



INTERIM PROJECT PRESENTATION ON THE BLUE BIRD

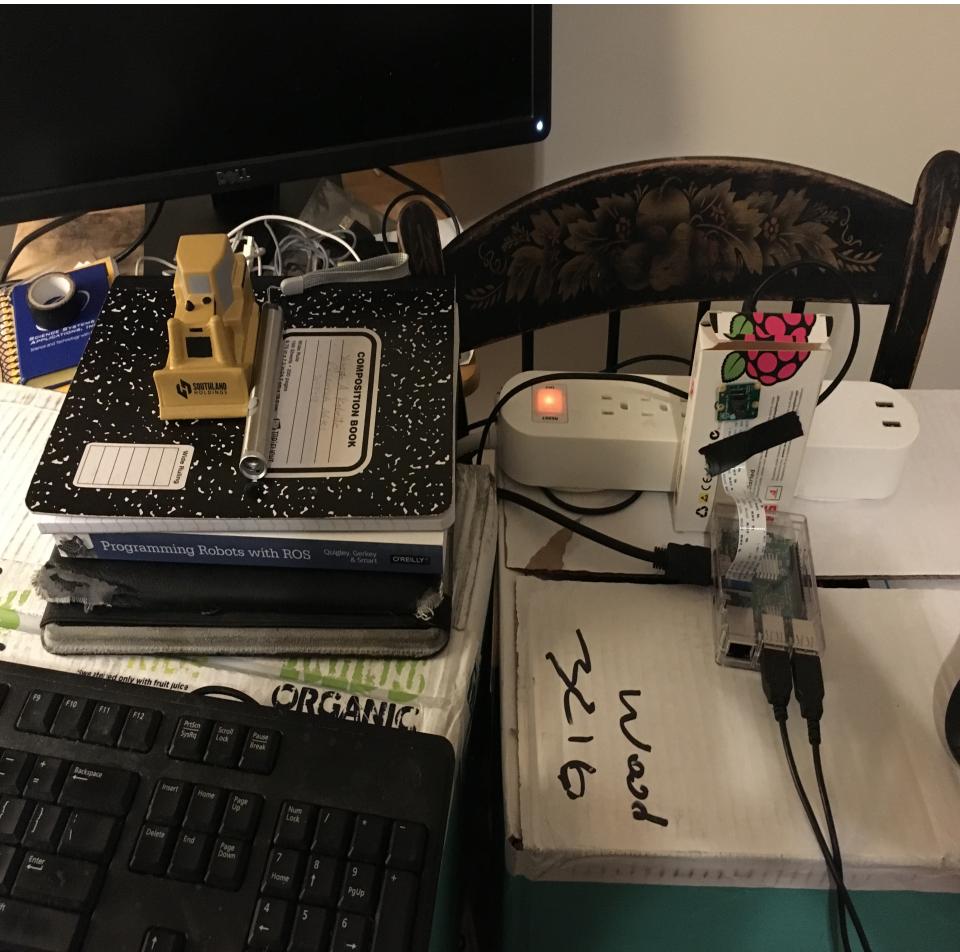
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TARGET: THE BLUE BIRD

- 5 feet long bird statue located near lot 1 by Riggs Alumni Center and the Clarice Smith Performing Arts center.
- Designed by Michele Colburn as a promotion to increase tourism in Prince George's County.
- It was this unique artistic feature and scaled bird like design that fueled my curiosity of seeing the point cloud model of this human sized bird.



LIDAR SENSOR DESIGN AND INTEGRATION



- The Lidar sensor used so far is a point laser that emits a beam of light with a fixed diameter.
- This will be replaced with a line laser that is going to be mounted on a chassis along the raspberry pi and camera.
- As seen in the figure, the lidar was placed 12" to the right of the raspberry pi camera with parallel normal axes and at the same elevation.

