

Walker Project

Redesigned a mobility walker to improve comfort, steering, and off-road performance for a client with specific accessibility needs

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Why does this Outreach Matter?

- ❑ First and foremost - provide an improvement in mobility, health, accessibility, and comfort
- ❑ Strategizing and allocating resources to deliver a product
- ❑ Improving communication skills with customers, making and selling a product according to needs
- ❑ Machine individual parts, gain manufacturing experience
- ❑ Building connections

Why does this Outreach Matter? (Continued)

- ❑ Counts as FIRST outreach
- ❑ Helps others in a meaningful way
- ❑ Provides a learning experience in the STEM field
- ❑ Spreads the word of the Lord through altruism
- ❑ Publicizes TKA robotics team in a positive light

Defining Problem

- ❑ Front wheels turn around 360 but back wheels are stationary; Walker folds
- ❑ 10" Front Wheels; Material: Aluminum; 22 pounds
- ❑ Lack of Height; Poor off road performance
- ❑ Brakes not effective, could have better ergonomics
 - ❑ Inhibits walking, not good for legs, not comfortable when sitting
- ❑ All problems generally associated with specific components

Current Plan

Pros

- Fit to his comfort
- We know that it works
- Easier to adapt to
- Good platform with lots of mounting points

Cons

- All issues require modification (greater challenge/time)
- Expensive
- Not tall enough

Resource Allocation and Scheduling (Strategy)

- ☐ Consult customer before
- ☐ Testing walker design and proposing localized solutions
- ☐ Meet with contact before finalizing testing ideas
- ☐ Testing has to involve specific needs of customer
 - ☐ Simulate weights, tensions, road surfaces

What do we Need to Buy?

- ❑ Wheels - larger, ideally with tires for better compliance
- ❑ Beyour Walker Upright Walker - Along what constraints did we decide to buy it and were there alternatives which better suit modifications or just work better by default?
- ❑ Foam for more comfort while sitting



Thank you