Mac OS X

Dojo Build System

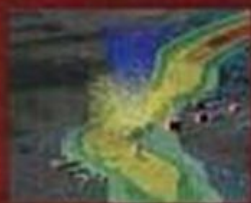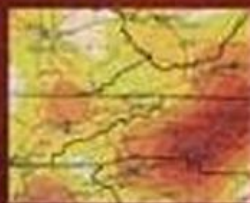Grunt

TDD & Jasmine

Selenium

How I Work

A Tour of the AGRC JavaScript Boilerplate Project

Scott Davis - Utah AGRC
@ScottAGRC
stdavis@utah.gov

GETTING TO KNOW

ArcObjects™

Programming ArcGIS® with VBA

For ESRI® ArcView®, ArcEditor™, and ArcInfo™

- Learn Microsoft® Visual Basic® for Applications
- Create your own buttons and tools
- Program dozens of everyday GIS tasks with ArcObjects

Geospatial Scott

Geospatial Software Development

From Tinkerer to Developer; Or How I Got My Dream Job

Today I got an interesting email from a GIS Analyst in Baltimore

Mr. Davis,

I am a GIS Specialist who is wrapping up an MS in GIS and looking forward to applying my newly acquired skills to projects here at Baltimore City's DOT. I recently stumbled onto your blog (http://geospatialscott.blogspot.com/) through an esri forum posting (http://forums.arcgis.com/threads/32892-Google-Streetview-and-Javascript-api) and was quite impressed with the breadth of your programming skills and abilities.

I was asked if I could try to create a program that would display accident history reports based on intersections in a GIS. My GIS application development experience is limited to what I learned through my coursework and I do not have a programming background. My question for you is how did you go about developing your programming skills as a GIS professional? Do you know of any resources that might aid me in going from a GIS analyst to a creative GIS developer like yourself? I see a heavy need for this type of GIS Developer work here at Baltimore DOT and I would like to contribute as much as possible, utilizing all the skills and resources available to me.

I'm sure you are super busy, but any suggestions or input would be much appreciated from this aspiring GIS(lowercase)p.

Am I doing this right?

Dr Bunsen Honeydew
@bunsenhoneydew

If you look at code you wrote six months ago and aren't slightly embarrassed then you should be embarrassed by how little you've learnt.

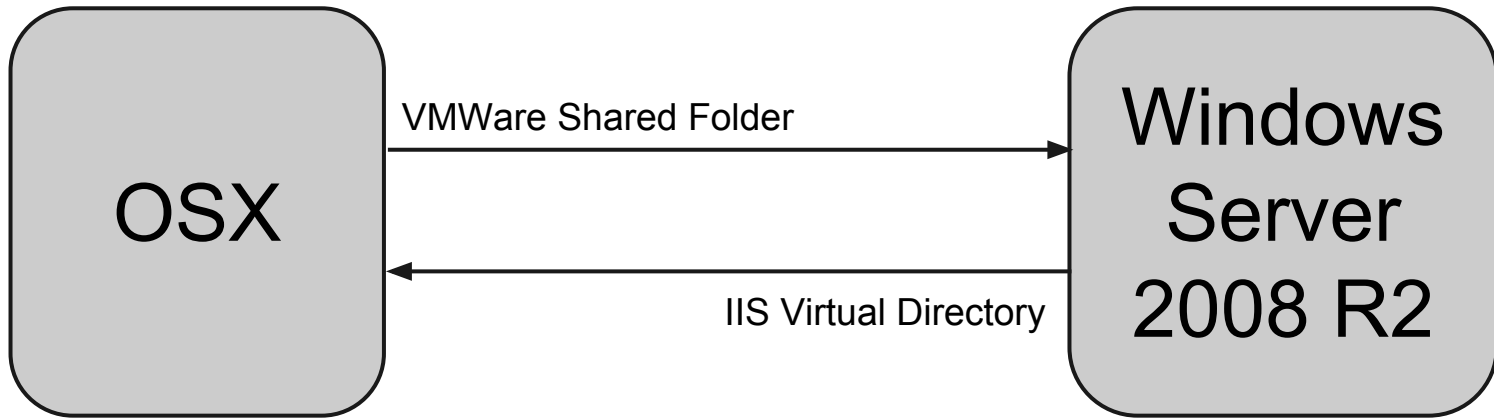**Steve Gourley** @steveagrc   28 Mar

RT @odoenet "not a Mac guy."-hearing that a lot this
#devsummit lol. Lots of forcing it. Monkey see monkey do business.

