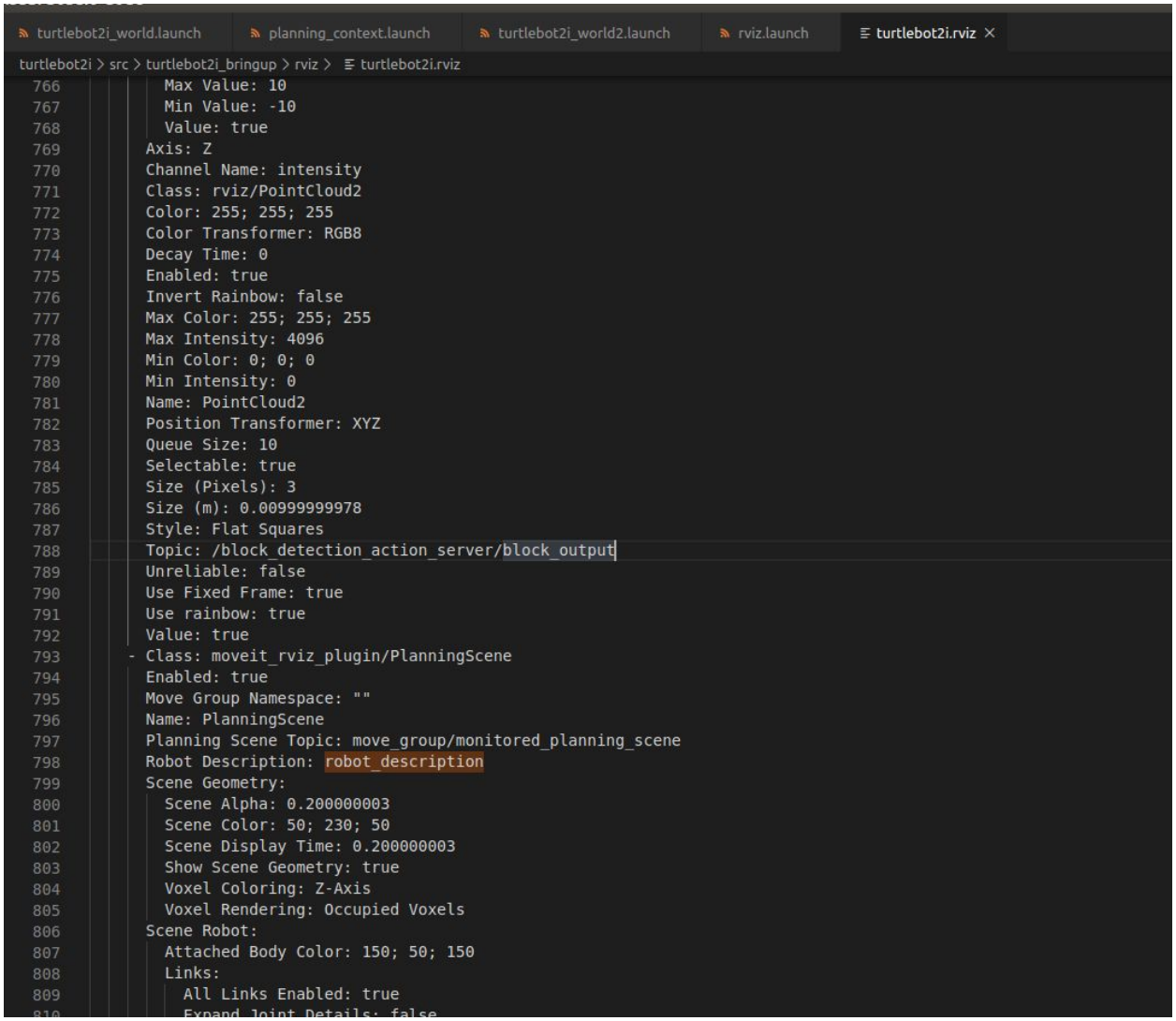
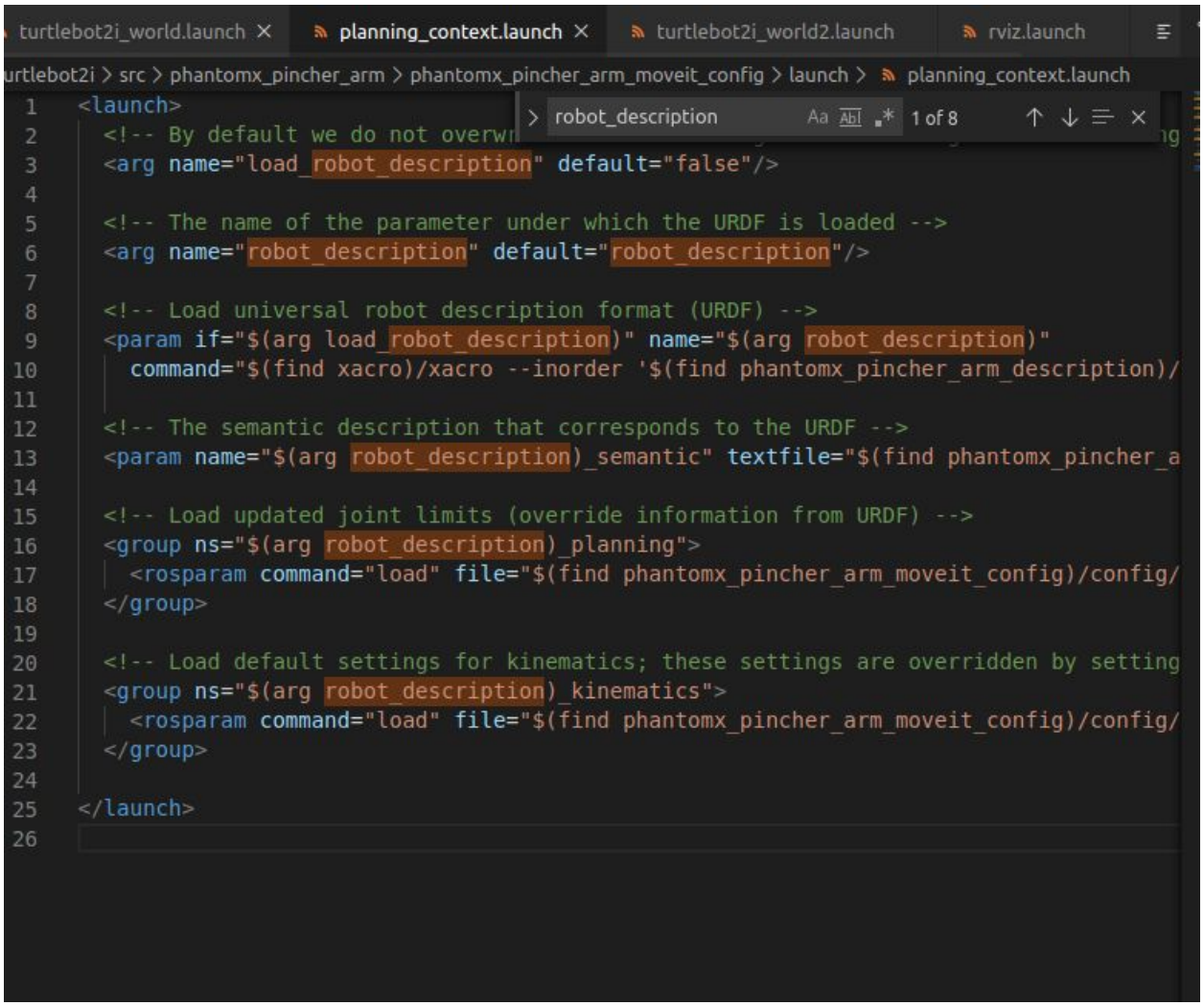
Rviz not coming up: issue with /robot_description_semantic

