

Senior Design Project Description

Company Name	UNC Charlotte	Date Submitted	Nov 10,2017
Project Title	Design a Stair Climbing Wheel Chair (UNCC_STAIR)	Planned Starting Semester	Spring 2018

Personnel

Discipline	Number	Discipline	Number
Mechanical	4	Electrical	1
Computer		Systems	
Other ()			

Project Overview:

In the field of providing mobility for the elderly and disabled, the aspect of dealing with stairs continues largely unresolved. While there are different types of stair-climbing-wheelchairs, a simple search on Google shows that the price of such a wheel chair is very high.

Project Requirements:

This project is aimed to develop and build a prototype of a safe but “cheap” stair-climbing wheel chair. In the first step, we focus on designing and built a prototype of a mechanism that enables a wheel chair to go up and down a single stair. The main consideration of such a design are inherent stability, establishment of a mechanism that is physically no larger than a standard powered wheelchair, and being based on readily available low-cost components. In the next step, we expand such a design to have a multiple-stair climbing wheel chair.



Expected Deliverables/Results:

- *An Experimental Setup*
- *Technical Report*

Disposition of Deliverables at the End of the Project:

The hardware will be a designed for THinC Lab at the Mechanical Engineering Department at the UNC charlotte.

List here any specific skills, requirements, knowledge needed or suggested (If none please state none):

Basic Knowledge in Design, Electronics, CAD.