Running the Reflex Visualizer

The next Takktile tutorial is 5) Open and close the Takktile fingers and the next SF tutorial is 3) Open and close the SF fingers.

Hand Visualization in RVIZ

This tutorial will show how to set up visualization of the hand in rviz with ROS (Robot Operating System). The visualizer can be used to gain more insight into what the hand thinks is happening, which can be useful for debugging.

ROS: http://wiki.ros.org
RVIZ: http://wiki.ros.org/rviz

Installation

This tutorial assumes you have completed the installation instructions in the Takktile quickstart guide or the SF quickstart guide.

Run the visualizer

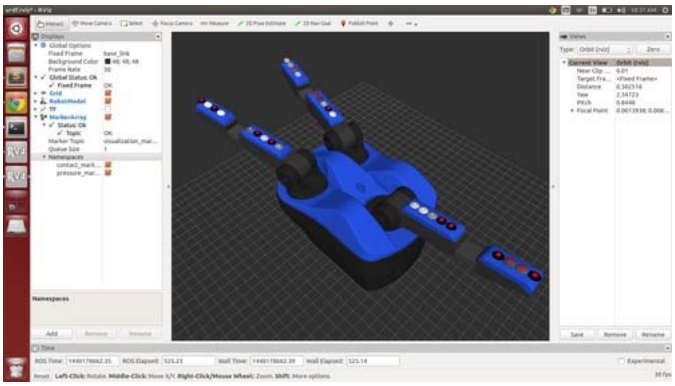
1) Hook up the hand and run reflex_takktile.launch for a Takktile hand, or reflex_sf.launch for an SF hand.

```
(Choose according to your hand type)
roslaunch reflex reflex_takktile.launch
roslaunch reflex reflex_sf.launch
```

2) In a new terminal, type

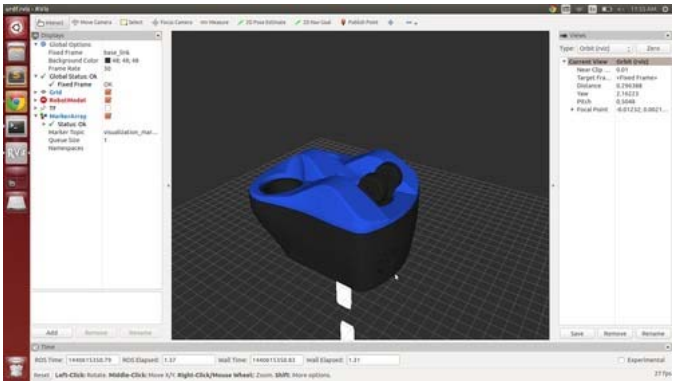
```
roslaunch reflex_visualizer reflex_visualizer.launch
```

RVIZ should start running the visualizer at that point. The tactile sensors for the ReFlex hand are displayed as colored markers on the finger pads.



Common Error: Visualizer appears to be broken

Sometimes the hand visualization will appear to be broken. This happens right after launching, when RVIZ hasn't starting populating the joint positions, and should go away shortly.



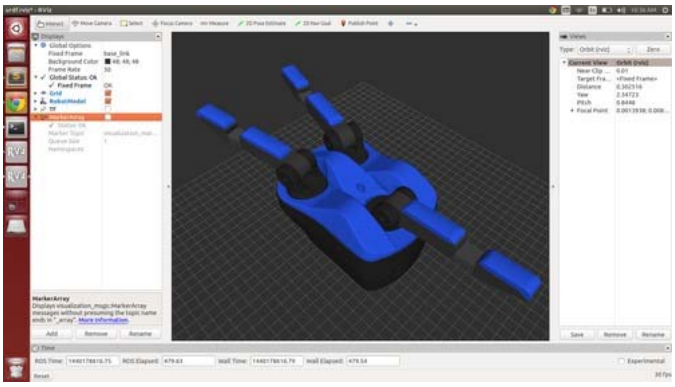
Variety of viewing options

There are some cool viewing options that you have to let you see exactly what you need to see. You can, for example, turn off the visibility of the pressure sensors so you can only see the fingers. You can also turn off the visibility of the fingers, which lets you view only the pressure sensors. This is very handy for making sure you can see all pressure sensors at once.

If you're using an SF hand, which doesn't have tactile sensors, then sensors won't be shown in RVIZ and your viewing options will be reduced.

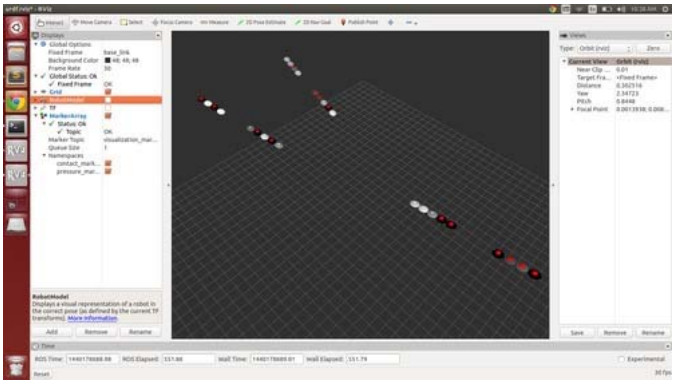
Viewing only the fingers

On the left sidebar of the visualizer you'll see a line called "MarkerArray". Uncheck the box next to this line to remove all pressure sensors. Click on the picture below to see it enlarged.



Viewing only the pressure sensors

On the left sidebar of the visualizer you'll see a line called "RobotModel". Uncheck the box next to this line to remove all physical components (fingers and palm). Click on the picture below to see it enlarged.

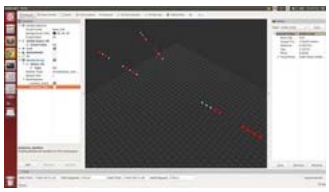


Viewing either type of tactile sensor (contact or raw pressure)

There are two types of sensor data available from the tactile sensors. First, you can get the raw pressure data. Second, you can get boolean "contact" data that is "True" for a given sensor based on the contact threshold.

You can view the markers that correspond to contact and pressure data together or separately. This is done by

going to the left sidebar in RVIZ, expanding the MarkerArray line, expanding the Namespaces line, and then checking/unchecking the contact_markers and pressure_markers checkboxes. Click the pictures below (how to view contact markers on the left, how to view pressure markers on the right) to see a screenshot of this process.




For more in-depth usage of the visualizer see the further visualizer information page.

Keep on going to the next Takktile tutorial 5) Open and close the Takktile fingers or the next SF tutorial 3) Open and close the SF fingers.

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Editing the URDF file for different Solidworks parts Fold

;-) Eric Schneider 3 Jul 2014, 17:46

If you want to edit the Solidworks files and then use those files in the visualizer, this Solidworks->URDF exporter has been useful for me.

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