Autonomous Systems & Introduction to Robotics

ROS practical session

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tf[3]

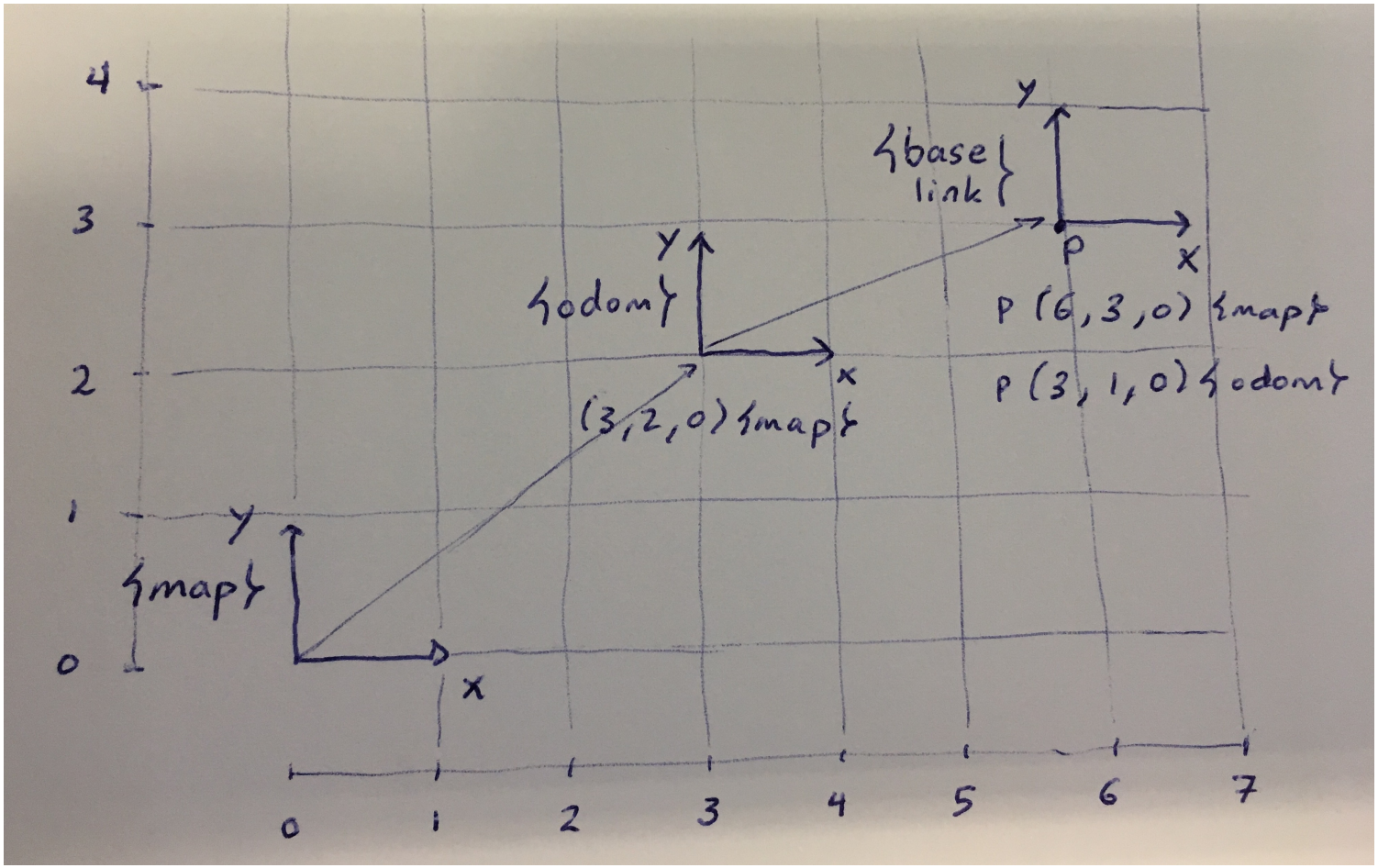
- Material from this slides was borrowed from here[1]
- tf is a tool for keeping track of coordinate frames over time.
- Lets the user transform points, vectors, etc. between coordinate frames at desired time.
- Implemented as publisher-subscriber model on the topics /tf and /tf_static
- New tf2 api can be consulted here[2]

