

ArcGIS Online Web App Builder – Fueled with automatic updates – Cemetery Mapping Updates get even more Deadly with Hidden Pythons

Tony Bedogne, GISP - Ann Arbor, MI



IMAGIN 2021
Webinar Series



Tony Bedogne, GISP - Sr. Application Specialist, IT

What do I do?

- GIS Data Strategy
- ArcGIS Server/Portal Administrator
- SDE Administrator
- Publish Applications on AGOL/Portal



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What is Fairview Cemetery?

On June 7, 1875 the City of Ann Arbor adopted an ordinance taking control of the Fifth Ward Cemetery. Renamed to Fairview Cemetery, during the August 1, 1898 Council meeting, the cemetery is an 8.65 acre cemetery, located at the intersection of Kellogg Street and Wright Street near the Huron River.



What is Fairview Cemetery?

- The Cemetery is divided into 26 sections, with an on-site sign providing reference for visitors. For help on locating a specific burial location, please contact the City Clerk's Office.
- There are still well over 100 full burial sites available at Fairview Cemetery. For more information about costs and how to purchase a lot
- To view a map of available plots at Fairview Cemetery, please see the Fairview Cemetery Map.



What is Fairview Cemetery?

What is on the public “web” map

- Location of Burials
- Veteran Status
- Search for Loved Ones
- Locate Burial *Sites for Sale*

<https://www.a2gov.org/a2Fairview>



History of Fairview Mapping

Past Process required Staff to manually “look up” in paper records and/or a staff only “digital map” of cemetery records.

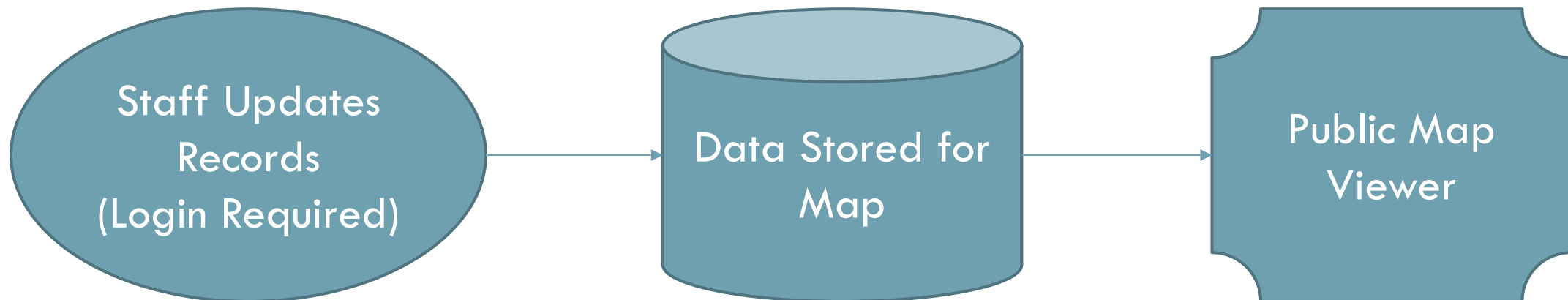
Customer service was delayed

The screenshot displays a web application for cemetery management. The interface includes a navigation menu at the top with options like 'Map', 'Map Features', 'Utilities', 'Reserved Space', 'WorkOrders', 'Layers', and 'Calendar'. The main map area shows a grid of cemetery plots, each with a unique ID and color-coded according to its status. A legend in the bottom right of the map area provides the key for these colors: Available (green), Reserved (orange), Restricted (red), Sold (cyan), Sold With Burial (blue), Burials (grey), Veteran (yellow), and Future (hatched). The right sidebar contains a detailed form for a specific space, identified by Space ID: 1_12_32_2. This form includes fields for 'Cem: 1', 'Lot: 32', 'Block: 12', and 'Space: 2'. It also lists 'Space Type: Ground Space', 'Status: Sold With Burial', and 'Owner: [redacted]'. There are search fields for 'Co-Owner 1' and 'Sales Counselor', both labeled 'search by last name'. The 'Sold Date' is set to '01/11/1949' and the 'Cost / Space' is '\$ 25'. A 'Space Fees' dropdown menu is visible. The 'Remarks' field contains the text 'Deed shows purchased the W 1/2 & 5 & 6', which is highlighted in yellow. An 'Update' button is located at the bottom right of the sidebar.

Process Planning

Process Considerations (Requirements Gathering)

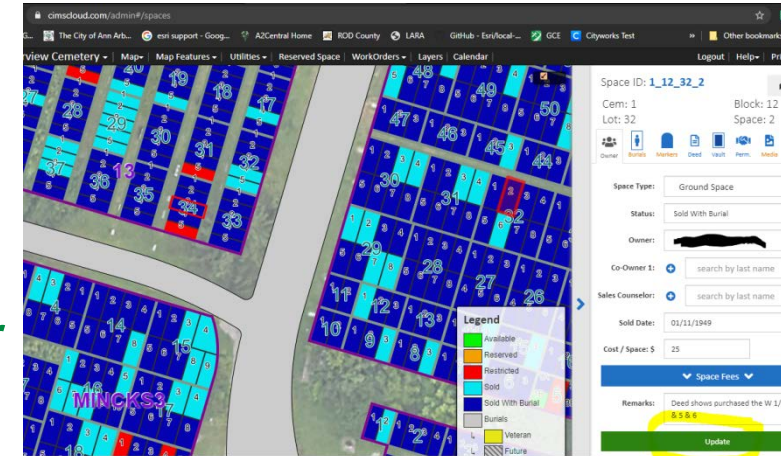
- Public Customer has an “easy to use” and “accurate” map viewer
- Staff Team members can update the mapping quickly
- Staff can provide the tool as a resource to the public customers
- Locate Burial *Sites for Sale*



