**Write-up explaining the packages used for this project**

The Home Service Robot project includes a number of scripts that place a robot in a Gazebo world which is also visualised using Rviz. The scripts are:

launch.sh: This is just a test script to check that gazebo, rviz and roscore run correctly.

test\_slam.sh: This uses gmapping to create a map of the environment as you navigate around it using the turtlebot teleop package.

test\_navigation.sh: This uses an existing map (map.yaml) to localize via amcl.

pick\_objects.sh: This uses the pick\_objects package which to define 2 goals for the robot to navigate to including waiting 5 secs at the first goal.

add\_marker.sh: This uses the add\_markers package which displays a marker at the first goal defined by pick\_objects to represent an object to be “collected” by the robot and left at the 2nd goal where it will be redisplayed when the robot arrives. The robot also waits 5 seconds at the 1st goal (pickup) location.

home\_service.sh: This combines all the functional features into a final project.