Software Development Samples

Jayashree Surendrababu
https://github.com/sjayashree01

Overview 2018-2020

Technologies Used

- Java, JDBC
- ArcGIS Desktop/Server
- ABB SOAP Services
- ArcObjects SDK
- PostGreSQL
- Oracle SQL
- SQL Server for Azure

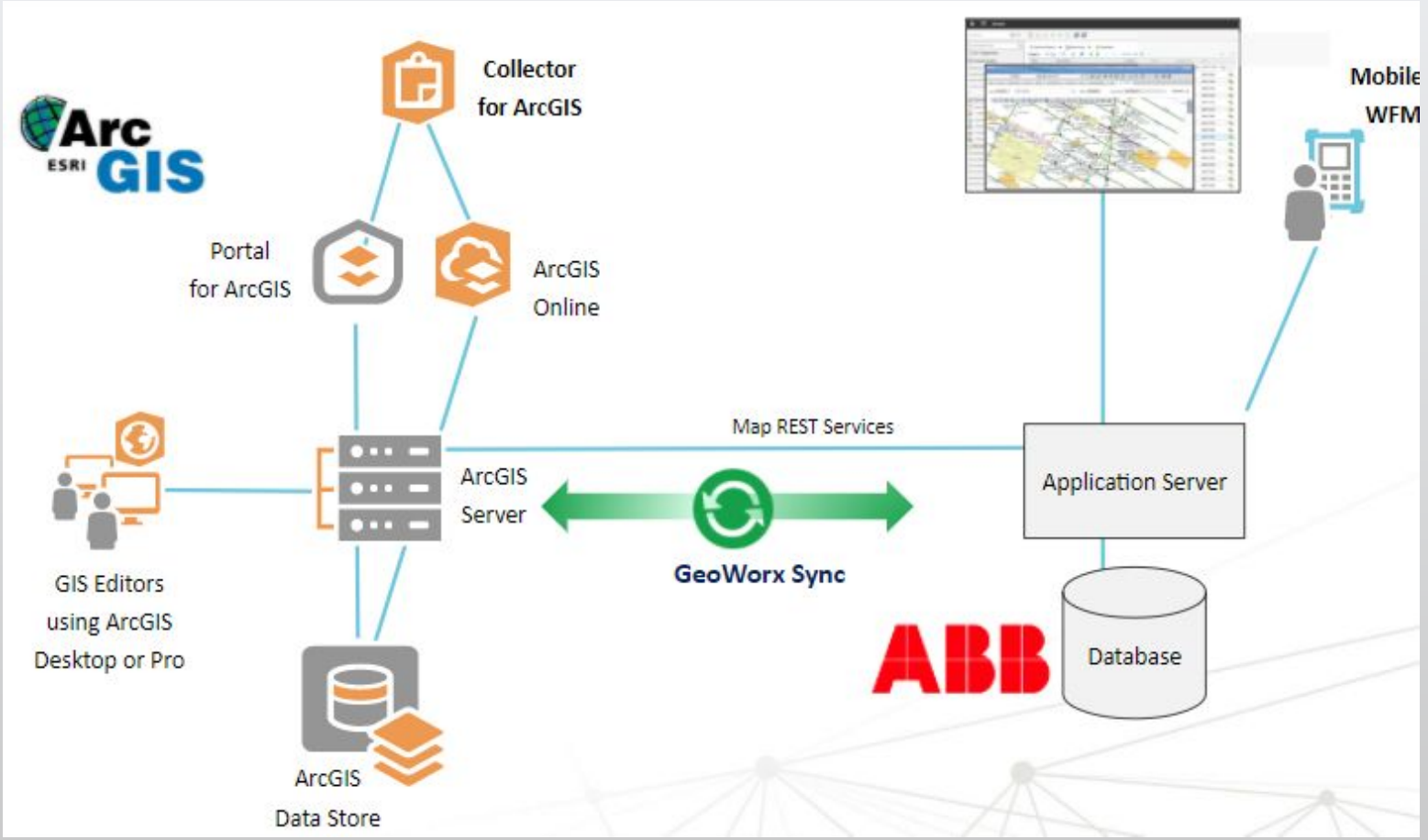
Organization

Software Developer at Geonexus

Purpose:
Build GeoWorx Sync product and GeoNexus Integration Platforms for GIS, ABB Ellipse, ABB AssetSuite and ArcFM

Team Size for Dev and QA/QC: 9

My contribution: Lead developer



Overview 2016-18

Technologies Used

- GeoServer
- ArcGIS Business Analyst,
- QGIS
- ArcGIS REST API,
- JavaScript frameworks
- AWS
- Python
- Netezza

Organization

Sr Market Planning Developer at Petco

Overview 2015-16

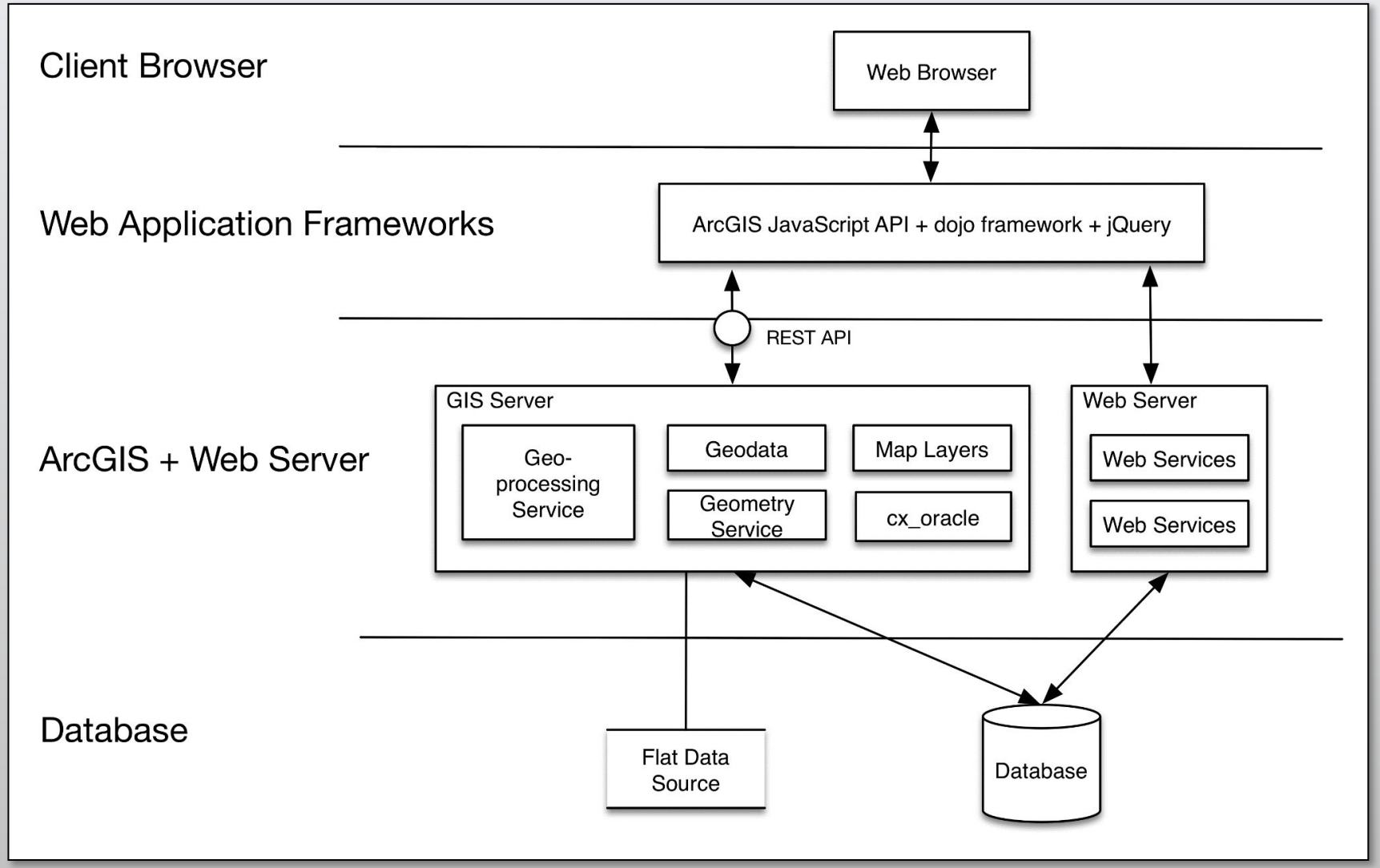
Technologies Used

- ArcGIS Desktop/Server, ArcGIS REST API
- ArcObjects SDK
- jQuery, AngularJS
- C#
- Python

Organization

GIS Programmer at Langan Engineering and Environmental Services, Inc.

Application Architecture



Application Examples

Desktop:

- Contour Generation Plugin for ArcMap – To avoid using Spatial Analyst Licenses
- Auto Spell Check for ArcGIS Desktop 10.1
- Custom Solar Heat Map generator for ArcMap
- GPS Geometry Conversion tools for ArcMap

Web/Mobile Applications:

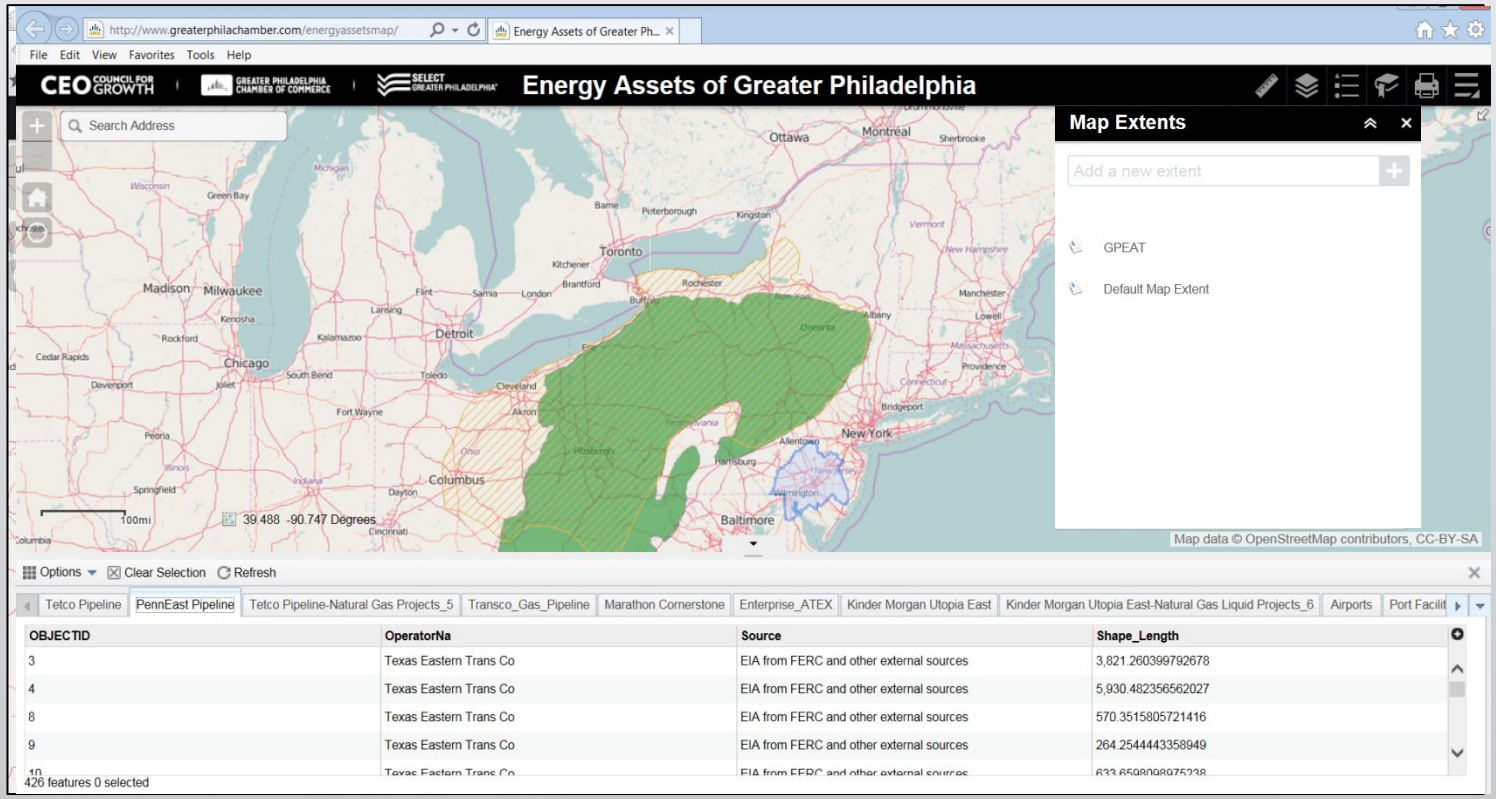
- Site Analyzers
- Network apps for telecom and water utilities
- Field mobility apps for asset management/tracking
- Greater Philadelphia Chamber of Commerce

