programmer in mind

- Comments should explain the purpose of your code

```
// using .remove() to stash oldThing and .html() to
// insert newThing instead of just .replaceWith() because
// for some unknown reason, it grinds Chrome to a halt
// tested on Chrome v.34 -BB 4/22/2015
var $oldThing = $('.container').empty();
$('.container').html(newThing);
```

USEFUL

```
// swap out newThing for oldThing
var $oldThing = $('.container').empty();
$('.container').html(newThing);
```

USELESS

Program with the programmer in mind

- Clarity > tiny bit of efficiency

Number(item) vs. +item Boolean(flag) vs. !!flag String(thing) vs. "" + thing

- Weed the garden
- Red diffs
- Read “The Two Pillars of JavaScript” by Eric Elliott

Modularity is a MUST

- Adaptability
- Optimized loading
- Isomorphism
- Testing
- Wide range of implementations

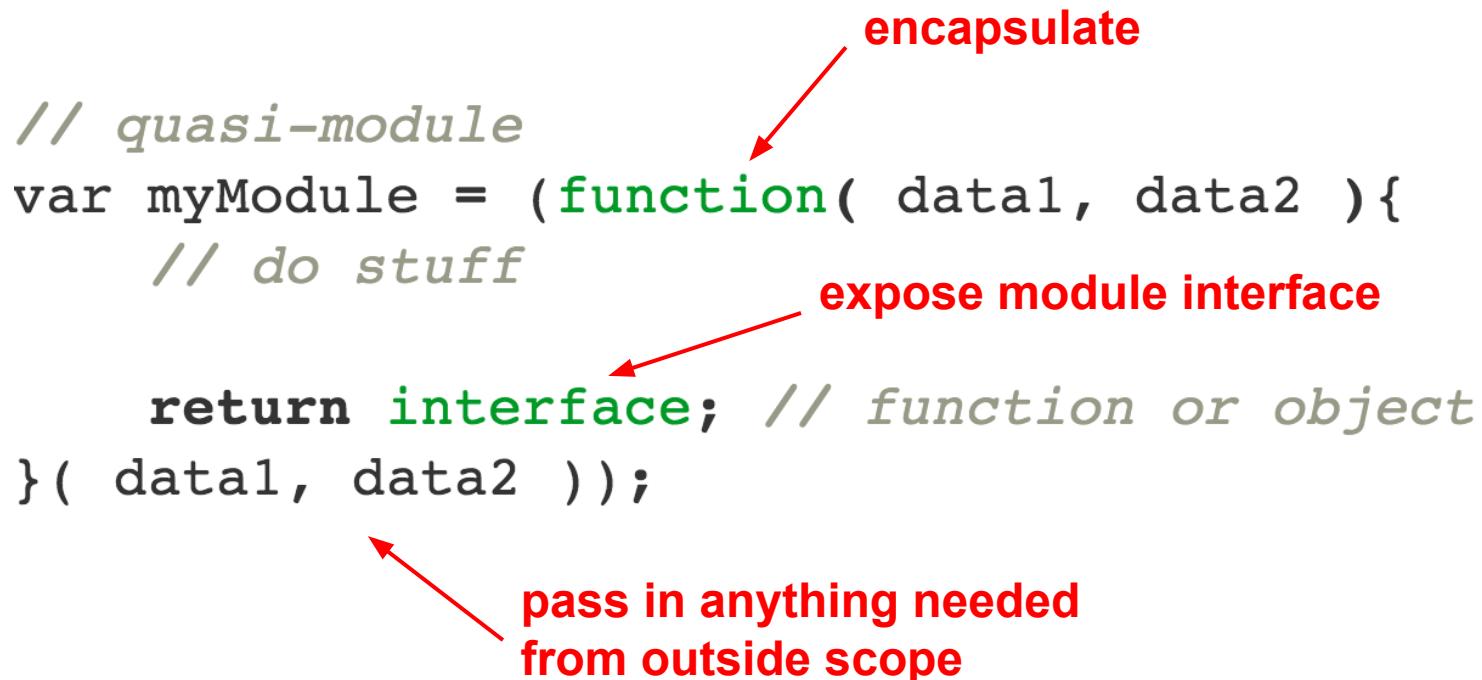
Quasi-Modularity

```
// quasi-module
var myModule = (function( data1, data2 ){
    // do stuff
    return interface; // function or object
}( data1, data2 ));
```

