Title: UW Adapted Fitness: Grip strength improvement mechanism

Date: 10/2/2025

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 finalized our design matrix and selected our final design concept. We also completed our preliminary presentation and prepared demonstration materials, including a prop hand and device, for our upcoming presentation this Friday. Additionally, we met with Simon to receive feedback on both our design and matrix, during which he shared the client's hand measurements collected by his group last year. We also met with Dr. Bartels to review our presentation, discuss our progress, and receive further guidance moving forward.

Major team goals for the next week

1. Begin prototyping and building fake fingers to be ready to test certain designs.

- 2. Research and identify materials or components needed for prototype fabrication.
- 3. Form a budget
- 4. Meet with John at Adapted Fitness

Next week's individual goals

- Sydney Smith: continue research on materials and communicate with client/advisor
- David Diancin: Continue researching for different materials to start forming a fabrication process
- Lucy McArdle: continue to research materials, make sure website is up to date
- Lauren Hain: conduct more research on materials and start to create the excel sheet for the materials we would like to purchase
- Gabe Klenner:

Previous week's individual goals and accomplishments

- Sydney Smith: Research materials, figure out total cost, apply John's needs to choose design, communicate with Simon about design and get input
 - Researched materials, completed HIPPA training, received feedback from Simon
- David Diancin: Create Solidworks designs for the Balloon Glove and Hinge Mitten, use the information from the next client meeting to revise the PDS.
 - Worked on the CAD designs for our current main design.
- Lucy McArdle: focus on a design that we believe will perform the best, and research materials for the prototype. Continue to research current devices for grip strength
 - Completed HIPPA training, continued research, prepared slides and practiced for preliminary presentation
- Lauren Hain: Start to research materials for the design that we choose to start prototyping and continue doing individual research on grip strength mechanisms.
 - Completed HIPPA training, conducted more research, prepared for the preliminary design presentation
- Gabe Klenner: Create a better visual for the Hooks and Bands design (CAD or Onshape), Research similar designs

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Timeline

	Task	Sep				Oct					Nov				Dec	
ı		5	12	19	26	3	10	17	24	31	7	14	21	28	5	12
	Project R&D															
Ī	Empathize	Х	Х													

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

Filled boxes = projected timeline **X** = task was worked on or completed