Collapse   ← Reply   ⟲ Retweet   ★ Favorite   ••• More

6:03 PM - 28 Mar 12 · Details

```
                    VMWare Shared Folder
  ┌──────────┐  ──────────────────────────▶  ┌──────────────┐
  │          │                                │   Windows    │
  │   OSX    │                                │   Server     │
  │          │  ◀──────────────────────────   │   2008 R2    │
  └──────────┘      IIS Virtual Directory     └──────────────┘

  Sublime                                     IIS/ArcGIS Server
  Chrome Dev Tools                            ArcGIS Desktop
  Grunt
```

BOILERPLATE

MECHANICAL MARVEL OF THE NINETEENTH CENTURY

Boilerplate was a mechanical man developed by **Professor Archibald Campion** during the 1880s and unveiled at the **1893 World's Columbian Exposition**.

Built in a small **Chicago laboratory**, Boilerplate was a prototype soldier built for *"preventing the deaths of men in the conflicts of nations"*. Although it was the only such prototype, Boilerplate was eventually able to exercise its proposed function in several **combat actions**.

Boilerplate embarked on a series of expeditions to demonstrate its abilities, the most ambitious being **a voyage to Antarctica**. Boilerplate is one of history's great ironies, a technological milestone that remains largely unknown.

Boilerplate with Archibald Campion
Click to enlarge photo

BOILERPLATE INVENTOR | **BOILERPLATE UNVEILED** | **BOILERPLATE SOLDIER**

explore the world of BOILERPLATE with these links

BOILERPLATE
★ HISTORY'S MECHANICAL MARVEL ★

PAUL GUINAN
and
ANINA BENNETT

IN BOOKSTORES NOW!

View **sample images** from the book, and a **MOVIE TRAILER**

BP NEWS
NOV 2012

ANTARCTIC BOILERPLATE

BOILERPLATE LEGACY

BIBLIOGRAPHY & TIMELINE

REPRODUCING BOILERPLATE

GIFT SHOP

BOILERPLATE MAIL

```
git clone https://github.com/agrc/AGRCJavaScriptProjectBoilerPlate.git --recursive
cd AGRCJavaScriptProjectBoilerPlate
npm install
```

Getting Started...

Documentation

Creating Builds

Dojo's build system provides a way to "build" Dojo and your other JavaScript resources and CSS files, so they can be more efficiently used in a production environment by your applications.

Difficulty: Advanced   **Dojo Version:** 1.8

🐦 Tweet ⟨6⟩   Like ⟨5⟩

ABOUT THE AUTHOR

Kitson Kelly is a Senior IT Manager by day and a Dojo committer by night. An American living in the UK, he has been culturally confused for years.
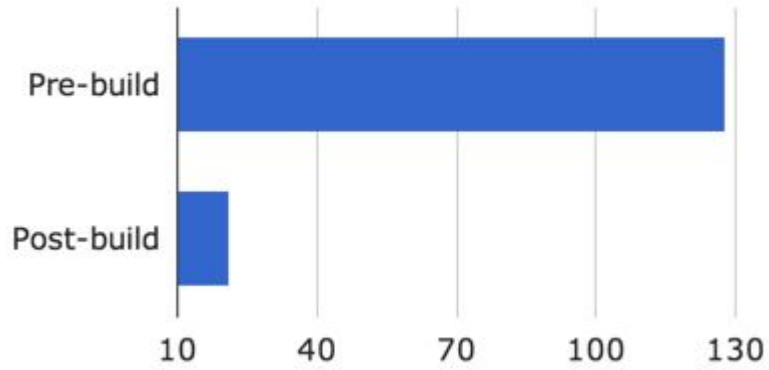
"Building" Dojo or JavaScript?