encapsulate

expose module interface

pass in anything needed from outside scope



Quasi-Modularity

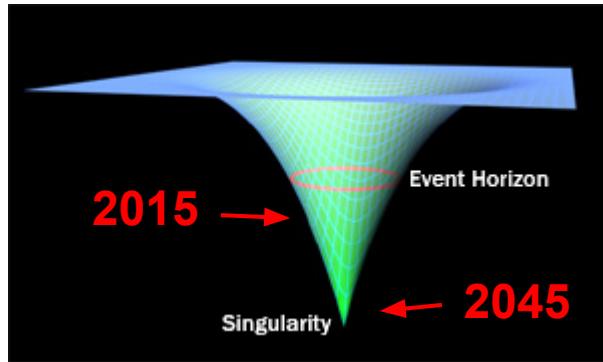
```
// real module
var myModule = require('myModule');
```

Modularity is a MUST

Modularize based on *volatility* - what's likely to change

O'Reilly webcast: "Zen of Software Architecture"

Computers are smart

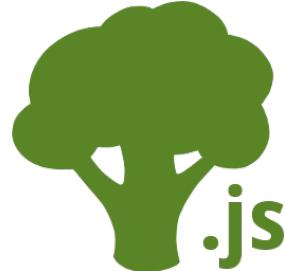


2046? →

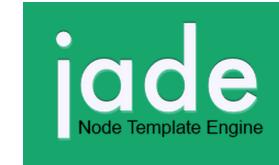


Let machines do what they do best

Use a build system



Use templates



UNDERSCORE.JS

Test “wings”: You need just the right size and shape to fly



Probability of bug \times Cost of bug > Cost of writing, maintaining and running the test?

Growth & Scaling



Growth & Scaling

- Caching
- Project growth curve and upgrade 12-18 months out
- Think globally and massive
- Unicode

Growth & Scaling

Some things that vary internationally...

- \$ vs £ vs €
- 1,000.00 vs 1.000,00
- 4:00 PM vs 16:00
- Time zone
- First day of the week
- Pluralization
- Gendered language
- Did you know? vs ¿Sabías?
- Standard vs metric, etc

Growth & Scaling

- Expanding audience
- Changing product scope
- Keep high quality users, drop low quality users
- Build your tools!

Improving user experience

Faster is **always** better.

*What Every Web Developer Should Know About
Networking and Browser Performance*



High Performance
**Browser
Networking**

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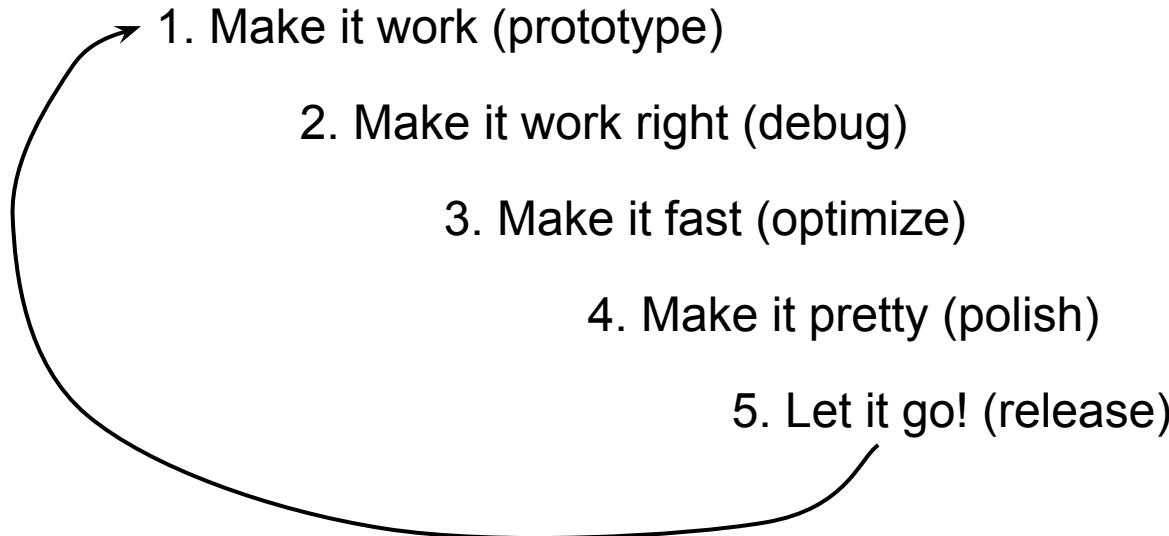
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Improving user experience



