

For this assignment, you should upgrade the "lidar\_alarm.cpp" code in the provided "lidar\_alarm" package to make it smarter.

Instead of relying on only a single "ping" to detect obstacles in the robot's path, it should examine an entire "corridor".

Run your revised lidar\_alarm node together with the STDR simulator and a reactive motion commander. At a minimum you can use the "reactive\_commander.cpp" in the provided "stdr\_control" package. Better still, you could (optionally) make this commander more intelligent (or at least more interesting).

### **Deliverables**

- Your code, in package form, with CMakeLists.txt, package.xml, and source in a **ROS package** form (**Do NOT just submit the CPP file!**)
- A brief report describing your theory of operation (your algorithm's logic for lidar\_alarm, and, optionally, reactive\_commander)
- a Kazaam movie (\*.mp4) of your nodes running the STDR simulator (or youtube link to it)
- a link to your github repository with your source code

**Please ZIP all of these things up in a folder titled "ps2\_caseID.zip" (ex. ps2\_abc123.zip)**