[1] https://www.ethz.ch/content/dam/ethz/special-interest/mavt/robotics-n-intelligent-systems/rsl-dam/ROS2017/lecture3.pdf

[2] http://wiki.ros.org/tf2

[3] http://wiki.ros.org/tf

tf simple example (1)

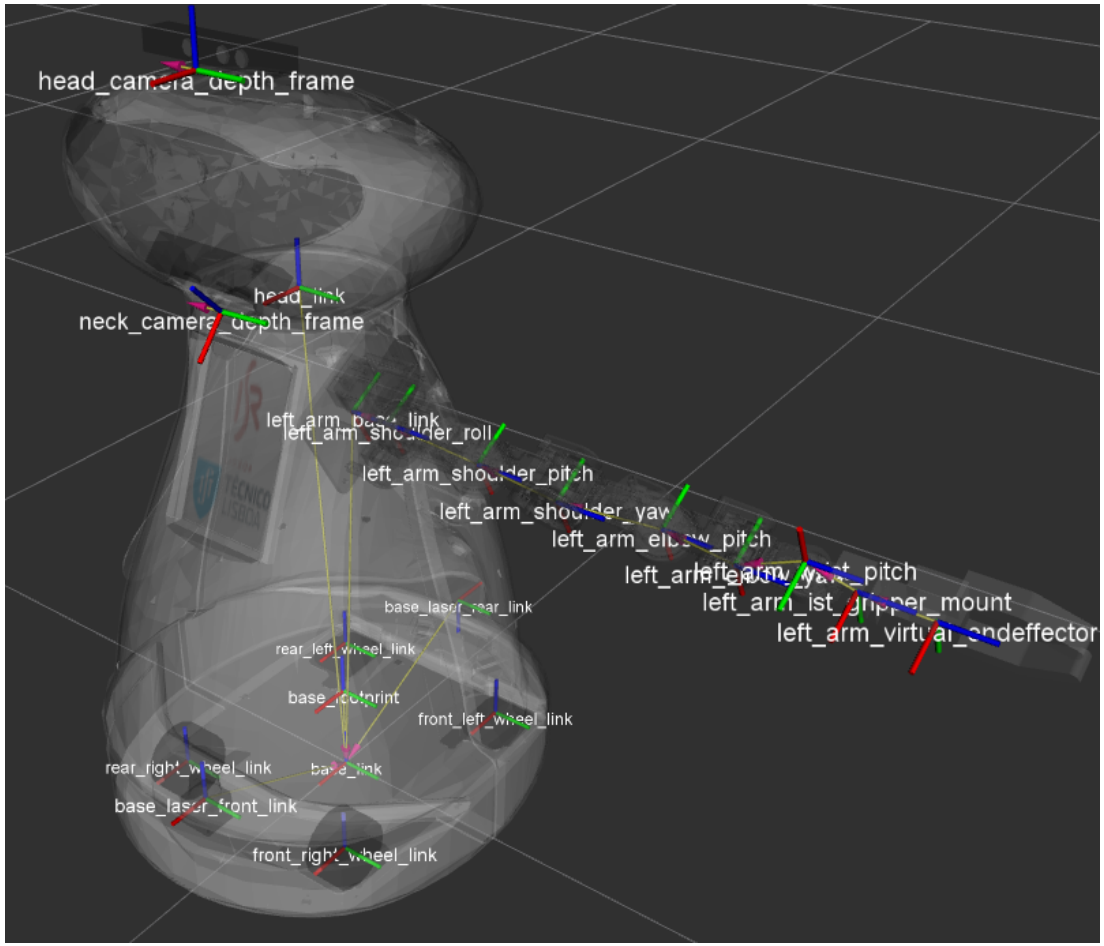


tf simple example (2)

