InteriorSelectorDisplay Guide

The JavaFX program is located in resources/BlueprintMappingTool

Open the BlueprintMappingTool folder in IntelliJ. The first time you do so, IntelliJ will prompt you to choose an SDK. It was written in Java 8, so that's what I would choose.

To start the application, run BlueprintMappingTool/src/InteriorSelector.java

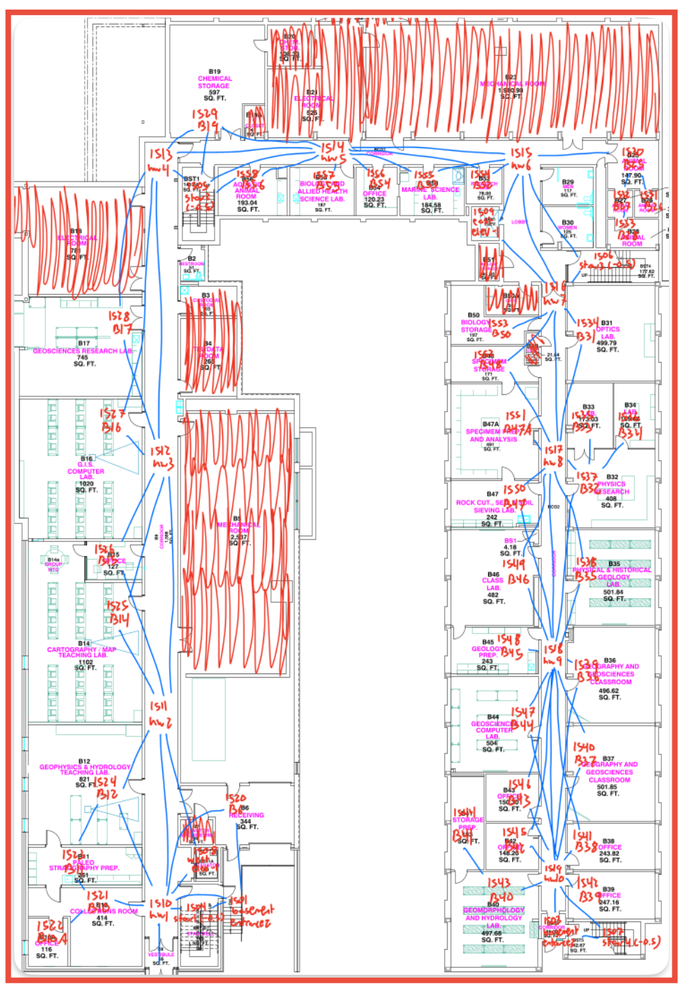
Details on usage can be found in the doc comment of InteriorSelector. Here, I will walk through an example run.

Example

On start-up, the application prompts for the file name containing the blueprint PNG corresponding to the nodes for which you would like to find the GCS/Plus codes.

PNG's of blueprints with the edges/nodes labeled can be found in resources/Floor Plan Networks/pngs/

It is important to note that the PNGs in this folder are NOT properly cropped - and they need to be before the application will return accurate location information for the points.



Now that the image is cropped, we need to ensure the image is properly oriented.

The important this here is to make sure the orientation of the blueprint matches the reference image. In the CSV, we see that the topLeft point is labeled 7. In the reference image (the overhead view from Google Maps), we see which corner of Hartline is actually labeled 7.

In this example, the blueprint above has its top left corner in the same orientation as in the reference image - but this isn't necessarily always the case. Rotate the blueprint png so that the top left corner of the blueprint is the same as the top left reference point in the real world. The top left reference point in the real world will always be labeled such that the label % 3 == 1.

Save the cropped, oriented blueprint - and we can give the filepath to that image to the application.
The application will ask whether you want to enter the reference points as location codes or GCS coords. Enter "L" for GCS coords.
The application will now ask you for the three latitude/longitude pairs (in the real world) that correspond to the corners in the blueprints.

Those latitude/longitude pairs are located in resources/Building Corners/BuildingCorners.csv, in this case under Hartline Basement

We see:

TopLeft: 41.007262, -76.448025
topRight: 41.006694, -76.447588
bottomLeft: 41.007490, -76.447506

And this is the order to enter the points. (Equivalently, rather than rotating the blueprint image as instructed above, you can enter these reference latitude/longitude pairs in a different order)

The application will then prompt you to enter the index from which you want to begin labeling. Looking in the file db/nodes.csv, we see that the ID column for Hartline Basement begins at 1501.