Consulting/Business Development:

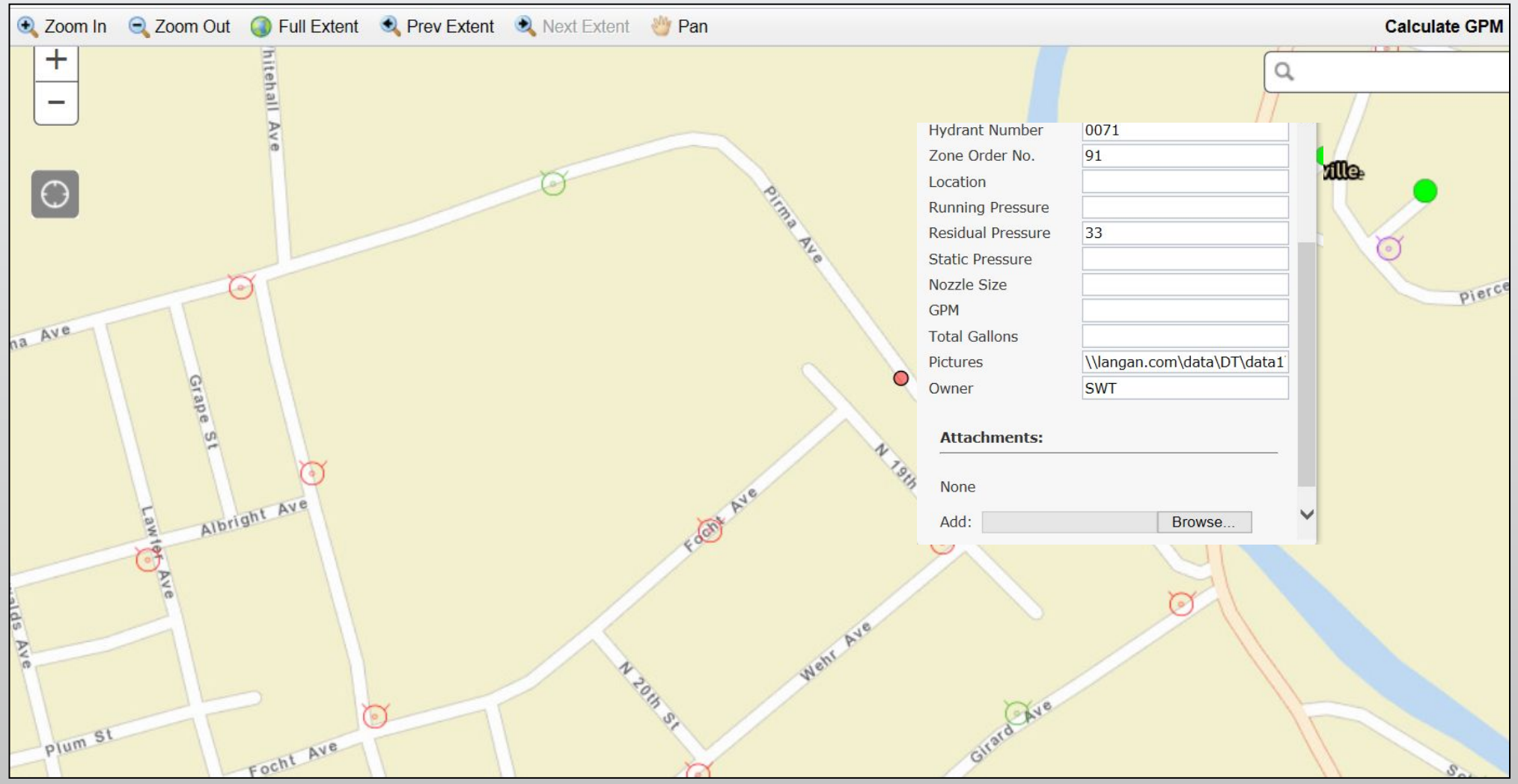
- Business Development (RFQs, RFPs, Conferences and Tech Talks)
- GIS Training & Consultancy for Clients

Greater Philly Chamber of Commerce

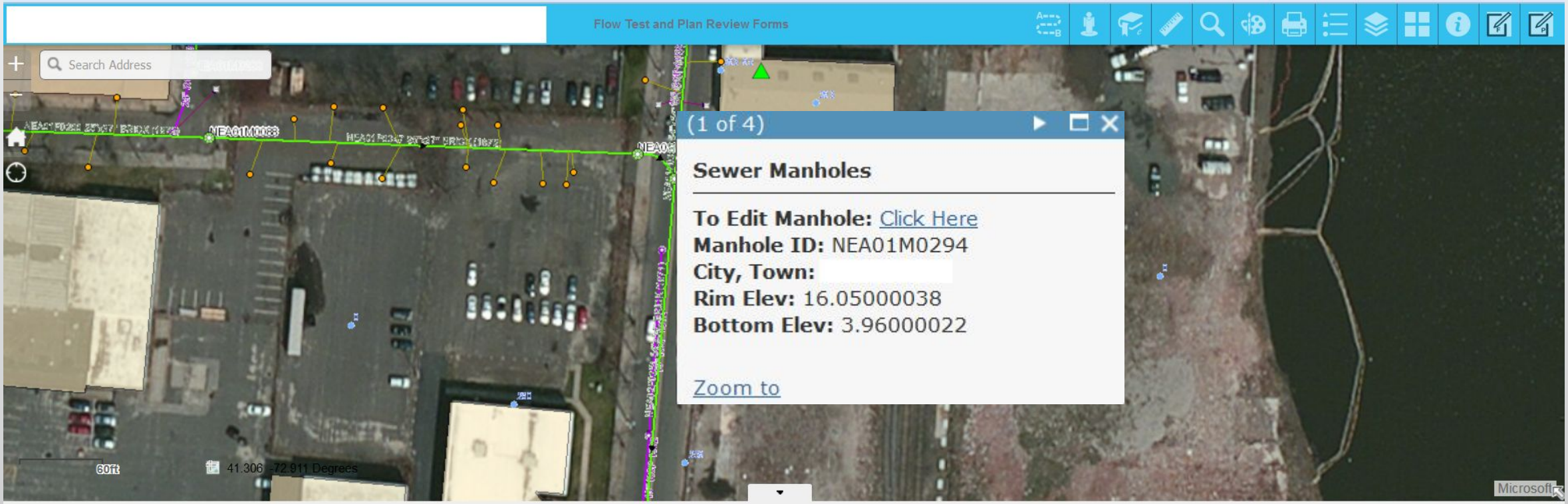
- **Purpose:** Web and Mobile App for Greater Philadelphia Energy Action Team
- **Team Size:** 15
- **My contribution:** Lead developer



Hydrant App: GPM Calculator



Field Inspection Form

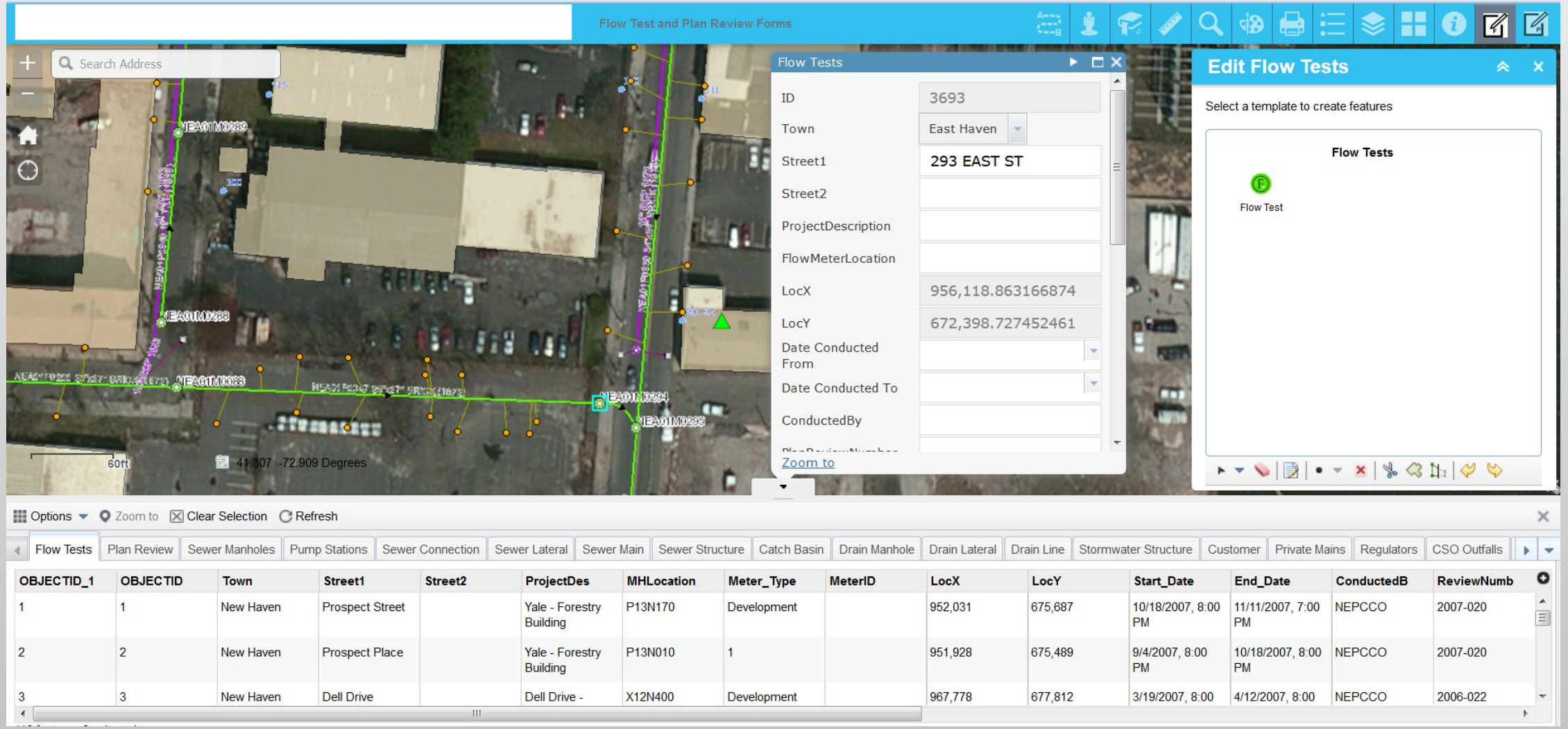


Options | Zoom to | Clear Selection | Refresh

Flow Tests | Plan Review | Sewer Manholes | Pump Stations | Sewer Connection | Sewer Lateral | Sewer Main | Sewer Structure | Catch Basin | Drain Manhole | Drain Lateral | Drain Line | Stormwater Structure | Customer | Private Mains | Regulators | CSO Outfalls

