Acceptance Test Plan:

The acceptance test for our project can be run in either Webots or on the actual robot. For quick testing results we can use a Webots world similar to the one depicted above. This picture should show a black box on the bottom which will be the obstacle in front of the three towers behind it. Each tower is a different, randomly generated size, color, and distance from the beginning position of the robot. The random values ensure there aren’t static values set in the code for distance calculation. The user would see the obstacle and towers in their video stream view and could click on one of the towers to move towards. The robot would not have the obstacle in its initial view because you have to pan the head up to see the towers. Once a tower is selected the robot would move towards the tower until it reached the obstacle and then follow the contour of the obstacle to avoid it. After the robot has realized it passed the obstacle it will then continue its course towards the selected tower.

If the tester would like to use the actual robot, it is ideal for them to use a classroom for the demo. The test plan would be for the user to hang a non-white piece of paper on a whiteboard. The user would then place the robot some distance away from the whiteboard while placing an obstacle in the path of the robot towards the whiteboard. The user may need to pan the head up using the GUI controls in order to see the piece of paper on the whiteboard. Once the paper is in the view of the robot, the user will select the paper and use the “move to selected object” button on the GUI to watch the robot autonomously move towards the object. The user may repeat this process moving the robot around to different distances and displacements from the center.