From here, the application will begin! Instructions for usage can be found in the doc comment for the application - but it's pretty self explanatory. Overview:

Options are along the bottom - make sure the Node toggle is toggled, and the TYPE of node to be placed is toggled before trying to place nodes. Place nodes by clicking on the blueprint. Actions are logged to the terminal as you go.
You can click on a placed node to delete it. Once complete, click save - the modified image (with all your labels) will be saved (not overriding the original). In addition, the totality of your inputs will be printed to terminal in such a way that the output can be copy/pasted directly in the nodes.csv file in the appropriate places. That output will also be saved to a text file - so don't worry about accidentally losing it.

Edges can also be added using this application - but that shouldn't be needed for this task. Regardless, instructions on adding edges can be found in the doc comments.

How to crop the PNG?

Suppose you would like to find the location of the nodes marked in resources/Floor Plan Networks/pngs/Hartline/BS FL.png

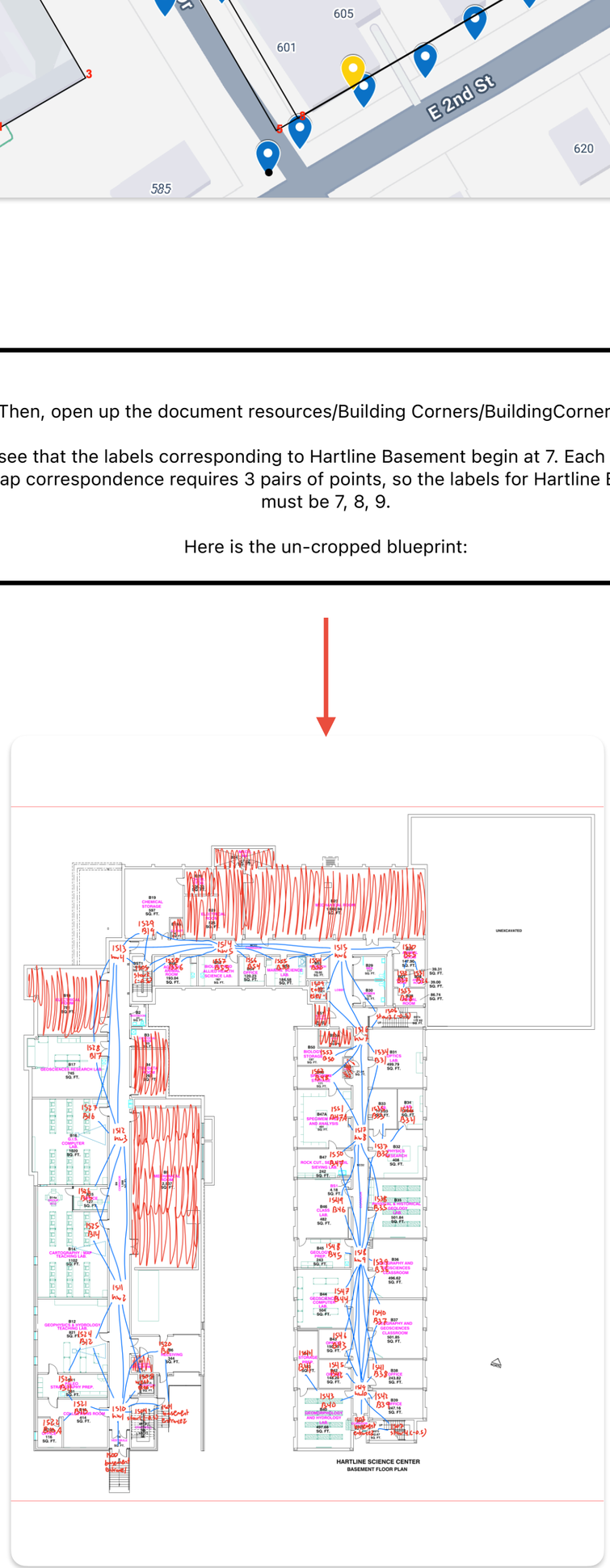
First, let's check the reference image, found in resources/Building Corners/buildingCornersLabeled.png

The image below is zoomed and cropped to show the appropriate area

Then, open up the document resources/Building Corners/BuildingCorners.csv

We see that the labels corresponding to Hartline Basement begin at 7. Each blueprint to map correspondence requires 3 pairs of points, so the labels for Hartline Basement must be 7, 8, 9.

Here is the un-cropped blueprint:



By comparing with the reference image, we can see that the above PNG will need to cropped. By comparing with the reference image, we can see that the above PNG will need to cropped. Crop the above image so that it will correspond directly to the same area marked in the reference image.