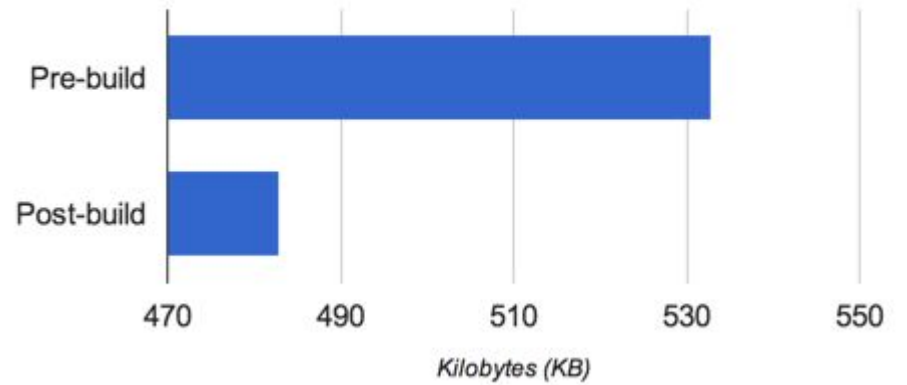If you are used to other programming languages, you might be wondering why we would be discussing "building" Dojo or JavaScript, because building usually implies compiling code into machine byte code. But when we talk about building Dojo we are referring to the concepts of minification, optimization, concatenation and "dead-code" removal.

TUTORIAL CREATED BY

≡sitepen

Dojo's Build System

Number of Scripts

Pre-build	
Post-build	

10 40 70 100 130

Total Size (KB)

Pre-build	
Post-build	

470 490 510 530 550

Kilobytes (KB)