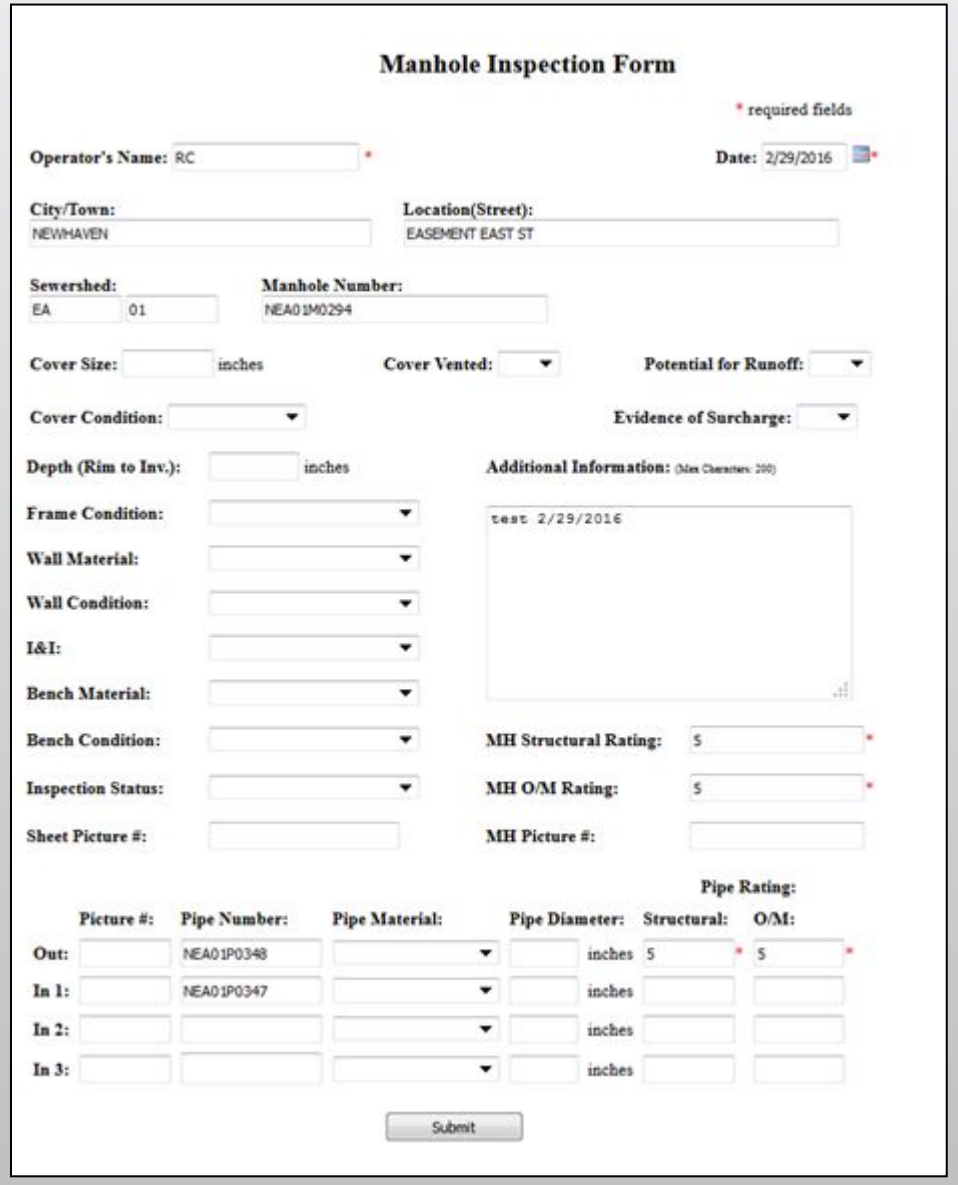
OBJECTID_1	OBJECTID	Town	Street1	Street2	ProjectDes	MHLocation	Meter_Type	MeterID	LocX	LocY	Start_Date	End_Date	ConductedB	ReviewNumb
1	1	New Haven	Prospect Street		Yale - Forestry Building	P13N170	Development		952,031	675,687	10/18/2007, 8:00 PM	11/11/2007, 7:00 PM	NEPCCO	2007-020
2	2	New Haven	Prospect Place		Yale - Forestry Building	P13N010	1		951,928	675,489	9/4/2007, 8:00 PM	10/18/2007, 8:00 PM	NEPCCO	2007-020
3	3	New Haven	Dell Drive		Dell Drive -	X12N400	Development		967,778	677,812	3/19/2007, 8:00	4/12/2007, 8:00	NEPCCO	2006-022

Field Inspection Form



OBJECTID_1	OBJECTID	Town	Street1	Street2	ProjectDes	MHLocation	Meter_Type	MeterID	LocX	LocY	Start_Date	End_Date	ConductedB	ReviewNumb
1	1	New Haven	Prospect Street		Yale - Forestry Building	P13N170	Development		952,031	675,687	10/18/2007, 8:00 PM	11/11/2007, 7:00 PM	NEPCCO	2007-020
2	2	New Haven	Prospect Place		Yale - Forestry Building	P13N010	1		951,928	675,489	9/4/2007, 8:00 PM	10/18/2007, 8:00 PM	NEPCCO	2007-020
3	3	New Haven	Dell Drive		Dell Drive -	X12N400	Development		967,778	677,812	3/19/2007, 8:00	4/12/2007, 8:00	NEPCCO	2006-022

PDF Report Generation



Manhole Inspection Form

* required fields

Operator's Name: RC * **Date:** 2/29/2016 *

City/Town: NEWHAVEN **Location(Street):** EASEMENT EAST ST

Sewershed: EA 01 **Manhole Number:** NEA01M0294

Cover Size: inches **Cover Vented:** **Potential for Runoff:**

Cover Condition: **Evidence of Surcharge:**

Depth (Rim to Inv.): inches **Additional Information:** (Max Characters: 200)

Frame Condition:

Wall Material:

Wall Condition:

I&I:

Bench Material:

Bench Condition:

Inspection Status:

Sheet Picture #:

test 2/29/2016

MH Structural Rating: 5 *

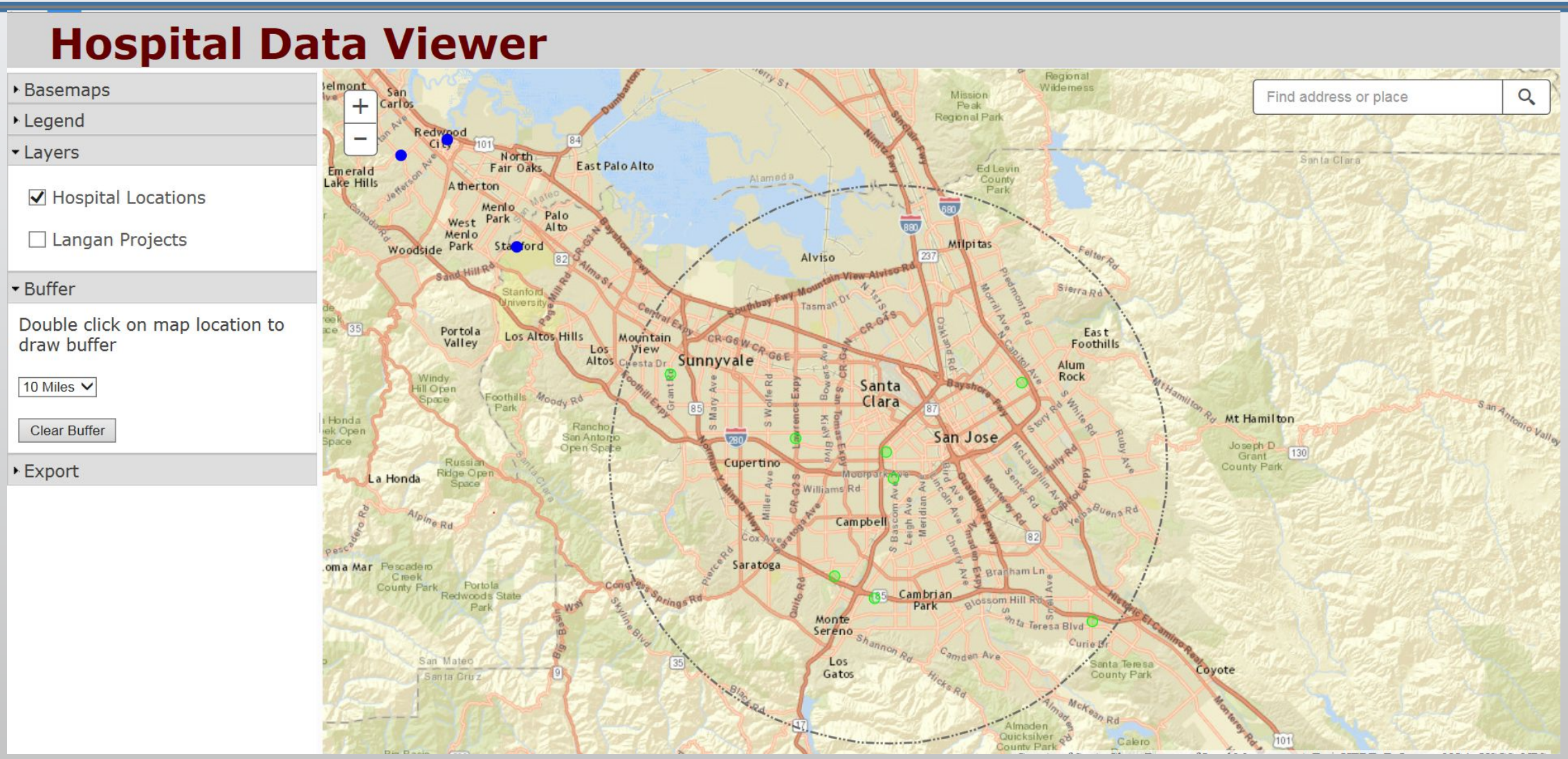
MH O/M Rating: 5 *

MH Picture #:

	Picture #:	Pipe Number:	Pipe Material:	Pipe Diameter:	Pipe Rating: Structural:	Pipe Rating: O/M:
Out:		NEA01P0348		inches	5 *	5 *
In 1:		NEA01P0347		inches		
In 2:				inches		
In 3:				inches		

Submit

Hospitals Data Viewer



Site Analyzer

NJ Site Analyzer

- Legend
- Layers
- Filter Parcels

Travel Time to Hwy (mins)

0.00 — 68.73

Showing parcels with between 0 and 69 travel time

Distance to Hwy (miles)

