



Mechanical/Biomedical Sustainability Project

Solo Transfer Wheelchair – Phase IV

Mission Statement

To improve, complete and test the final prototype of the Solo Transfer Wheelchair (STW), which will facilitate the transfer of a patient to and from a bed with minimal effort. Much of the fabrication will be done in collaboration with students at Platt Technical High School in Milford, CT

Synopsis

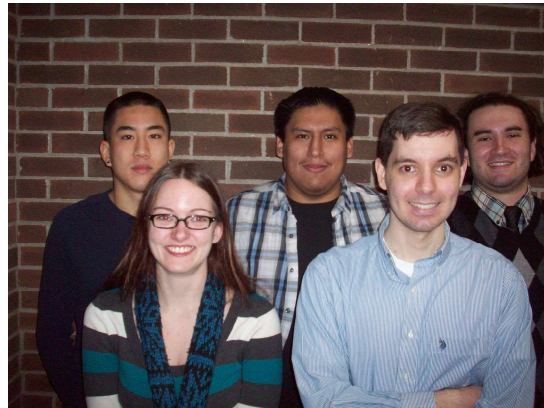
The STW project began in 2010, but due to the complexity of the project, it had to be continued into 2011, 2012 and was finally completed this year (2013).

The goals of the 2013 STW team were the same as previous teams. The complex lateral transfer system for the upper seat portion of the chair was finally completed and fabricated (using NC machines), and with the help of students from Platt Technical High School (Milford, CT).

An additional goal for the 2013 STW team was to complete the design of the seat and leg rests for the wheelchair. The final design incorporated locking hinges for the seat and leg rests that allowed for the sub-assembly to flatten out into one single surface for the patient to lie on. The seat would then slide on the lateral transfer rails and tip to transfer the patient into their bed.

The final prototype was successfully completed and demonstrated to doctors and staff at Gaylord Hospital in Wallingford, CT on June 14, 2013. The event was hosted by world renowned Physician Dr. David Rosenblum. Dr. Rosenblum is medical director of physical medicine and rehabilitation and spinal cord injury research at Gaylord. Dr. Rosenblum provided design recommendations to the 2010 team.

Patents for the final design have been applied for by Nootools LLC. Students will be named on the patents.



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