ECE Senior Design Weekly Report

Engineer’s Name: Mark Luna Date: 3/9/17

Team Name: The Globetrotters Lab Section: 4, Thursday 12:30 PM

Week’s Task: Implement automated mouse gestures for the GUI, research methods for automatically launching a QGIS python script when the program starts, and debugging the python script used for interacting with the map.

Results:

* Found a python module called pyautogui that allows automated control of the mouse including movement, clicking, scrolling, and dragging actions as well as keyboard control. Once we've acquired the display for the Raspberry Pi, we can use the screen resolution to determine where to send the mouse in a certain direction by using pixel coordinates.
* The built-in Python Macros feature of QGIS can allow us to specify any scripts to run when the project loads or exits. However, the python script, like the internal command line, must run exclusively within QGIS and may not be able to communicate to external scripts running outside of the QGIS Desktop application environment.
* While testing pyautogui within QGIS, I encountered an issue that could prevent us from using python scripts within the application to move the map around. The problem is that any python script that runs must finish executing and terminate completely before the map will update. For example, if a command to change a location is sent followed by a command to move the mouse to show a MapTip, the map location will not change until the mouse has finished moving. This will be a major problem if we wanted to have a controlled loop running continuously inside of QGIS.
* Alternative methods are being looked into in order to avoid some of the issues covered here.