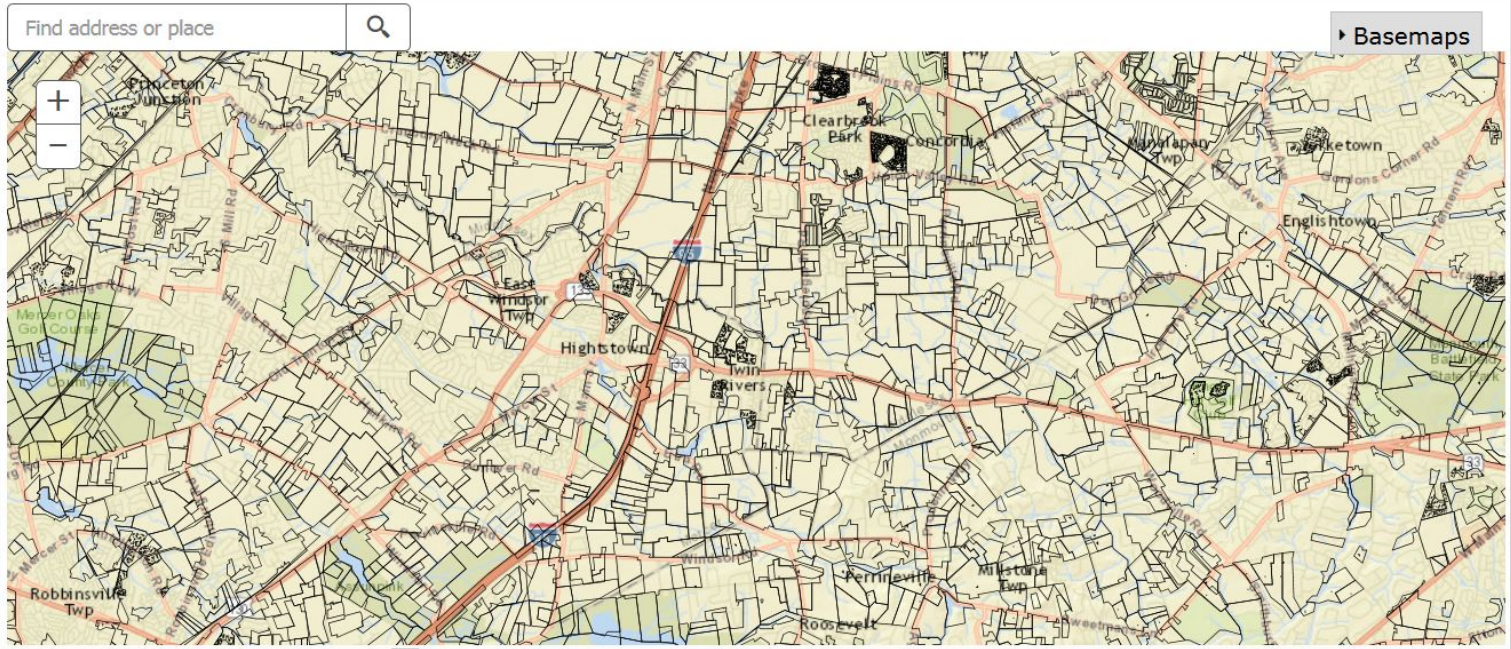
0.00 — 17.83

Showing parcels with between 0 and 17.83 highway distance

Property Acres

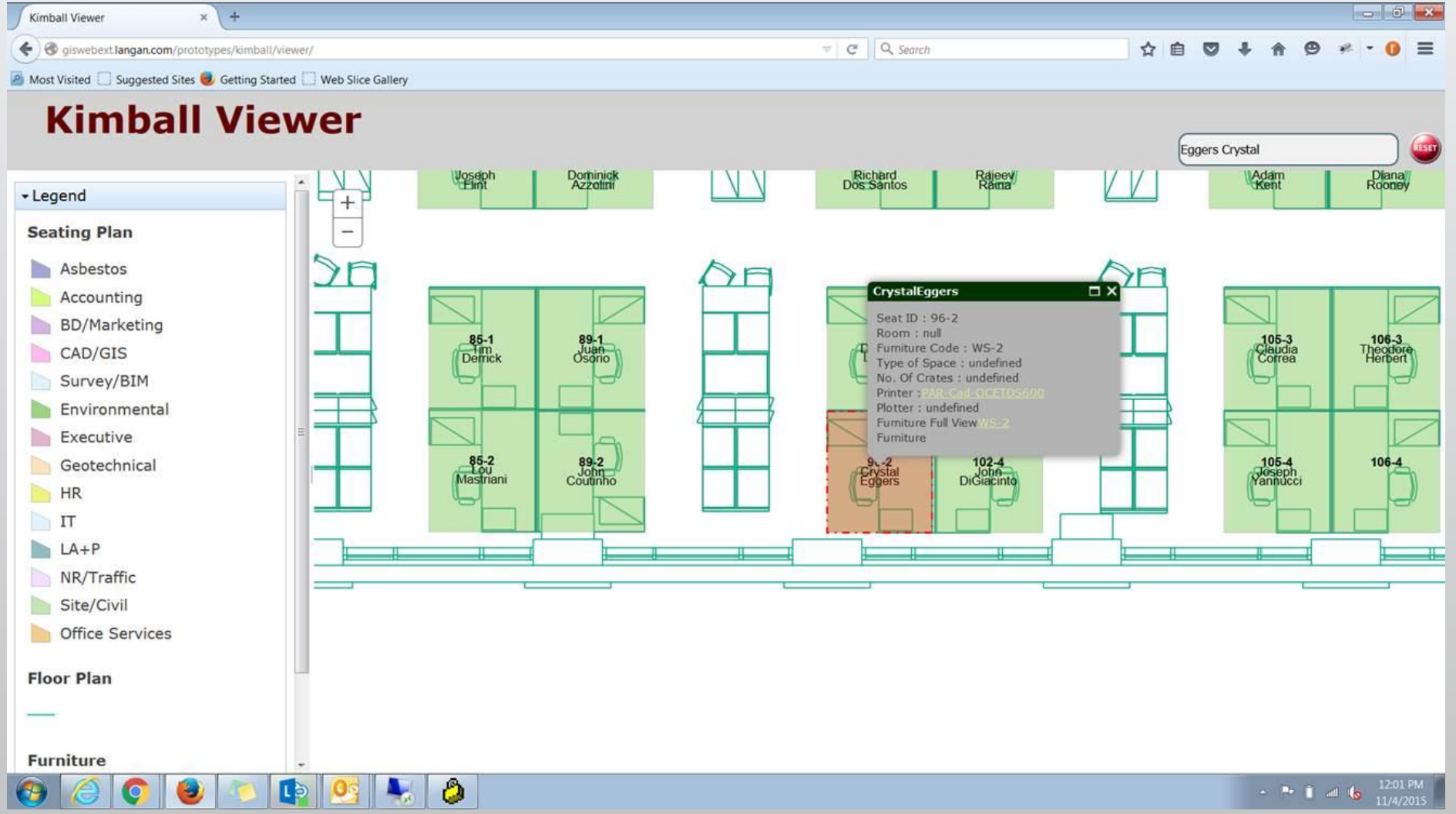
10 — 17,999.89

Showing parcels with between 10 and 18000 acres



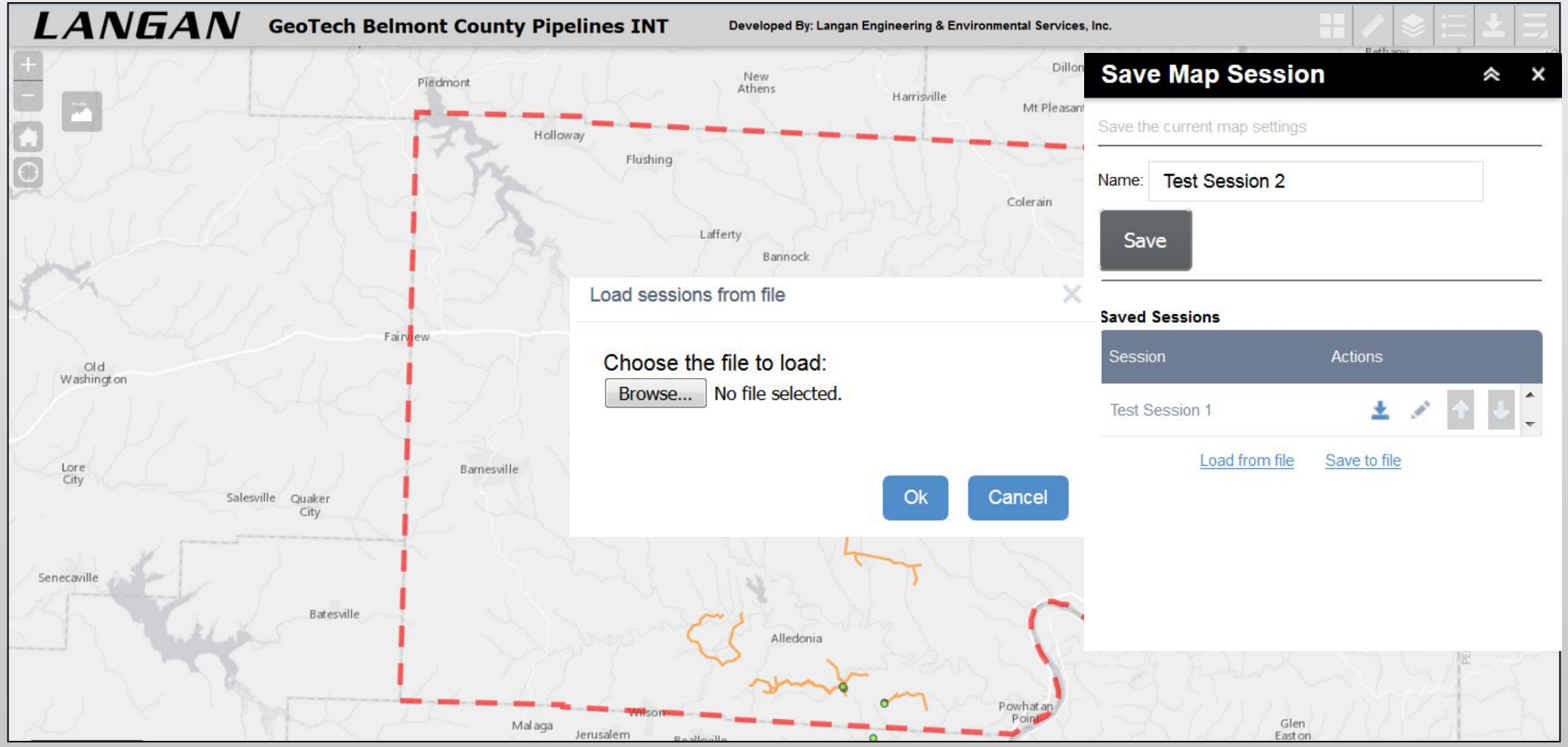
	Distance to Hwy (miles)	Travel Time to Hwy (mins)	▼ Property Acreage
	8.766756111978205	21.293524593079265	913.212902817
	0.016554365663148347	0.025373025996275583	541.558167517
	0.7916724695384535	3.822221198954184	458.360984258
	0.09128286318666402	0.11911262726054381	395.40976068
	0.725375010771857	2.16785298111316	290.363512802
	3.2871744873081523	15.870588524286548	288.004318947
	0.42223081337063045	1.7196607640117376	250.662334137

