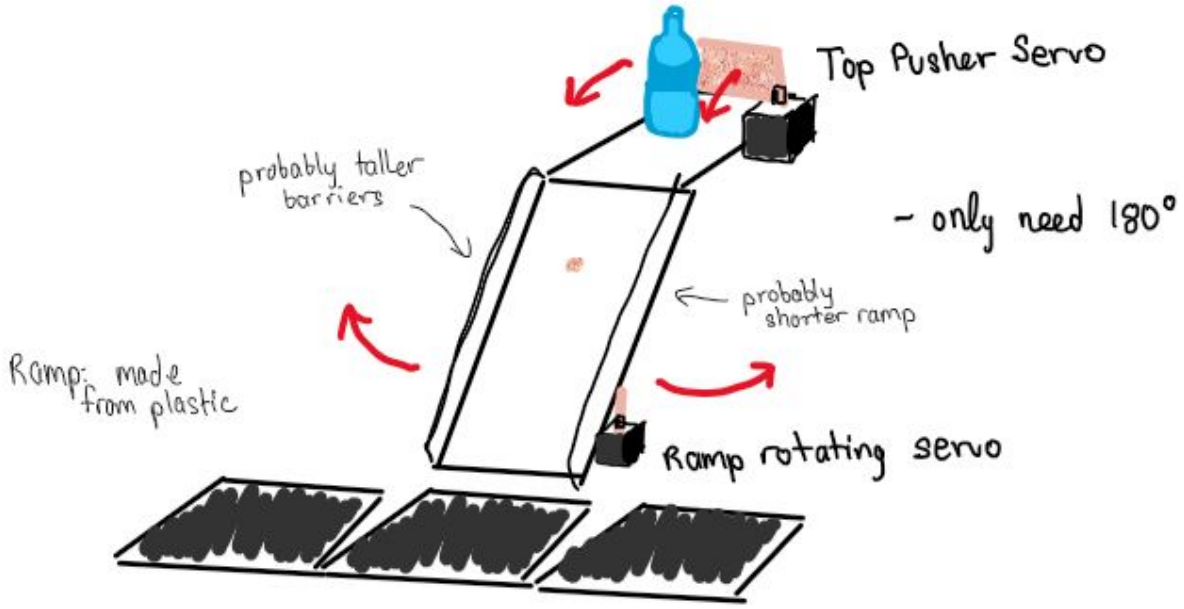
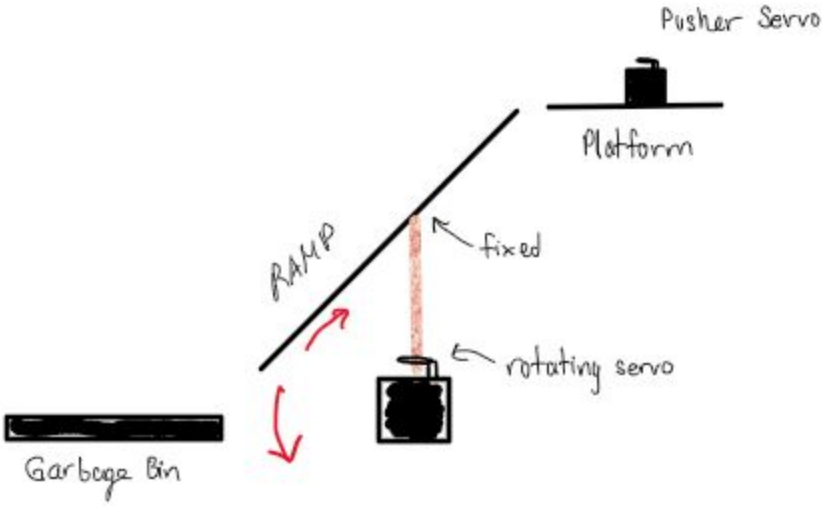
Rotating Ramp System

