Visual Servoing Installation Guide

Last Updated: 5/6/2014

This Document attempts to guide the user of VisualServoing2013-14 Group's visual_servo utility along the process of installation.

Before Installing Our System: Our visual servoing platform depends on several software systems to run. Without these, our system will not function. Please refer to the links below to install these systems.

Install Ubuntu 12.04 LTS Precise Pangolin:
Found here:

http://releases.ubuntu.com/precise/

Install ROS Hydro:
Installation from source is not advised unless you have a deep understanding of ROS Hydro already.

Packaged (Desktop-Full Install):

http://wiki.ros.org/hydro/Installation/Ubuntu

Source:

http://wiki.ros.org/hydro/Installation/Source

Install ViSP-2.8.0:
Installation from source IS advised. Attempts to use prepackaged SDK tested poorly. When installing "optional" third party functionality install X11, Lapack, Video for Linux, libdc1394, libxml2, libpng, Ogre 3D, and OpenCV.

SDK Installation instructions:

http://www.irisa.fr/lagadic/visp/install-sdk.html#ubuntu-12

Source Installation instructions:

http://www.irisa.fr/lagadic/visp/install.html#ubuntu

Link to ViSP-2.8.0.zip source download page:

http://www.irisa.fr/lagadic/visp/download-old.html#oldest release

If the links are broken, use the following instructions:
Go to http://www.irisa.fr/lagadic/visp/download-old.html#oldest release
and download ViSP-2.8.0.zip. Then execute the following apt-get commands to install the foundation for ViSP.

```
//Install CMake from existing Ubuntu packages
sudo apt-get install build-essential

//CMake cross-platform tool required to build ViSP
sudo apt-get install cmake-curses-gui

//"Optional" dependencies required for our visual servoing system
sudo apt-get install libx11-dev liblapack-dev libv4l-dev libdc1394-22-dev libxml2-dev
sudo apt-get install libpng12-dev
sudo apt-get install libogre-dev libois-dev
sudo apt-get install libopencv-dev
```

Once the necessary packages have been installed, create a directory where you want to build ViSP, unzip the contents of ViSP-2.8.0.zip there, and build it.

```
mkdir ViSP
cd ViSP
unzip ViSP-2.8.0.zip
mkdir ViSP-2.8.0/build
cd ViSP-2.8.0/build
cmake -DBUILD_SHARED_LIBS=ON ..
make
sudo make install
```

Install Rethink Robotics Baxter SDK and Dave's SDK:
Follow Dave's installation instructions found here:
https://github.com/davetcoleman/baxter_cpp

In order for installation to complete, it maybe necessary to add your SSH key to GitHub, specificaly if wstool fails with the error 'permission denied (publickey)'. Instructions on how to do that found here:
https://help.github.com/articles/generating-ssh-keys

Clone visual_servo code:
The full package can be found at: https://github.com/erik-hunter/visual_servo and should be cloned to ~/ros/ws_baxter/src. Do a final 'catkin_make'

```
cd ~/ros/ws_baxter/src/
git clone https://github.com/erik-hunter/visual_servo
cd ~/ros/ws_baxter/
```

```
catkin_make
```

And your system is complete! Congrats! Check the Usage Outline for how to utilize the system.