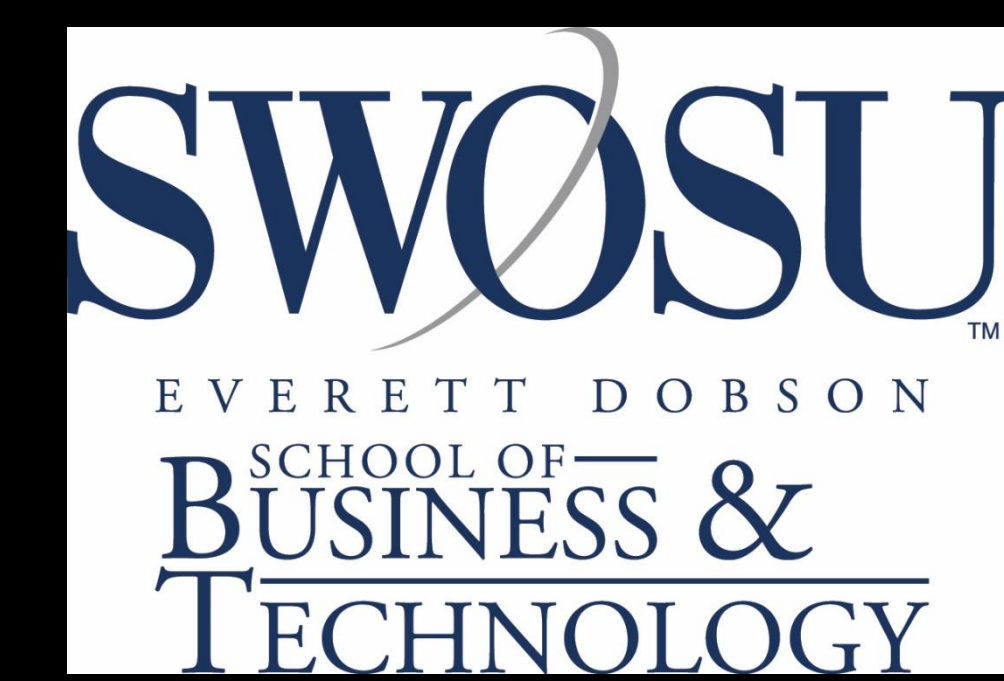# Robot Simulation Analysis

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Definitions

- ROS – Robot Operating System. An open source suite of programs designed to be implemented in various robot platforms
- SLAM – Simultaneous Localization and Mapping. The estimation of an unknown map and an agent's location inside it
- Turtlebot – Entry level robotics platform, utilizing open source software

The Virtual Machine VirtualBox
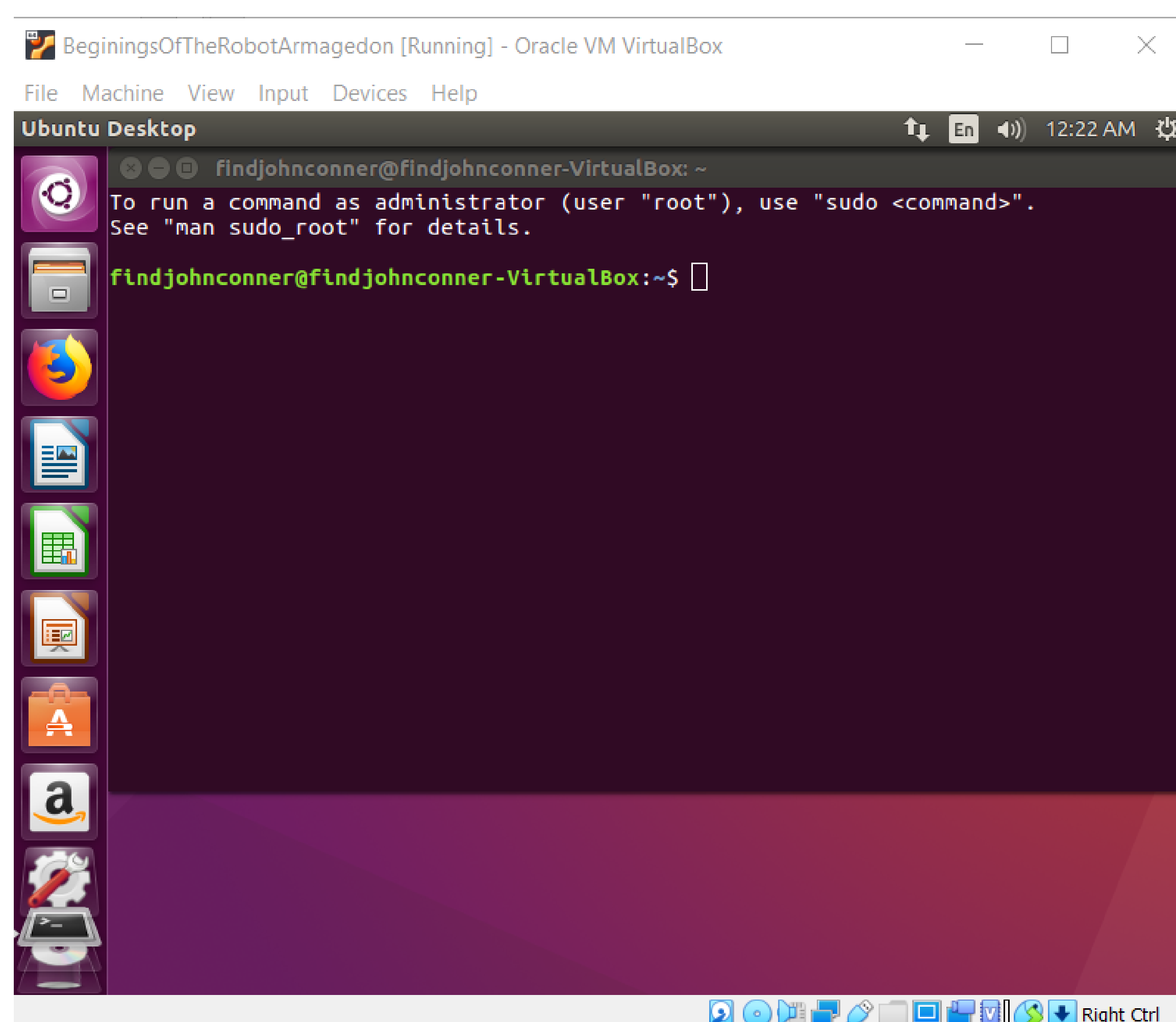
Objectives