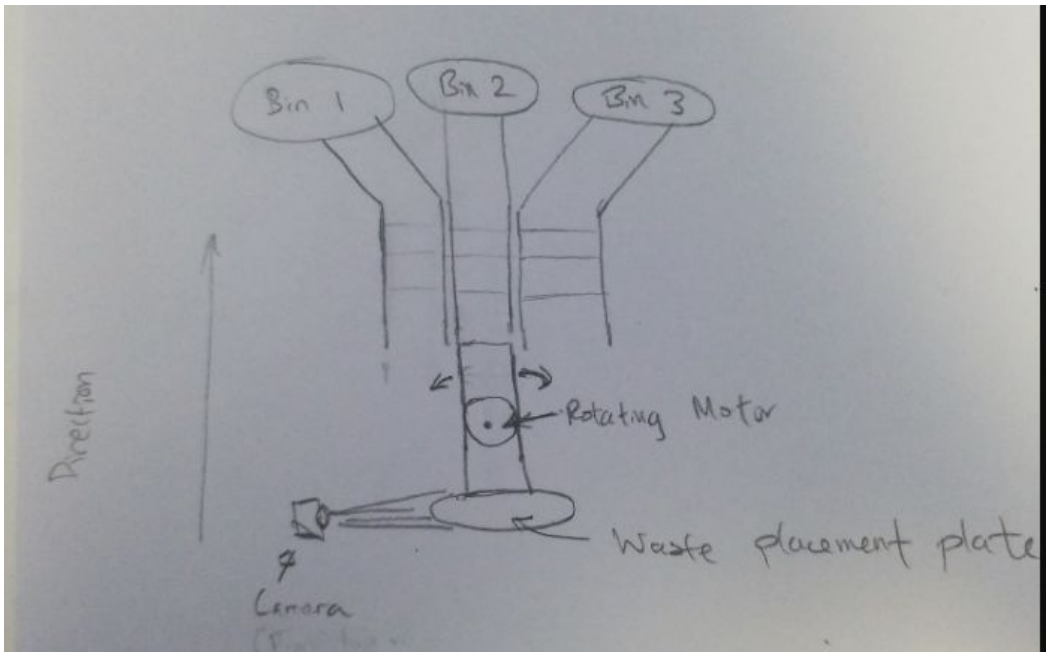
Mechanical Layout



FRONT VIEW



SIDE VIEW



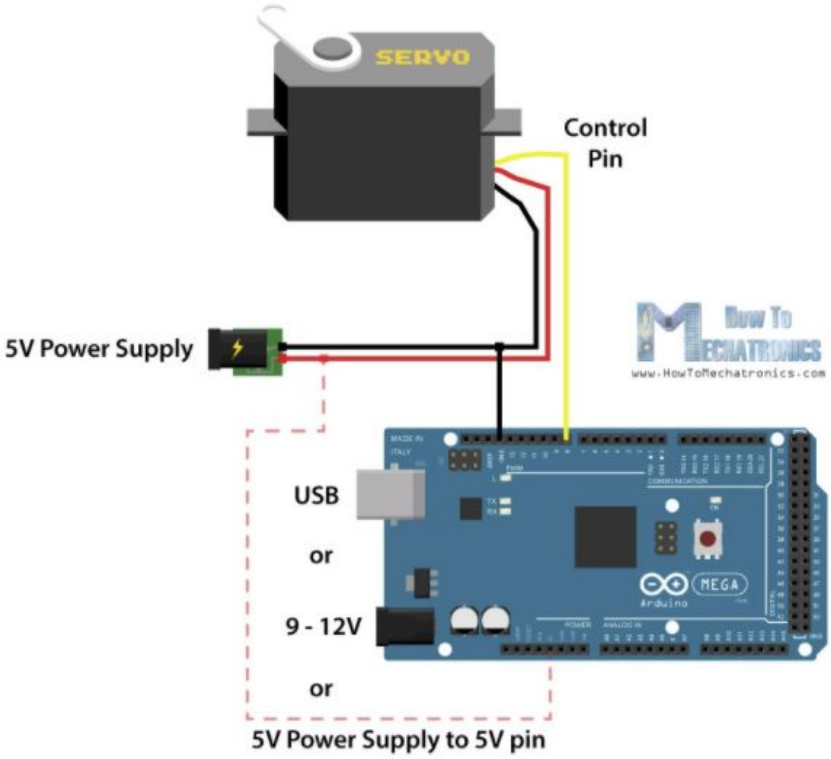
(Original idea from mentor)

Equipment (Red = Ordered, Blue = Owned)

- MG996R servo motor (link: Amazon Prime)
- Arduino Mega
- Breadboard
- Multimeter
- Jumper wires
- Cardboard/wood/plastic for ramp, platform, and pusher
- Pusher attached to servo on top: 3D print?
- 5V 2A power adaptor (Amazon Prime)
- Long stick under platform: 3D print?

Useful links

- Circuit Visualizer
- Apparently myhal fab facility is open for online 3D print orders/ pick ups: Myhal Light Fab
- Link to mech drawings: OneNote drawings
- How to link up Servo to Arduino and Power source



Notes

- Decided to not use Stepper Motor because of the following:
    - Don’t need speed control
    - Stepper motors (NEMA 17) were expensive at $20 for one
    - Stepper drivers are kinda hard to calibrate and tend to burn out
- Decided to use servo motor because:
    - Servo rotates 180 deg
    - Can stop at precise locations while still applying torque
    - Easy to circuit and don’t need motor drivers
    - Less expensive, about $6-10 for one
    - Only needs 5V - 2A supply
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