

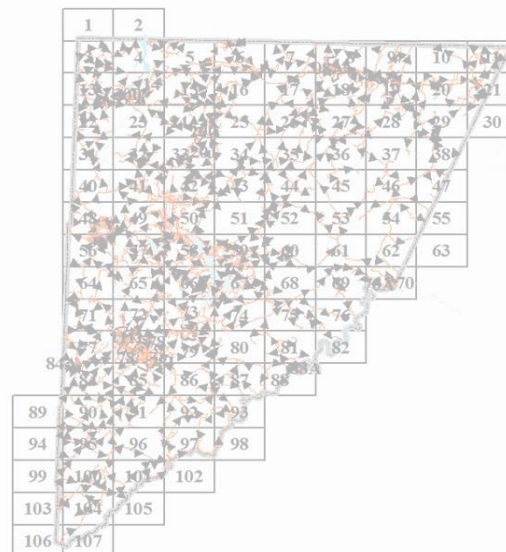
Lessons Learned – Mapping with the ESRI javascript API

J.B. Churchill, GISP

GIS Specialist

Garrett County, MD

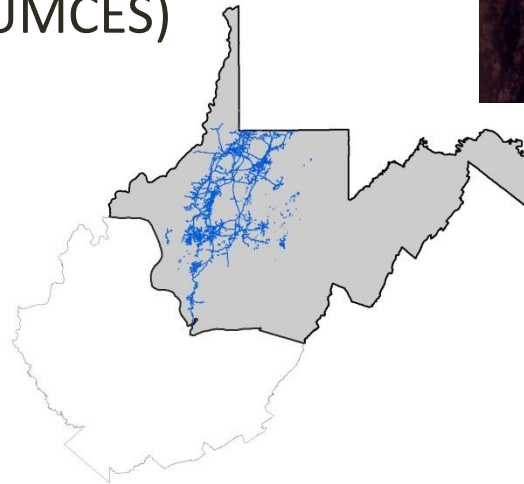
Department of Planning & Land Management



Background



- Land Surveying - Landtech
- Wildlife Management – Frostburg State Univ. – BS
- Wildlife Management – WVU – MS
- Natural Resource Analysis Center at WVU
- Appalachian Laboratory (UMCES)
- Contract w/ USGS
- Adjunct teaching
ACM, FSU, FCC
- EQT Midstream
- Garrett County



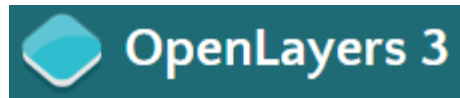
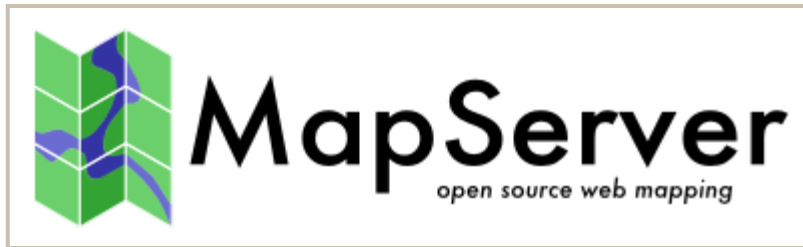
Programming Background

- Triangulation Program
- Home Range Estimation
- GIS inputs (IDW)
- QBASIC
- VB6 (Extensions w/ ArcObjects)
- Perl
- Python
- js

