kinect

`kinect` is a ROS package that provides nodes to acquire information from a Microsoft Kinect device.

How to install

Dependencies: please run the `rosdep` utility:

```
$ sudo apt-get install python-rosdep
$ sudo rosdep init
$ rosdep install kinect
```

Drivers

There are four drivers (primitives) that can be used with the Kinect.

- the ***freenect*** driver
    - It is open source
    - It does not consume a lot
- the ***pure openni 1*** driver, integrated in ROS
    - It gives you the RGB and the depth image, but not the user mask.
    - It is open source
    - It does not consume a lot
- the ***pure openni 2*** driver, integrated in ROS
    - very similar to OpenNI1
- the ***OpenNI+NITE*** driver
    - It gives you the RGB and the depth image, and the user map (that is a nice feature!)
    - It also publishes the skeleton, both as a set of ROS TF transforms (http://wiki.ros.org/tf ROS TF page]) and a NiteSkeletonList custom message (https://163.117.150.59/browser/repoAD/projects/devices/kinect/unstable_ros/msg/NiteSkeletonList.msg msg file])
    - It is closed source (at least the low level NITE engine)
    - It does not consume a lot

Which should I need?

It depends what you need. If you need the user map, go for NITE. Otherwise, use the freenect/openni one.

What topics do they supply?

They offer a unified interface:

- `/<robot>/rgb` [sensor_msgs/Image]
- `/<robot>/depth` [sensor_msgs/Image]
- `/<robot>/user` sensor_msgs/Image
- `/<robot>/skeletons` kinect/NiteSkeletonList
- `/<robot>/cur_tilt_angle` [std_msgs/Float64]
- `/tf` [tf/tfMessage]

Code API

Cf class `NitePrimitiveClass` and both implementations `nite_primitive_standalone.cpp` and `nite_primitive.cpp`