What Is All This Shit and How do I Use It?

Included is the main project used for the UGV navigation system in 2014, its dependencies, a small program to test the GStar algorithm, and some miscellaneous documentation.

Leslie:

The main project is in the Leslie folder and is executed by running the LeslieCon project. The Leslie project in the solution is the depreciated GUI based program. There other project in the solution is project to create the openCV based vision DLL. There are two different projects that *should* be nearly identical and were simply configured for my two work machines. The Surface version is likely to most recent so if there are any discrepancies use the code in it.

The solution likely will not build when you first get it. This is due to the opencv configuration that is required in the DLL project so that it can find all the DLLs, includes, and other nonsense. Go through the Opencv visual studio project setup tutorial here: <http://docs.opencv.org/doc/tutorials/introduction/windows_visual_studio_Opencv/windows_visual_studio_Opencv.html#windows-visual-studio-how-to> and eventually you should be able to get it to work. If you don’t need to make changes to the DLL you can remove the reference made to the project and simply add the DLL as a reference and it should work.

The console application its self should run as is from the build folder but may through an error depending on how the system configuration is compared to the defaults. All most all environment related configuration is done through registry settings that can be found in HKEY\_CURRENT\_USER\SOFTWARE\NGCP\UGV\VISION after the program is run for the first time. Opencv must be installed on the system in order for the program to work correctly (having all the required 64bit opencv dlls in the same folder as the exe works too). If you do not have steven’s code running then make sure UseUDP is false. If the LIDAR is not connected then makes sure UseMapping and UseLidar are false. The COM port for the LIDAR is auto detected so no need to configure that value.

GStar:

The GStar code is imbedded in the LeahDLL projects and has its own documentation in G.docx as well as inline comments. The GstarTest folder has a small command line program to visualize and test the behavior of the pathing system. It does not have much documentation but is fairly start forward. Use the Dpath.ccp \_tmain function to set up an environment to path then tell it to figure it out. Should be able to get it from there.

I Think that’s it. Email me at [porteregr@outlook.com](mailto:porteregr@outlook.com) if you have any other questions or get stuck.