Principles of Robot Autonomy I

Section 5: Point-to-Point Navigation!
Make Sure Repo is Up-to-date!!!

cd ~/catkin_ws/src/asl_turtlebot && git pull
Aims

• Implement navigation around obstacles on the turtlebot
• Learn how to read and understand ROS source code
• Run your homework code on the robot!
Navigate Around Obstacles

• Robots are running SLAM for mapping and localization
• We cover how SLAM works next week
• Today, we’ll use the map and position estimates that we have to drive the robot around obstacles
Navigator Structure

• Follow a structure similar to homework 2
• Plan using A*
• Track using the differential flatness controller
• Park at goal using the pose controller
Important Caveats

• Only run one navigator on the real robot at a time!
• **Take turns** testing your code
• Keep the robots **on the ground**
• Be careful about the wires!
• Have someone ready to open the teleop node to take control