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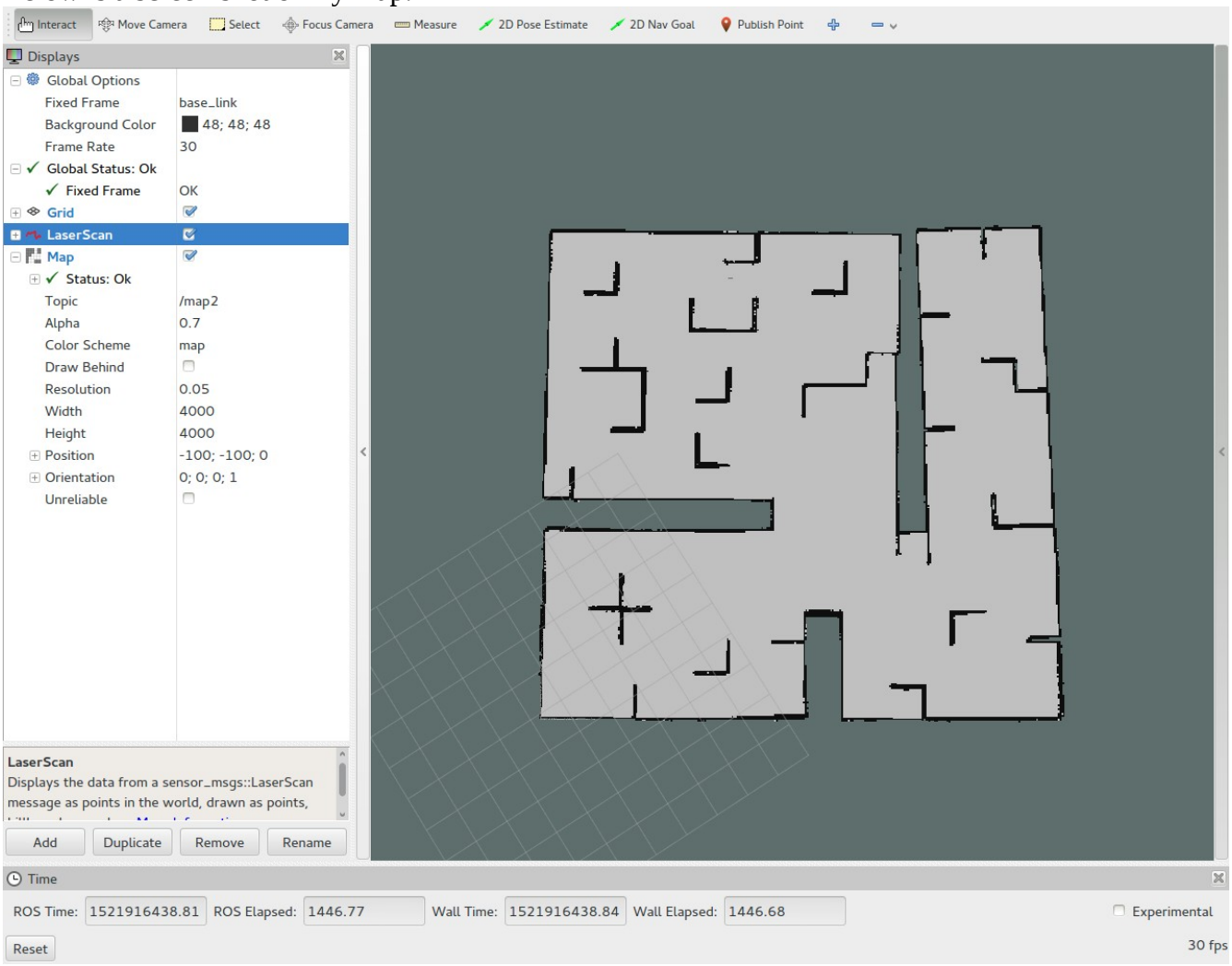
rnk14
EECS 476
Ps5

In this submission you will find a copy of this writeup as well as a zip folder with all of my images and yaml, etc. as well as another copy of this writeup.

