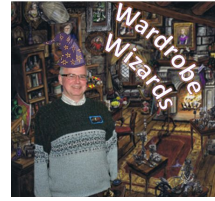




Wardrobe Wizards

Dressing System for a Person with Special Needs



Team Members

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Project Sponsor

Naval Sea Systems Command (NAVSEA)
V-LINC (Technical Support and Administration)

Background. Phocomelia Syndrome (PS) is a rare condition that causes severe birth defects, especially of the upper limbs. The bones of the arms, and in some cases other appendages, may be extremely shortened or even absent.

V-LINC is an organization, based in Baltimore, that pairs student design teams with people who have special needs. They proposed a student design project focused on helping a young man with PS dress independently, quickly, and easily. The young man was born without arms and with one leg significantly shorter than the other.

Currently, he wears polo shirts because the button collar helps the shirt stay on his shoulders and mesh basket-ball style shorts because they are easy to pull on and off. He can dress independently, but the task is not a simple one. He's adapted to it over years of practice. It also requires him to get on the floor - something he'd like to avoid. He'd also like more variety in the types of clothing he can wear. He's currently limited due to the difficulty in getting clothes like button-down shirts and slacks on and off.

Objective. The goal of this project is to provide an assistive dressing device that will allow a young man born without arms to dress independently, quickly, and easily, without sitting on the ground, in a variety of clothes.

Results. To date, members of the team have made three home visits. During the visits, the team has interviewed both the young man and his parents and determined that a successful design must allow the young man to dress independently, be easy to set up and use, be quick to use, be adjustable to accommodate his growth, take up a minimum amount of floor space, and not require him to get on the floor.

The team tested its first prototype (Figure 1), a PVC frame that is meant to help the young man lift his pants up and pull his shirt down. The team learned a lot from having the customer use and evaluate their first prototype (Figure 2) and are in the process of redesigning a second for a visit that will take place in mid-January 2016.

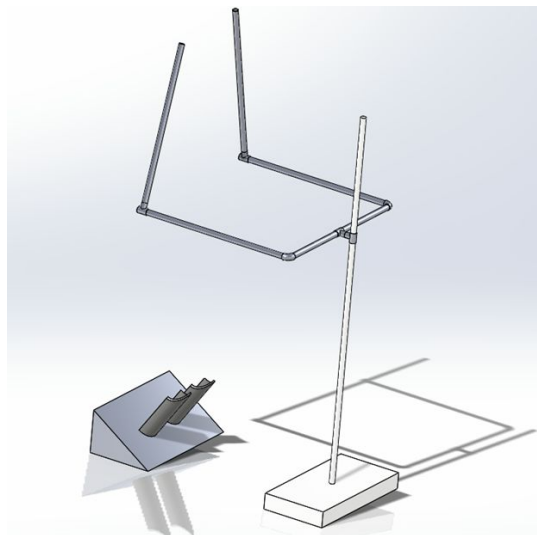


Figure 1. The “pant mold” trouser donning system (left) and the frame lift (right).

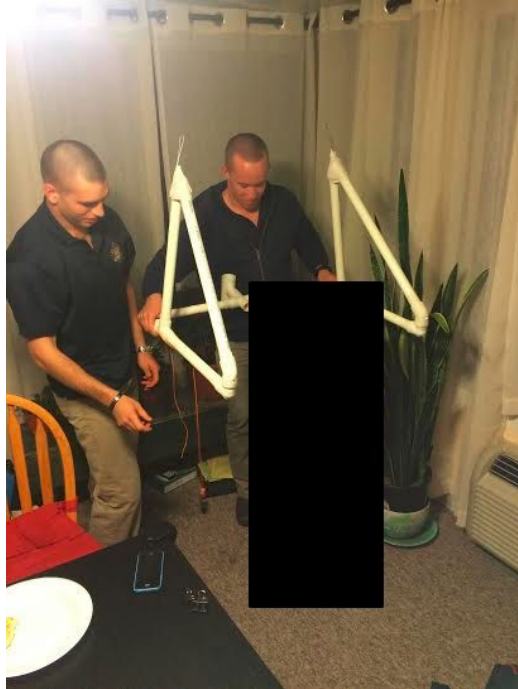


Figure 2. Two members of the team testing the prototype with the customer. The customer has been covered to protect his privacy.