Process Planning

Process Solution

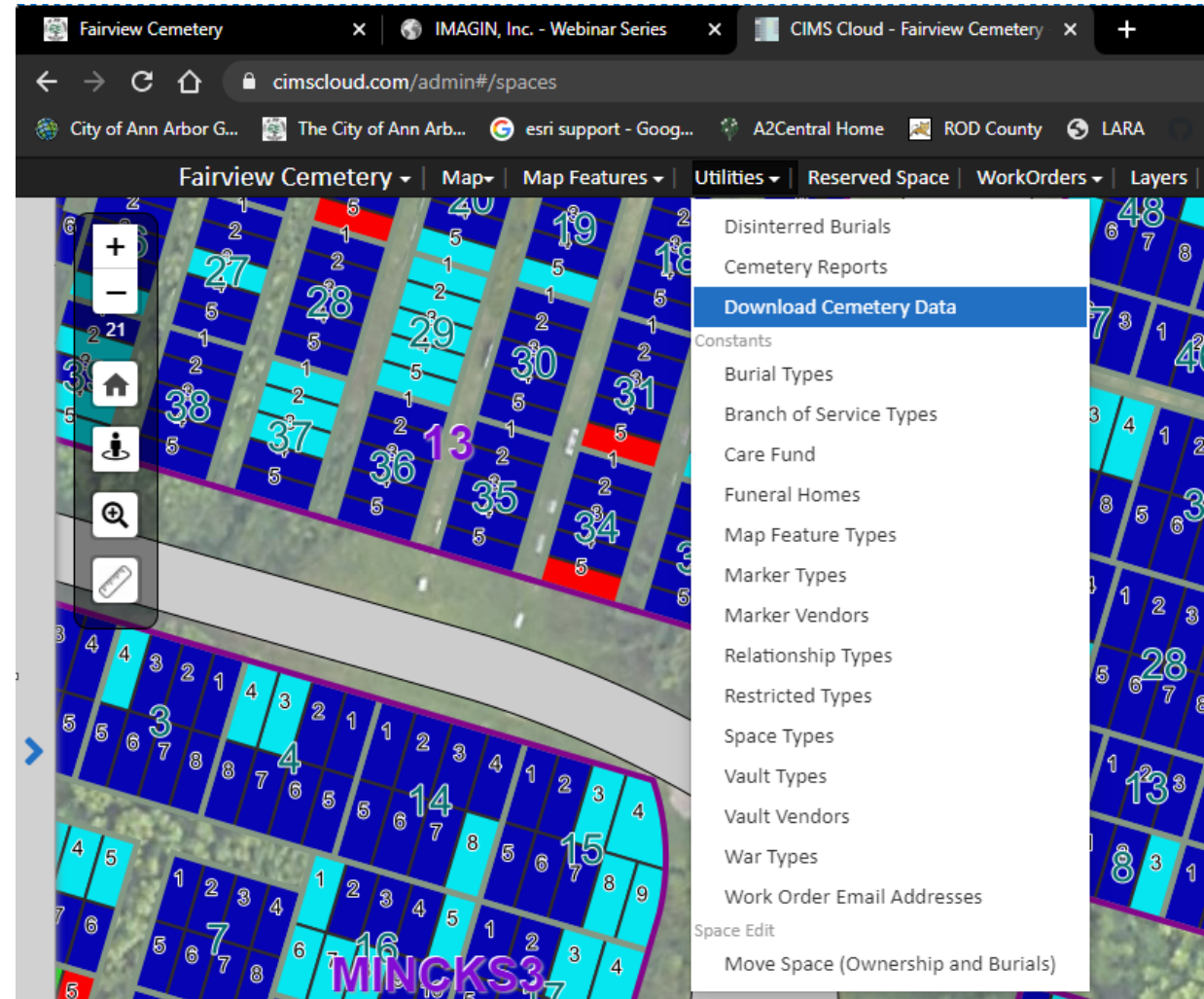
- 1) Update in CIMS
- 2) Download Data (Zipped Shapefiles) to a network folder



Process Planning

Process Solution

- Update in CIMS and download data (Shapefiles) to a network folder



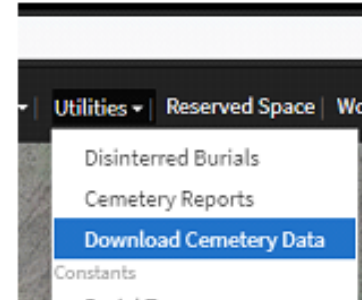
Process Planning

Process Solution

- Update in CIMS and downloads data (Shapefiles) to a network folder

- File Stored on the “U Drive”

- Log into CIMS
<https://cimscloud.com/auth/login/>
- Under the utilities menu find the download cemetery data option



- Locate the zip file named `_var_www_shapes_data_schema_173.zip`

this zip file will download into the users downloads folder:

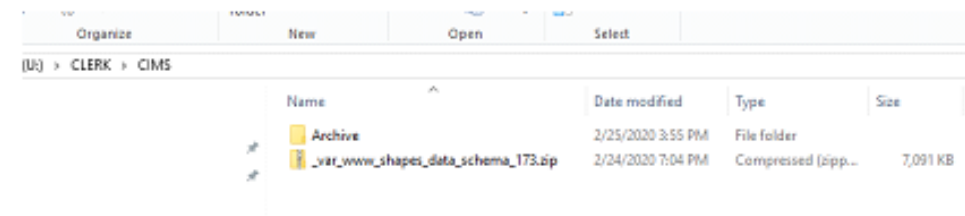
```
C:\Users\<username>\Downloads\_var_www_shapes_data_schema_173.zip
```

Note: if multiple copies of the “zip” are stored in the user’s documents folder it will append a number on the end of the “zip”. i.e. (1), (2)

It is important to locate the current zip file and ensure any suffix is removed from the zip. It must be named `_var_www_shapes_data_schema_173.zip` before proceeding to the next step.

- Cut and paste the zip file into the clerks U: drive Clerk\CIMS folder
Place this “zip” into the root of this directory, it will move into archive automatically after processing.

U:\\CLERK\CIMS



Step aside let the “Pythons” take over

...Made it “easy” for the staff customer!

Now let’s look at the data structure and map planning

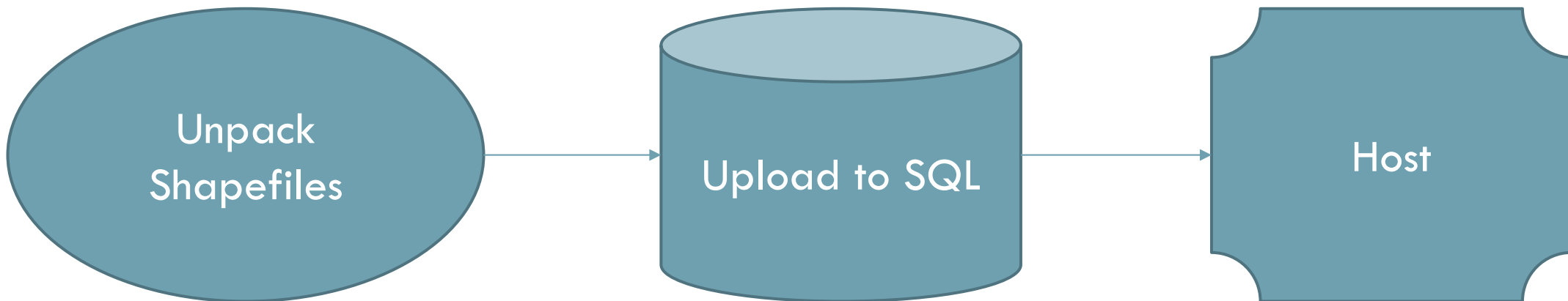
Data Requirements:

- Must be up to date
- Allow for archival and restore
- Must be available on the web
- Track site use metrics