Office Seating Plan

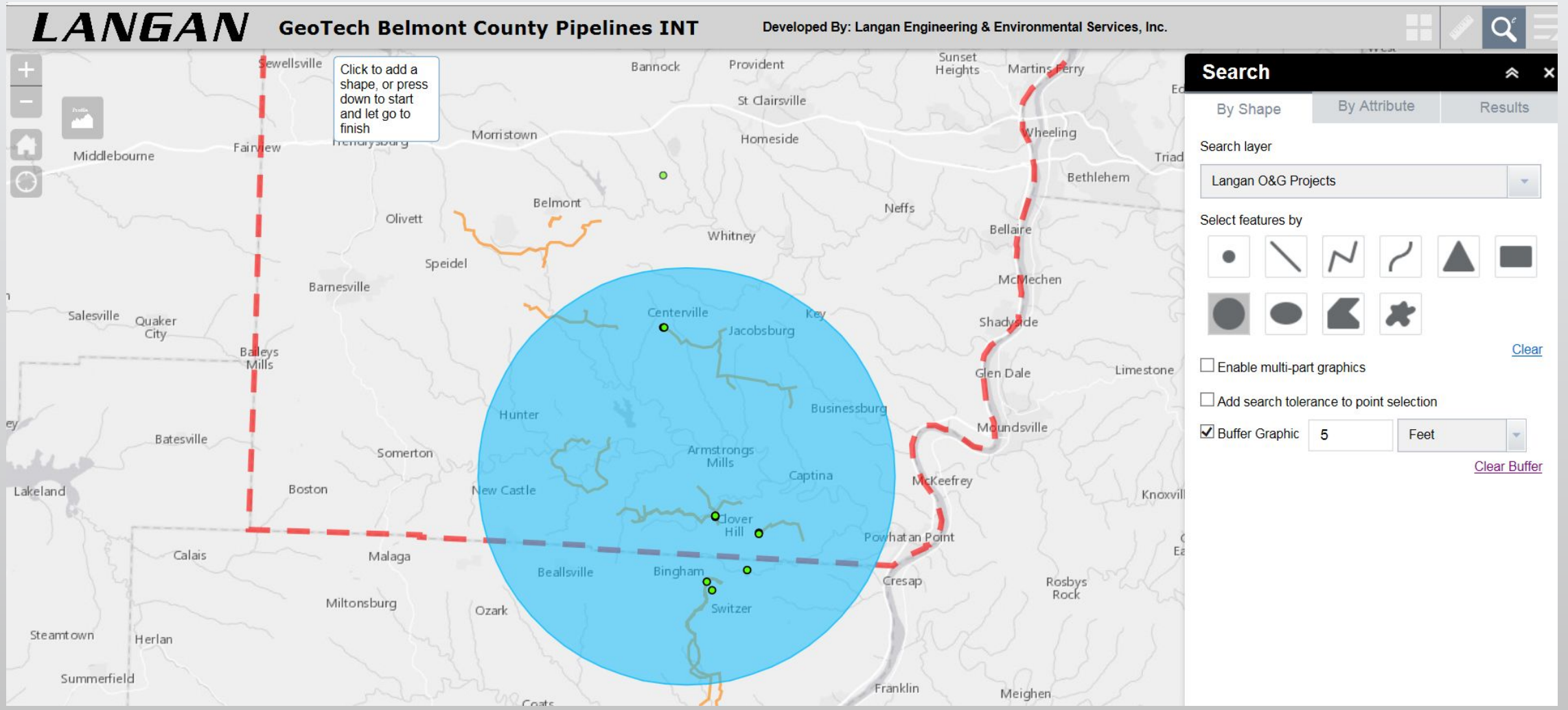


Additional Reusable Tools for Web Viewers

Save Settings



Spatial Query



Overview 2012-14

Technologies Used	Organization
ArcGIS JavaScript API, Dojo, JQuery, PHP	• Research Assistant at NDSSL, Virginia Tech
ArcGIS JavaScript API, Dojo, Jquery, ArcObjects SDK for .NET	• Summer Internship at ESRI
C#. NET, ArcObjects SDK	• I Prize, Geoleague Challenge 2013, ASPRS

Network Dynamics Simulation Science Lab, Virginia Tech

- Dynamic Behavior Visualizer - Map interaction & Behavior Plots Functionality
- Csv Plotting
- Synthetic Population Viewer
- Activities Viewer

Dynamic Behavior Visualizer

Purpose:

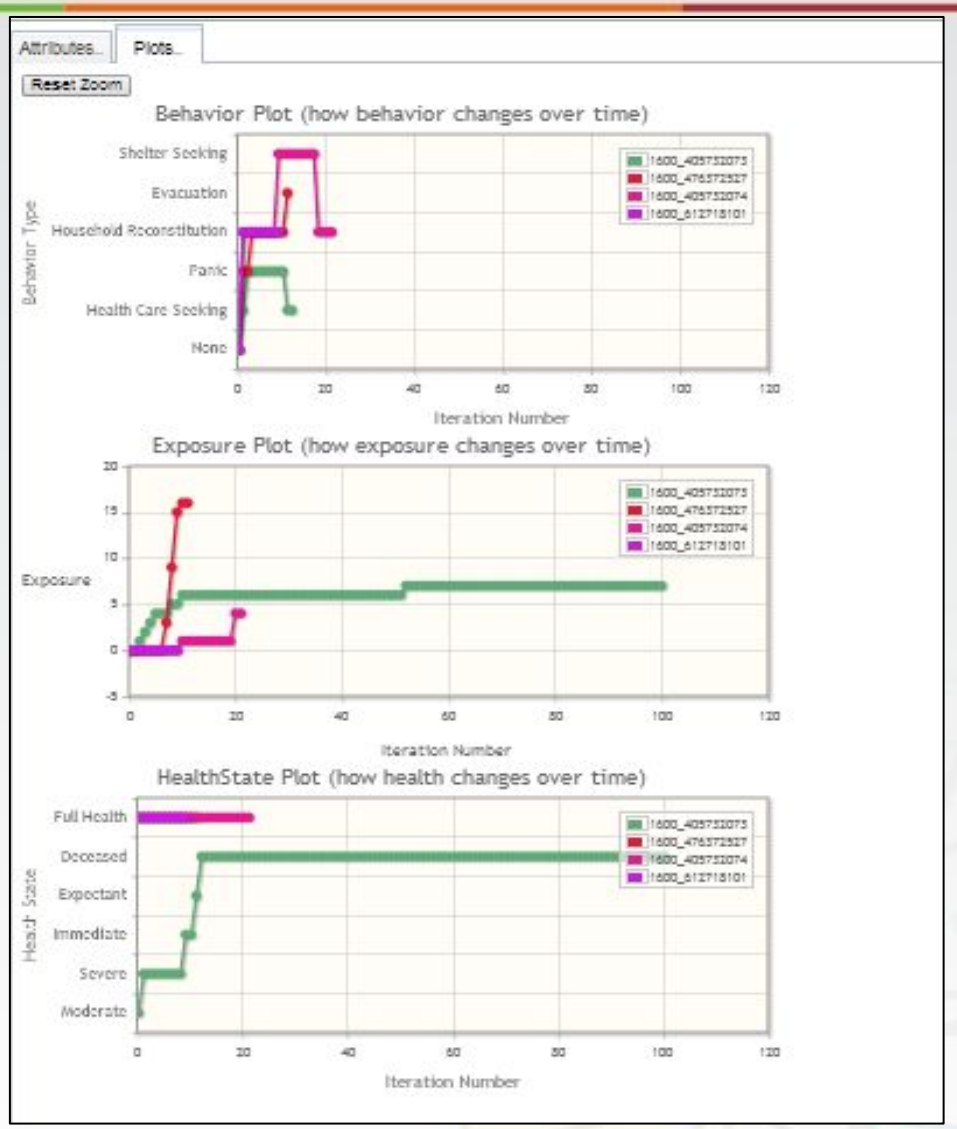
Visualize and Plot people's behavior, Health state, Interaction in a disaster simulation study

Team Size:

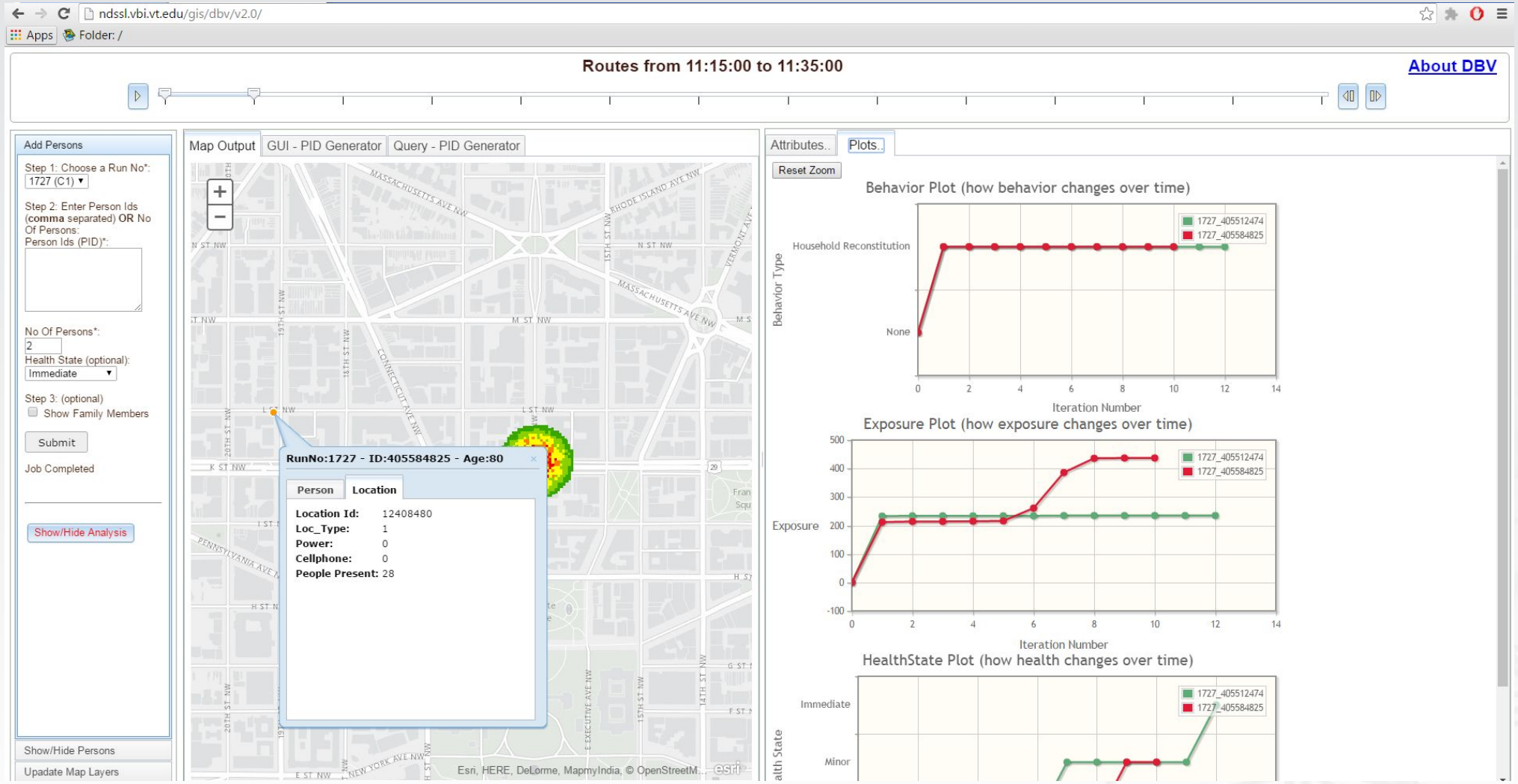
4

My Contribution:

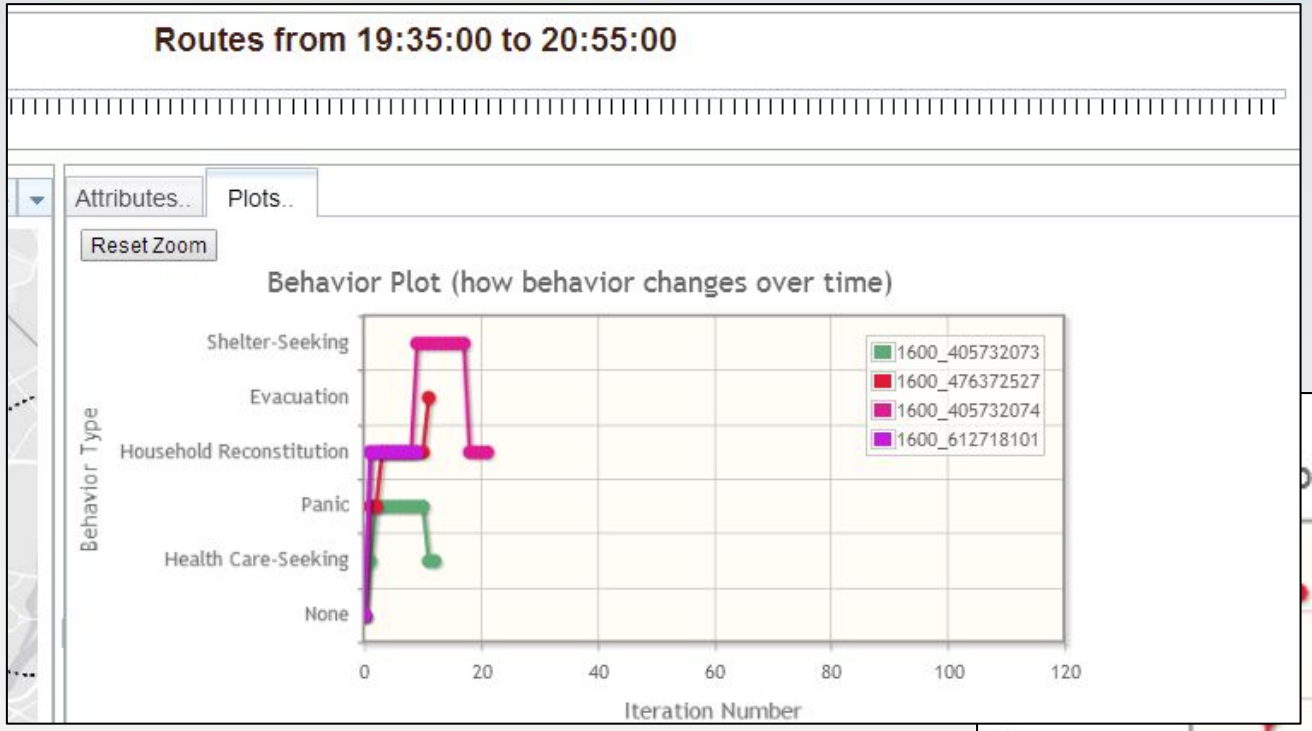
Coding; Unit Testing

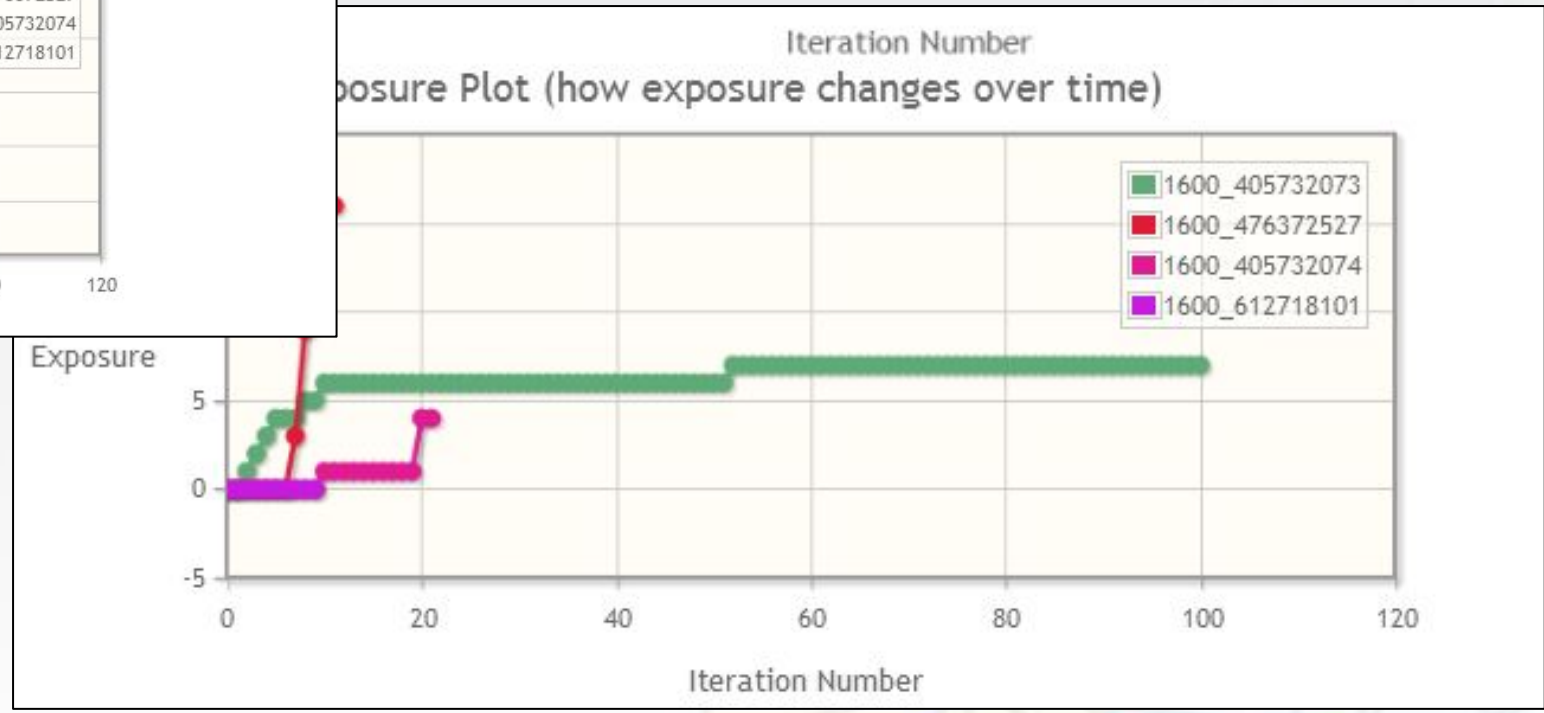


Dynamic Behavior Visualizer



Dynamic Behavior Visualizer

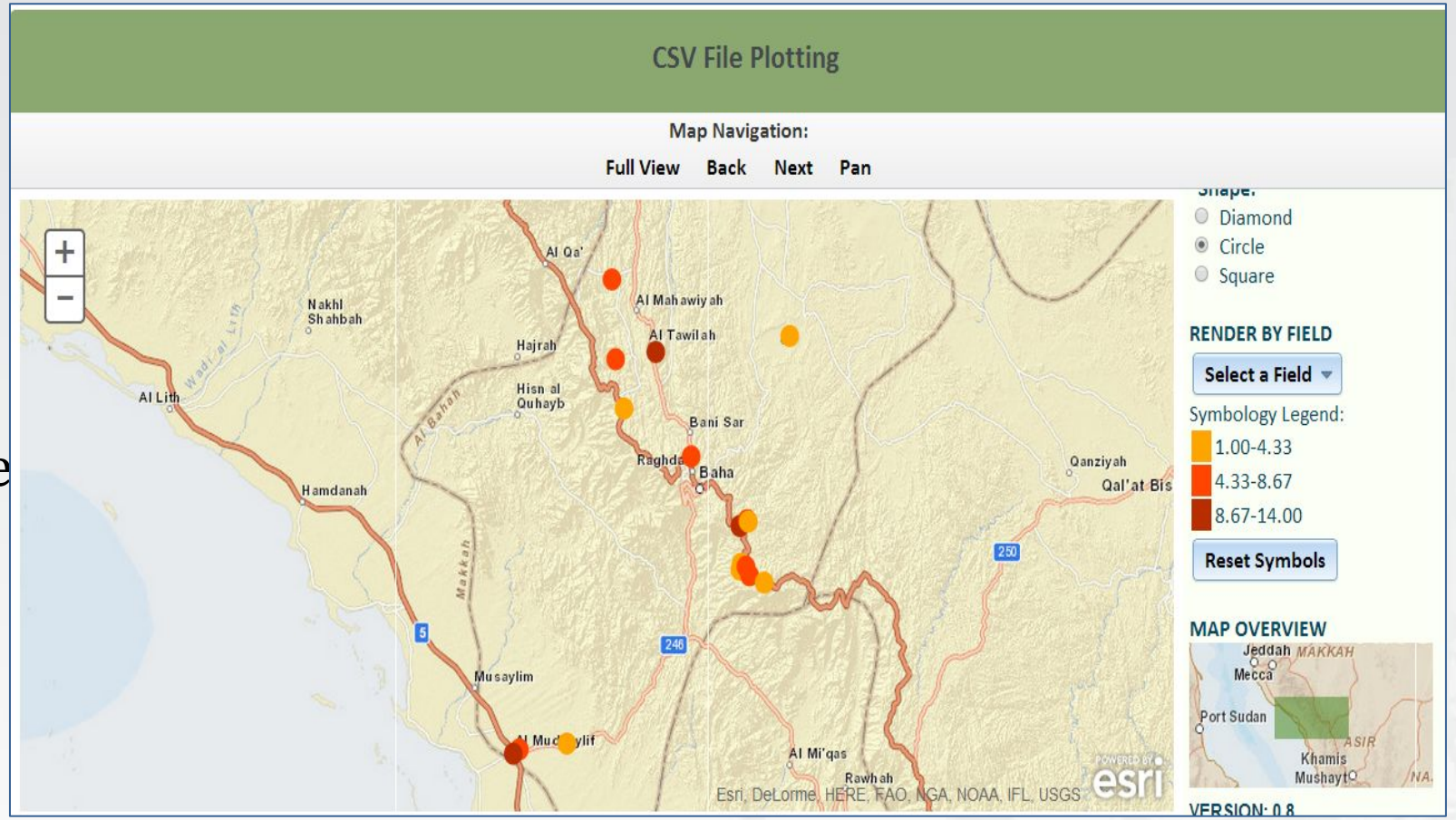




CSV Plotting

Purpose:

- Plot & visualize CSV Files on Maps
- Map click to show associated attribute information of features
- Color based rendering for the plotted CSV features