Improving user experience

Iterative development



Improving user experience

Users want it...

- Easier
- More efficient
- Better???

But what are they actually doing with your product?

- Log parsing
- Analytics
- Real User Measurement
- Social media feedback
- Direct feedback

Users' expectations change over time

- “Googlization”: Users have been trained not to provide context
- Sharing via all manner of social network
- Maps and location awareness
- Incremental refinement

Users' expectations change over time

SF bay area craigslist > cars & trucks - all [show images] [help] [post]

all SF bay area | san francisco | south bay | east bay | peninsula | north bay | santa cruz

cars + trucks: by-owner | by-dealer | both

search for: in: cars+trucks title only entire post has image

price: min max

[Mon, 21 Nov 06:19:38] [[city car share](#)] [[SF bicycle coalition](#)] [**AVOID ALL OFFERS TO SHIP VEHICLES**] [[avoid recalled items](#)] [[partial list of prohibited items](#)] [[dial 2-1-1 for social services](#)] [[AVOIDING SCAMS & FRAUD](#)] [[PERSONAL SAFETY TIPS](#)] [[craigslist {tv}](#)] [[unofficial flagging faq](#)] [[craigslist blog](#)] [[success story?](#)]

Mon Nov 21

[08 BMW 3 Series 4dr Car 335i](#) - (Walnut Creek)  [dealer](#)

[2010 Honda Civic 4dr Auto](#) - (morgan hill)  [dealer](#)

[2007 Scion tC Spec Hatchback Coupe 2D P70146742 ## FOR SALE ##](#) - (concord / pleasant hill / martinez)  [dealer](#)

[!!! 2001 Volkswagen Cabrio !!!](#) - (Walnut Creek)  [dealer](#)

[08 Volkswagen Jetta Sedan 4dr Car SE](#) - (Walnut Creek)  [dealer](#)

[1993 FORD AEROSTAR*PASSENGER VAN*RUNS DRIVES GREAT*](#) - \$1950 (SACRAMENTO/916-572-9077)  [dealer](#)

[2000 Dodge Durango - very well loved-184Kmi-rebuilt engine-Sirius](#) - \$3000 (san jose downtown)  [owner](#)

[08 Volkswagen Jetta Sedan 4dr Car SEL!! \(only 27358 miles\)](#) - (Walnut Creek)  [dealer](#)

[2009 Toyota Avalon](#) - \$22984 (san jose downtown)  [dealer](#)

[2004 Ford F-250 Crew Cab 156 XLT 4WD](#) - ((Clearance Sale))  [dealer](#)

[*** 2009 Mitsubishi Lancer Sedan ES Sedan ***](#) - (Petaluma)  [dealer](#)

[2009 Chevrolet Cobalt LT](#) - \$10984 (san leandro)  [dealer](#)

[2001 Ford Taurus SES T1A125448](#) - (hayward / castro valley)  [dealer](#)

