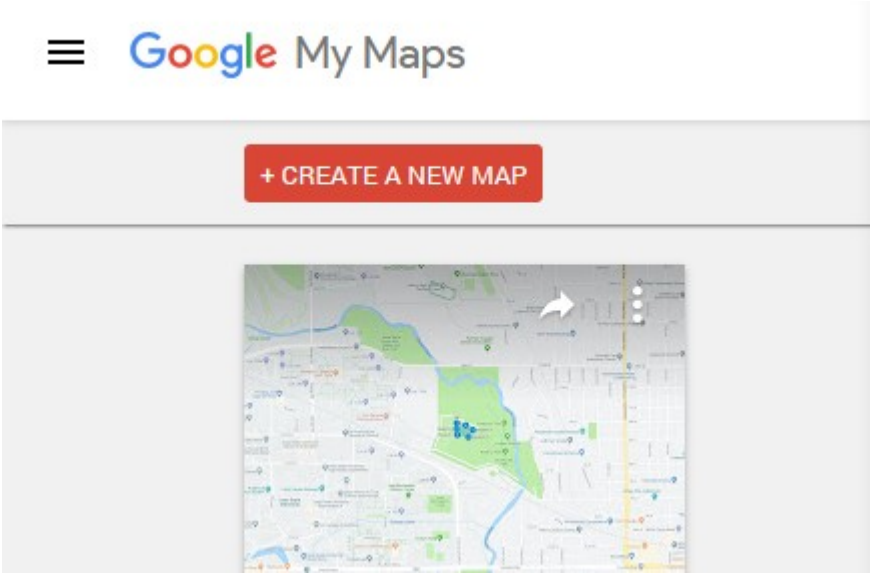
Creating a Route

‘My Maps’ by Google

Go to: https://mymaps.google.com/

Log in to iastate or other gmail account

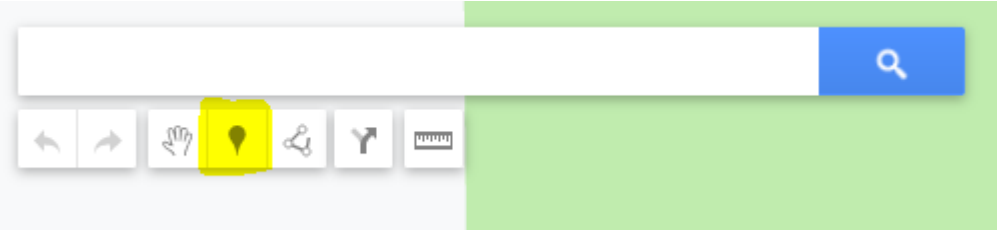
Click on ‘Create A New Map’ button



Adding Waypoints

Use the toolbar at the top to perform various functions on the map

The most important function will be placing waypoints (highlighted button in picture)



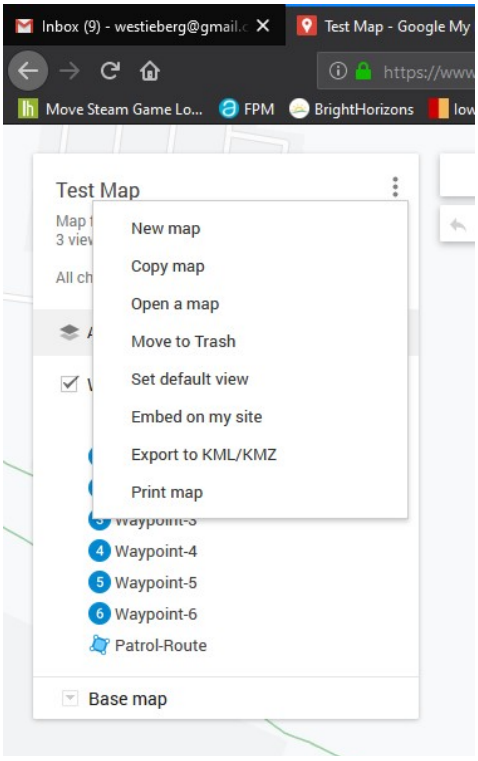
A practically infinite number of these waypoints may be added to the map (~1000)

Downloading Map Data

Once you have finished adding waypoints your map should look something like this

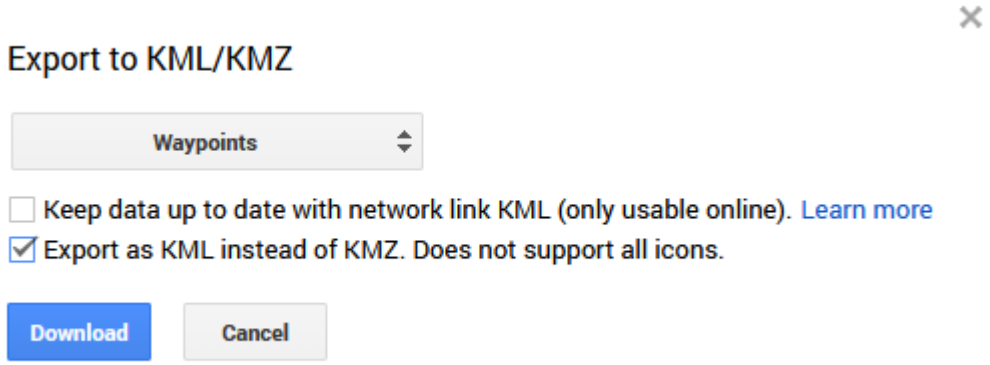
(Interconnection lines and shaded region not necessary)

From here click on the three vertical dots to the right of the map title



Select option to ‘Export to KML/KMZ’

Choose to only export the waypoints and make sure to select the checkbox to export as KML



KMZ is essentially the compressed version of a KML file and not useful for us

Convert Map Data

Use the ‘kml_conversion.py’ script to convert the KML data into a usable format for the robot

Example script usage for converting KML data

To CSV: python kml_conversion.py -c kml_data_file.kml outfile

To JSON: python kml_conversion.py -j kml_data_file.kml outfile

To XML: python kml_conversion.py -x kml_data_file.kml outfile

Transfer To Robot

The last step is to get the converted data onto the robot

This can be accomplished easily with tools like SCP/WinSCP

Make sure to copy the file generated by the script to: /path/to/coordinate/data

Done!