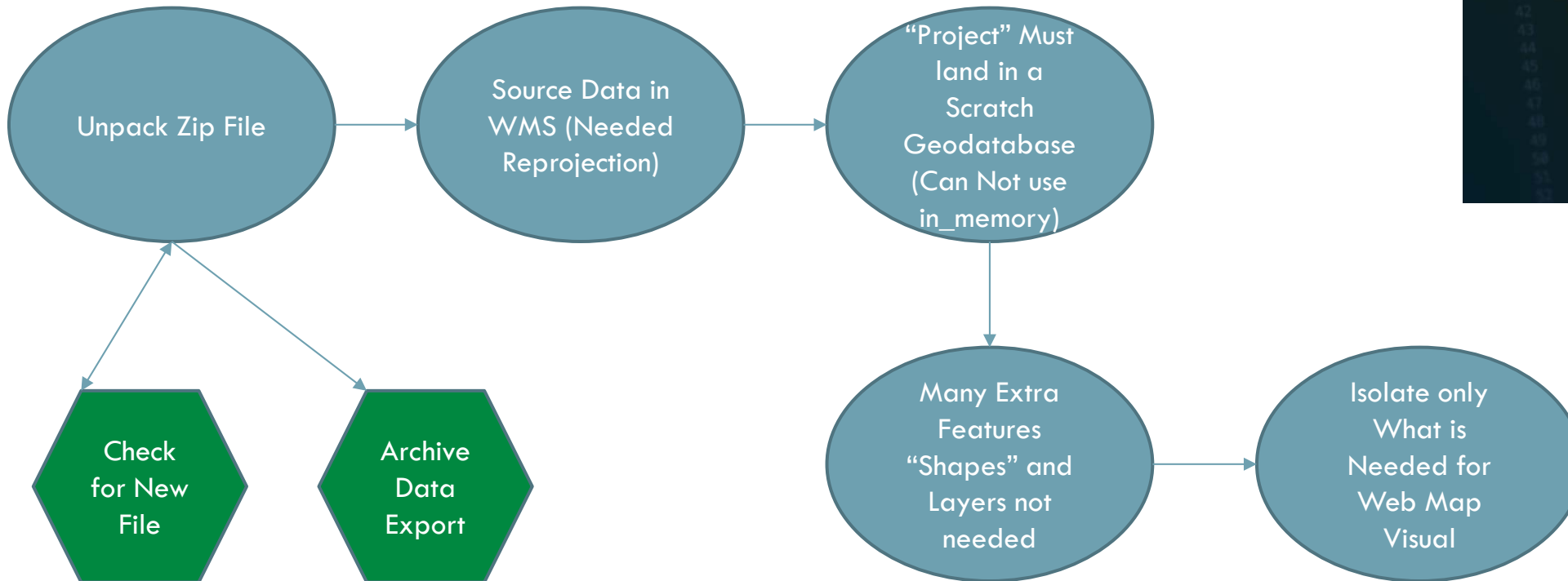
Step aside let the “Pythons” take over

- ...Data will be stored on ArcSDE (10.9)
- ...Data will be Hosted on ArcServer Standalone (10.8.1)
- ...Data will be mapped in ESRI Web App Builder



Step aside let the “Pythons” take over

Deep Dive (Unpacking)



Step aside let the “Pythons” take over

Unpack Zip File

```
# end error handling-----
print ("we go!!!!!!!!!!")

try:

    if os.path.exists(varF) :
        print ("old processing file exists")
        shutil.rmtree(varF)
        print ("clean and ready for new processing")

    if os.path.isfile(dItem) :
        print ("new file exists")
        shutil.copy(dItem, pPath)
        zItem = pPath + '\\\\' + zName + '.zip'
        with zipfile.ZipFile(zItem) as zf:
            zf.extractall(pPath)
            nF = zName + " " + strDate + '.zip'
            oF = ePath + "\\\\" + nF
            dF = dPath + "\\\\" + nF
            shutil.copy(zItem, oF)
            shutil.copy(zItem, dF)
            os.remove(dItem)
            #os.remove(zItem)
            #sys.exit()

    else:
        print ("file not here")
        createLogN = open(LogF,"a")
        writeLogN = createLogN.write(currentDateTime + LogFtxt)
        closeLogN = createLogN.close()
        sys.exit()

## Files ready for GIS
path = r'\\gis02\Jobs\FairviewCemetery\CIMS\processing\var\www\shapes\data'
#cwd = os.getcwd()
cwd = r'\\gis02\\Jobs\FairviewCemetery\\'
```



Deep Dive
(Unpacking)



Step aside let the “Pythons” take over

“Project” Must
land in a
Scratch
Geodatabase
(Can Not use
in_memory)

Many Extra
“Shapes” –
Layers not
needed

Isolate only
What is
Needed for
Web Map
Visual

```
files = os.listdir(path)
for file in files:
    if file.startswith("backdrop"):
        os.remove(os.path.join(path, file))

processLoc = cwd + "\\CIMS\\processing"
oldGDB = processLoc + "//" + "myfgdb.gdb"
if os.path.isdir(oldGDB ):
    shutil.rmtree(oldGDB )
    print ("removed old GDB!")

the_gdb = str(arcpy.CreateFileGDB_management(processLoc, "myfgdb.gdb") .replace("\\", "/"))
print ("created new GDB for projection")

print ("start spatial projection loop...")
thislist = ["Blocks", "Burials", "Lots", "Markers", "Spaces"]
pattern = "*.shp"

for file in os.listdir(path):
    if file.endswith(".shp"):
        print (file)
        pFile = path + "\\" + file
        print (pFile)
        oFile = file.split('.shp', 1)[0]
        print (oFile)

        iFile = the_gdb + "\\" + oFile
        print (iFile)
        jFile = iFile + ".p"
        print (jFile)
        arcpy.FeatureClassToFeatureClass_conversion(pFile, the_gdb, oFile)
        arcpy.management.Project(iFile, jFile, out_coor_system="PROJCS['NAD_1983_StatePlane_M
```

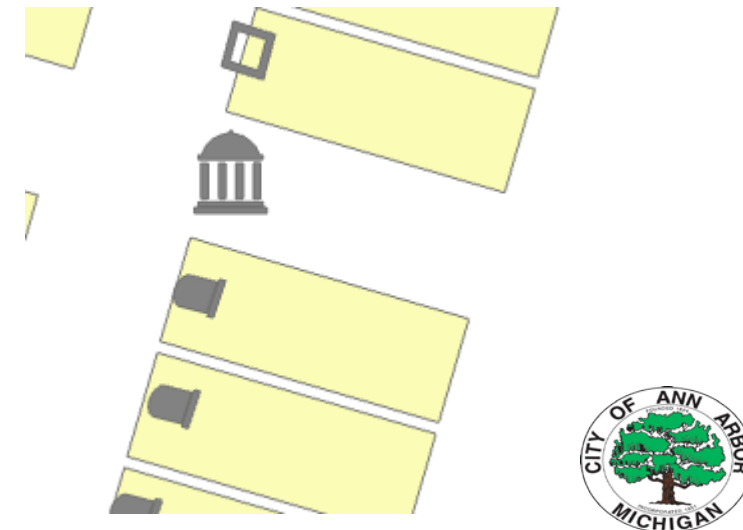
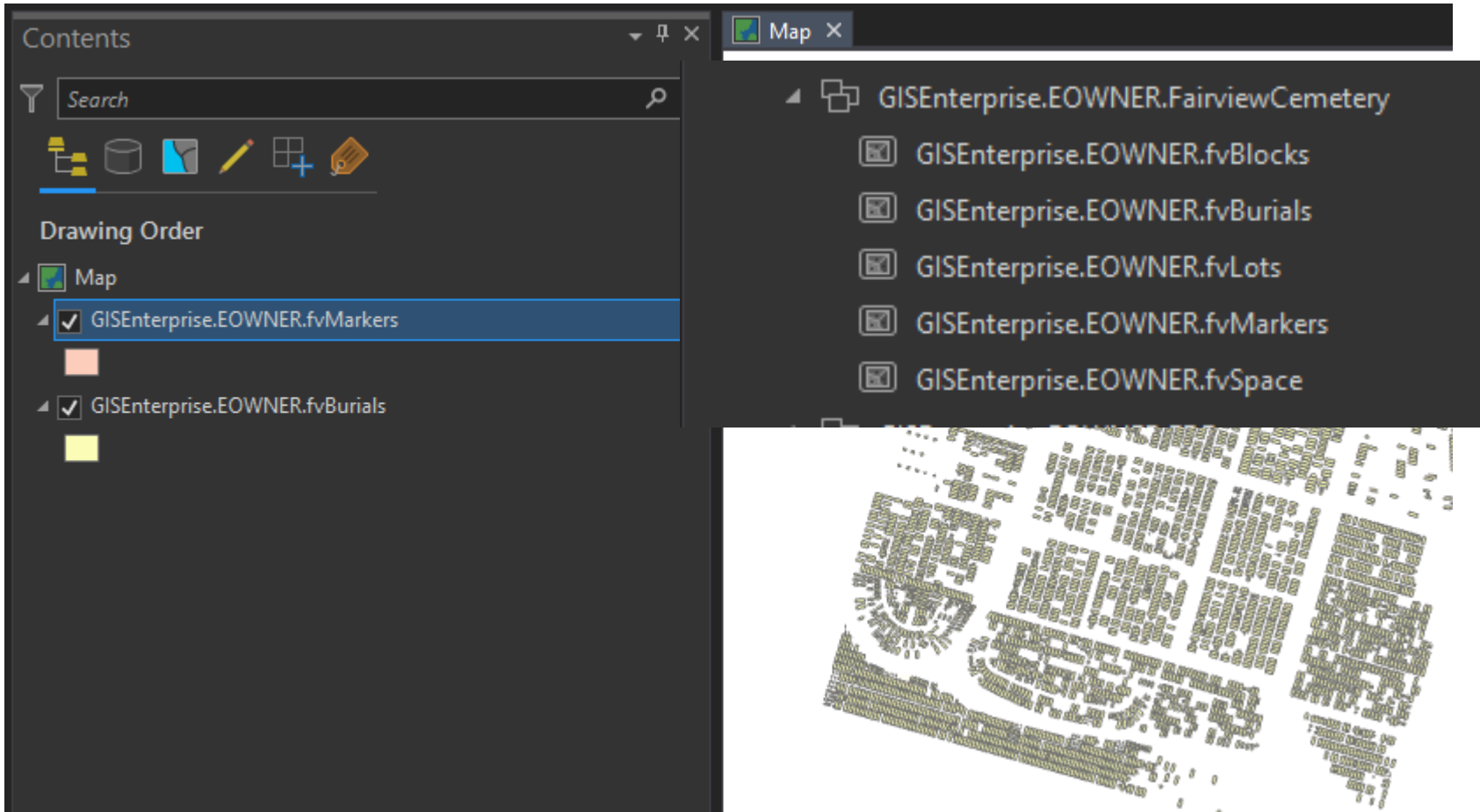