Found in rviz launch file:



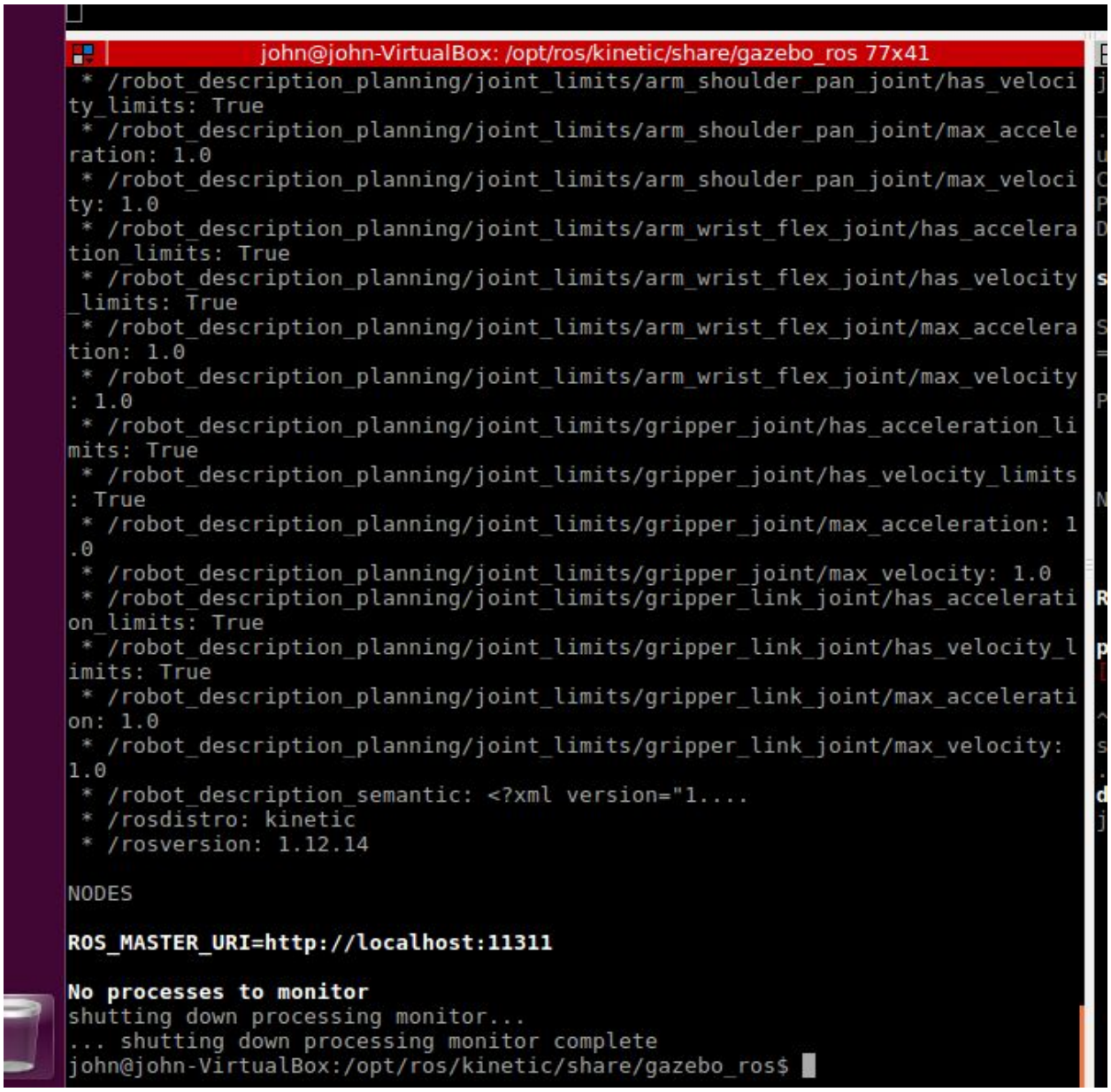
This is due to the Moveit package not being instantiated before this is:

It is launched in the ‘planning_context.launch’ file.

