Abstract
The goal of our project is to create a stair climbing robot. Our robot autonomously climbs the stairs in the lobby of the Koch Center. The robot is unique because it features a self-leveling platform that supports a one pound package, which could potentially be a cup of water.

Hardware Design
- Wooden chassis to house the electronics of our robot
- Wheels were 3D printed
- Stepper motors provide necessary torque
- Servo and accelerometer used for leveling
- Microcontroller used for controls
- Electronics enclosed in the base for safety

Conclusion
The wheel design works well for climbing stairs. However, this design could be modified to better accommodate turns and traversing flat ground. The design could be scaled up to deliver a larger payload depending on the clients specifications.

Software Design
- Signal pulses are used to turn the motors
- Accelerometer outputs analog value based on angle
- Analog value is ran through A/D converter
- Servo pulse width adjusted according to the digital output