Team 5 Status Update
Outline of Presentation

• Introduction
  o Team
  o Project
  o Design Norms
• Accomplishments and Progress
  o Resources and Contacts
  o Design Decisions
  o Prototyping and Modeling
• Future Work
• Questions
Project Overview
Design Norms

- Justice
- Caring
- Stewardship
Industrial Consultant Meeting

- Prof. Ren Tubergen
- Redefine Scope
- Establish Key Goals within Scope
Visit to TerraTrike
Community Service with Boston Square Bikes

Introduction

Accomplishments and Progress

Future Goals

Questions

8/15
Design Decisions: Steering

Turning angle between 25 and 30 degrees

Turning Circle = (WT/2) + (WB/sin(Average Turning Angle))
Design Decisions: Leg Braces

Introduction

Accomplishments and Progress

Future Goals

Questions
Design Decisions: Gears

- Placement
- Ratios
- Calculations

For every cycle of the hand pedals, the feet will cycle one-half rotation.

Hand Pedals

Foot Pedals

Centralized Gear Connection

The cassettes connecting to the hands and feet will be identical.

1/1

1/2

Back Wheel

This gear will have variation options for speed and incline.
Wooden Prototype

- Physical model
- Placement/sizing of integrated systems
- Lengths to fit human body
SolidWorks Modeling

- Optimize sizing of actual parts
- Help dimension parts that we will order or fabricate
Future Goals

- Prototype leg braces
- Purchase materials for full prototype
- Complete SolidWorks analysis
Questions

Image Sources:
Slide 3: John Sherwood
Slide 6: http://www.calvin.edu/academic/engineering/about/faculty/tubergen/
Slide 8: http://www.oakdaleneighbors.org/index.html
Slide 10: http://trulife.com/Brochures/us-orthopaedics-brochure.pdf,
           Royal Medical Co. Patent 277944_A1