Github: https://github.com/RossKasal/EECS476

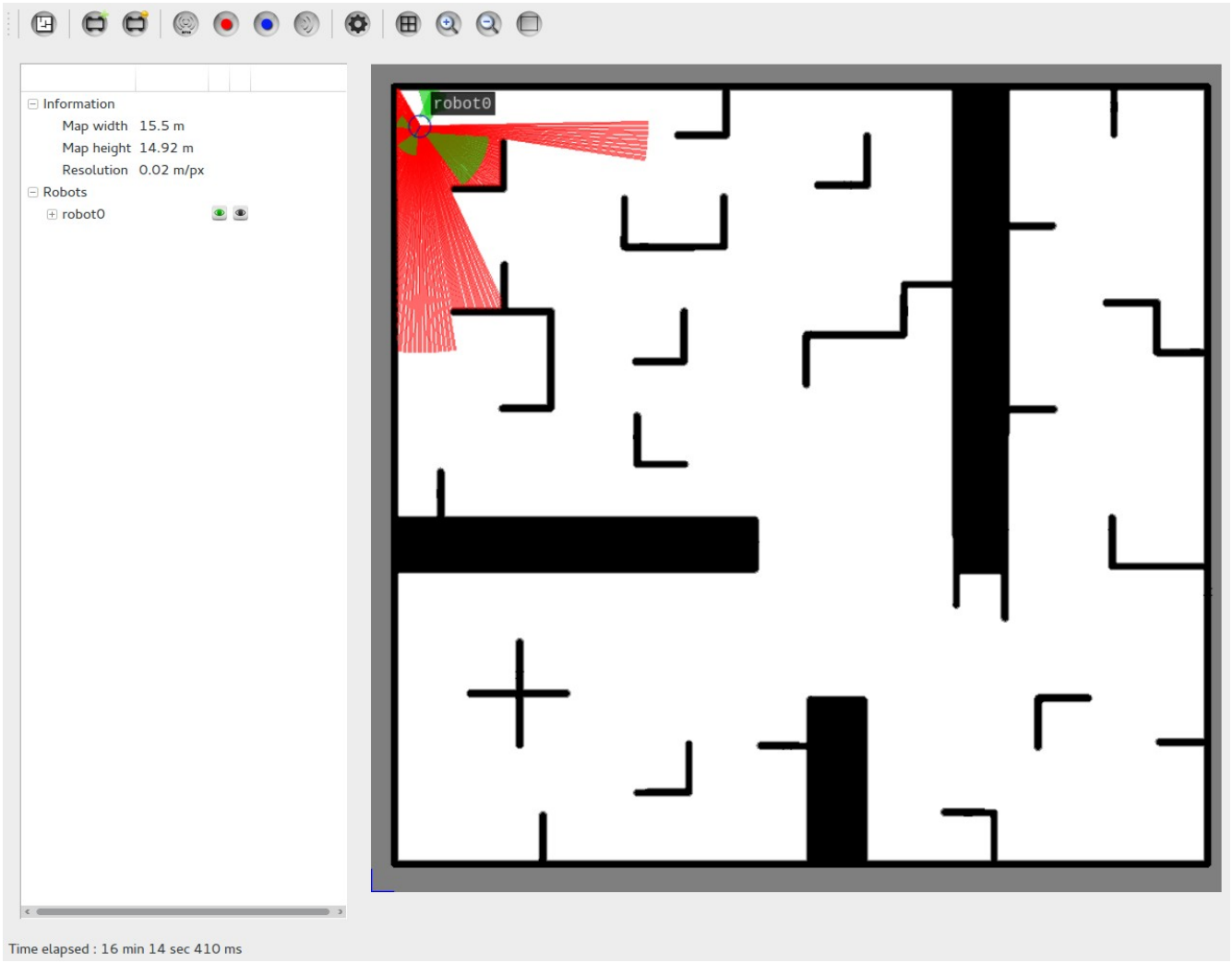
Below is a screen-shot of my map:



As you can see the map is slightly crooked. This is most likely due to errors in the map making optometry since the map is sectioned off.
Looking at the yaml file, copied below, I can determine what the meaning of the different parts are.
image: stdrMap2.pgm
resolution: 0.050000
origin: [-100.000000, -100.000000, 0.000000]
negate: 0
occupied_thresh: 0.65
free_thresh: 0.196

