

Slam can be used to localize the robot through using lidar slam which uses a laser sensor which provides high-precision distance measurements and works very effectively for map construction with slam. Moreover, the same idea with ultrasonic sound will be done. One in each direction to determine the coordinates without knowing the map as the laser sensor will reach the max values that the robot can reach from the beginning. As well as, using two sensors in the same axis ensure the understanding of the coordinates without knowing the map.