SENSOR CALIBRATION

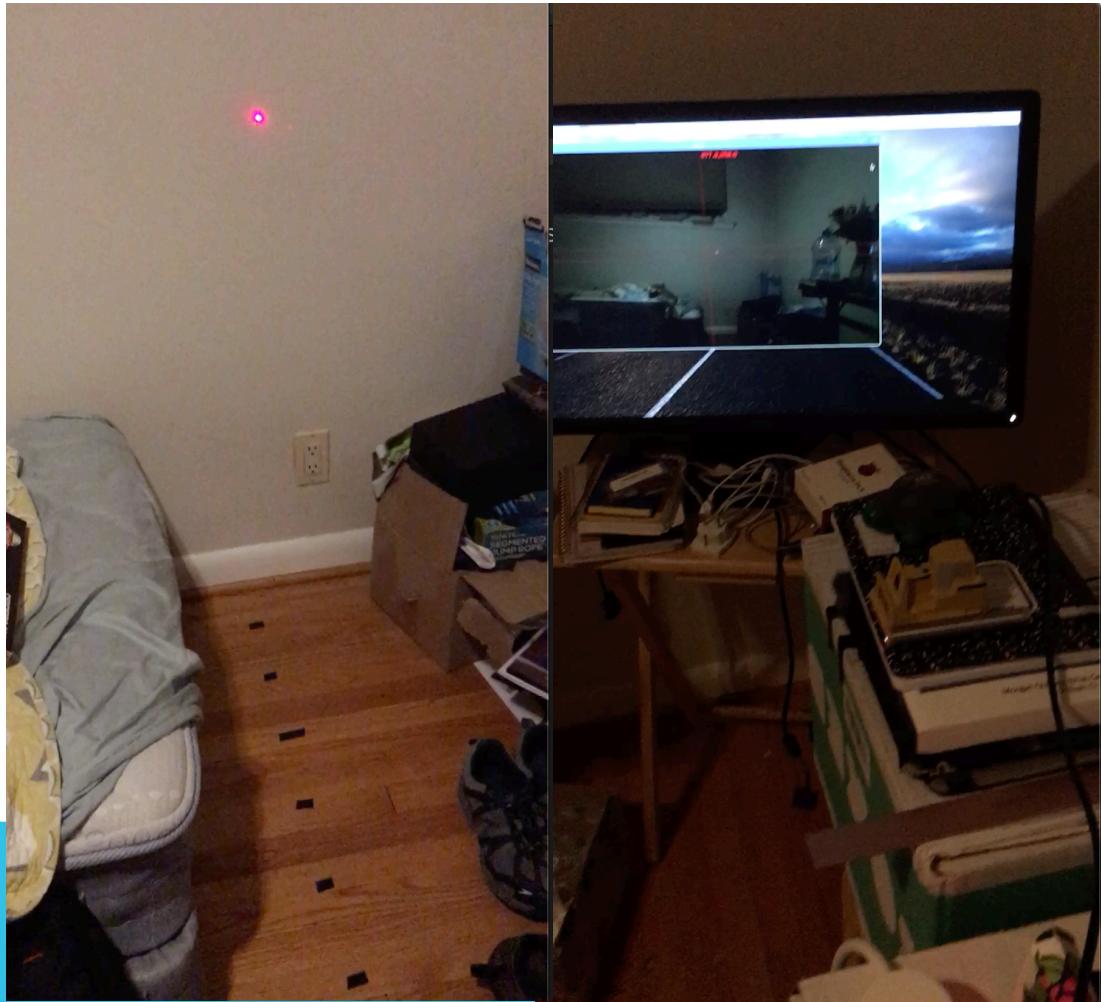
After lidar sensor was oriented parallel to camera.

The laser point was captured and masked using hsv.

The RGB values were inserted in the *lasertracker.py* file which tracked the center of the laser point while displaying the horizontal and vertical pixel values on top of the display screen.

Test floor was labeled 0-9.5' from laser, with 6" increments.

Pixel count and range were matched and recorded.



PRELIMINARY RANGE DATA

Finally, the range to the target was plotted versus the number of pixels the laser pointer was seen away from the display's central vertical grid line.

As expected, the data matched the theoretical distance versus pixel curve accurately.

