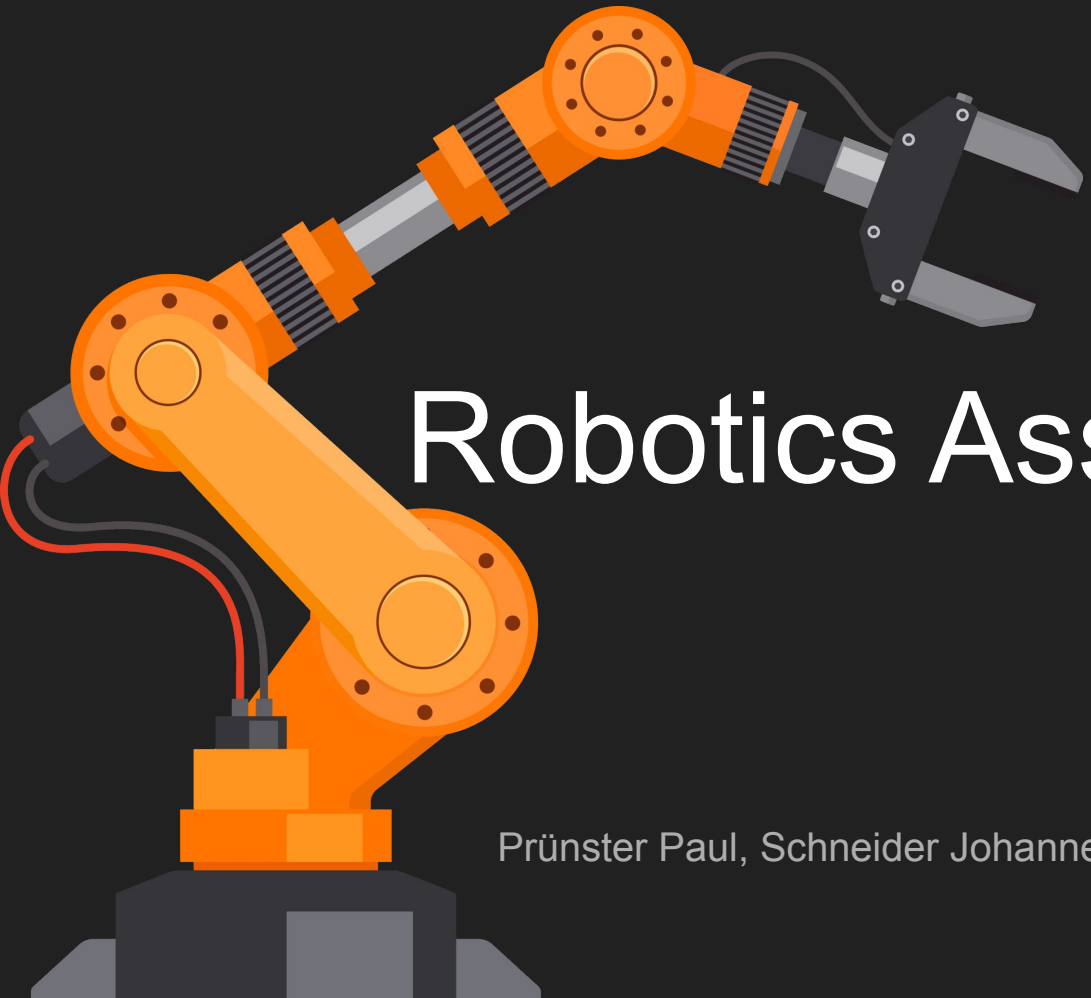
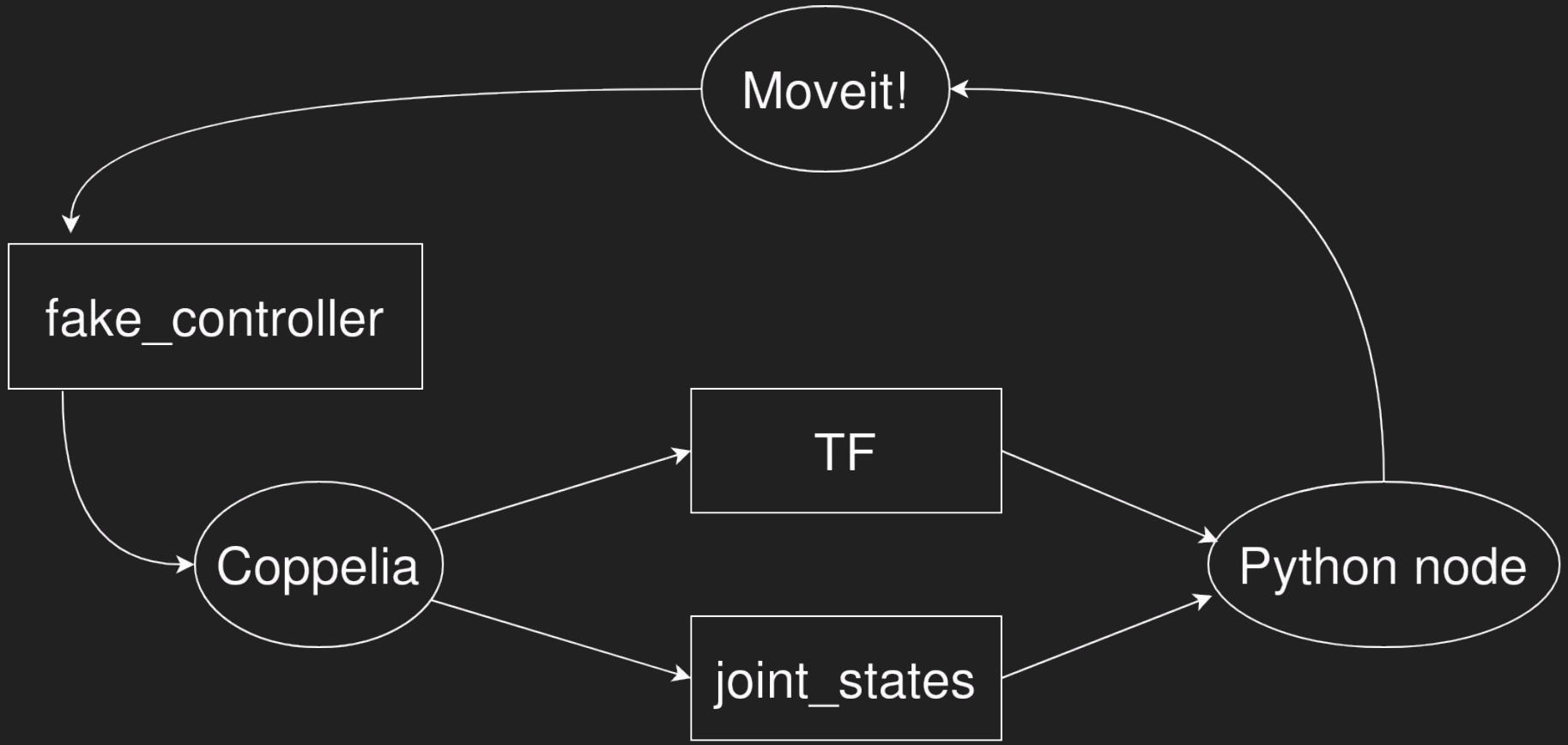


