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Worked primarily on the robot to address some issues brought up by my mentor and peers.

### **Convenience**

Original robot had some issues with reaching sockets. So it was rebuilt to allow for easier access to sockets and rest of robot by changing brick position.

By moving the brick from the back of the robot to be on top of the middle of the robot. This made it safer from being hit by other robots and being potentially switched off! Then after a suggestion it was changed it to a clip in system to make it even more convenient.

### **Helping Stability**

With the single ball bearing we noticed that the stability of the robot was an issue. The solution was to use four wheels like a car. The issue though was finding suitable wheels that would allow us to easily make maneuver's, all the while keeping the robot level to the floor as well as within height restrictions..

After concluding with Garry getting another exact same ball bearing was not an option we looked for alternatives.

First we tried using a 360 degree rotating spikey grey lego piece. The trouble with those was that there was too much friction when said piece rotated, to allow the robot to easily make maneuvers so it was decided that this wasn't going to be an option.

The second attempt was using omni wheels. After deconstructing the robot it was realised that in-order to fit both wheels symmetrically, the base had to be rebuilt 1 lego unit wider. This was then done taking the base to pieces and rebuilding it.

### **Making the coloured T-Plate Level**

Originally when placing the coloured plate on the robot it was slanted. We rebuilt what held this plate to be level and connected to the frame to make it more sturdy.

### **Future Plans**

Adding a different kicker that imitates a 'ballista' design, this after several tests has shown to be more effective.