



## Mechanical/Biomedical Sustainability Project

### Solo Transfer Wheelchair – Phase III

#### Mission Statement

To complete the development of a prototype solo transfer wheelchair which facilitates the transfer of a patient to and from a bed with minimal effort.

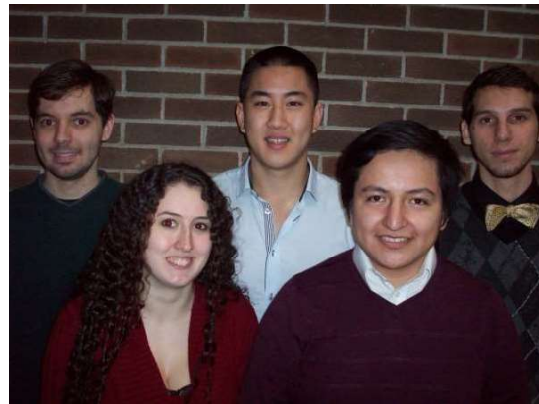
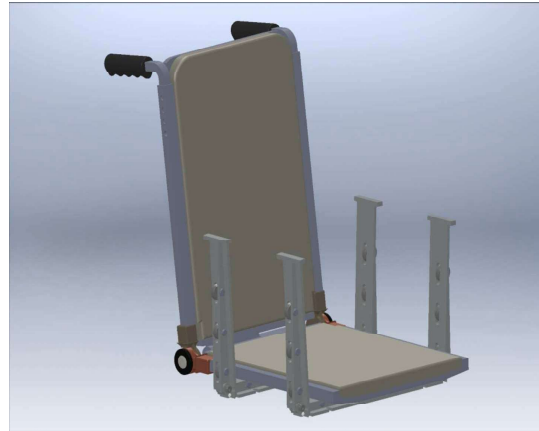
#### Synopsis

The Solo Transfer Wheelchair project was introduced in the 2010 LSSL Program and was the original invention of Structured Solutions II LLC of New Canaan, CT. The team from 2010 consisted of eight team members.

The 2011 team picked up where the 2010 team had left off (creating a scissor lift mechanism for the base of the chair). The 2012 team picked up where the 2011 team had left off. The new goal was to complete the seat and its lateral transfer mechanism. This entailed several key developments:

- Creating virtual 3D SolidWorks models of the seat and the lateral transfer mechanism and incorporating them into the previously existing SolidWorks model of the wheelchair base
- Rapid-prototyping a proof-of-concept model of the lateral transfer mechanism which was followed by machining the actual aluminum rails.

The Phase III design that included the lateral transfer mechanism was successfully designed. Phase IV will fabricate all the parts, assemble the wheelchair and conduct hospital tests.



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