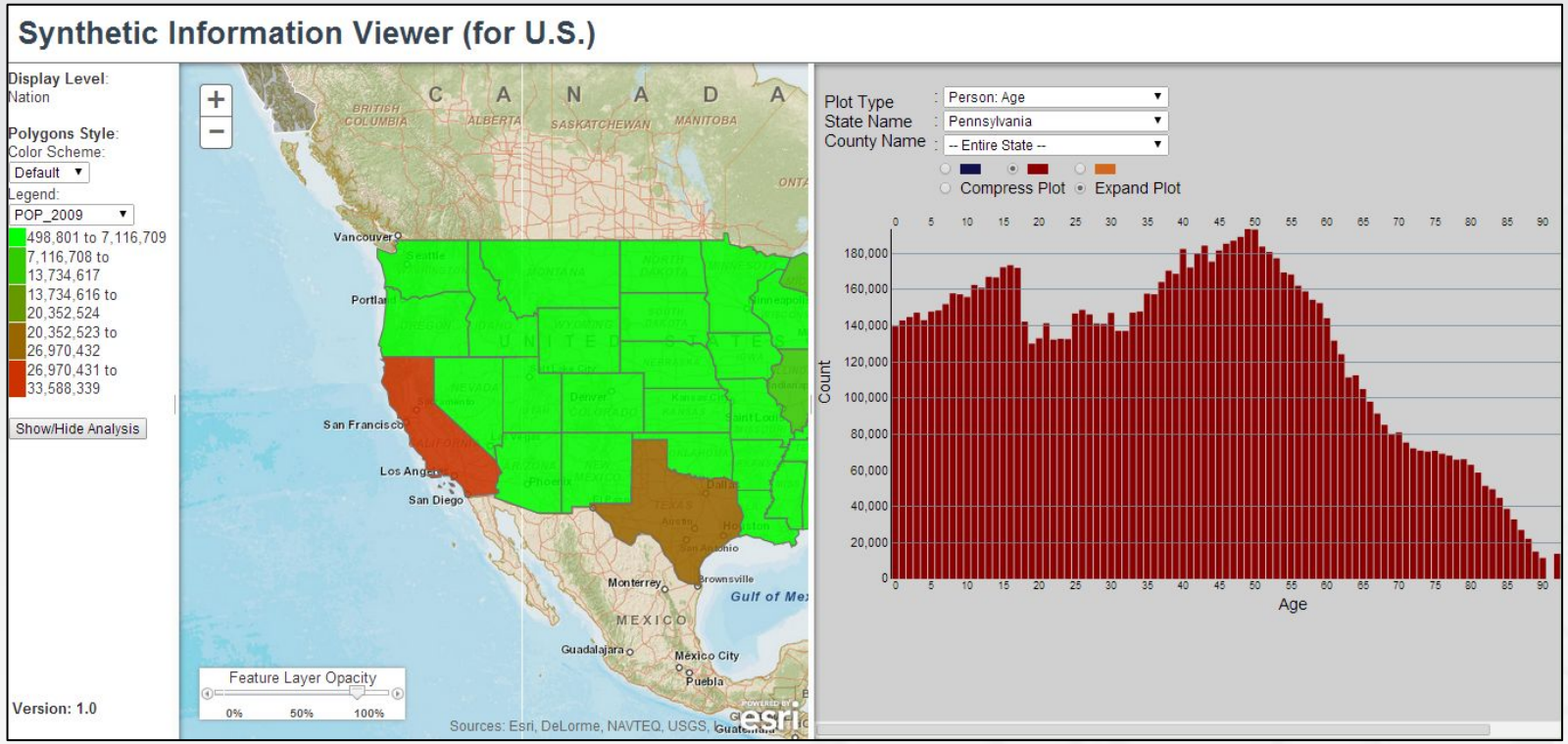
Team Size:

Individual

Synthetic Information Viewer for the US

Purpose:

- Aggregate data on different admin region levels(state, county, block group level for the United States)
- Analysis panel complements to plot attributes for user selected level



Team Size:

5

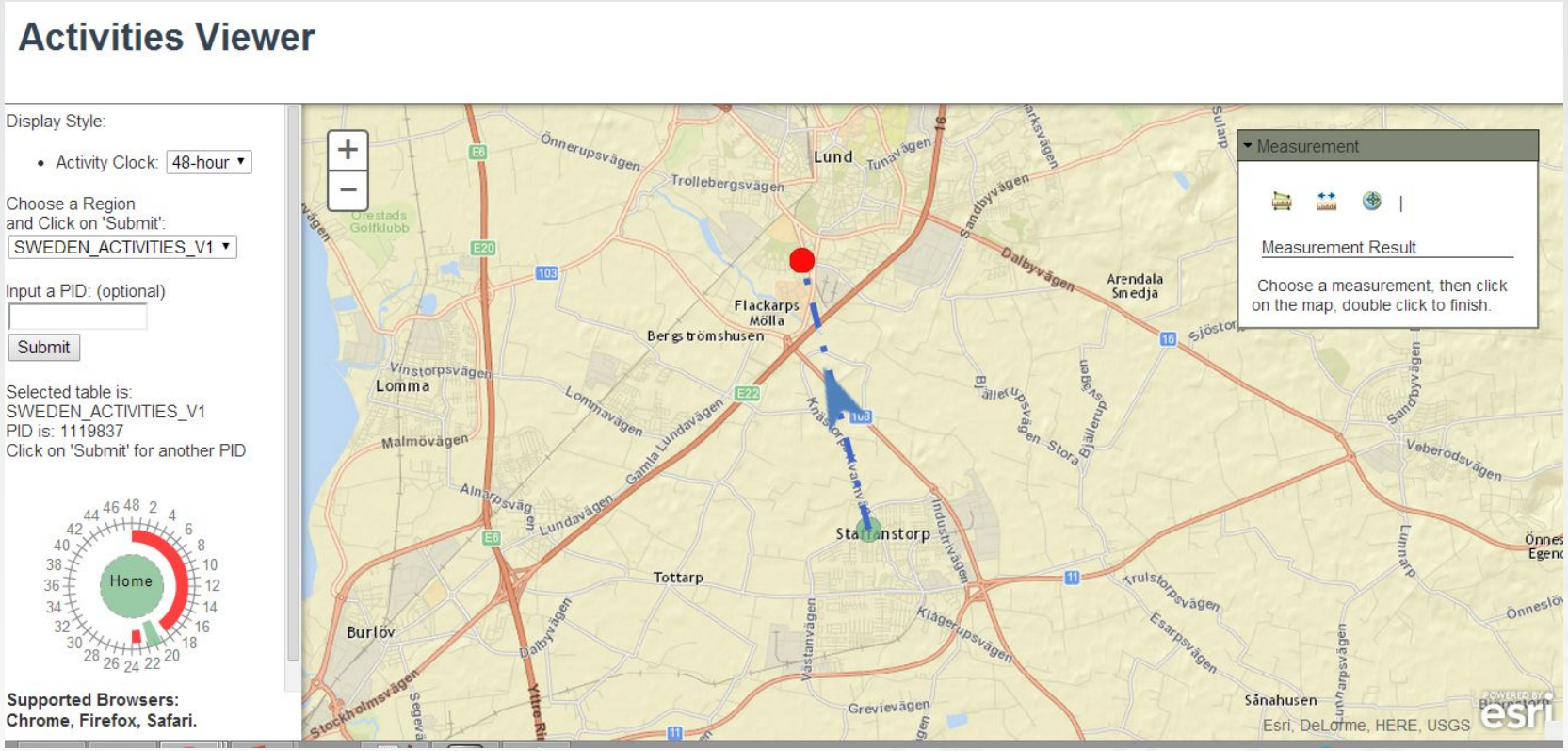
My contribution:

Development and Unit Testing

Activities Viewer

Purpose:

- Prototype application to view a random/specific person's activities
- Clock-Map interactions will be improved and used for Synthetic Viewer



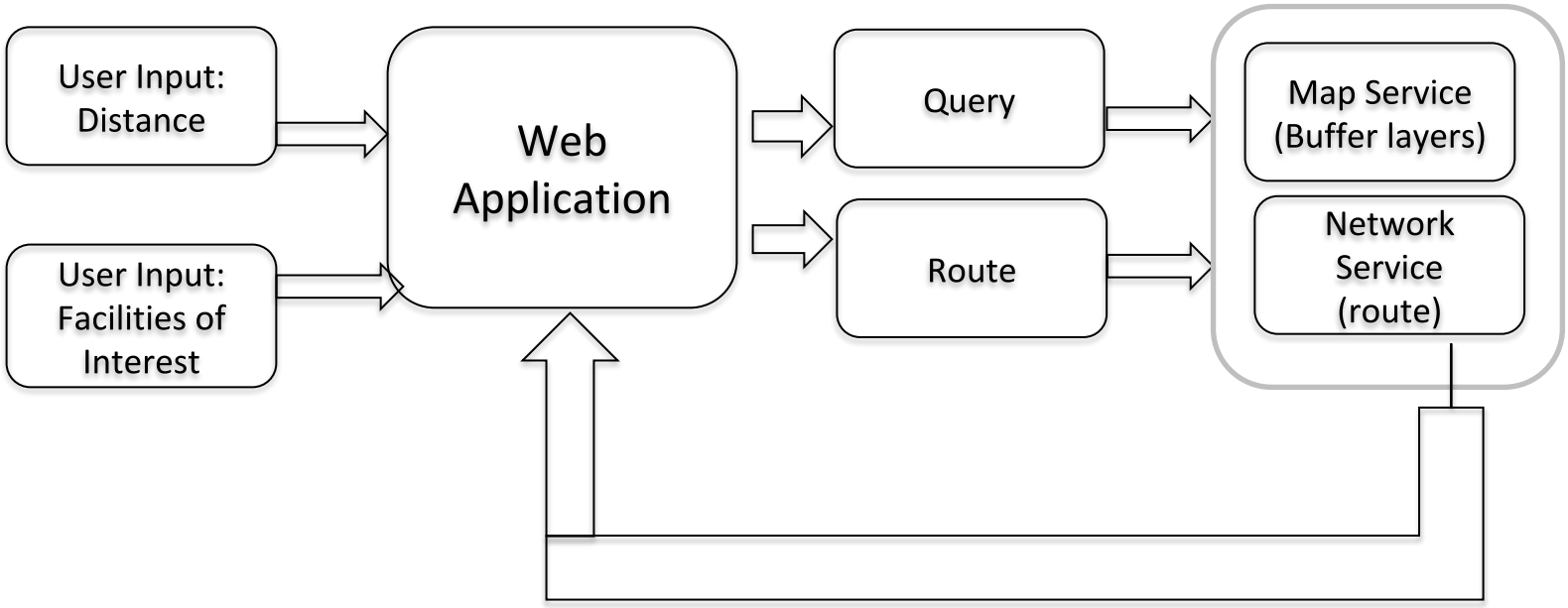
Team Size:

Individual

Summer Internship Project

Purpose:

Web App for tourists commuting via Charlotte Light Rail System to explore uptown Charlotte



Team:

Individual

Charlotte Walks

csc-surend7l/Charlotte_Light_Rail_App.html

Nimbus | Final Project | Run JS from loc... | Esri UC Worksh... | ETC Login | ArcGIS Resourc...

Charlotte Walks

Your walkability guide for Charlotte

Enter Your Walking Limit

25 Miles

Places of interest

- [x] Retail
- [x] Parks
- [x] Restaraunts
- [x] Theatres
- [x] Transportation
- [x] Banks
- [x] Educational
- [x] Hotels
- [x] Museums
- [x] Other Atrractions
- [x] Police
- [x] PostOffice