Web Development

- MapServer
- Drupal
- PHP & MySQL
- js





ArcGIS API for JavaScript

ArcGIS for Server



Version Control with “Git”



```
Command Prompt

modified:   .gitignore
new file:   centerlines/Roads_RENAMING.csv
new file:   centerlines/update_fields.py
new file:   reproj_Museums.py

C:\dev>git commit -m "added reproj_Museums.py from pdf book and centerlines/update_fields.py from centerlines
s version works in the GDB but not for SDE."
[master 3dfb2a3] added reproj_Museums.py from pdf book and centerlines/update_fields.py from centerline
sion works in the GDB but not for SDE.
4 files changed, 1837 insertions(+), 1 deletion(-)
 create mode 100644 centerlines/Roads_RENAMING.csv
 create mode 100644 centerlines/update_fields.py
 create mode 100644 reproj_Museums.py

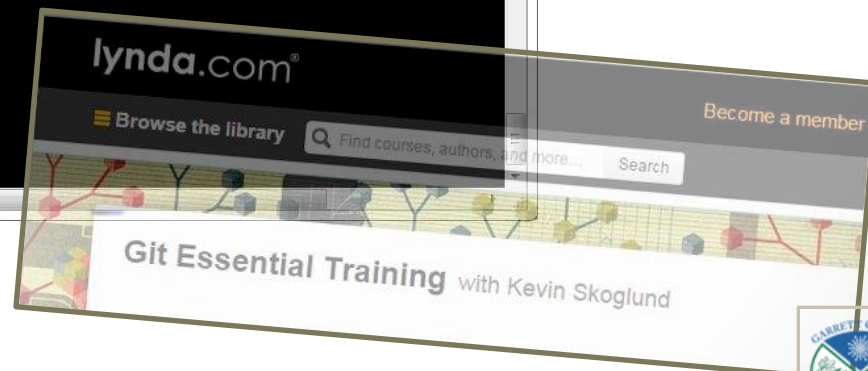
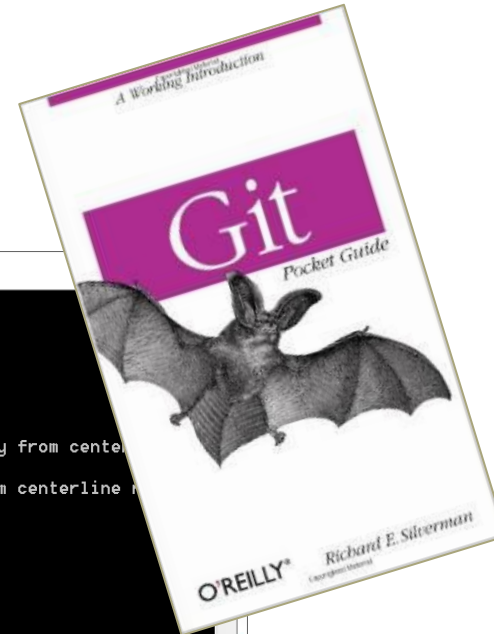
C:\dev>git status
On branch master
nothing to commit, working directory clean

C:\dev>cd\web

C:\web>git status
On branch master
Your branch is up-to-date with 'origin/master'.

nothing to commit, working directory clean

C:\web>
```

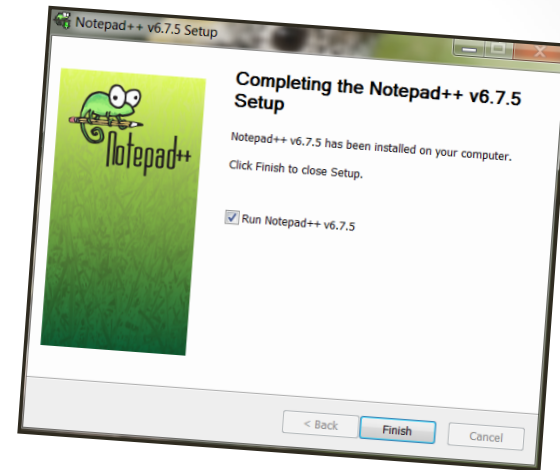
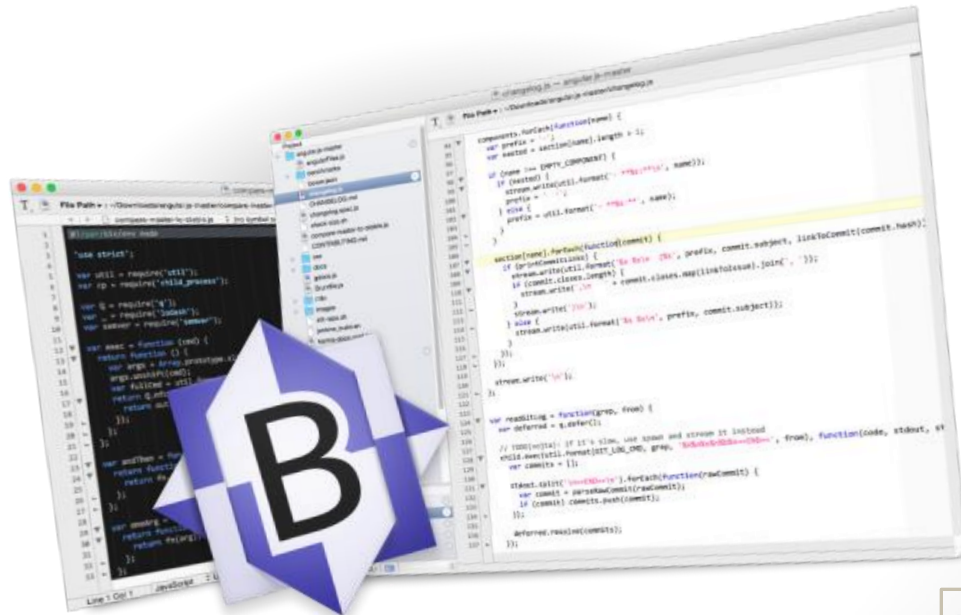


