Purple Team

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Instructors & Mentors
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- Richard Wiesman
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- Steven Keating
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- Tiffany Tseng

Lightweight

Total weight 20 lbs added to wheelchair frame, possible because of:
- light DC wound motors
- lithium ion cells for maximum energy density

Intuitive Use

Strain gauge force sensors indicate users intentions and provide a proportional torque

Discrete on/off button is located on beneath the arm rest

Assist level allows user to select amount of help wanted.

Business Model

Profitable after one year
Breakeven in year 3
4 year internal rate of return of 22%
Ascent Assistive Wheelchair:
The lightest assistive wheelchair technology on the market. Ascent provides extra mobility to current manual wheelchair users, and allows many power-chair users to gain independence!
- Adds force to each push, making ascending ramps easier and long distances less exhausting
- Lightweight
- $3400 at steady state price

Power Train:
Contains two motors and power-on clutches. The motors operate efficiently at the ideal assist level for ascending ramps. The power-on clutches allow the user to disengage the motors from the wheels entirely, transforming the Ascent Assistive Wheelchair into a normal, manual wheelchair.
- Able to be turned off in case of emergency
- Shock-Resistant

Wheels:
Contain sensors for detecting the force applied to the handrail. Information from these sensors is sent wirelessly to the Control Box.
- Quick-release – Able to be removed in 15 seconds
- Easily Rechargeable

Control Box:
Processes signal from the wheels and instructs motor to apply a proportional force. When fully charged, it is able to provide assist for a full day.
- Easily Recharged
- Removable
- Adjustable level of assistance