Simultaneous Localization and Mapping Pipeline.

Turtlebot 2e

RPLidar

RPi

Kobuki

RPLidar —2D Laser Scans→ RPi ←Odometry— Kobuki

RPi

RPLidar —2D Laser Scans→ Gmapping ←Odometry— Kobuki

Teleop —Velocity Commands→ Kobuki
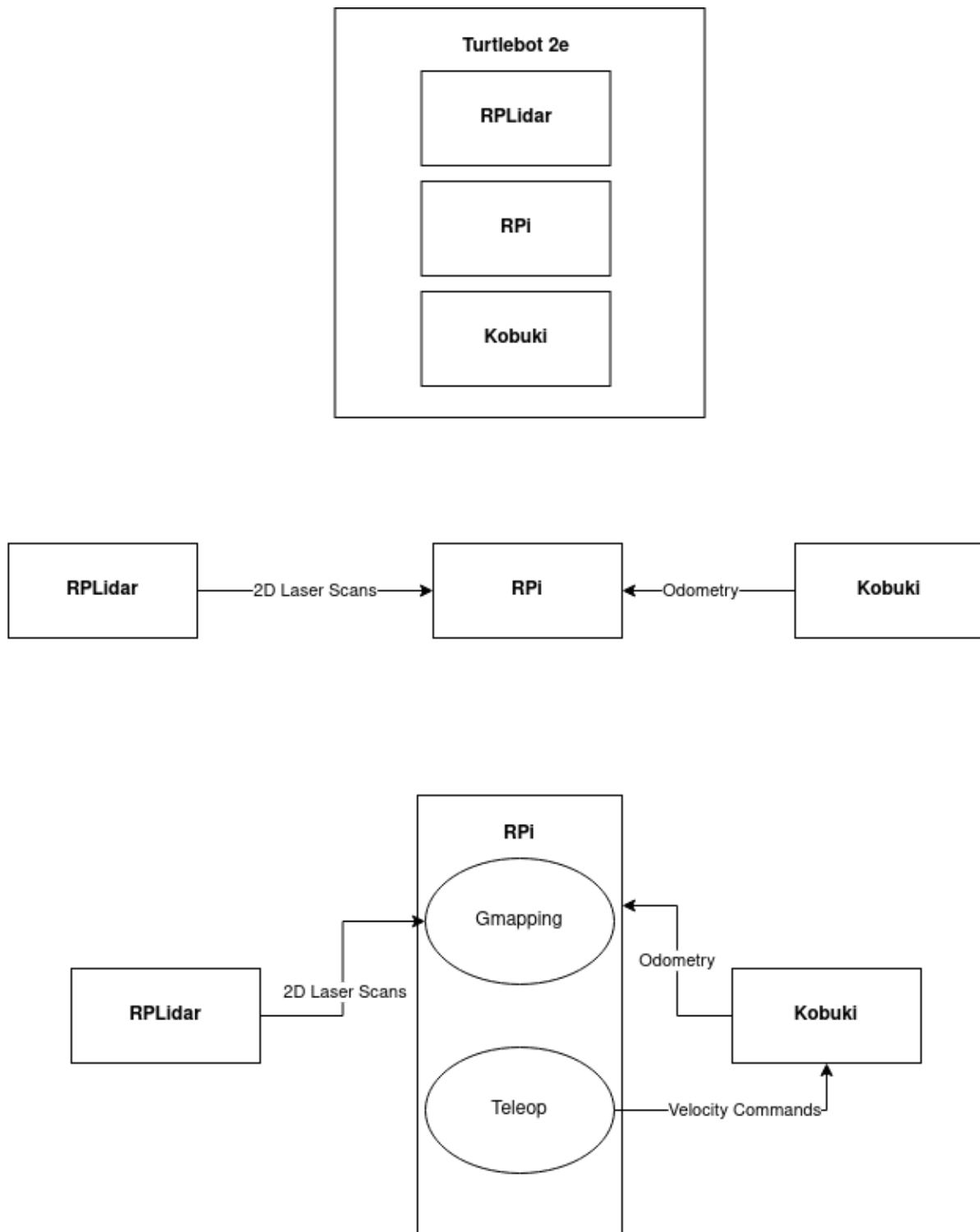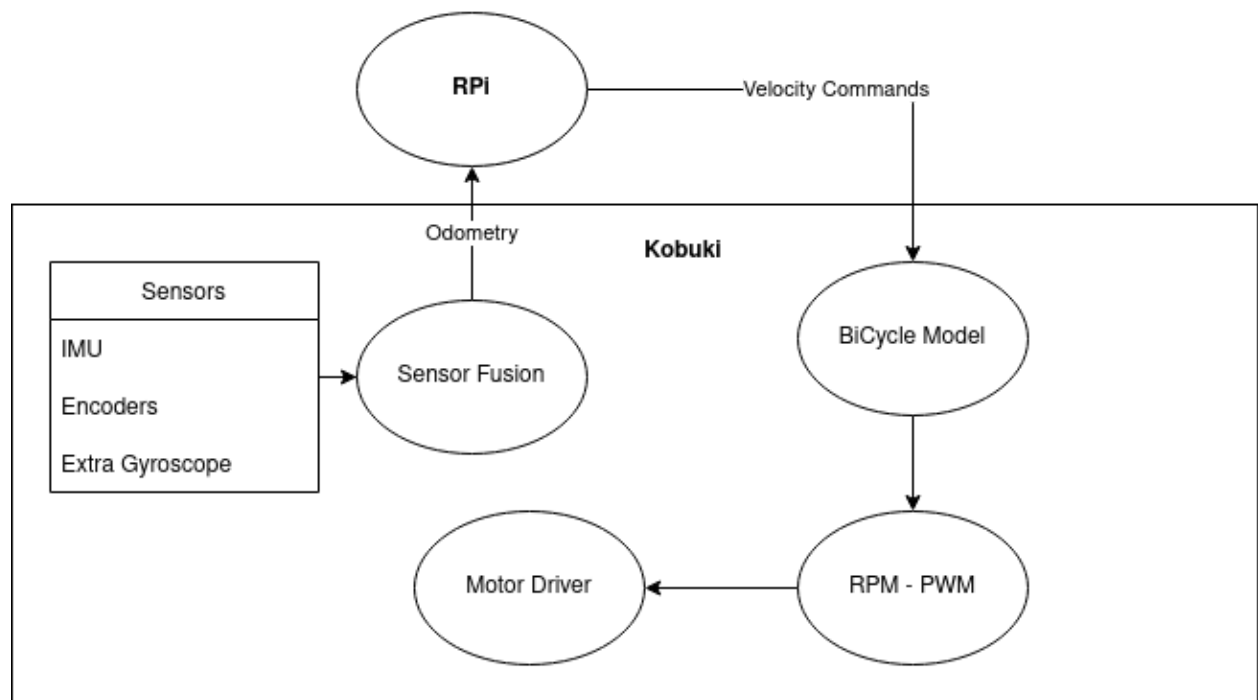
More Information on GMapping:
http://www2.informatik.uni-freiburg.de/~stachnis/pdf/grisetti05icra.pdf