INSTALLATION OF ALL THE DEPENDENCIES ON RASPBERRY PI 3

* CMake [1] installation complete.
* OpenCV [2]:

Errors encountered for version 2.4.7

When building from sources Raspi did not respond after 97%. (4 tries. No response from Pi).

OpenCV 3.4.1 installed later. No errors or setbacks encountered.

* PCL [3] Installation:

Could not complete installation.

Prerequisite not met.

Compilation of FLANN [4] failed in Raspberry Pi Core. (Probable reason: Raspberry Pi ran out of memory).

Another option to install PCL without compiling FLANN from sources but to use the binary installers.

Only supported for stable Debian systems. Could not compile on Raspbian.

DECISIONS TO BE MADE:

Point Cloud Library is one of the major dependencies of the project and hence switching to the Linux system seems most viable. (Awaiting confirmation)

BIBLIOGRAPHY:

[1]: CMake is an open-source, cross-platform family of tools designed to build, test and package software. CMake is used to control the software compilation process using simple platform and compiler independent configuration files and generate native makefiles and workspaces that can be used in the compiler environment of your choice. The suite of CMake tools were created by Kitware in response to the need for a powerful, cross-platform build environment for open-source projects such as ITK and VTK.

<https://cmake.org/>

[2]: OpenCV (Open Source Computer Vision Library) is released under a BSD license and hence it’s free for both academic and commercial use. It has C++, Python and Java interfaces and supports Windows, Linux, Mac OS, iOS and Android. OpenCV was designed for computational efficiency and with a strong focus on real-time applications. Written in optimized C/C++, the library can take advantage of multi-core processing. Enabled with OpenCL, it can take advantage of the hardware acceleration of the underlying heterogeneous compute platform.

<https://opencv.org/>

[3]: The Point Cloud Library (PCL) is a standalone, large scale, open project for 2D/3D image and point cloud processing.

<http://pointclouds.org/>

[4]: FLANN is a library for performing fast approximate nearest neighbour searches in high dimensional spaces. It contains a collection of algorithms we found to work best for nearest neighbour search and a system for automatically choosing the best algorithm and optimum parameters depending on the dataset.

<https://www.cs.ubc.ca/research/flann/>