Deep Dive
(Unpacking)



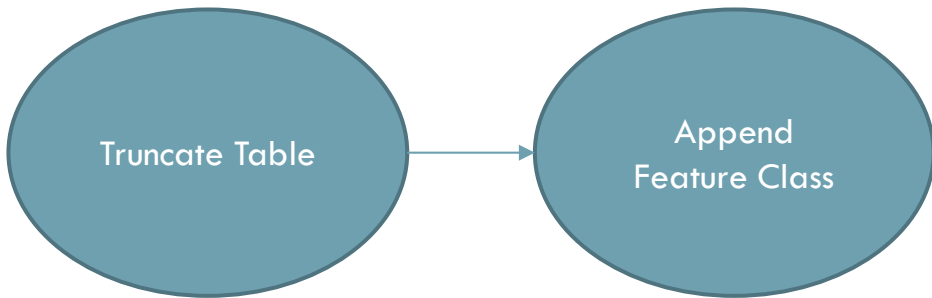
Step aside let the “Pythons” take over

Data is all Processed “Time for Production”



Step aside let the “Pythons” take over

Data is all Processed “Time for Production”



```
print ("start burials")
#----
SDElayer = connStr+ "\\ " "GISEnterprise.EOWNER.fvBurials"
print ("get connections!")
env.workspace = SDElayer
arcpy.TruncateTable_management(SDElayer)

# set for append
subtype = ""
fieldMappings = ""
schemaType = "NO_TEST"

IN_TABLE = the_gdb + "\\ " + "burialsP"
arcpy.Append_management(IN_TABLE, SDElayer, schemaType,)

print ("end burials")
#----
```



Deep Dive
(Update Layers)



Step aside let the “Pythons” take over

Now I have Shapes.... Need “space data”

(Customers Table) – Included in the zip file

‘CUSTOMERS.csv’ – Needs reformatting for a clean burial search

Lets use Arcade!

```
tblGDB = arcpy.env.scratchGDB

csvtable = path + "\\\" + 'CUSTOMERS.csv'
print (csvtable)

print (tblGDB)

outPath = tblGDB

arcpy.TableToTable_conversion(in_rows=csvtable, out_path=outPath, out_name="CUSTOMERSgdb",)
IN_TABLE = outPath + "\\\" + "CUSTOMERSgdb"

arcpy.AddField_management(IN_TABLE, "FullName", "Text", 200)
arcpy.management.CalculateField(IN_TABLE, "FullName", "Concatenate($feature.lname, ', ', $feature.fname)", "ARCADE", '')
print ("..calc full name")

#arcpy.Append_management(IN_TABLE, SDElayer, schemaType,)
arcpy.Append_management(inputs=IN_TABLE, target=SDElayer, schema_type="NO_TEST", field_mapping='Customer_ID "Customer_ID"')
print ("uploaded customers")
```



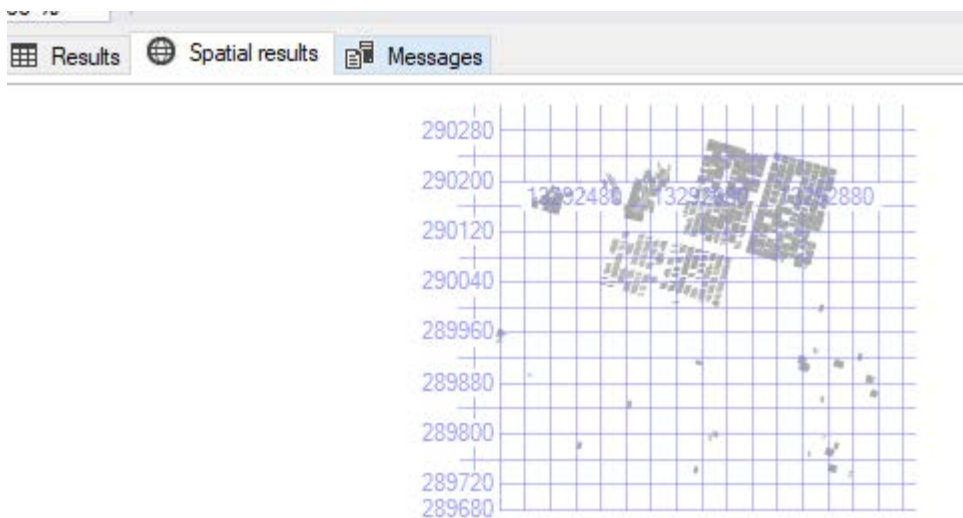
Step aside let "SQL" take over

Connect Customer Data to Burial Spaces -
Use a Spatial View – Register as Polygon



Burial Customers

Burial Shapes



SQLGIS.GISEnterpri...BurialCustomerInfo

b

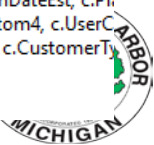
- * (All Columns)
- OBJECTID
- Shape
- GDB_GEOMATTR_DATA
- BURIAL_ID

