Build AstraProViewer in Linux

Building AstraProViewer rely on third party libraries including OpenCV 3.1.0, Eigen3 and OpenNI2. And you should have the CMake 3.2.2 or higher otherwise you will compile AstraProViewer fail. You can build it step by step as follows.

1 Install OpenCV 3.1.0

1.1 Required Packages

- GCC 4.4.x or later
- CMake 3.2.2 or higher
- Git
- GTK+2.x or higher, including headers (libgtk2.0-dev)
- pkg-config
- Python 2.6 or later and Numpy 1.5 or later with developer packages (python-dev, python-numpy)
- ffmpeg or libav development packages: libavcodec-dev, libavformat-dev, libswscale-dev
- [optional] libtbb2 libtbb-dev
- [optional] libdc1394 2.x
- [optional] libjpeg-dev, libpng-dev, libtiff-dev, libjasper-dev, libdc1394-22-dev

The packages can be installed using a terminal and the following commands or by using Synaptic Manager:

```
[compiler] sudo apt-get install build-essential
```

```
[required] sudo apt-get install cmake git libgtk2.0-dev pkg-config libavcodec-dev libavformat-dev libswscale-dev
```

```
[optional] sudo apt-get install python-dev python-numpy libtbb2 libtbb-dev libjpeg-dev libpng-dev libtiff-dev libjasper-dev libdc1394-22-dev
```

1.2 Getting OpenCV Source Code

You can use the latest stable OpenCV version or you can grab the latest snapshot from our Git repository.

Getting the Latest Stable OpenCV Version

- Go to our downloads page.

- Download the source archive and unpack it.

1.3 Building OpenCV from Source Using CMake

Create a temporary directory, which we denote as <cmake_build_dir>, where you want to put the generated Makefiles, project files as well the object files and output binaries and enter there.For example

```
cd ~/opencv
mkdir build
cd build
```

Configuring. Run cmake [<some optional parameters>] <path to the OpenCV source directory>For example

```
cmake -D CMAKE_BUILD_TYPE=Release -D CMAKE_INSTALL_PREFIX=/usr/local ..
```

Build. From build directory execute make, recomend to do it in several threads. For example

```
make -j4
```

To install libraries, from build directory execute

```
sudo make install
```

2 Install Eigen3

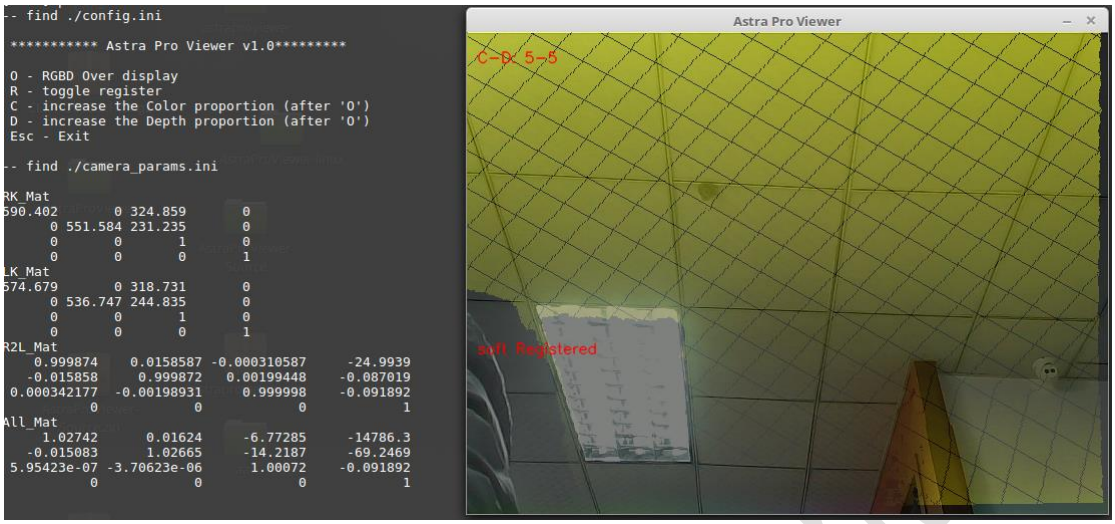
```
sudo apt-get install libeigen3-dev
```

3 Build AstraProViewer

```
cd <AstraProViewer source code dir>
cp ./platform/CMakeLists-[your own platform].txt .
mv CMakeLists-[your own platform].txt CMakeLists.txt
cmake .
make
./AstraProViewer
```

When you perform cmake command and the system prompt version error, please change the

CMakeLists.txt cmake version of your own OS. If you connect the Astra pro successfully, you can see like this:



4 How to use

Key	Command	Description
O	RGBD Over display	● Default rgbd over display ● Change from overlay to side by side
R	toggle register	● If you have the config.ini and camera_params.ini files in the project root directory, it will use this camera params to convert depth to color ● If you don’t have these two files, it will convert depth to color by hardware, and you can use ‘R’ to toggle it
C	increase the color proportion	Increase the color proportion
D	increase the depth proportion	Increase the depth proportion

