開発環境の構築

1. ROS

<http://wiki.ros.org/ja/kinetic/Installation/Ubuntu> に従いインストール

sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb\_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'  
sudo apt-key adv --keyserver hkp://pool.sks-keyservers.net --recv-key 0xB01FA116  
sudo apt-get update

sudo apt-get install ros-kinetic-desktop-full

sudo rosdep init

rosdep update

echo "source /opt/ros/kinetic/setup.bash" >> ~/.bashrc

source ~/.bashrc

sudo apt-get install python-rosinstall python-catkin-tools

mkdir taiki-project

cd taiki-project

mkdir –p catkin\_ws/src

cd catkin\_ws/src

catkin\_init\_workspace

roscdでcatkin\_wsに飛ぶ

export ROS\_WORKSPACE=$HOME/taiki-project/catkin\_ws

1. OpenCV

sudo apt-get install libopencv-dev

sudo add-apt-repository --yes ppa:xqms/opencv-nonfree

sudo apt-get update

sudo apt-get install libopencv-nonfree-dev（2019.3.1 エラー出た．解決してない）

1. Python

sudo apt-get install build-essential python-pip python-dev python-setuptools python-numpy python-scipy libatlas-dev

sudo pip install scikit-learn

1. uvc\_camera

sudo apt-get install libv4l-dev

1. Kinect, xtionセットアップ

sudo apt-get install ros-kinetic-openni2-launch

sudo apt-get install ros-kinetic-urg-node

roscd openni2\_launch/launch

sudo emacs –nw openni2.launch

→20行目あたりにあるdepth\_registrationをtrueにしてファイルを保存．

センサの読み取りと起動

→roscore

roslaunch openni2\_launch openni2.launch

rosrun rviz rviz

1. Catkinの設定と使い方

emacs home/taiki/.bashrcに次を書き込む

export ROS\_WORKSPACE=/home/$USER/taiki-project/catkin\_ws

export ROS\_PACKAGE\_PATH=$ROS\_PACKAGE\_PATH:$HOME/taiki-project/catkin\_ws  
export PYTHONPATH=$PYTHONPATH:$HOME/taiki-project/catkin\_ws/devel/lib/python2.7/dist-packages

catkin\_ws以下で↓を行う．

catkin build

1. Emacs Tips

~/.emacsに書き込んでおくと幸せになれる設定

・Ctrl-h

(global-set-key "\C-h" 'backward-delete-char)

・自動補完機能

sudo apt-get install auto-complete-el

以下をコピペ

;;

;; Auto Complete

;;

(require 'auto-complete-config)

(ac-config-default)

(add-to-list 'ac-modes 'text-mode) ;; text-modeでも自動的に有効にする

(add-to-list 'ac-modes 'fundamental-mode) ;; fundamental-mode

(add-to-list 'ac-modes 'org-mode)

(add-to-list 'ac-modes 'yatex-mode)

(ac-set-trigger-key "TAB")

(setq ac-use-menu-map t) ;; 補完メニュー表示時にC-n/C-pで補完候補選択

(setq ac-use-fuzzy t) ;; 曖昧マッチ

・バッファの高速切り替え

(setq my-ignore-buffer-list

'("\*Help\*" "\*Compile-Log\*" "\*Mew completions\*" "\*Completions\*" "\*Shell Command Output\*" "\*Apropos\*" "\*Buffer List\*" "\*Backtrace\*" "\*Messages\*"))

(defun my-visible-buffer (blst)

(let ((bufn (buffer-name (car blst))))

(if (or (= (aref bufn 0) ? ) (member bufn my-ignore-buffer-list))

(my-visible-buffer (cdr blst))(car blst))))

(defun my-grub-buffer ()

(interactive)

(switch-to-buffer (my-visible-buffer

(reverse (buffer-list)))))

(defun my-bury-buffer ()

(interactive)

(let ((nbuf (my-visible-buffer (cdr (buffer-list)))))

(bury-buffer)

(switch-to-buffer nbuf)))

(global-set-key "\C-xp" 'my-bury-buffer)

(global-set-key "\C-xn" 'my-grub-buffer)