Clear Graphics

Clear Route

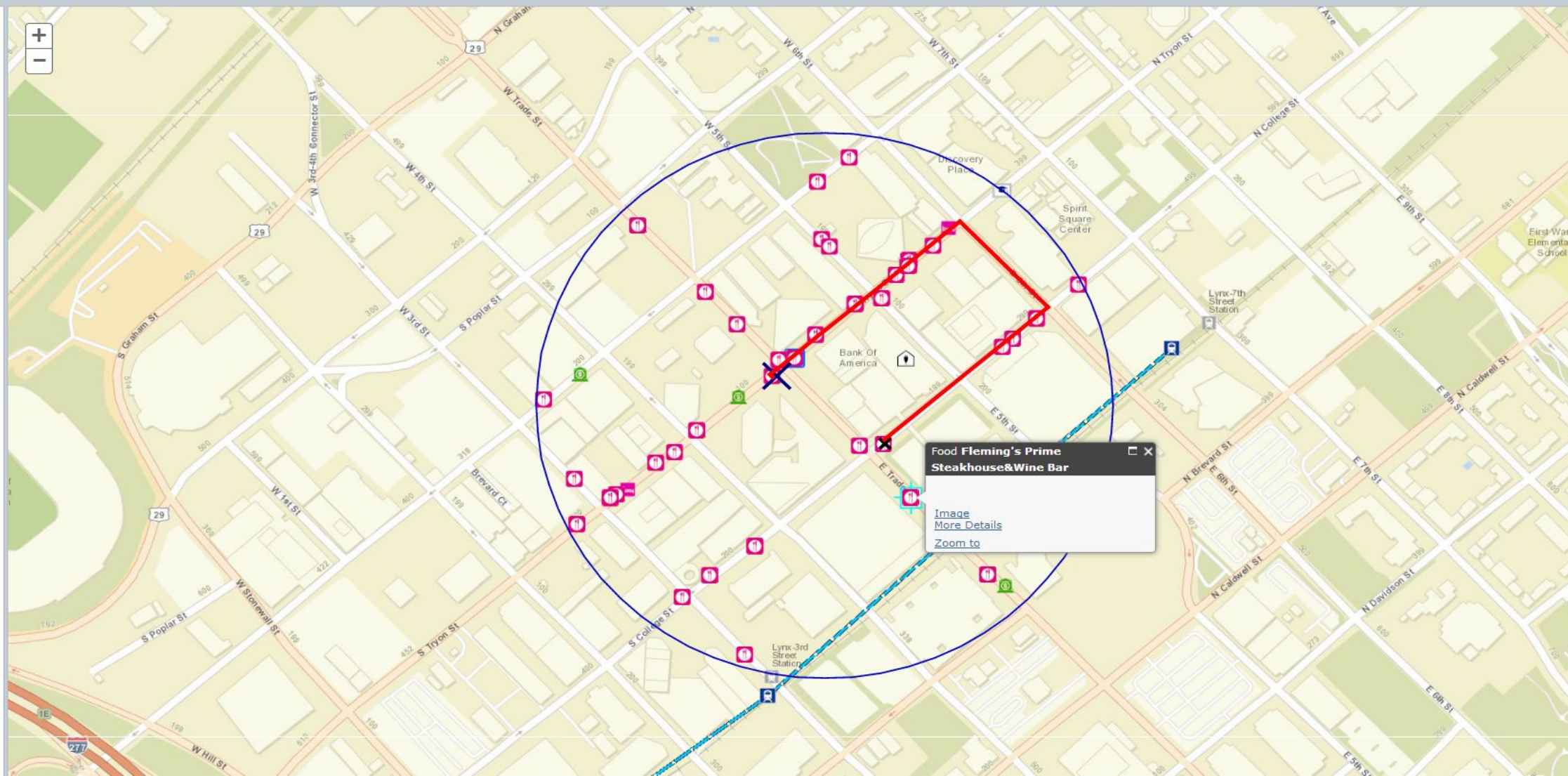
Clear Buffer

Reach Your Destination!

Add Point

Find Route

1. Start at Location 1
2. Go northeast on N College St toward E 5th St
3. Turn left on E 6th St
4. Turn left on N Tryon St
5. Continue on S Tryon St
6. Turn left to stay on S Tryon St
7. Finish at Location 2, on the left



Geoleague Challenge 2013: Winner

Objective:

ArcGIS tool to implement a Least Cost Algorithm for Mapping Trails

Purpose:

Designed and implemented ArcGIS tool for the Boy Scout of America (BSA)

- To generate a map
- To Parameterize trails using the Least Cost Path algorithm

Team size:

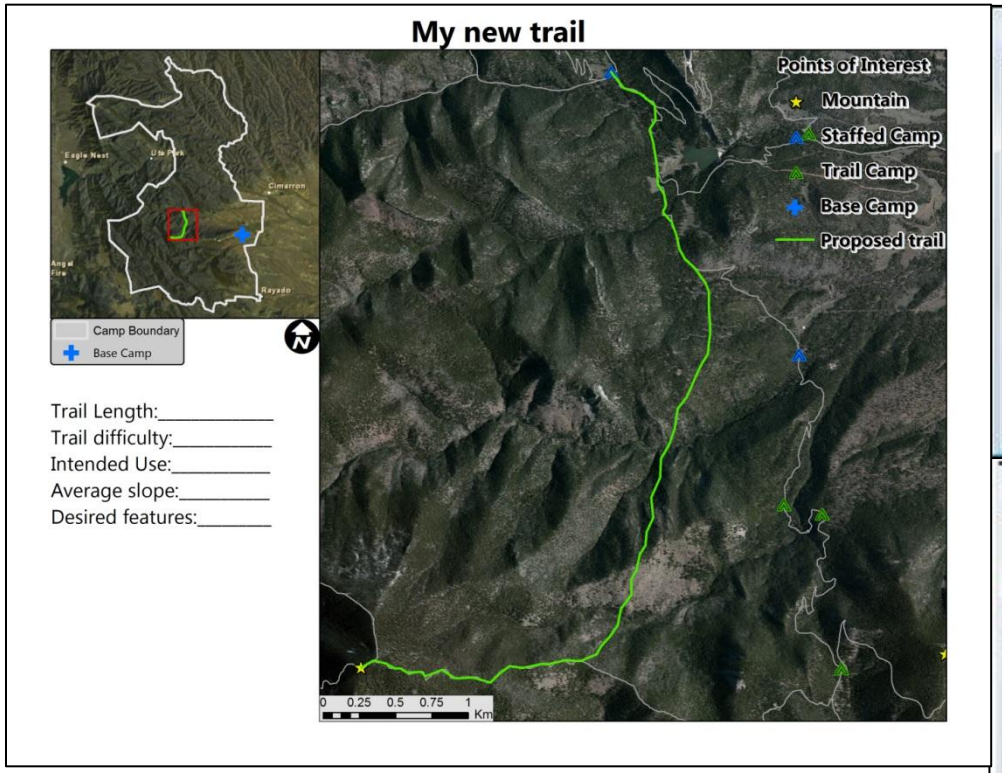
7

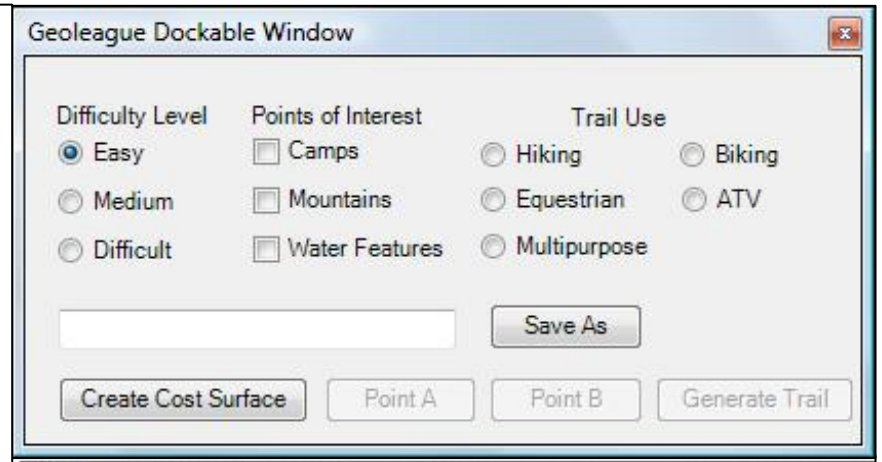
My Role:

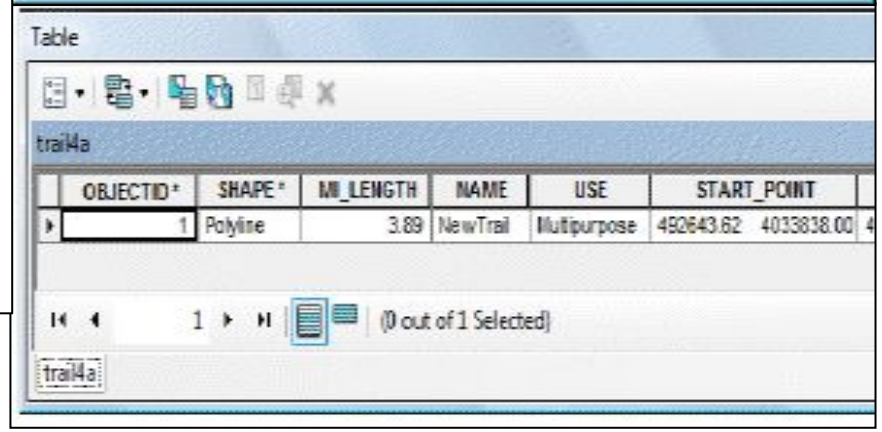
GIS Developer

Geoleague Challenge 2013: Winner

- Choose trail characteristics
- Select points to connect
- Generate the trail
- Output (trail) opens as a new map document

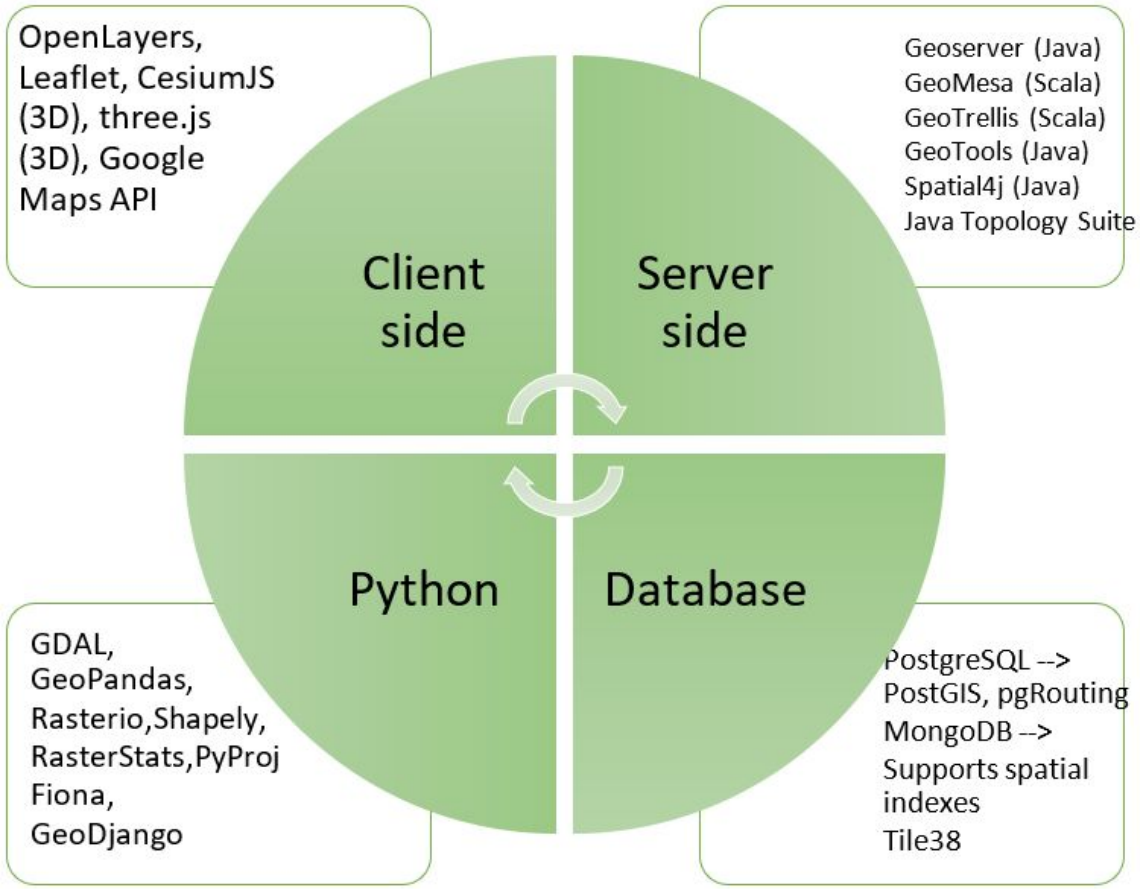






Open Source Geospatial Samples

Technologies Used



Organization(s)

- Petco
- Langan
- Personal Projects

Thank you