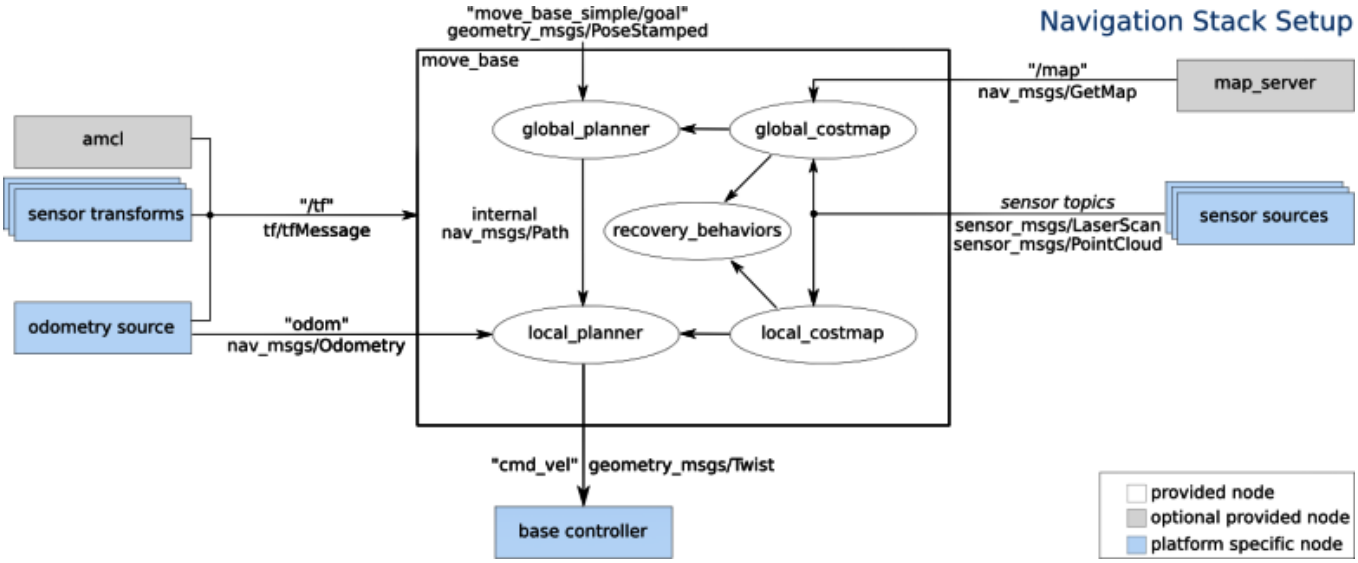
ROS NAVIGATION REFERENCES

ROS Robotics By Example, Fairchild and Harman Chapter 4 Navigating the World with TurtleBot

In this chapter, you will learn the following topics:
• How 3D vision sensors work
• The difference between the four primary 3D sensors for TurtleBot
• Details on a 2D vision system for TurtleBot 3
• Information on TurtleBot environmental variables and the ROS software required for the sensors
• ROS tools for the rgb and depth camera output
• How to use TurtleBot to map a room using **Simultaneous Localization and Mapping** (**SLAM**)
• How to operate TurtleBot in autonomous navigation mode by **adaptive monte carlo localization** (**amcl**)
• How to navigate TurtleBot to a location without a map
• How to navigate TurtleBot to waypoints with a Python script and a map



Introduction to Navigation using ROS

https://www.dis.uniroma1.it/~nardi/Didattica/CAI/matdid/robot-programming-ROS-introduction-to-navigation.pdf

ROI – TEACHING ASSISTANT Slides

ROS - Lesson 7

•ROS navigation stack

•Navigation planners

•Costmaps

•Running ROS navigation with Stage and rviz

•Sending goal commands
(C)

https://u.cs.biu.ac.il/~yehoshr1/89-685/Fall2015/ROS_Lesson7.pdf

Learn how to drive TurtleBot autonomously using ROS and code.

Cara Sperbeck Uses Silliman's Code. Makes a Map and then Navigates to a point on the map.

https://www.youtube.com/watch?v=n8hmtVMMjaQ 4:57

ROS - amcl

http://wiki.ros.org/amcl