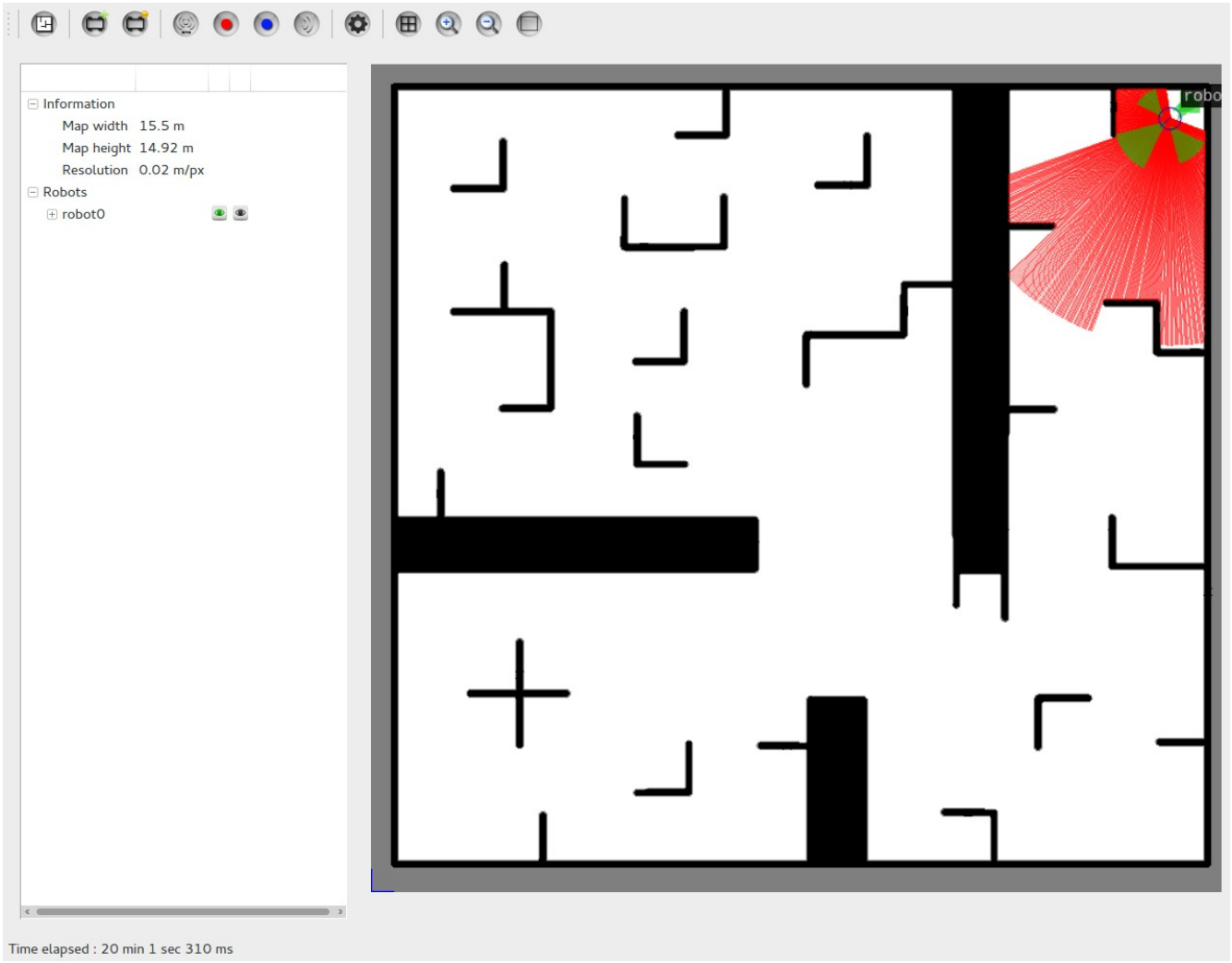
From this file we know the name of the image, the resolution of the image (5cm spatial resolution), we know the coordinate of the bottom left corner of the map, we know that the image is not negated (black is a wall, gray is free space), and the thresholds for where a black space and a gray space should be for an ocupied or free region.