c

- Newsletter
- WarRemarks
- Remarks

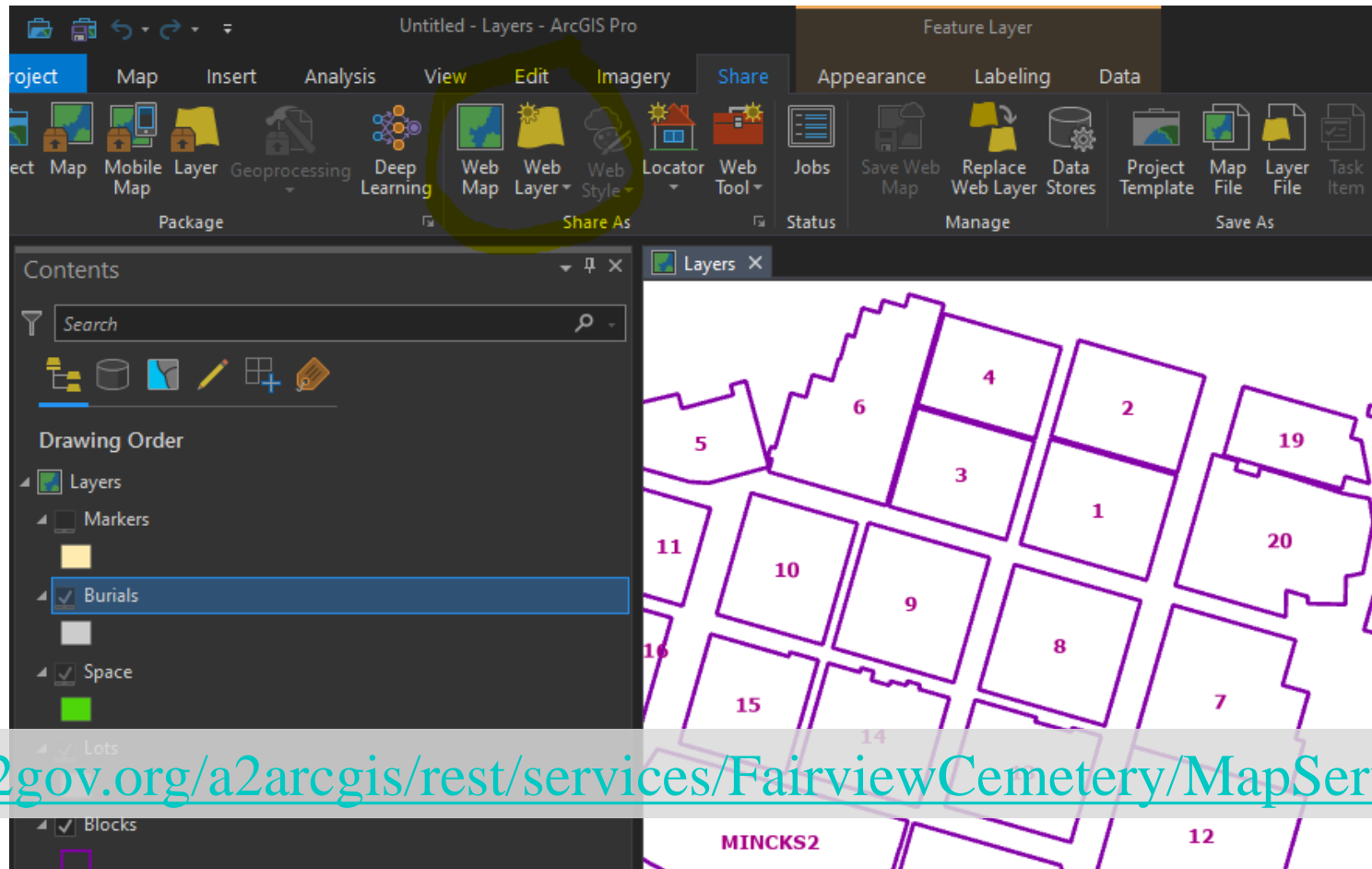
Column	Alias	Table	Outp...	Sort Type	Sort Order	Filter	Or...	Or...	Or...
OBJECTID		b	<input checked="" type="checkbox"/>						
Shape		b	<input checked="" type="checkbox"/>						
BURIAL_ID		b	<input checked="" type="checkbox"/>						
CUSTOMER_I	CUSTO...	b	<input checked="" type="checkbox"/>						

```
SELECT b.OBJECTID, b.Shape, b.BURIAL_ID, b.CUSTOMER_I AS CUSTOMERID, b.SPACE_ID, c.Lname, c.Fname, c.Sex, c.MaidenName, c.Religion, c.Modifier, c.Address1, c.FaxNumber, c.Email, c.SSN, c.BirthDateEst, c.MaritalStatus, c.Veteran, c.WarType_ID, c.BranchOfService_ID, c.Deceased, c.DateOfDeath, c.DeathDateEst, c.Pl, c.MarriedDate, c.RESIDENT, c.Rank, c.MDateEst, c.DDateEst, c.BDateEst, c.DateEnterEst, c.DateDisEst, c.UserCustom1, c.UserCustom3, c.UserCustom4, c.UserC, c.AKAlast, c.prevAddress1, c.prevAddress2, c.prevCity, c.prevState, c.prevZip, c.causeOfDeath, c.Age, c.ZipCode, c.DateOfBirth, c.UserCustom2, c.CustomerT, eowner.FVBURIALS AS b LEFT OUTER JOIN eowner.FVCUSTOMERINFO AS c ON b.CUSTOMER_I = c.Customer_ID
```



Time to Host It!

Compiled Data Hosted as a *public service* on ArcServer (10.8.1)



<https://a2maps.a2gov.org/a2arcgis/rest/services/FairviewCemetery/MapServer>



Web Map Design

AGOL Used for the Map/Popup Design

Home ▾ AnnArborCemetery [✎](#)

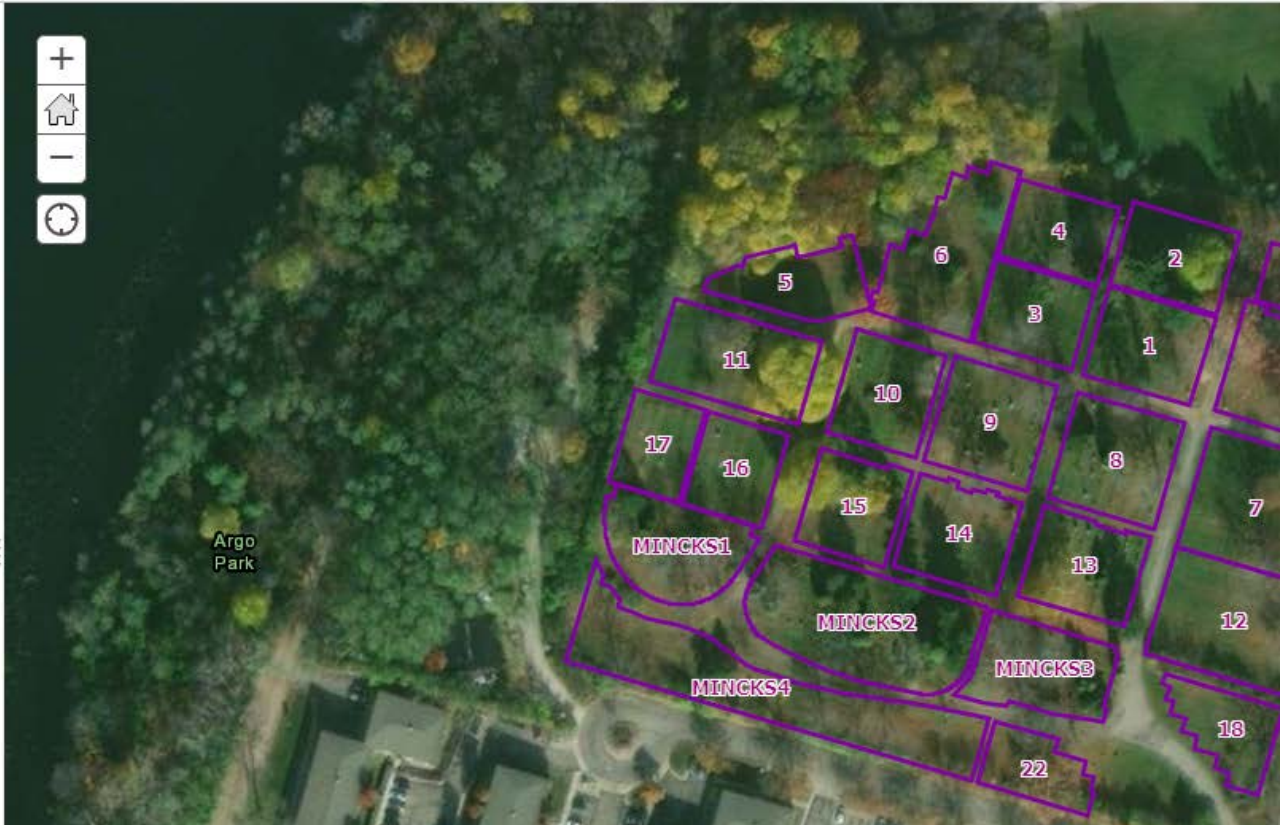
[Open in new Map Viewer](#) [Ne](#)