Editors



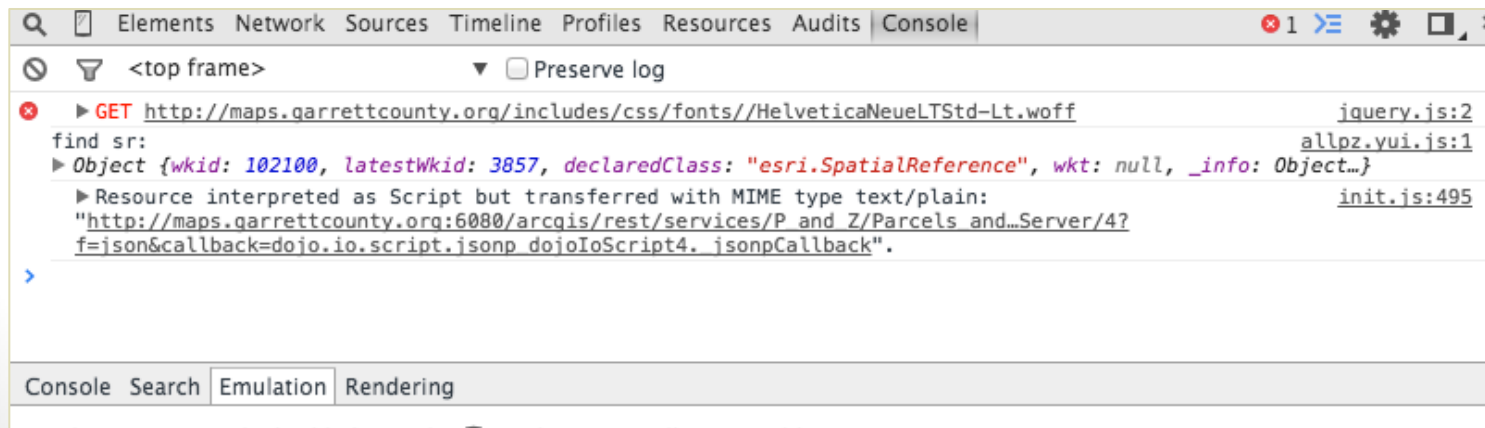
Free can still be good!

To use an IDE or not ?



Developer Tools

- Chrome has “Developer Tools” (shown below).
- Firefox has the “Developer Toolbar”.
- Print variable values to console.log
- Determine line numbers where errors occur.
- Determine whether errors occur “before” or “after” some point.



Code Linting

jshint.com

```
1 // Hello.
2 //
3 // This is JSHint, a tool that helps to detect errors and potential
4 // problems in your JavaScript code.
5 //
6 // To start, simply enter some JavaScript anywhere on this page. Your
7 // report will appear on the right side.
8 //
9 // Additionally, you can toggle specific options in the Configure
10 // menu.
11
12 function main() {
13     return 'Hello, World!';
14 }
15
16 main();
```

CONFIGURE

Metrics

There is only **one** function in this file.

