Work with Object Recognation Kitchen(ORK)

Caution: This document is not fully complete yet

ORK Official site
https://wg-perception.github.io/object_recognition_core/

Install relavent package for ros
sudo apt-get install ros-kinetic-object-recognition-core

do search on what else with object recognition by following command
apt-cache search ros-kinetic-object-recognition

install all the pacake
apt-get install ros-kinetic-object-recognition-capture
apt-get install ros-kinetic-object-recognition-core
apt-get install ros-kinetic-object-recognition-msgs
apt-get install ros-kinetic-object-recognition-reconstruction
apt-get install ros-kinetic-object-recognition-ros
apt-get install ros-kinetic-object-recognition-ros-visualization
apt-get install ros-kinetic-object-recognition-tod
apt-get install ros-kinetic-object-recognition-transparent-objects

install any of the following to the catkin_ws/src
git clone http://github.com/wg-perception/object_recognition_core

```
git clone http://github.com/wg-perception/capture
git clone http://github.com/wg-perception/reconstruction
git clone http://github.com/wg-perception/linemod
git clone http://github.com/wg-perception/ork_renderer
git clone http://github.com/wg-perception/tabletop
git clone http://github.com/wg-perception/tod
git clone http://github.com/wg-perception/transparent_objects
```

Edit ORK config file
You can edit the ork config file under the tabletop/conf folder, or you can copy the config files into a package you perfer to have, or you can copy the original file to other folder as backup.

Find the pepper camera topics
While have the pepper_full launch runing, open a new terminal, run *rostopic list* to see what topics does the Pepper have.
Modify the config file with relavent camera path for pepper as follow
detection.object.ros.ork
cd tabletop/conf
vim detection.object.ros.ork
Make sure is as following

```
parameters:
  rgb_frame_id: CameraTop_optical_frame
  rgb_image_topic: /pepper_robot/camera/front/image_rect_color
  rgb_camera_info: /pepper_robot/camera/front/camera_info
  depth_image_topic: /pepper_robot/camera/ir/image_raw
  depth_camera_info: /pepper_robot/camera/ir/camera_info
```

detection.table.ros.ork
vim detection.table.ros.ork
Make sure is as following

```
parameters:
  rgb_frame_id: 'CameraTop_optical_frame'
  rgb_image_topic: '/pepper_robot/camera/front/image_rect_color'
  rgb_camera_info: '/pepper_robot/camera/front/camera_info'
  depth_image_topic: '/pepper_robot/camera/ir/image_raw'
  depth_camera_info: '/pepper_robot/camera/ir/camera_info'
```

Build the workspace
catkin build –continue-on-failure
or if the workspace is build by catkin_make, then use
catkin_make
To add the workspace to your ROS environment you need to source the generated setup file:
. ~/catkin_ws/devel/setup.bash

check if the package can be found with roskpack find command
rospack find pepper_ork

If the package can be found, then continue follow the ork tutorial.

```
rosrun object_recognition_core detection -c `rospack find
pepper_ork`/config/detection.table.ros.ork
```

refrence site on how to get ORK work with robot (Japanese)
http://olfash.hateblo.jp/entry/fetch_experiment