Andrew brought the Moby robot home and tested the sensors that we had. The potentiometer measured the rotation of an axle, allowing one to measure the rotation of the arms to set limits. However, rotation was measured relative to its starting rotation and not its absolute rotation. Therefore, it could not be used.

**[Insert picture of potentiometer]**

On the other hand, a rotation sensor would be relative to its absolute rotation, allowing to accurately and correctly set limits to the arms. However, it is currently out of stock. Fortunately, a limit to the arms is not required, but for the clamp, it may be.

**[Insert picture of rotation sensor]**

Another method to set limits to the arms is by using a bumper switch. When the arm goes up to much, a bumper switch on the arms would hit the robot, triggering a limit to its rotation. However, there was no place to add it. A limit switch would be similar but there would be nowhere to add.

**[Insert picture of bumper switch]**

**[Insert picture of limit switch]**

Then, he experimented with the ultrasonic range finder. It emits a sound wave that bounces of objects. This can be used to detect objects in its path. However, the ultrasonic range finder that we had did not work and provided output.

**[Insert picture of ultrasonic range finder]**

After that, he experimented with the vision sensor. With the vision sensor, one can save and label colors. If the robot detects a saved color, it will send an output. However, the light at our games would vary. There have been games that occurred in gyms and outside. The light at our portable could vary with our competitions. Therefore, a vision sensor was not reliable.

**[Insert picture of vision sensor]**

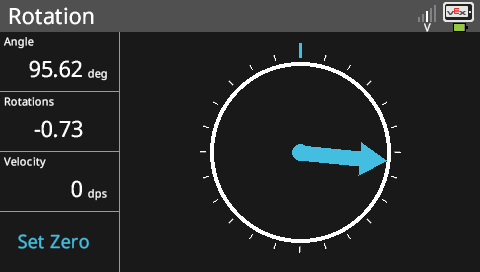
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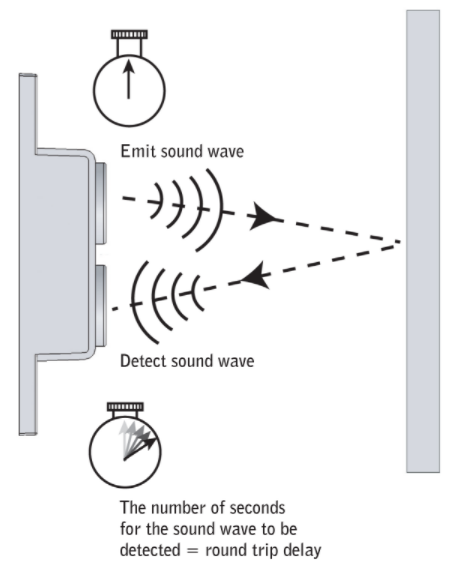
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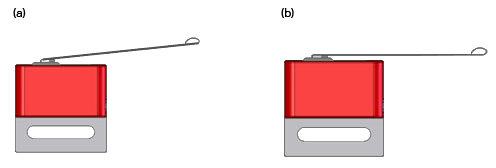
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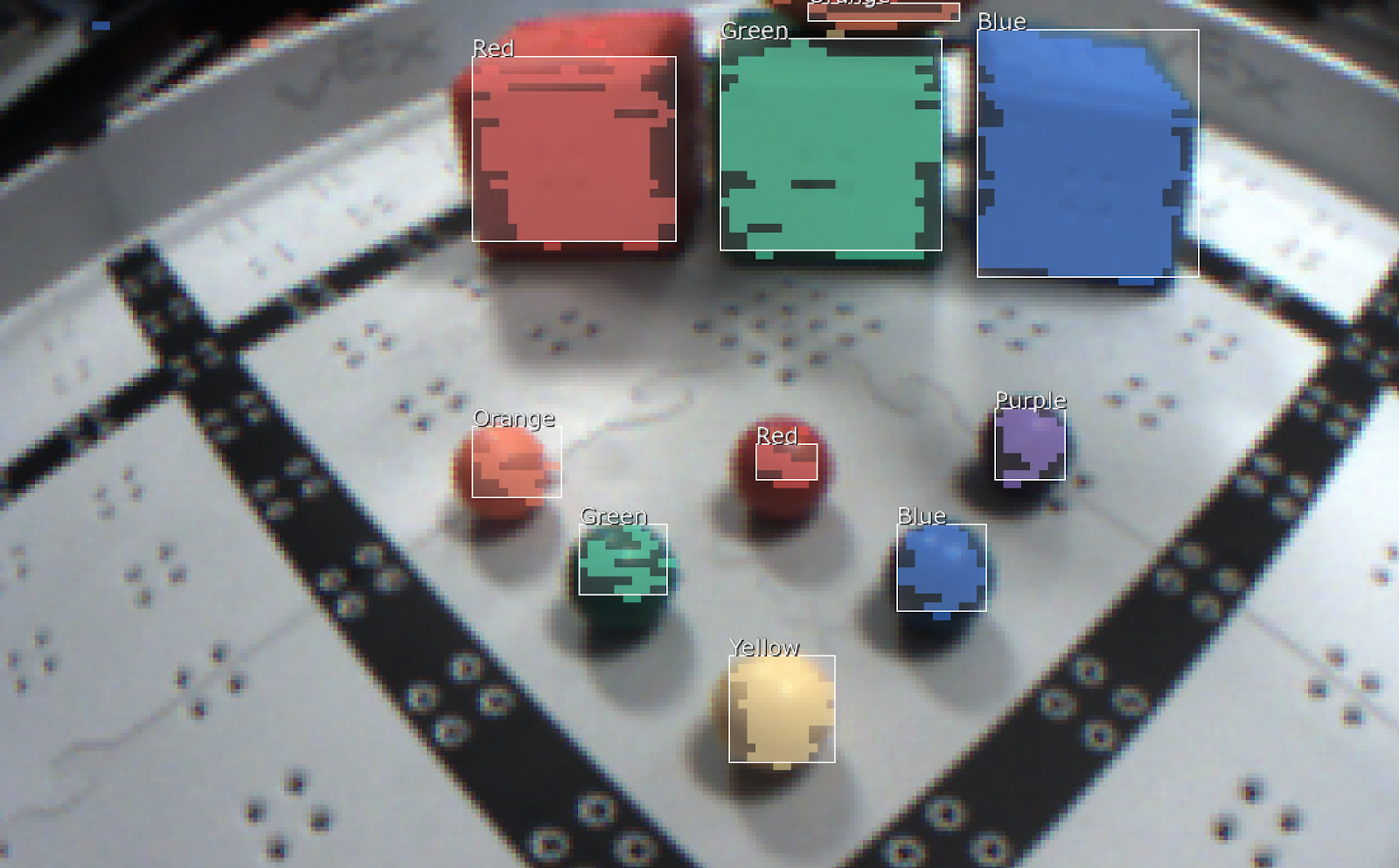
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