Load Time

Pre-build	
Post-build	

3 3.6 4.2 4.8 5.4

Seconds
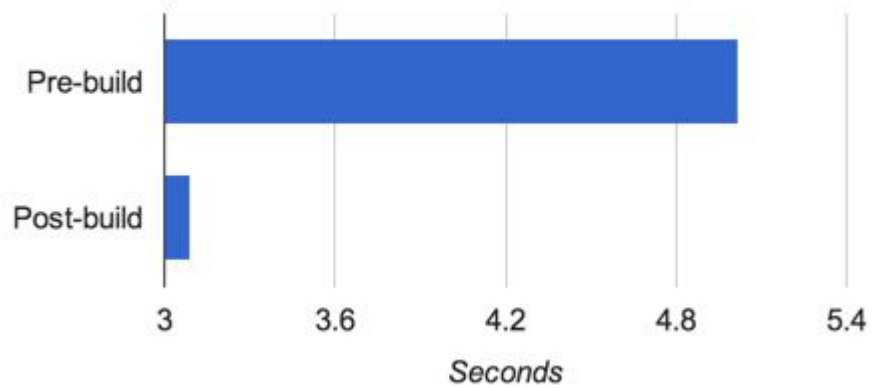
```
/*
        Copyright (c) 2004-2012, The Dojo Foundation All Rights Reserved.
        Available via Academic Free License >= 2.1 OR the modified BSD license.
        see: http://dojotoolkit.org/license for details
*/


/*
        This is an optimized version of Dojo, built for deployment and not for
        development. To get sources and documentation, please visit:

                http://dojotoolkit.org
*/

//>>built
(function(_1,_2){var _3=function(){}, 4=function(it){for(var p in it){return 0;}return 1;}, 5={}.toString,_6=function(it){return
_5.call(it)=="[object Function]";}                                                function(it){return _5.call(it)=="[
Array]";},_9=function(_a,_b){if(_a                                               e){for(var p in _e){_d[p]=_e[p];}re
_d;},_f=function(_10,_11){return _                                               nction(){return
"_"+_12++;},req=function(_13,_14,_                                               
_16(_13,_14,_15,0,req);},_17=this,                                               as=function(_19){return _6(_1a[_19]
(_1a[_19]=_1a[_19](_17,doc,_18)):                                                ,now,_1d){(_1a[_1b]===undefined||_1
(_1a[_1b]=_1c);return now&&has(_1b);};0&&has.add("host-node",_1.has&&"host-node" in _1.has?_1.has["host-node"]:(typeof
process=="object"&&process.versions&&process.versions.node&&process.versions.v8));if(0)
{require("./_base/configNode.js").config(_2);_2.loaderPatch.nodeRequire=require;}0&&has.add("host-rhino",_1.has&&"host-rhino" in
_1.has["host-rhino"]:(typeof load=="function"&&(typeof Packages=="function"||typeof Packages=="object")));if(0){for(var
_1e=_1.baseUrl||".",arg,_1f=this.arguments,i=0;i<_1f.length;){arg=(_1f[i++]+"").split("=");if(arg[0]=="baseUrl")
{_1e=arg[1];break;}}load(_1e+"/_base/configRhino.js");rhinoDojoConfig(_2,_1e,_1f);}for(var p in _1.has){has.add(p,_1.has[p],0,1);
_20=1,_21=2,_22=3,_23=4,_24=5;if(0){_20="requested";_21="arrived";_22="not-a-module";_23="executing";_24="executed";}var
_25=0,_26="sync",xd="xd",_27=[],_28=0,_29=_3,_2a=_3,_2b;if(1){req.isXdUrl=_3;req.initSyncLoader=function(_2c,_2d,_2e){if(!_28)
{_28=_2c;_29=_2d;_2a=_2e;}return
{sync:_26,requested:_20,arrived:_21,nonmodule:_22,executing:_23,executed:_24,syncExecStack:_27,modules:_2f,execQ:_30,getModule:_3
e:_32,setArrived:_33,signal:_34,finishExec:_35,execModule:_36,dojoRequirePlugin:_28,getLegacyMode:function(){return
_25;},guardCheckComplete:_37};};if(1){var _38=location.protocol,_39=location.host;req.isXdUrl=function(url){if(/^\./.test(url)){r
false;}if(/^\/\//.test(url)){return true;}var _3a=url.match(/^([^\/\:]+\:)\/+([^\/]+)/);return _3a&&(_3a[1]!=_38||
(_39&&_3a[2]!=_39));};};1||has.add("dojo-xhr-factory",1);has.add("dojo-force-activex-
xhr",1&&!doc.addEventListener&&window.location.protocol=="file:");has.add("native-xhr",typeof XMLHttpRequest!="undefined");if(has
xhr")&&!has("dojo-force-activex-xhr")){_2b=function(){return new XMLHttpRequest();};}else{for(var _3b=
["Msxml2.XMLHTTP","Microsoft.XMLHTTP","Msxml2.XMLHTTP.4.0"],_3c,i=0;i<3;){try{_3c=_3b[i++];if(new ActiveXObject(_3c)){break;}}cat
```

http://goo.gl/qaZpq

```
layerOptimize: 'closure',
stripConsole: 'all',
selectorEngine: 'acme',
layers: {
    'app/run': {
        include: ['app/main', 'app/run'],
        exclude: [
            "dijit/_base/scroll",
            "dijit/_TemplatedMixin",
            "dijit/_Templated",
            "dijit/_WidgetBase",
            "dijit/_TemplatedMixin",
            "dijit/_WidgetsInTemplateMixin",
            "dojo/_base/array",
            "dojo/_base/declare",
            "dojo/_base/lang",
            "dojo/_base/kernel",
            "dojox/gfx/matrix",
            "dojo/_base/Color",
            "dojox/gfx/_base",
            "dojox/xml/parser",
            "dojox/gfx",
            "dojo/fx",
            "dojo/date",
            "dojo/date/locale",
            "dojo/io/script",
            "dojo/_base/url",
            "dojox/collections/ArrayList",
            "dojo/string",
            "dojo/fx/Toggler",
            "dijit/_base/manager",
            "dijit/form/HorizontalSlider",
            "dijit/form/VerticalSlider",
            "dijit/form/HorizontalRule",
            "dijit/form/VerticalRule",
            "dijit/form/HorizontalRuleLabels",
```

