**Complete Tree Inventory of a Des Moines Neighborhood**

Bree Marmur

LA558: Final Project Proposal

# Executive summary

Using data from my dissertation research, I will create an interactive web map that provides tree information for a neighborhood in Des Moines. The tree inventory will include information about tree location, species, and characteristics, and will allow user input about specific trees.

# Abstract

Having completed a complete tree inventory of the Capitol East Neighborhood in Des Moines, Iowa, I will create in interactive web map displaying that data for my LA 558 Final Project. This map will include the geospatial location of each tree as well as the species, height, and dimensions of each tree via marker colors, tooltips, and popups. I will create buttons where the user may choose to find more information about each tree species and specific maintenance information.

Additionally, I would like to create a form where users who are actually living in the neighborhood can enter information about the specific trees, say if one has died or if a new tree has been planted. This will allow for a citizen science component, and a truly interactive web map experience.

# Technology

Excel data

External GeoJSON data (converted from Excel)

HTML, CSS, JavaScript, and JQuery

GitHub

Leaflet

Chart.js (for statistics about the tree population)

Leaflet Plugins if needed

# Data

Tree inventory Data collected using handheld Trimble Geo7x GNSS devices and a LazerAce Rangefinder. Post-processes using GPS Pathfinder Office. Geoprocessed using ArcGIS and exported to Excel for data analysis. Converted to GeoJSON format for web mapping.

# Challenges

* The data set is large (I only included a small subset for the mini project), so deciding on what level of detail is needed and how much that might affect load times will be a consideration.
* While I am confident it can be done, I really do not have a good idea how I am going to create the user input part of the project. I want users to be able to 1) click on a marker and enter information about it, even if it is just a line of text, that then gets recorded somewhere. (i.e., “this tree has died”), and 2) I want users to be able to create a new tree and enter information for it. I know how to create a new marker on click, but do not know how to allow the user to create the tooltip and popup for that marker.