It takes no arguments.

This function contains only **one** statement.

Cyclomatic complexity number for this function is **1**.

jshint.com

JS Lint

The [JavaScript](#) Code Quality Tool

Edition 2014-07-08

[Read the instructions.](#)

[Set the options.](#)

[Enjoy The Good Parts.](#)

[The New Version: ALPHA.](#)

Source

clear

// Paste quality code here



Minification

- The Compressorator will tell you which tool compresses your code the best out of yui, scriptaculous, packer, JSMIn, dojo shrinksafe. Copy and Paste - <http://compressorrater.thruhere.net/>
- Other online tools can do the job (<http://jscompress.com/>).
- Removes unnecessary characters such as whitespace, newline characters, comments, and some block delimiters.
- You can also add gzip compression to further compress code.

Command Line

```
java -jar yuicompressor-2.4.8.jar C:\ms4w\Apache\htdocs\javascript\fema.js >  
C:\ms4w\Apache\htdocs\javascript\fema.yui.js
```



Minification

```
var findTask, findParams;
// var dojo, getExtent, require, doFind, esri, document, dijit, console, window;
var getExtent, doFind;
var map, center, zoom;
var grid, store;
var identifyTask, identifyParams;
var addIdArray = [];
var xMin, yMin, xMax, yMax;
var extArray = [];
var passedCenter, passedX, passedY, zoomLevel;

function startTrackingExtent() {
    dojo.connect(map, "onExtentChange", getExtent);
}
```

```
var findTask,findParams;var getExtent,doFind;var map,center,zoom;var grid,store;var
var passedCenter,passedX,passedY,zoomLevel;function startTrackingExtent(){dojo.conne
if(b[c]==d){return true}}return false}function executeIdentifyTask(a){var c;identif
=[1,4,5,6,8];for(c=0;c<addIdArray.length;c++){identifyParams.layerIds.push(addIdAr
identifyTask.execute(identifyParams);checkNull=function(h,e,g){var f;function i(k,l,
target="_blank">LINK</a>'}k+="  


```



Code Bloat

How to make things work without making it over-complicated?

This led to a Unique Solution ...

Code bloat

From Wikipedia, the free encyclopedia



This article **needs additional citations for verification**. Please help [improve this article](#) by [adding citations to reliable sources](#). Unsourced material may be challenged and removed. *(June 2014)*

Code bloat is the production of [code](#) that is perceived as unnecessarily long, slow, or otherwise wasteful of resources. Code bloat can be caused by inadequacies in the language in which the code is written, inadequacies in the [compiler](#) used to compile the code, or by a programmer. Therefore, code bloat generally refers to source code size (as produced by the programmer), but sometimes is used to refer instead to the *generated* code size or even the [binary file](#) size.

