Team NA-SA

Shower Assistant for a Woman with Special Needs

Team Members

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Project Sponsor
V-LINC

Background: The team is working for a woman in her early 50's that has lived with Cerebral Palsy her entire life. Her legs are extremely weak and stiff causing her intense pain. This pain has grown over the years leading to multiple surgeries that has left her unable to extend her legs past a 90 degree bend at her knee. She requires assistance in independently transitioning from her wheelchair to inside her bathtub and back. The biggest problem she faces now is that she has limited leg mobility leading to difficulty clearing the edge of the tub without bending her legs.

Objectives: The goal of the team is to design and build a system that easily transition the customer from her wheelchair to her shower chair taking into account the limited space in her bathroom.

Results: The team is constructing a chair that will tilt up, slide over and tilt down on a rail system. The tilting is accomplished using a hydraulic piston, driven by a hand pump. The shower chair used in the system is similar to the one she currently uses with the addition of a mesh back plus a safety strap.

Figure 1: Chair on rail system

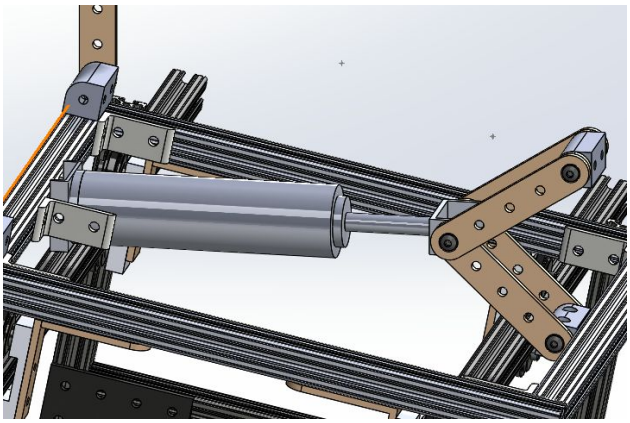

Figure 2. Hydraulic piston for tilting

Figure 3. Capstone Team NA-SA