Pose 1:



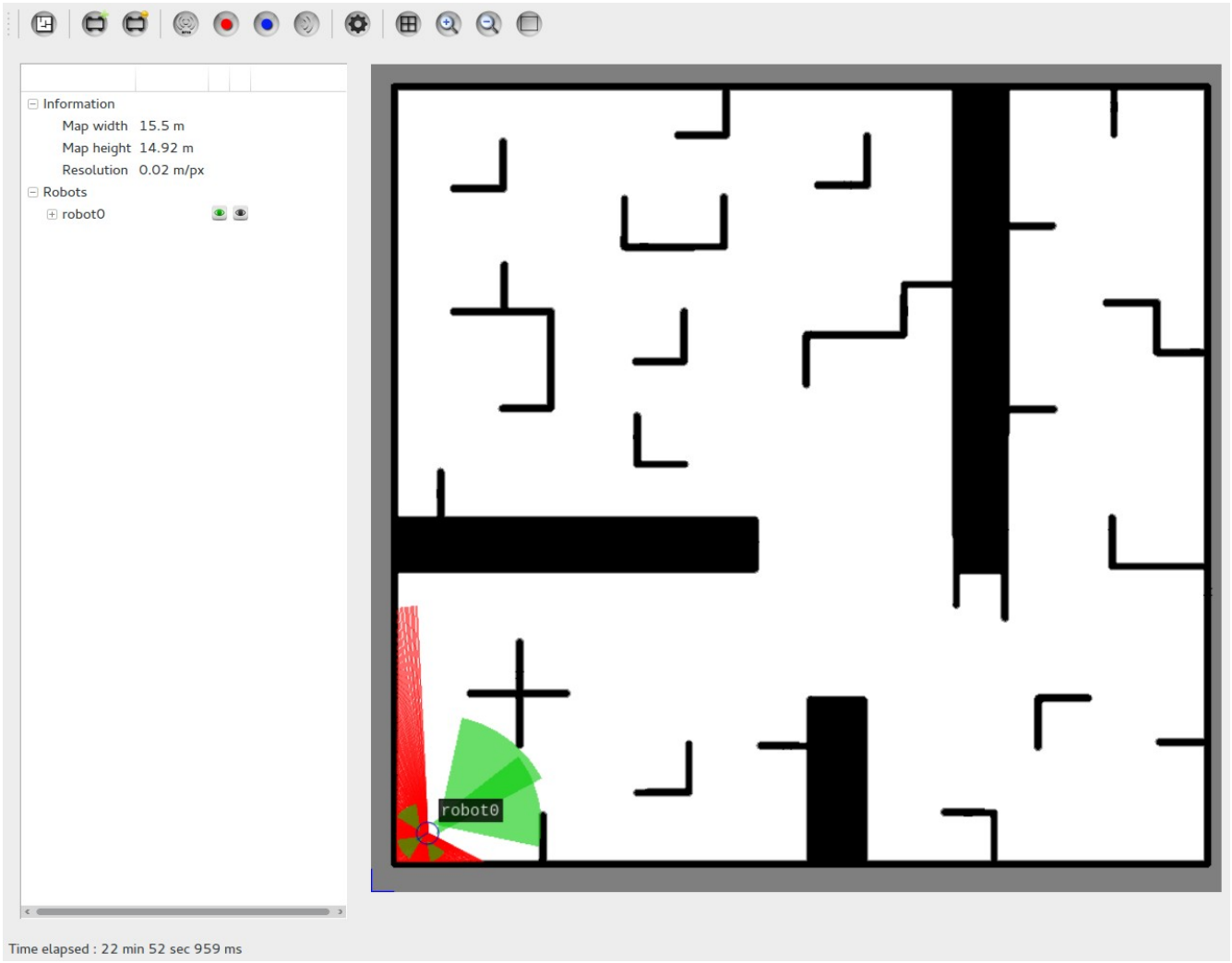
pose:
  pose:
    position:
      x: 0.895240506226
      y: 13.8169179857
      z: 0.0
    orientation:
      x: 0.0
      y: 0.0
      z: -0.86097974121
      w: 0.50863924861

Pose 2:



pose:
  pose:
    position:
      x: 14.4097274898
      y: 13.9493925356
      z: 0.0
    orientation:
      x: -0.0
      y: 0.0
      z: 0.941249385877
      w: -0.337712294099

Pose 3:



pose:
  pose:
    position:
      x: 1.03612116036
      y: 1.06215201351
      z: 0.0
    orientation:
      x: 0.0
      y: 0.0
      z: -0.959132160458
      w: 0.282958475356

Based on the information from the poses we can determine that the coordinates of the map are x=0,y=0 at the bottom left and x=15,y=15 at the top right. Knowing this we know that +x is to the right, +y is up, and heading 0 is pointing with the robot front in the +x direction. We also know that the rough dimensions of the maze are 15 meters by 15 meters since coordinates are in mks units. From the yaml file above we can also determine that the resolution of a cell in the map is 5cm.