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ARIAC 2018

Robot agility

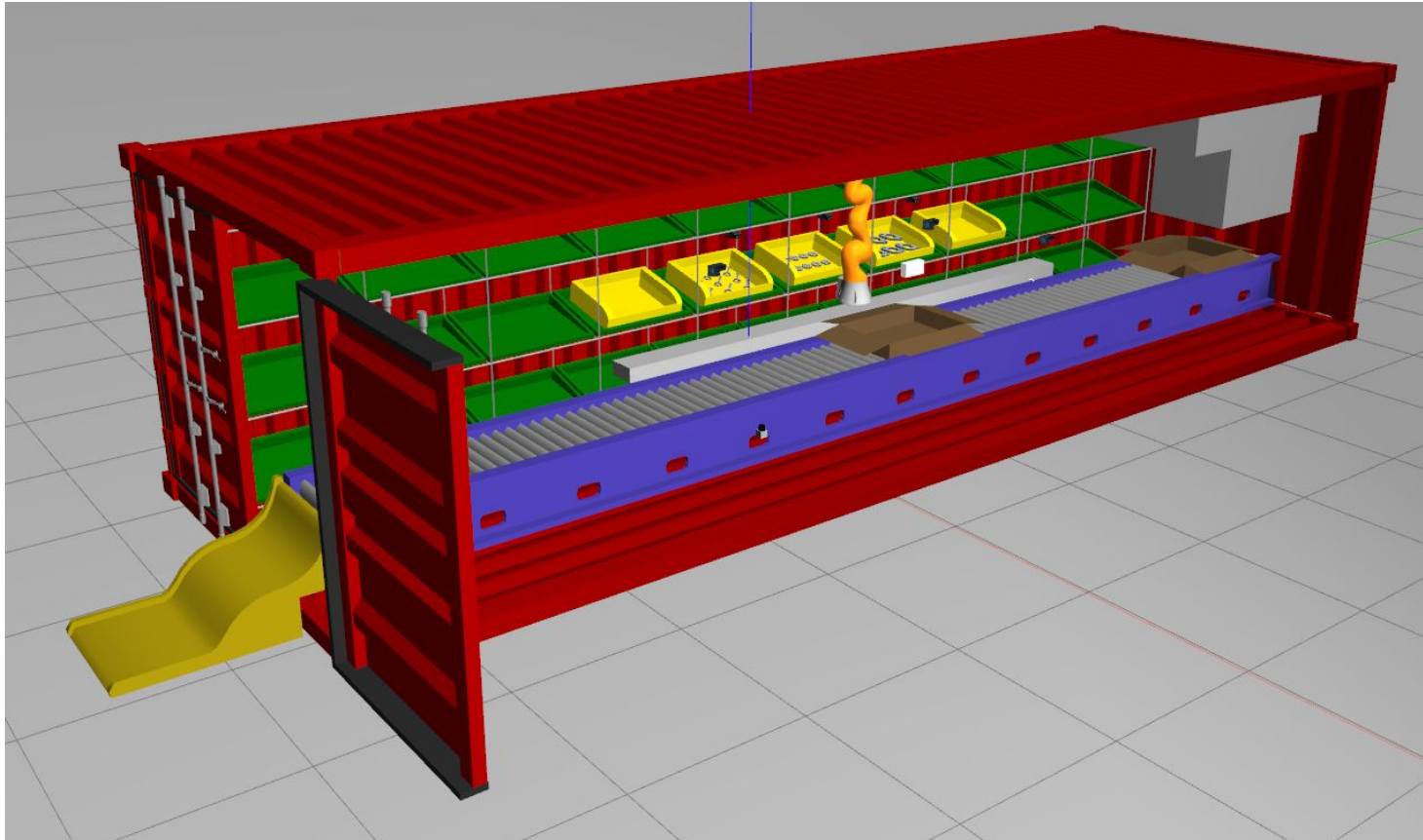


What is ARIAC?

- Agile Robotics for Industrial Automation Competition
- Competition by NIST
- Robot agility



The competition



Implementation

- ROS and Python
- Nodes, topics, publishers, subscribers
- Sensors
- MoveIt!