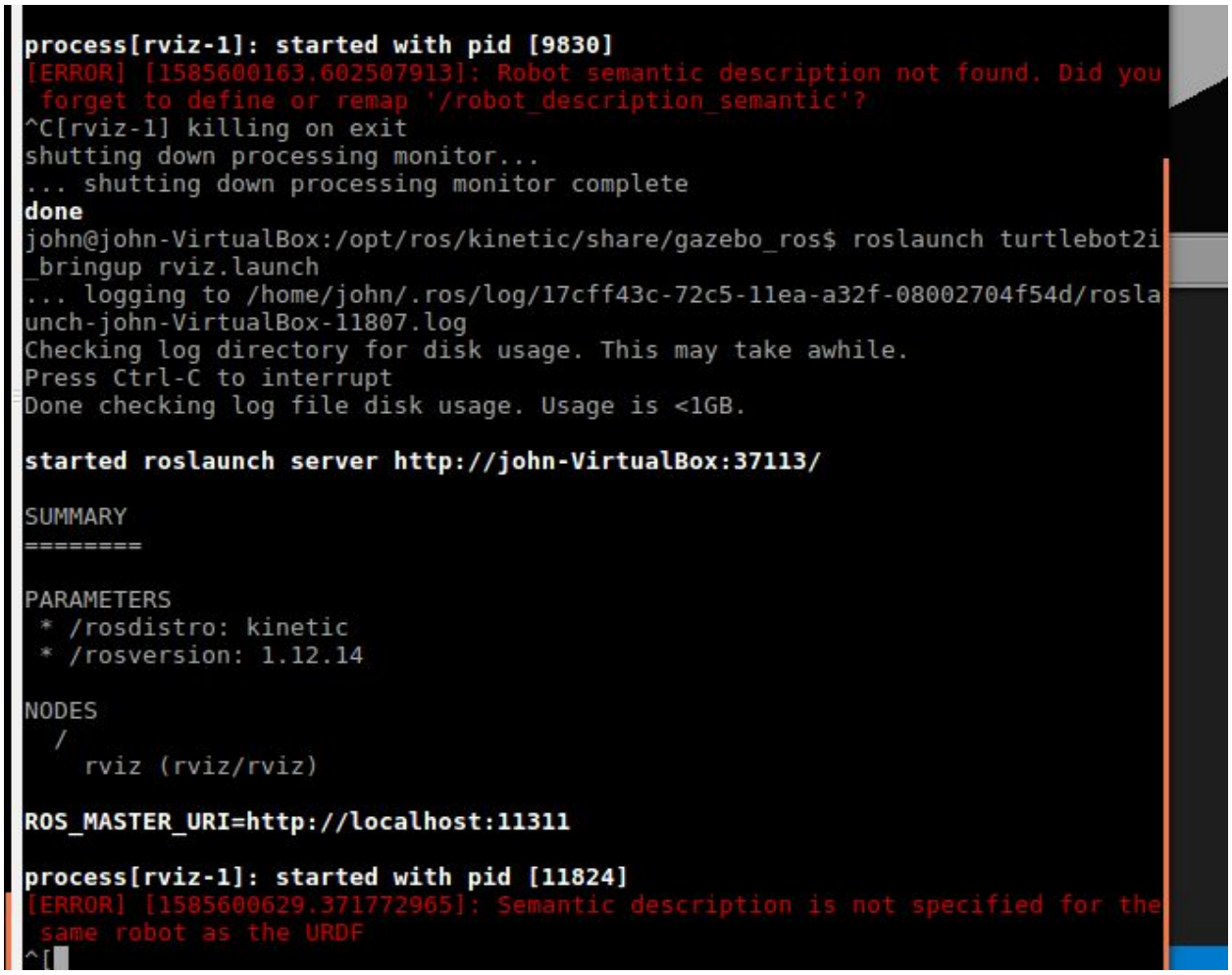


So I try running that along with the turtlebot2i_world.launch file before rviz to see if it fixes it.

Ran, then ended with no processes to monitor.