- On rviz it looks like this

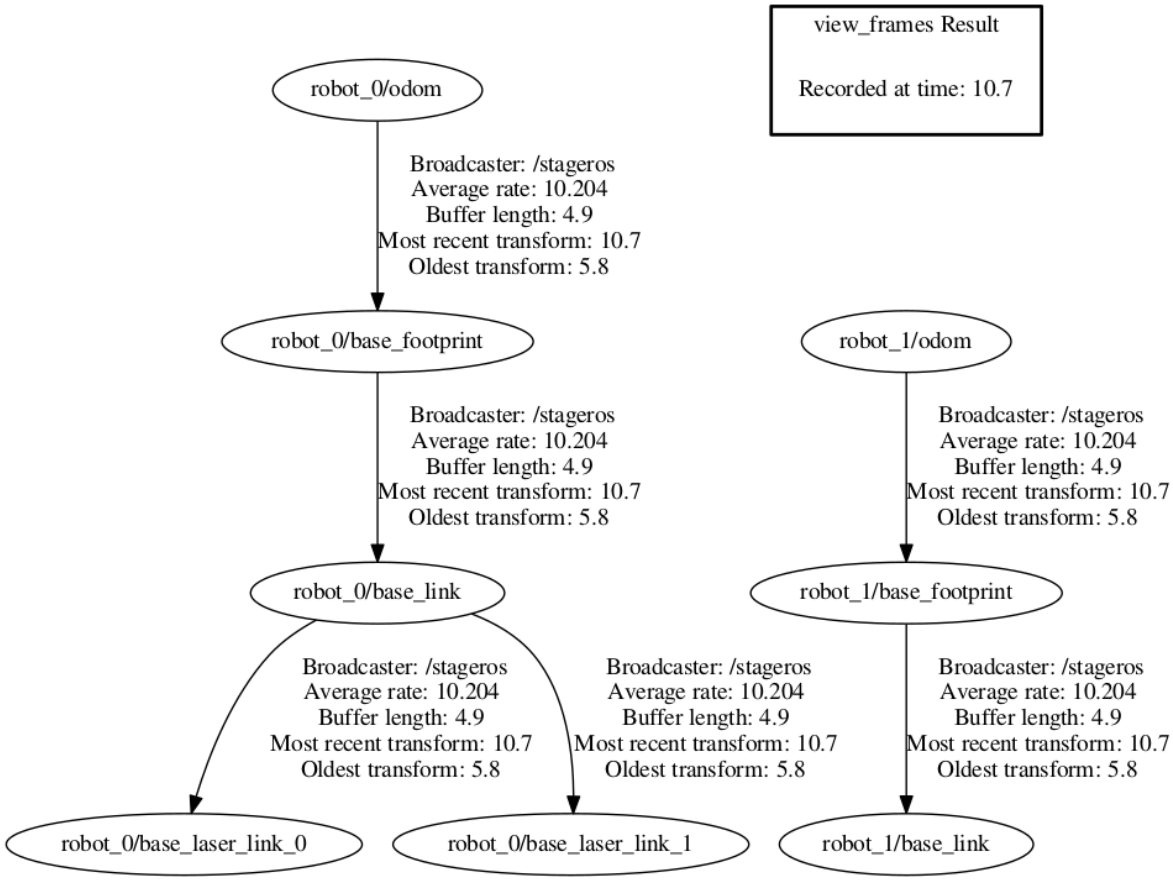
tf

- A real world example (mbot robot)



tf [4]

- Example tf tree for simulated pioneer + wall-e robot



[4] http://wiki.ros.org/tf

Pioneer P3-DX robot[5]

- Differential drive robot
- Weight: 9kg, max. speed: 1.2 m/s
- battery time: 8 hours w/ 3 batteries
- Front sonar ring
- All robots in the lab are equipped with a USB to serial converter

[5] http://www.mobilerobots.com/ResearchRobots/PioneerP3DX.aspx

Thank you!
Questions? :)

If you have a question please create a Github issue so that we can all benefit from the posted answers under:
`https://github.com/socrob/autonomous_systems/issues`