**Project Identity:**

Assistive Robotic Arm  
Week 5  
2/20/08 – 2/27/08  
Michael Khalil

**Work Completed:**

This week another bracket was constructed to both hold the servo motor for the elbow mechanism of the assistive robotic device as well as prevent the linear actuator from spinning. This bracket was composed of three parts: one a straight bar that was used to mount the rest of the robot arm on the linear actuator. This piece was welded on to the first portion of the elbow mechanism to make a right angle. That piece was held to the flat side of the linear actuator using hose clamps. It was 7 inches high and 1.5 inches wide, the same width as the flat portion of the linear actuator.

![Bracket Attached to Linear Actuator using hose clamps.](image)

The next portion of the bracket is the static portion of the elbow mechanism. It is 7 inches in length and 2 inches in width. It contains a hole where the elbow servo can be attached to the rest of the robotic arm. Also in that portion was a hole to insert a pin. This pin was attached to the metal plate on top of the shoulder servo horn. This pin helps the rest of the bracket stabilize and prevents the linear actuator from spinning.
Figure 2: First Portion of Elbow Mechanism

Figure 3: Collapsed Length of Robot Arm
Future Work

Mechanically we need to build a box to hold the assistive robotic device and a clamp to hold it to a desk. We also need to attach the elbow servo to the bracket and start constructing the rest of the arm. We received the microprocessor and have begun setting up the board so that we can start programming.

Project Review

The mechanical aspect is going smoothly. The microprocessor has been received and we will begin programming shortly. The project is flowing smoothly but there is still a lot to be done. The project is falling into place but more work needs to be done on the programming side of the project.

Hours Worked

14 hours worked this week.