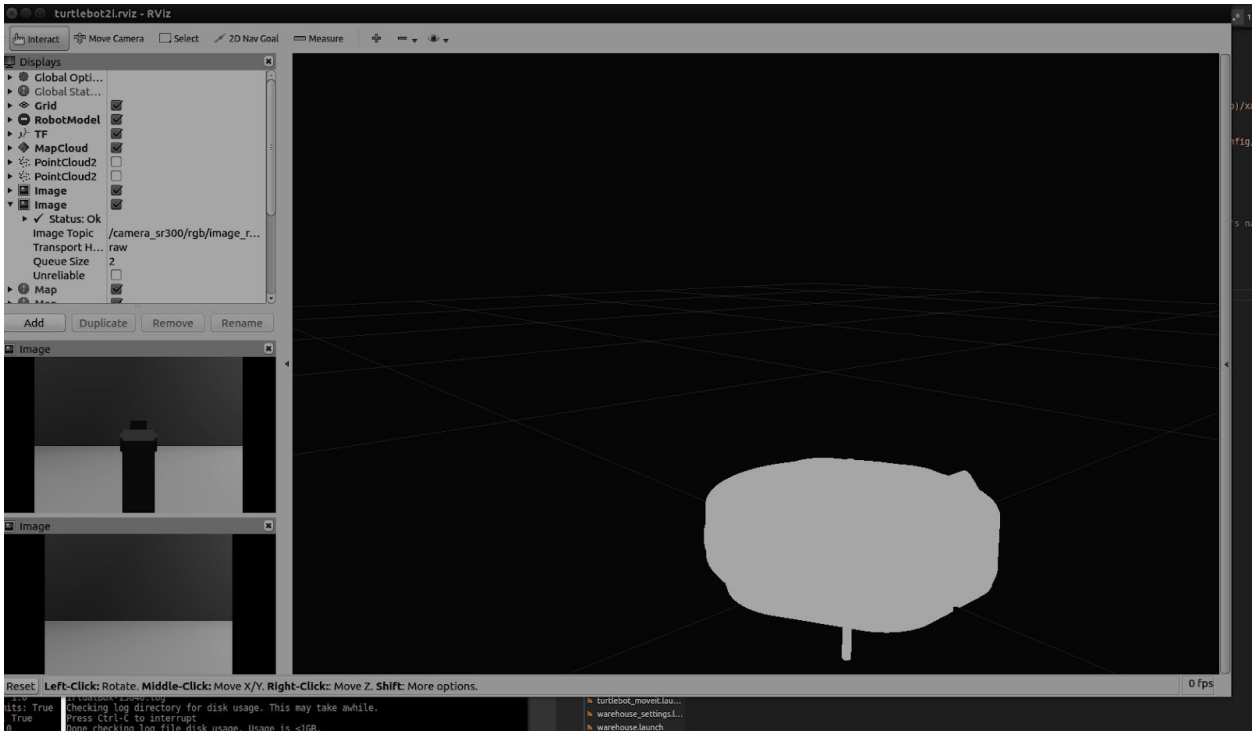


Tried to run rviz, got this error:



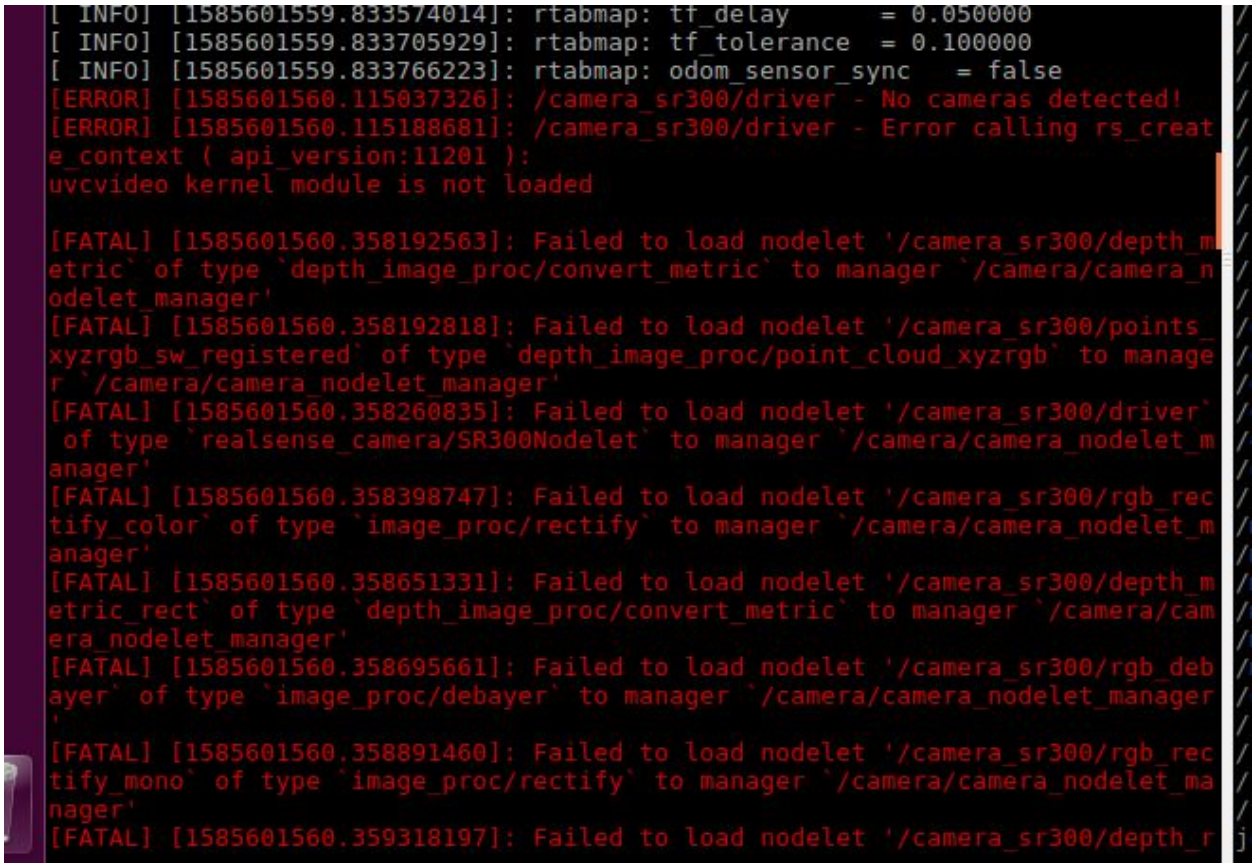
So the urdf is incorrect, must use another semantic param to load the correct urdf

