

Title: UW Adapted Fitness: Grip strength improvement mechanism

Date: 10/9/2025

Client: Dr. Kecia Doyle

Advisor: Dr. Randy Bartels

Team: Cookie Monsters

David Diancin - Team Leader

Sydney Smith - Communicator

Gabriel Klenner - BSAC

Lucy Mcardle - BWIG

Lauren Hain - BPAG

Problem statement

Individuals in the UW Adapted Fitness program may face challenges with grip strength that limit their ability to perform daily tasks and participate in exercise. A longtime client with reduced grip strength in one hand has worked consistently to improve function but still struggles with both everyday items and workout equipment. Current tools in the Conway Adapted Fitness space are not tailored to his needs, creating a gap in training effectiveness. This project aims to design a safe, affordable, and user-friendly mechanism to support targeted grip training, improve independence, and enhance the client's overall fitness experience.

Brief status update

This week we completed our preliminary design report and have chosen some initial materials to begin to order. We have also begun to brainstorm different kinds of methods of creating a central piece that connects all the rubber bands while still easily being able to hook onto additional hooks.

Major team goals for the next week

1. Confirm order for materials that will be used to prototype.
2. Continue to look for materials or components needed to improve prototype fabrication
3. Submit budget form to BME department
4. Meet with John at Adapted Fitness and take accurate measurements

Next week's individual goals

- Sydney Smith: Continue research and communicate with the client about materials for the device
- David Diancin: Continue to research different mechanisms to improve design strength
- Lucy McArdle: Meet with the client to finalize budget and continue research on materials and other designs
- Lauren Hain: work on updating the BPAG materials sheet and send it out to the BME department for approval.
- Gabe Klenner: Update models and drawings with accurate measurements after meeting with the client.

Previous week's individual goals and accomplishments

- Sydney Smith: continue research on materials and communicate with client/advisor
 - Researched materials for device and communicated with advisor/client
- David Diancin: Continue researching for different materials to start forming a fabrication process
 - Chose initial materials to start rough prototyping
- Lucy McArdle: continue to research materials, make sure website is up to date
 - Decided on materials for prototype and continued research
- Lauren Hain: conduct more research on materials and start to create the excel sheet for the materials we would like to purchase
 - Created and filled out the excel sheets with the materials
- Gabe Klenner: Continue research and improve Cad model
 - Finished initial CAD model

Timeline

[illegible]

Background...	x	x	x	x												
Prototyping																
Testings																
Deliverables																
Progress Reports	x	x	x	x												
Prelim presentation				x	x											
Final Poster																
Meetings																
Client			x													
Advisor				x	x											
Website																
Update	x	x	x	x	x	x										

Filled boxes = projected timeline

X = task was worked on or completed