- Build a tutorial targeted to Middle School and High School Students to get ROS running on a Virtual Machine
- Make ROS and it's simulations approachable to middle school and high school students.
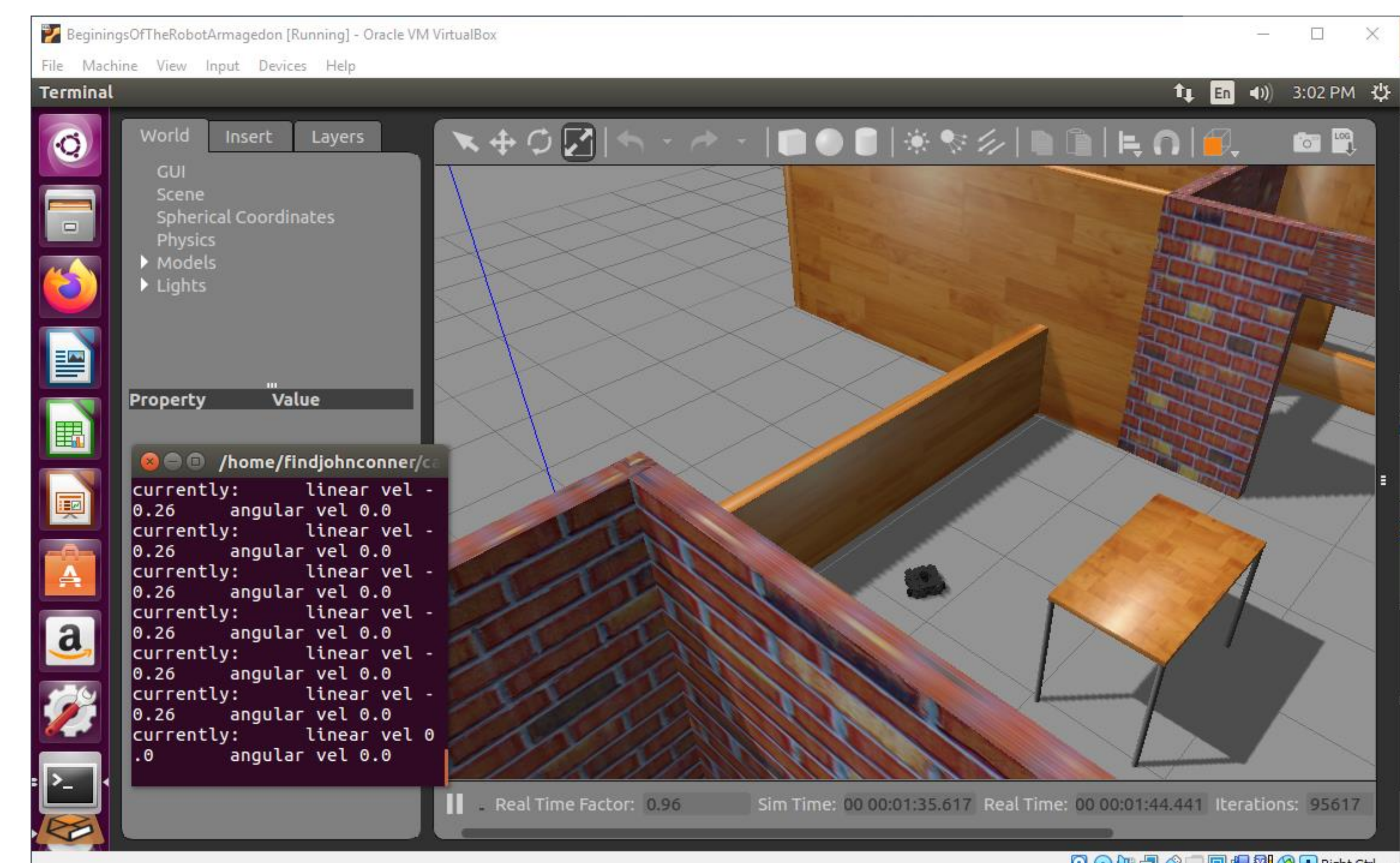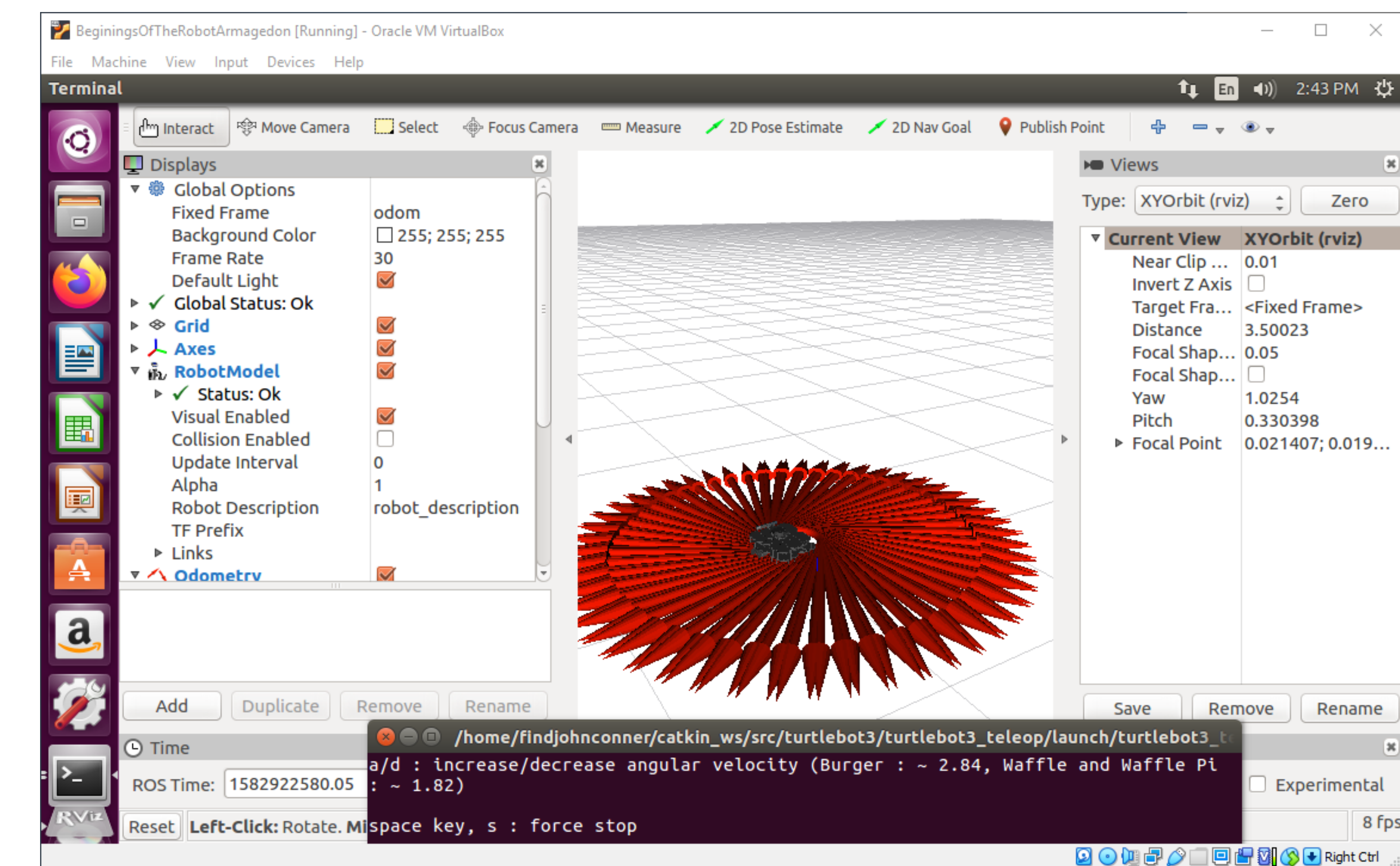
Project Future

- Expand on the Simulation control tutorials, smoothing out the learning curve for the ROS simulations
- Make a tutorial teaching about SLAM and how to use and manipulate SLAM
- Implement in real life with iRobot Create (Roomba)

Methods

- Created robot simulation: Gazebo
- Created Virtual Machine: VirtualBox with Ubuntu 16.04

The End Product

References

ROS Documentation. (n.d.). Retrieved from ROS Wiki: wiki.ros.org

Turtlebot3 Documentation. (n.d.). Retrieved from Robotis: emanual.robotis.com/

Troubleshooting Documentation. (n.d.). Retrieved from community forums: answers.ros.org