Rviz will now load and display the image from the camera correctly, but will not load links correctly, and will freeze right after it turns on.



For now, trying to see if I can get the rtab to open correctly, in case that fixes Rviz problem:

Current problem:



In order to stop this error, I commented out the 3d_sensor launch file.

The rtab seems to launch without problems, but still need to make sure that the simulated camera is being used.

When run in this order:

Roslaunch turtlebot2i_gazebo turtlebot2i_world2.launch

roslaunch turtlebot2i_bringup rtabmap.launch args:=--delete_db_on_start

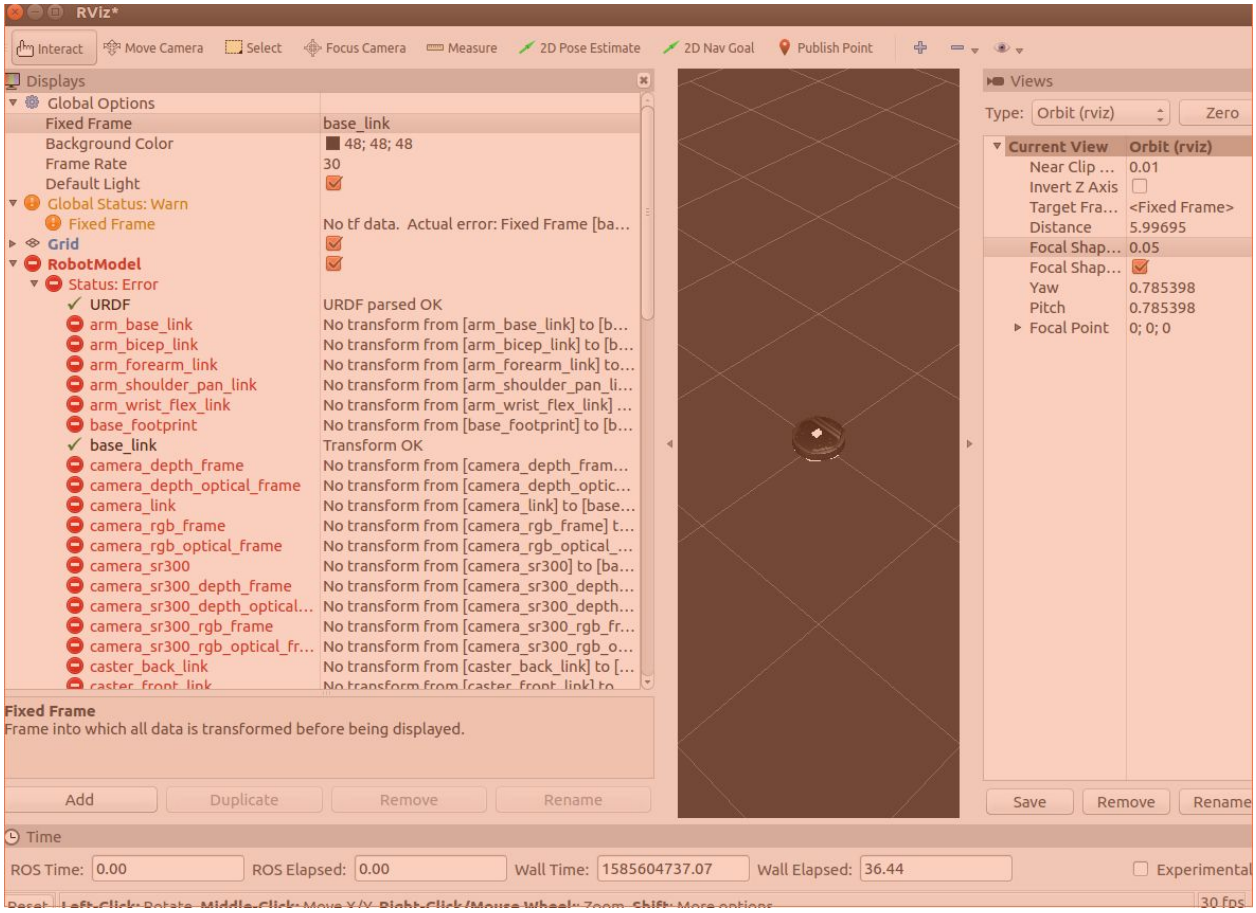
roslaunch turtlebot2i_moveit_config planning_context.launch

