

# SOFTWARE ENGINEERING - MSc CV/VIBOT/MAIA:

## INSTALLATION PROCESS - 3D SCANNER

---

By: Nitin ANAGHAN, Flavien DAVID, Akshay DUDHAGARA, Bhargav SHAH

Professor: Yohan FOUGEROLLE, Cansen JIANG, David STRUBEL

January 7, 2018

## I. SOFTWARE REQUIREMENT

- Qt 5.7.0 (MSVC 2013, 32 bit)
- MSVC 2015 build tools
- PCL 1.8
- Microsoft Kinect V2 SDK
- Intel R200 SDK

## II. QT 5.7.0 (MSVC 2013, 32 BIT)

- Install latest Qt Creator along with the Qt Library 5.7 MSVC 2015.
- Download and install MSVC2015 compiler from:  
<http://landinghub.visualstudio.com/visual-cpp-build-tools>
- Download and install Qt5.7 x64 compiled with MSVC2015:  
[http://download.qt.io/official\\_releases/qt/5.7/5.7.0/qt-opensource-windows-x86-msvc2015\\_64-5.7.0.exe](http://download.qt.io/official_releases/qt/5.7/5.7.0/qt-opensource-windows-x86-msvc2015_64-5.7.0.exe)  
Remember to add Qt5.7-MSVC installation to QtCreator.

## III. MSVC 2015 BUILD TOOLS

- Make a new kit for compilation that includes the MSVC 2015 compiler and Qt5.7-MSVC.
- Adjust the system environment variables:

Add "C:\Qt\Qt5.7.0\5.7.0\msvc2015\_64\bin" to path.

Add new variable QT\_QPA\_PLATFORM\_PLUGIN\_PATH: "C:\Qt\Qt5.7.0\5.7.0\msvc2015\_64\plugins\platforms"

#### IV. PCL 1.8

- Download PCL 1.8 all-in-one installer x64 and the .pdb files:

PCL-1.8.0-AllInOne-msvc2015-win64.exe:

[https://1drv.ms/u/s!ApoY\\_0Ymu57sg5Qig1RUpLNNF1Z1Lg](https://1drv.ms/u/s!ApoY_0Ymu57sg5Qig1RUpLNNF1Z1Lg)

pcl-1.8.0-pdb-msvc2015-win64.zip:

[https://1drv.ms/u/s!ApoY\\_0Ymu57sg5QhsoFqdG\\_QMeCVng](https://1drv.ms/u/s!ApoY_0Ymu57sg5QhsoFqdG_QMeCVng)

- Install the PCL all-in-one executable remembering to tick the option to add path for all users, then extract the pdb files in the .zip and copy them inside the bin folder at

`C:/ProgramFiles/PCL1.8.0nbinn.`

Dont forget to update your user environment variables to include:

PCL ROOT `C:/ProgramFiles/PCL1.8.0`

Add the following inside the Path variable in your system variables.

`%PCL_ROOT%/bin;`

`%PCL_ROOT%/3rdParty/FLANN/bin;`

`%PCL_ROOT%/3rdParty/VTK/bin;`

`%OPENNI2_REDIST64%;`

Finally restart the computer for the new variables in the path to update.

- Since QVTK is not included by default on the PCL 1.8.0 all-in-one installer it is to be compiled from source with the Qt options enabled.

(a) Install cmake-gui and download the VTK source from:

<http://www.vtk.org/files/release/7.1/VTK-7.1.0.zip>

(b) Extract the source code, launch cmake-gui and iteratively modify the settings and hit configure button until you have a screen similar to the one in Figure 1. Then press "generate" to compile.

## **V. MICROSOFT KINECT V2 SDK**

Download and install Kinect SDK 2.0 from:

<https://www.microsoft.com/en-us/download/details.aspx?id=44561>

## **VI. INTEL R200 SDK**

Download and install Intel RealSense SDK from:

<https://registrationcenter.intel.com/en/forms/?productid=2797>