Details Add ▾ Basemap Analysis Save ▾ Share Print ▾ Directions Measure Bookmarks Find address:

About Content Legend

Contents

- Markers
- Burials
- Space Available
- Lots
- Blocks
- ▶ Imagery



Map navigation controls: +, Home, -, Clock



(1 of 2)

Perkins, J. Milton

Full Name	Perkins, J. Milton
Last Name	Perkins
Maiden Name	
Marital Status	
Sex	M
Age	76
Date of Birth	1/1/1840
Date of Death	2/24/1916
Veteran	Yes
War Remarks	
Remarks	

[Zoom to](#) [Get Directions](#)



Web Map Design

Space Available Query

Home ▾ AnnArborCemetery ✎

The screenshot displays an Esri web map interface for the Ann Arbor Cemetery. The top navigation bar includes 'Details', 'Add', 'Basemap', 'Analysis', 'Save', 'Share', 'Print', and 'Directions'. Below this, there are tabs for 'About', 'Content', and 'Legend'. The 'Contents' panel on the left shows several layers: 'Markers' (checked), 'Burials' (unchecked), 'Space Available' (checked), 'Lots' (checked), 'Blocks' (checked), and 'Imagery' (expanded). The 'Space Available' layer is highlighted with a green triangle. The main map area shows a grid of numbered lots (e.g., 1-14, 19-25, 31-38, 43-53, 62-73, 100-101) with a green overlay indicating available space. A vertical toolbar on the left side of the map contains icons for zooming in (+), home, zooming out (-), and a circular arrow icon.



Web Map Design

Custom Display Colors With Arcade – Veteran Status

Veteran [Edit](#)

Expression

Test

Globals

```
1 // Write a script to return a value to show in the pop-up.
2 // For example, get the average of 4 fields:
3 // Average($feature.SalesQ1, $feature.SalesQ2, $feature.SalesQ3, $feature.SalesQ4)
4
5 if ($feature.Veteran == 't'){
6     return 'Yes';
7
8 } else {
9     return 'No';
10 }
```

Burials

Veteran

No

Yes



[Configure Attributes](#)

Attribute Expressions

Adding expressions allows you to create new information from existing fields for use in pop-ups.

ADD

Veteran {expression/expr0}



Web App Builder – Developers Edition

Extend your Web Application using W.A.B. dev

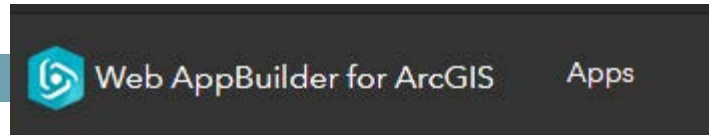
<https://developers.arcgis.com/web-appbuilder/>



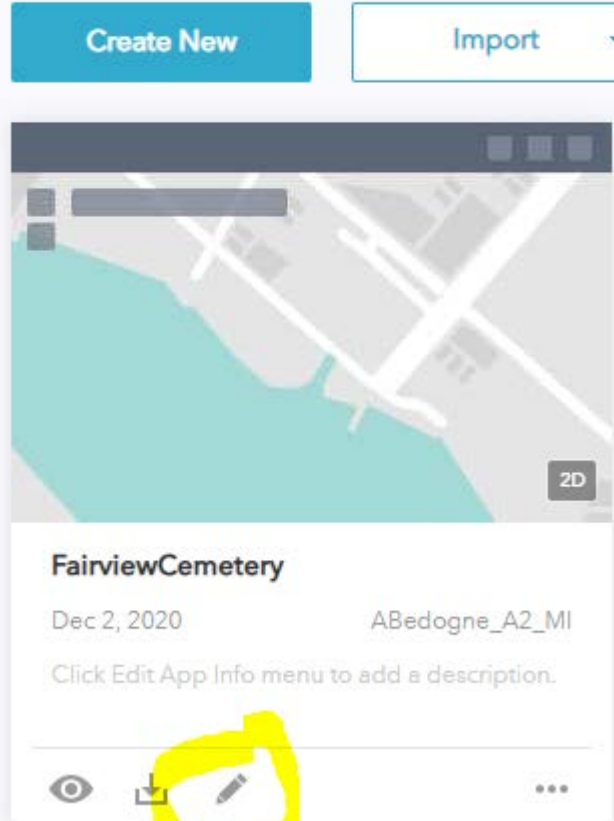
ArcGIS Web AppBuilder is an intuitive what-you-see-is-what-you-get (WYSIWYG) application that allows you to easily build web apps. It includes powerful tools to configure fully featured HTML apps. Web AppBuilder (Developer Edition) provides an extensible framework for developers to create custom widgets, themes, and functionality.



Web App Builder – Developers Edition



All 2D 3D



```
C:\> Web AppBuilder for ArcGIS
Press any key to continue . . . Server listening tcp connection on port 3344 in devel
[2021-05-10T16:00:10.809] [INFO] repo - Read repository items: C:\WebAppBuilderForArc
Server listening http connection on port 3345 in development mode
Server listening https connection on port 3346 in development mode
[2021-05-10T16:00:31.717] [INFO] repo - Read repository items: C:\WebAppBuilderForArc
[2021-05-10T16:00:34.988] [INFO] repo - Read repository items: C:\WebAppBuilderForArc
ts
[2021-05-10T16:00:39.846] [INFO] repo - Read repository items: C:\WebAppBuilderForArc
s
.....Repository items refreshed.....
[2021-05-10T16:00:58.344] [INFO] default - No token is found, redirect /webappbuilder
url
express deprecated req.param(name): Use req.params, req.body, or req.query instead re
```

Specify the URL to your ArcGIS Online organization or Portal for ArcGIS


https://a2-mi.maps.arcgis.com

Continue

Extend your Web Application using W.A.B. dev – “Sign In”



Web App Builder – Developers Edition

[Change widget icon](#)[Learn more about this widget](#)

Search source settings
Add and configure geocode services or feature layers as search sources. These specified sources determine what is searchable within the search box.

[+ Add search source](#)

Name	Layer source	Set
Burials	<input type="text" value="https://a2maps.a2gov.org/a2arcgis/rest/services/FairviewCemetery/M."/>	<input type="button" value="Set"/>

Name:

Placeholder text:

Search fields:


Display field:

Maximum suggestions:

Maximum results:

Set search fields

<input type="checkbox"/> OBJECTID	<input type="checkbox"/> BURIAL_ID	<input type="checkbox"/> CUSTOMERID
<input checked="" type="checkbox"/> Lname	<input type="checkbox"/> Fname	<input type="checkbox"/> FullName
<input type="checkbox"/> Sex	<input checked="" type="checkbox"/> MaidenName	<input type="checkbox"/> Religion
<input type="checkbox"/> MaritalStatus	<input type="checkbox"/> Veteran	<input type="checkbox"/> BranchOfService_ID
<input type="checkbox"/> DATEOFBIRTH	<input type="checkbox"/> DateOfDeath	<input type="checkbox"/> AGE
<input type="checkbox"/> WarRemarks	<input type="checkbox"/> REMARKS	<input type="checkbox"/> Shape



