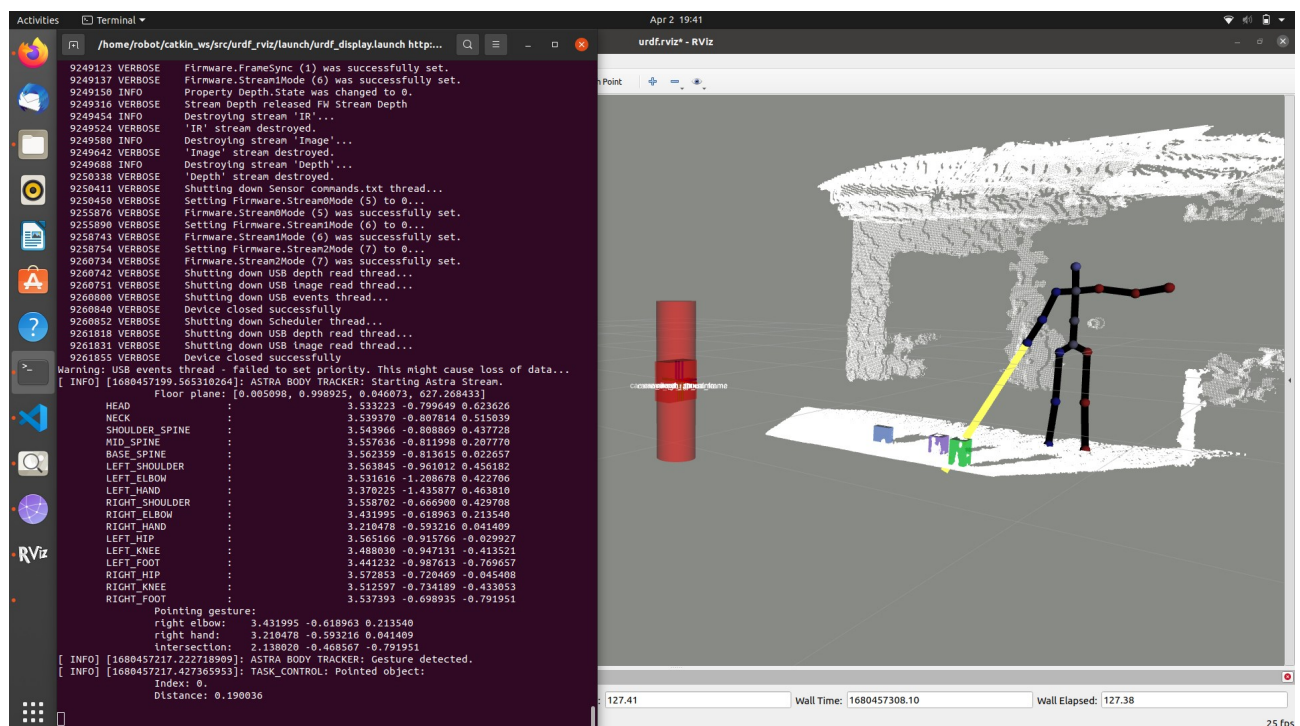


Diploma thesis: Deistic gesture recognition (2022-23)

1. Gesture detection with Orbbec Astra camera

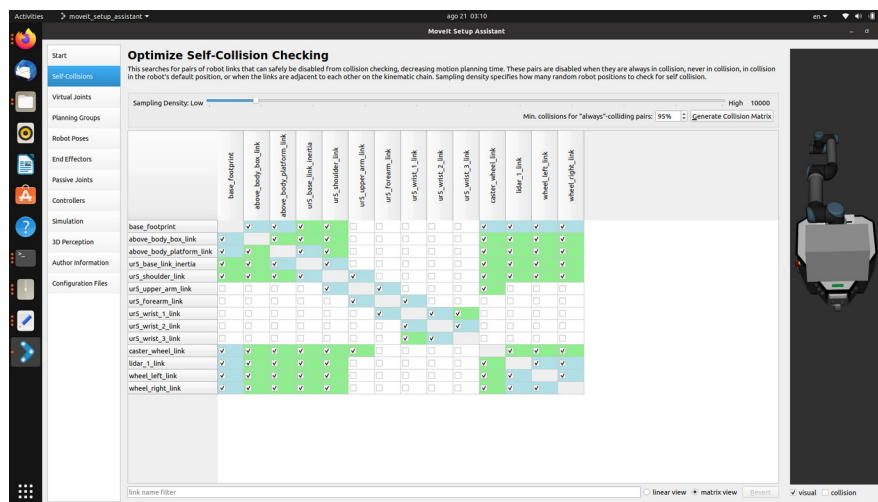
- modified packages and Astra SDK code to enable installation on ACER notebook
- minor fixes and improvements:
 - resolved timeout error
 - RGB calibration
 - objects detection frame (objects in scene are not detected when outside of frame)
 - modified Astra SDK Driver to enable stream termination using ROS messages
- added detection of raised hand gesture:
 - the right hand points to the selected object, the left hand confirms that the pointing gesture can be processed



2. Impakt robot: Neobotix with UR arm

- modified packages for robot control (source: NAIL108-2021) to enable installation on Lenovo PC
- setup connection to robot
- extended code for UR arm control (added positions for pick up task)
- performed basic tests (unsuccessful – collision were not detected)
- generated new configuration for robot using MoveIt Setup Assistant to enable proper collision detection for trajectory planning:

<https://github.com/LadaKa/deictic-gesture-recognition/pull/14>



- performed simulated tests in rViz and Gazebo:

<https://github.com/LadaKa/deictic-gesture-recognition/pull/15>