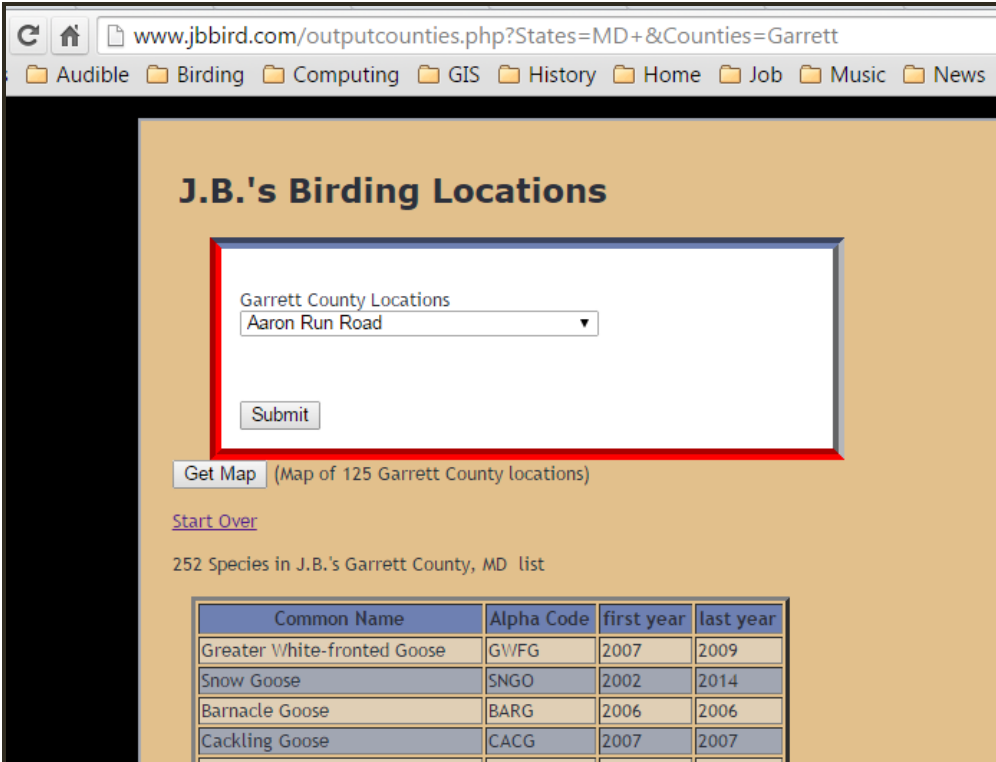
Contents [\[hide\]](#)

- [1 Common causes](#)
- [2 Examples](#)
- [3 Code density of different languages](#)
- [4 Reducing bloat](#)
- [5 See also](#)
- [6 References](#)



A Unique Solution

- If I can pass in variables like X, Y, and Z, I can keep my *place* and continue with a new workflow.
- I have done this sort of thing with PHP and \$_GET.



www.jbbird.com/outputcounties.php?States=MD+&Counties=Garrett

Audible Birding Computing GIS History Home Job Music News

J.B.'s Birding Locations

Garrett County Locations
Aaron Run Road ▼

Submit

Get Map (Map of 125 Garrett County locations)

[Start Over](#)

252 Species in J.B.'s Garrett County, MD list

Common Name	Alpha Code	first year	last year
Greater White-fronted Goose	GWFG	2007	2009
Snow Goose	SNGO	2002	2014
Barnacle Goose	BARG	2006	2006
Cackling Goose	CACG	2007	2007



PHP and \$_GET

```
<?php
if (isset($_GET['px'])) {
    $px = trim(stripslashes($_GET[px]));
} else {
    $px = -79.2;
}
if (isset($_GET['py'])) {
    $py = trim(stripslashes($_GET[py]));
} else {
    $py = 39.5;
}
if (isset($_GET['zl'])) {
    $zoom = trim(stripslashes($_GET[zl]));
} else {
    $zoom = 10;
}
?>
```

PHP →

```
passedCenter = [passedX, passedY];
map = new Map("mapDiv", {
    basemap: "streets",
    center: passedCenter, // center,
    zoom: zoomLevel, // zoom,
    infoWindow: popup
});
```

javascript ↗

```
</script>
s.js" type="text/javascript"></script> -->
e="text/javascript"></script>
```

```
<!DOCTYPE html>
<html>
</head>

<body class="claro">
<script>
    var passedX = '<?php echo $px; ?>';
    var passedY = '<?php echo $py; ?>';
    var zoomLevel = '<?php echo $zoom; ?>';
</script>
```

http://maps.garrettcountry.org/arcgis/pz_map.php?px=-79.00608&py=39.67927&zl=19

Live Demo



What's Next ?

- An “infowindow” that can access multiple services.
- use a different geocoder (like the one iMap offers?).
- use the geometry server / geometry service for things like buffers to select features and clip & ship.
- get some training in some area related to this (ArcGIS Server or js).
- Further standardization of the “look and feel” of the maps for that “unified experience”.



Easy ? ...



Questions ... for the caveman ?



John Churchill, GISP



@jbchurchill



<http://gis.stackexchange.com/users/31115/jbchurchill>