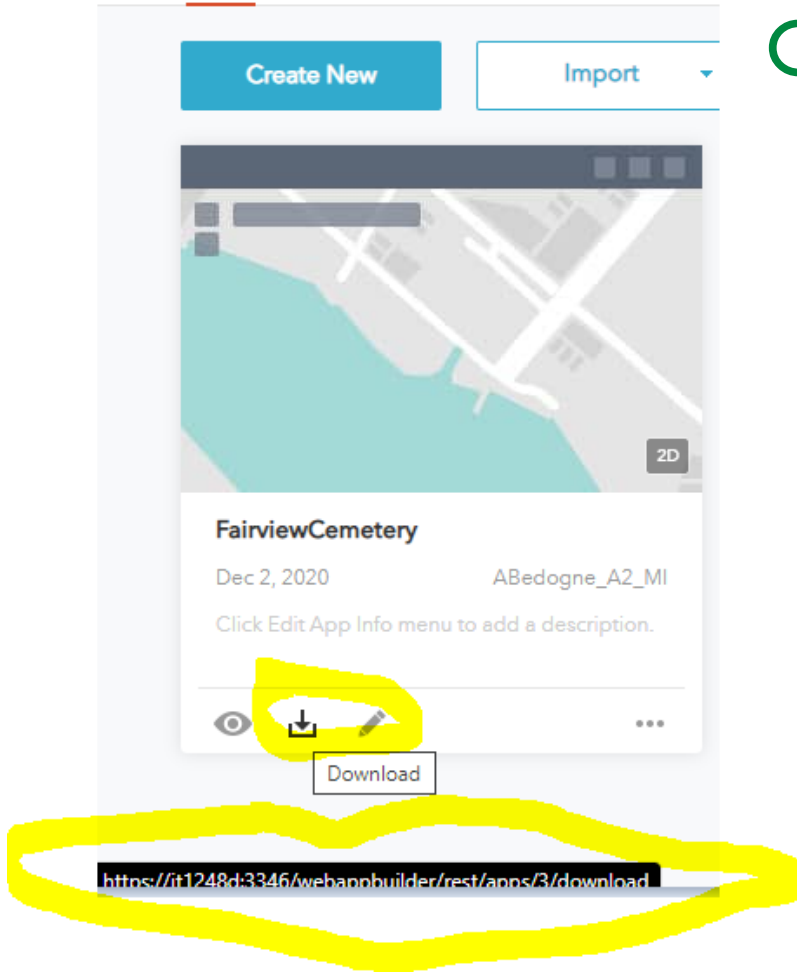
THE SCIENCE OF WHERE™

Extend your Web Application using W.A.B. dev – Customized Widgets



Web App Builder – Developers Edition

Compile your web application into source code



The screenshot shows a file explorer window titled 'Extract 10'. The path is 'WebAppBuilderForArcGIS_2_15-AGO > server > apps > zips > 3.zip'. The contents of the zip file are listed in a table:

Name	Type	Compressed size	Password ...
configs	File folder		
dynamic-modules	File folder		
images	File folder		
jimu.js	File folder		
libs	File folder		
themes	File folder		
widgets	File folder		
.jshintignore	JSHINTIGNORE File	1 KB	No
.jshintrc	JSHINTRC File	3 KB	No
3rd-party-license.txt	Text Document	7 KB	No
appinfo.json	JSON File	1 KB	No
config.json	JSON File	2 KB	No
config-readme.txt	Text Document	5 KB	No
env.js	JavaScript File	5 KB	No
index.html	Chrome HTML Document	2 KB	No
init.js	JavaScript File	3 KB	No
readme.html	Chrome HTML Document	2 KB	No
simpleLoader.js	JavaScript File	2 KB	No
web.config	XML Configuration File	1 KB	No



Web App Builder – Developers Edition

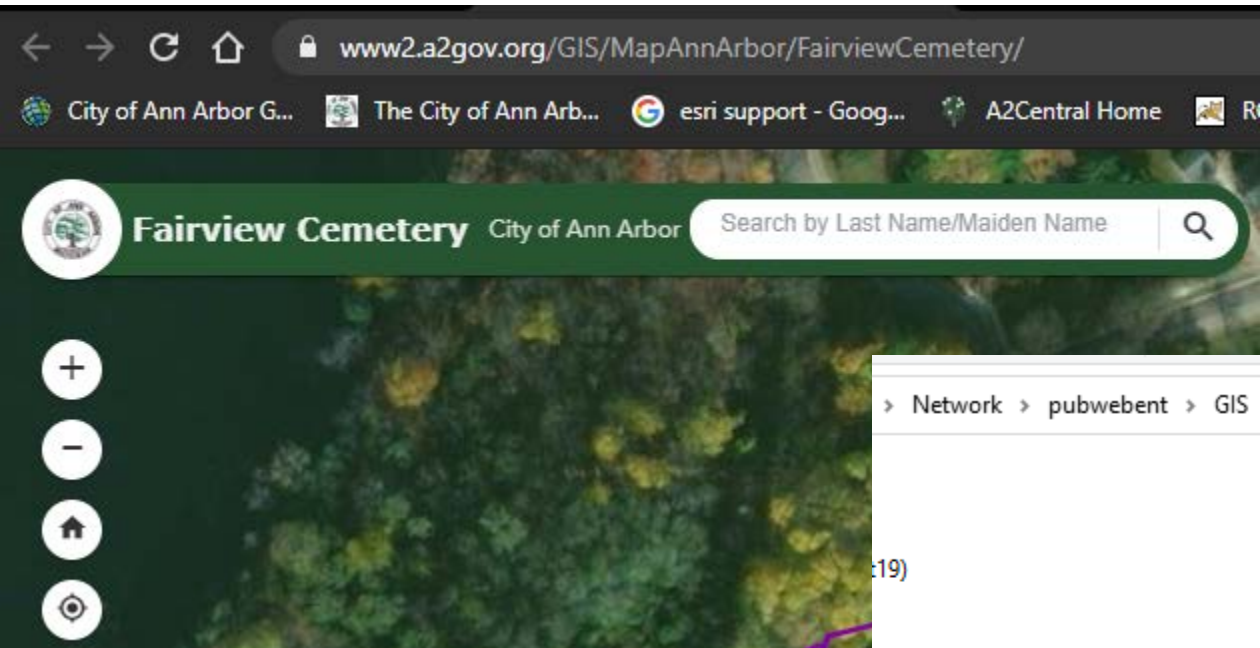
Extend your application by adding 'Google Analytics' Metric Tracking

```
virtual-dirs.xml x index.html x
49 // var progress;
50 // function loadingCallback(url, i, count) {
51 //   var loading = document.getElementById('main-loading-bar');
52 //   loading.setAttribute('title', url);
53 //   if(!progress){
54 //     progress = document.createElement('div');
55 //     progress.setAttribute('class', 'loading-progress');
56 //     loading.appendChild(progress);
57 //   }
58 //   progress.style.width = (((i - 1)/count) * 100) + '%';
59 // }
60 </script>
61
62 <!-- Global site tag (gtag.js) - Google Analytics -->
63 <script async src="https://www.googletagmanager.com/gtag/js?id=UA-930291-1"></script>
64 <script>
65   window.dataLayer = window.dataLayer || [];
66   function gtag(){dataLayer.push(arguments);}
67   gtag('js', new Date());
68
69   gtag('config', 'UA-930291-1');
70 </script>
71
72 </head>
73
```

Name	Date
configs	12/
dynamic-modules	12/
images	12/
jimu.js	12/
libs	12/
themes	12/
widgets	12/
.jshintignore	12/
.jshintrc	12/
3rd-party-license.txt	12/
appinfo.json	12/
config.json	12/
config-readme.txt	12/
env.js	12/
index.html	12/
index.html.old	2/2
init.js	12/
readme.html	12/
readme_sitenotes.txt	12/
simpleLoader.js	12/
web.config	12/

Web App Builder – Developers Edition

Save the final source code on a web server and host your own application!