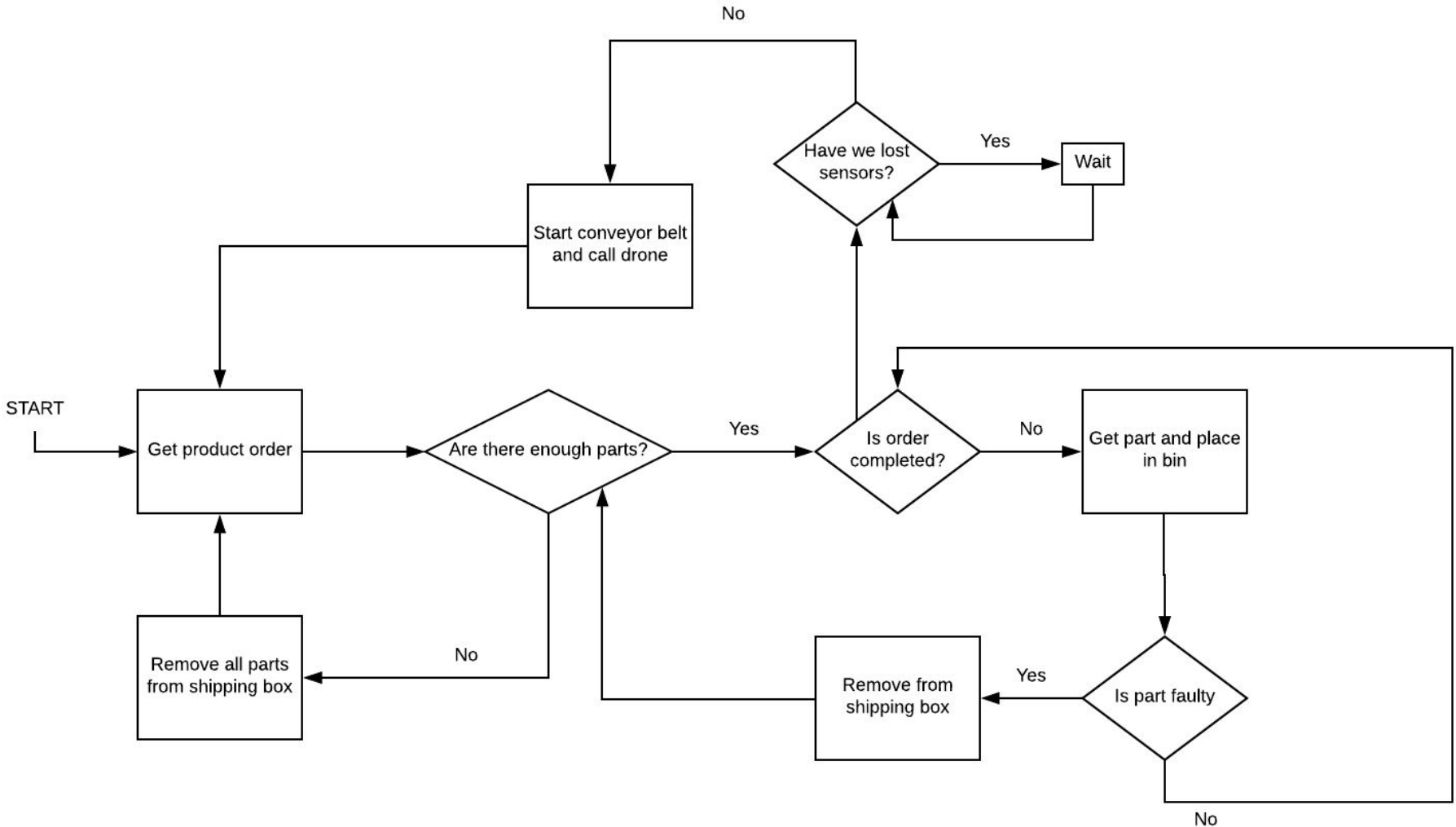


Implementation - MoveIt

- Path planning
- Transformation from joint values to world coordinates
- Collision checking (Did not work)



Our solution (Simplified)



Challenges and problems

- Path planning
- Deprecated code and lacking documentation
- ROS and system requirements



Demo



Conclusion

- Programming robots is hard!
- Hardest part was programming robotic movement
- Interesting to fully automate a process
- End result is efficient





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