Robotics Assignment

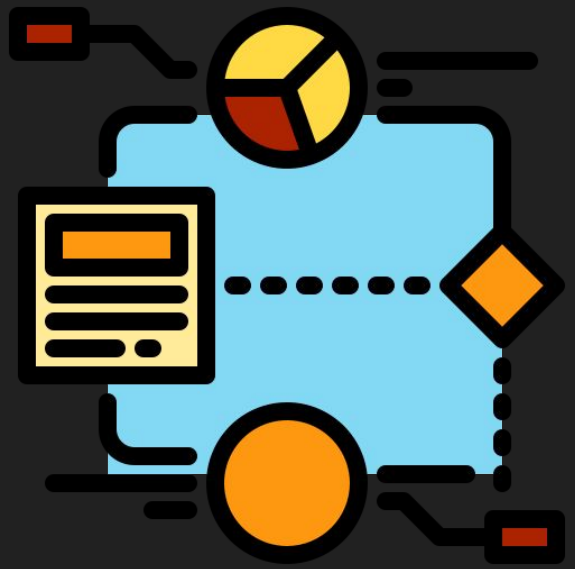
Prünster Paul, Schneider Johannes, Komar Matthias

Algorithm


Moveit!
fake_controller
TF
Coppelia
Python node
joint_states

Algorithm

- read the configuration and send it to python node
- python node reads configuration
- send configuration to MoveIt (Rviz)
- MoveIt (Rviz) plans and executes
- fake controller as interface for coppelia
- Franka adds objects into containers



Running the program

How to run the program

4 terminals with this configuration:

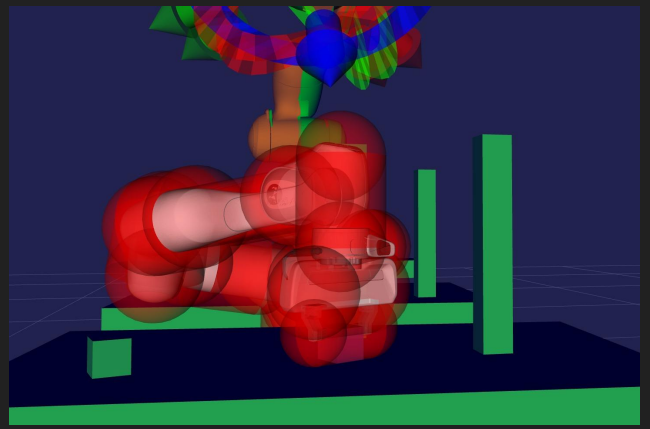
- running “roscore”
- running “roslaunch launch/InverseKinematicsControl.launch” which runs
  - Rviz
  - Coppelia Scene
  - Inverse Kinematic Control

```
<?mxl version="1.0"?>
<launch>
    <include file="$(find panda_moveit_config)/launch/demo.launch"/>
    <node name="coppelia" pkg="inverse_kinematic_control" type="run_coppelia.py" output="screen" args="$(find inverse_kinematic_control)/scene.ttt"/>
    <node name="Moveit_main_node" pkg="inverse_kinematic_control" type="inverse_kinematic_control_node.py" output="screen"/>
</launch>
```

Issues and Problems

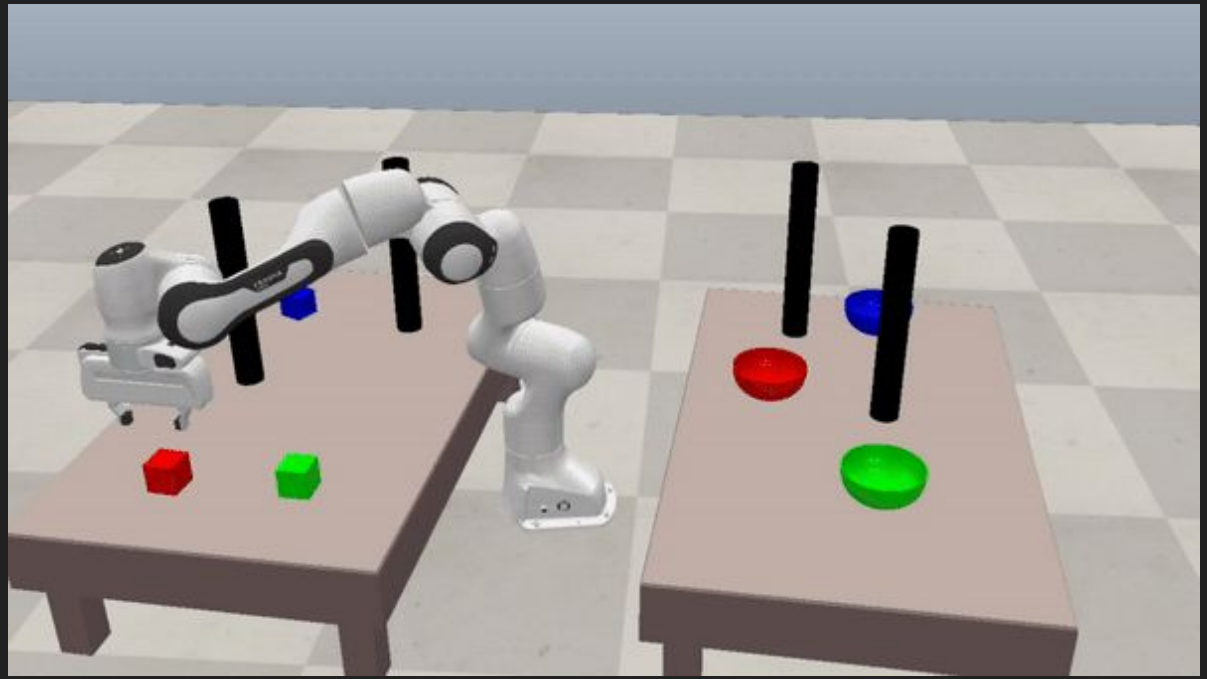
Issues and Problems

- Nothing worked:
  - hard to find good docs and working examples
  - Coppelia code editor was not ergonomic
  - Many collision states in the beginning with the cubes
  - offset of objects
  - objects can not always be placed
  - not reliable at all



Demo

Demo



Thanks for Your Attention!