Network > pubwebent > GIS > MapAnnArbor

Name	Date modified	Type
3DAnnArbor	11/6/2020 12:42 PM	File folder
ChampionTreeTour	11/6/2020 12:42 PM	File folder
CIP_dev	11/6/2020 12:43 PM	File folder
CityOwnedProperty	11/6/2020 12:43 PM	File folder
DeerManagement	11/6/2020 12:43 PM	File folder
FairviewCemetery	12/2/2020 1:32 PM	File folder
Floodplain	2/10/2021 3:10 PM	File folder
Geocache	11/6/2020 12:44 PM	File folder
MedicalMarijuana	11/6/2020 12:45 PM	File folder
NaturalFeatures	2/10/2021 3:08 PM	File folder
PropertyMailing	11/6/2020 12:45 PM	File folder
PublicArt	11/6/2020 12:46 PM	File folder

Web Metrics

- Acquisition
- Behavior
 - Overview
 - Behavior Flow
- Site Content
 - All Pages
 - Content Drilldown
 - Landing Pages
 - Exit Pages
- Site Speed
- Site Search
- Events
- Publisher
- Experiments
- Conversions
- Attribution BETA
- Discover
- Admin

Content Drilldown ✓

SAVE EXPORT SHARE EDIT INSIGHTS

ALL » PAGE PATH LEVEL 1: /gis/ » PAGE PATH LEVEL 2: /mapannarbor/ » PAGE PATH LEVEL 3: /fairviewcemetery/

May 1, 2020 - May 1, 2021

All Users
10.80% Pageviews

+ Add Segment

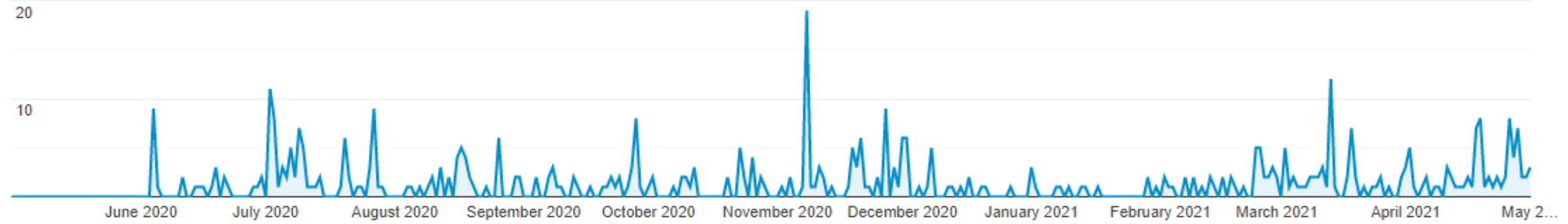
Explorer

Pageviews vs. Select a metric

Day Week Month



Pageviews



Primary Dimension: Page path level 4 Page Other

Secondary dimension Sort Type: Default

advanced [Grid] [List] [Filter] [Columns]

Page path level 4	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	467 % of Total: 10.80% (4,324)	369 % of Total: 10.79% (3,419)	00:06:45 Avg for View: 00:04:04 (66.22%)	83.11% Avg for View: 87.40% (-4.91%)	78.16% Avg for View: 78.38% (-0.28%)

Web Metrics

- Acquisition
- Behavior
 - Overview
 - Behavior Flow
- Site Content
 - All Pages
 - Content Drilldown
 - Landing Pages
 - Exit Pages
- Site Speed
- Site Search
- Events
- Publisher
- Experiments
- Conversions
- Attribution ^{BETA}
- Discover
- Admin

Content Drilldown ✓

SAVE EXPORT SHARE EDIT INSIGHTS

ALL » PAGE PATH LEVEL 1: /gis/ » PAGE PATH LEVEL 2: /mapannarbor/ » PAGE PATH LEVEL 3: /fairviewcemetery/

Apr 1, 2021 - May 1, 2021

All Users
8.37% Pageviews

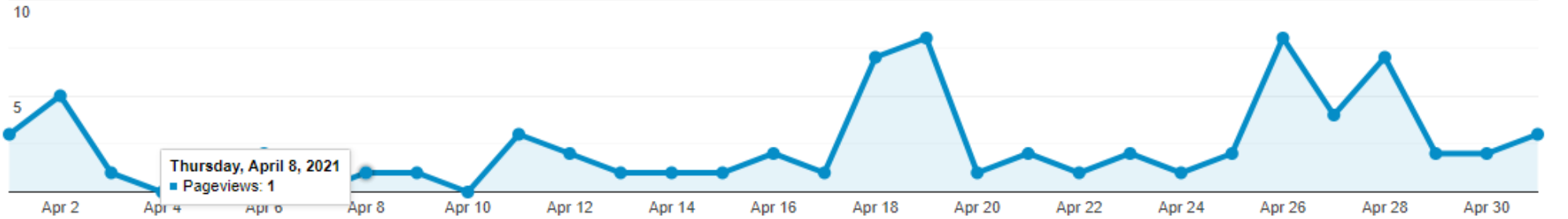
+ Add Segment

Explorer

Pageviews vs. Select a metric

Day Week Month

Pageviews






Primary Dimension: Page path level 4 Page Other

Secondary dimension Sort Type: Default






advanced

Page path level 4	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
	75 % of Total: 8.37% (896)	65 % of Total: 10.66% (610)	00:08:09 Avg for View: 00:02:30 (226.52%)	84.62% Avg for View: 85.97% (-1.58%)	85.33% Avg for View: 67.63% (26.17%)
1. /	75(100.00%)	65(100.00%)	00:08:09	84.62%	85.33%

Web Metrics

Page path level 4 ?	Source ?	Pageviews ? ↓	Unique Pageviews ?	Avg. Time on Page ?	Bounce Rate ?	% Exit ?
		75 % of Total: 8.37% (896)	65 % of Total: 10.66% (610)	00:08:09 Avg for View: 00:02:30 (226.52%)	84.62% Avg for View: 85.97% (-1.58%)	85.33% Avg for View: 67.63% (26.17%)
1.  /	a2gov.org	49 (65.33%)	40 (61.54%)	00:08:07	77.50%	79.59%
2.  /	(direct)	20 (26.67%)	20 (30.77%)	00:00:00	100.00%	100.00%
3.  /	google	6 (8.00%)	5 (7.69%)	00:08:27	80.00%	83.33%

Show rows: Go to: 1 - 3 of 3 < >

Page path level 4 ?	Browser ?	Pageviews ? ↓	Unique Pageviews ?	Avg. Time on Page ?	Bounce Rate ?	% Exit ?
		75 % of Total: 8.37% (896)	65 % of Total: 10.66% (610)	00:08:09 Avg for View: 00:02:30 (226.52%)	84.62% Avg for View: 85.97% (-1.58%)	85.33% Avg for View: 67.63% (26.17%)
1.  /	Chrome	61 (81.33%)	53 (81.54%)	00:08:23	86.79%	86.89%
2.  /	Edge	8 (10.67%)	6 (9.23%)	00:00:28	66.67%	75.00%
3.  /	Safari	3 (4.00%)	3 (4.62%)	00:21:36	66.67%	66.67%
4.  /	Android Webview	2 (2.67%)	2 (3.08%)	00:00:00	100.00%	100.00%
5.  /	Firefox	1 (1.33%)	1 (1.54%)	00:00:00	100.00%	100.00%





map Ann Arbor

Questions?

Tony Bedogne, GISP – abedogne@a2gov.org

