Solo Lift

A voice command is received by the Raspberry Pi. The microcontroller uses this input along with input from the sensors to alter lift position.

Materials and Methods

Voice command input is received through the mic on the webcam. The ultrasonic sensors relay distances to the Pi. The Pi then uses these inputs to determine how the lift should move. The lift uses a pneumatic piston and two solenoids for motion. The position solenoid controls up or down movement. The stop solenoid either stops the lift or lets it move.

Results

System output for the “Go up” command
Obstruction detected

Conclusion

Our voice-recognition software is effectively able to determine what the user saying. Our control program reads the converted text properly. The results demonstrate that our sensors are effective in preventing damages due to one or more obstructions. This system shows an effective proof of concept; it can be easily adapted to a commercial scissor lift.