roslaunch turtlebot2i_bringup rviz.launch

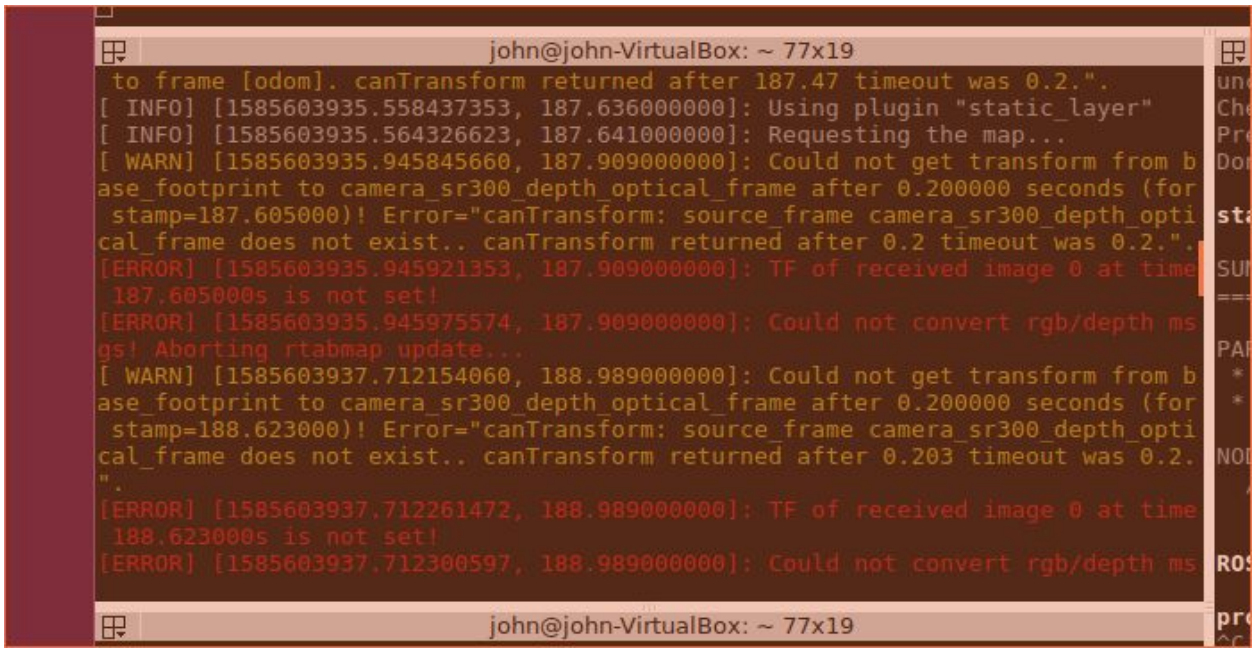
The rviz appears to have an image showing up, but then still freezes immediately.

Issue seems to be a URDF one, so I will go through it to make sure it all matches up like it should. Currently, nothing it linked correctly, even when the base_link is made the base link in RVIZ.

I need to be careful, however, since the URDF is currently working in Gazebo, so it's most likely a top level issue.



I'm guessing a similar URDF problem is what is causing this RTAB problem too:



I have modifed the launch file to take in a pre-processed URDF in order to parse out any potential errors. The URDF has all of the valid links, but when it is run in RVIZ, it shows that all but the base link does not have a valid transform.

As it turns out, the reason it was not working in RVIZ was that gazebo does not public joint states usually, so I need to do that on top of what else is going on.

So what I should do it remap /link_states to /tf since /link_states is in world frame, which is what I want.

Suddenly, Rviz seems to work completely correctly, except for gripper and wheels. I'm guessing it has something to do with Gazebo since their the only movable joints.