Assistive Robotic Arm

Alon Dagan
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Arm Concept

Linear Actuator

Elbow Servo
W. gearbox

Bracket

Shoulder Servo

Big Gripper

Pan/Tilt
Microprocessor Progress

- Full compiler set up successful
- Full program operating
  - Program altered to eliminate need for delay.h
  - Now functions more predictably
- Wrist/Arm control functionality successful
- X Y control still in need of testing
Microprocessor Integration

- Joysticks and mode switches successfully integrated
Linear Actuator

- Replacement switch found and installed
- Linear Actuator performs perfectly
Linear Actuator
Difficulties

- Servo power draws too much current, affects PIC power supply
  - Will run off of 12 volt supply
  - Two separate 7805 voltage regulators will control separate power to PIC and servo
    - Successful testing

- Servo motor potentiometer broken
  - New potentiometer has been installed
    - Servo fixed
Future Work

- Test fully assembled arm
  - Joint control/ XY control
- Build controller box
- Complete enclosure
- Order PCB board
Hours Worked

- Alon Dagan
  - 19 hours

- Michael Khalil
  - 12 hours