Refactor

TDD with Jasmine

Code	Network	Pull Requests 0	Issues 0	Wiki	Graphs	Settings

StubModule.js - Stub AMD module dependencies for testing purposes when using the dojo AMD loader. — Read more

 Clone in Mac   ⬇ **ZIP** | HTTP | SSH | Git Read-Only | `https://github.com/stdavis/StubModule.git` | **Read+Write** access

⑂ branch: **master** ▾   **Files**   Commits   Branches 1   Tags

StubModule / ⊞

⟳ **2 commits**

Updated readme with a note about using ESRI's api.

stdavis authored 4 months ago   latest commit 3898fc5541

📁 spec	4 months ago	Initial commit. [stdavis]
📁 src	4 months ago	Initial commit. [stdavis]
📄 .gitignore	4 months ago	Initial commit. [stdavis]
📄 .gitmodules	4 months ago	Initial commit. [stdavis]
📄 .jshintrc	4 months ago	Initial commit. [stdavis]
📄 README.md	4 months ago	Updated readme with a note about using ESRI's api. [stdavis]
📄 SpecRunner.html	4 months ago	Initial commit. [stdavis]
📄 StubModule.js	4 months ago	Initial commit. [stdavis]
📁 dojo @ fa4afc0	4 months ago	Initial commit. [stdavis]
📁 jasmine @ b6f96bc	4 months ago	Initial commit. [stdavis]

GRUNT
The JavaScript Task Runner

Latest Version

- Stable: v0.4.1
- Development: N/A

Latest News

Grunt 0.4.1 released
March 13, 2013

Grunt 0.4.0 released
February 18, 2013

Updating plugins to Grunt 0.4
February 15, 2013

Getting Started

Read the Getting Started guide for

Why use a task runner?

In one word: automation. The less work you have to do when performing repetitive tasks like minification, compilation, unit testing, linting, etc, the easier your job becomes. After you've configured it, a task runner can do most of that mundane work for you—and your team—with basically zero effort.

Why use Grunt?

The Grunt ecosystem is huge and it's growing every day. With literally hundreds of plugins to choose from, you can use Grunt to automate just about anything with a minimum of effort. If someone hasn't already built what you need, authoring and publishing your own Grunt plugin to npm is a breeze.

Available Grunt plugins

Many of the tasks you need are already available as Grunt Plugins, and new plugins are published every day. While the plugin listing is more complete, here's a few you may have heard of.

package.json

```json
{
  "name": "AppName",
  "version": "0.1.0",
  "devDependencies": {
    "grunt": "~0.4.0",
    "grunt-contrib-jshint": "~0.1.1",
    "grunt-contrib-jasmine": "~0.3.3",
    "grunt-contrib-watch": "~0.2.0",
    "grunt-contrib-connect": "~0.1.2"
  }
}
```

Grunt Tasks

Project Scaffolding

grunt-init

Grunt-init is a scaffolding tool used to automate project creation. It will build an entire directory structure based on the current environment and the answers to a few questions. The exact files and contents created depend on the template chosen along with the answers to the questions asked.

Note: This standalone utility used to be built-in to Grunt as the "init" task. See the Grunt Upgrading from 0.3 to 0.4 guide for more information about this change.

Installation

In order to use grunt-init, you'll want to install it globally.

```
npm install -g grunt-init
```

This will put the `grunt-init` command in your system path, allowing it to be run from anywhere.

Notes: You may need to use sudo or run your command shell as Administrator to do this.

The Future

- UI Tests with Selenium
- MVC
- Automated system/application checks
- Continuous Integration
- More Grunt-init/Yeoman

Questions/Thanks!

Scott Davis

stdavis@utah.gov

@ScottAGRC

Resources Sheet: http://goo.gl/94w0g