Users' expectations change over time

LOTS of filters

The screenshot shows a Craigslist search interface for 'cars & trucks' in the 'SF bay area'. The search bar contains 'search cars & trucks'. Below it, there are 'View modes' (list, thumb, gallery, map) and 'Saved searches' buttons. On the left, there are numerous filter options: 'all owner dealer', 'search titles only', 'has image', 'posted today', 'PRICE min max', 'MAKE AND MODEL make / model', 'MODEL YEAR min max', 'ODOMETER min max', and a '+' button followed by 'paint color', 'size', 'type', 'drive', 'fuel', 'transmission', 'title status', and 'cylinders'. At the bottom left are 'reset' and 'search' buttons, and a sidebar with links for 'safety tips', 'prohibited items', 'product recalls', and 'avoiding scams'. The main content area displays a list of 100 car listings from March 6, 2015, including details like price, location, and seller type (owner, dealer). The first listing is for a 1936 Ford.

View modes

Saved searches

CL SF bay area > all SF bay area > for sale > cars+trucks

[account] [post]

cars & trucks

email alert save search

newest \$\$\$ \$\$\$

list thumb gallery map

1 - 100 of 77569 next >

Mar 6 1936 convert Ford - \$41000 (danville / san ramon) cars & trucks - by owner

Mar 6 1997 Honda Accord EX - \$1700 (san jose east) pic map cars & trucks - by owner

Mar 6 1993 ford ranger xlt 4wd auto broken transmission - \$800 (fairfax) cars & trucks - by owner

Mar 6 BLACK 2014 ACURA TSX- LIKE BRAND NEW!! - 5000 MILES - \$26000 (san jose north) pic map cars & trucks - by owner

Mar 6 2006 BMW 325i - CLEAN - \$8300 (sunnyvale) pic map cars & trucks - by owner

Mar 6 toyota truck - \$6000 (san jose) pic map cars & trucks - by owner

Mar 6 05 DODGE DIESEL 5.9 - \$17400 (DIXON) pic map cars & trucks - by owner

Mar 6 1966 VW Bug - \$1200 (sebastopol) map cars & trucks - by owner

Mar 6 2007 Volkswagen beetle 67000 mil nice car - \$6450 (san jose south) pic map cars & trucks - by owner

Mar 6 97 RAV4 - \$4400 (Tracy) pic cars & trucks - by owner

Mar 6 2010 Toyota corolla - \$7500 (petaluma) pic cars & trucks - by owner

Mar 6 2004 LEXUS ES330 SEDAN - 1 OWNER - FULLY LOADED - NAVIGATION - SHARP ! - \$6995 (vallejo / benicia) pic map cars & trucks - by dealer

Mar 6 2014 Chevrolet Cruze White *PRICED TO SELL SOON!* - \$17991 (san leandro) pic map cars & trucks - by dealer

Mar 6 2007 Honda Odyssey - \$9200 (san jose south) pic map cars & trucks - by owner

Mar 6 2012 Nissan Frontier Black *SAVE NOW!!!* - \$25991 (san leandro) pic map cars & trucks - by dealer

Mar 6 1968 GMC Shortbed - \$3999 (Clearlake) pic cars & trucks - by owner

Mar 6 1963 GMC 4X4 1/2ton pickup truck - \$2800 pic cars & trucks - by owner

© 2015 craigslist help safety privacy feedback cl jobs terms about mobile RSS (?)

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Resources

Zen of Software Architecture webcast: <http://www.oreilly.com/pub/e/3281>

The Two Pillars of JavaScript - Eric Elliott

- Prototypal inheritance <https://medium.com/javascript-scene/the-two-pillars-of-javascript-ee6f3281e7f3>
- Functional programming <https://medium.com/javascript-scene/the-two-pillars-of-javascript-pt-2-functional-programming-a63aa53a41a4>

Internationalization

- <http://www.localeplanet.com/support/howto-localize-js.html>
- <https://github.com/wikimedia/jquery.i18n>
- <http://formatjs.io/>
- Pluralization <http://alistapart.com/article/pluralization-for-javascript>

Ilya Grigorik

- Critical rendering path: <https://developers.google.com/web/fundamentals/performance/critical-rendering-path/index>
- High Performance Browser Networking: <http://chimera.labs.oreilly.com/books/1230000000545>

Thanks!

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