PRINT-A-PUNCH

Date: September 28, 2024 to October 4, 2024

Client: Prof. Colleen Witzenburg (witzenburg@wisc.edu) and Mr. Daniel Pearce (dppearce@wisc.edu)
Advisor: Dr. Megan Settell - settell@wisc.edu

Daniel Pies - dpies@wisc.edu - Team Leader
Colin Bailey - cgbailey@wisc.edu - Communicator
Kendra Ohde - ohde@wisc.edu - BPAG
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Problem Statement

In order to carry out effective biaxial testing of tissue, a precise, symmetric sample must be cut. A cruciform shaped sample allows this testing to be performed however there are not currently any products that can uniformly cut this type of sample. The goal of this project is to generate a method to use factory produced razor blades to cut small samples of tissue so biaxial tensile testing is effective while keeping the product simple and inexpensive.

Brief Status Update

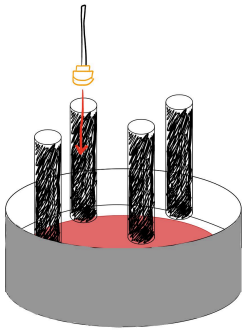
This week, the team created the preliminary presentation and report. This was worked on throughout the course of the week, and the team will meet a day prior to the presentation to do a practice run and iron out any inconsistencies in the presentation. Additionally, the team will work on getting their hands on a physical prop to deliver alongside the presentation.

Difficulties / Advice Requests

- One difficulty the team encountered this week was deciding how to split up the preliminary report and presentation. Due to the coincidence of the BPAG meeting with the team's advisor meeting and other extracurricular obligations, all five members could not meet together.

Current Design

We have chosen to pursue the biopsy jig design, as pictures in the rough sketch to the right. At this time, we have not completed a comprehensive CAD sketch of the design, but will update this report as soon as it is completed.



Materials and expenses

Item	Description	Manufac-turer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
									$0.00	
									$0.00	
Category 2										
									$0.00	
									$0.00	
								TOTAL:	**$0.00**	

Major Team Goals For The Next Week

- Work on and practice preliminary presentation
- Begin work on preliminary report and submit to advisor for review and advice

Next Week's Individual Goals

- Daniel Pies
    - Continue work on preliminary report
    - Continue work on CAD sketch of final design
    - Look into materials for potential transparent resins for prototype
    - Secure prop for preliminary presentation
- Colin Bailey
    - Model tentative final prototype in CAD
    - Finish preliminary report
    - 3D print prototype
- Cole Miller
    - Complete preliminary report
    - Research information relevant to prototypes
    - Contribute to production of prototypes
- Emmett Jones
    - Complete preliminary report
    - Begin prototyping possible designs
    - Continue research where necessary
- Kendra Ohde
    - Finish preliminary report
    - Look into which vendors we need to purchase from in the future, currently we can use our credit at the makerspace and we were provided some biopsy punches from the lab.

Timeline

Task	September				October				November					December	
	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13
Project R&D															
Empathize	X	X	X												
Background…		X	X	X	X										
Prototyping															
Testings															
Deliverables															
Progress Reports		X	X	X	X										
Prelim Presentation															
Final Poster															
Meetings															
Client		X		X											
Advisor	X	X	X	X	X										
Website															
Update	X	X	X	X	X										

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

Major Team Goals For The Next Week

- Finalize preliminary report and integrate advice from advisor
- Materials research for beginning prototype
- Reevaluate design
- Begin prototyping

Previous Week's Goals and Accomplishments

- Daniel Pies
  - Fill out and practice sections of preliminary presentation
  - Create and work on preliminary report
  - Progress report
  - Continue research
- Colin Bailey
  - Preliminary report
  - Finish and practice preliminary presentation
  - Continue design brainstorming
- Cole Miller
  - Develop preliminary presentation
  - Practice presentation
  - Continuing research

- Emmett Jones
    - Develop preliminary presentation
    - Update Progress Report
    - Continue revising design ideas
    - Continue relevant research
- Kendra Ohde
    - Work on preliminary presentation
    - Practice presentation
    - Research

Activities

Name	**Date**	**Activity**	**Time (h)**	**Week Total (h)**	**Sem. Total (h)**
Team	9/28-10/4	Advisor Meeting Preliminary Presentation Attend presentation session	.5 .5 1.5	2.5	5.5
Daniel Pies	9/28-10/4	Preliminary presentation work Create and work on preliminary report Progress report Background research	1 1 1 .5	3.5	14.5
Colin Bailey	9/28-10/4	Preliminary report Finish and practice preliminary presentation Continue design brainstorming	.5 1.5 1	3	11.5
Emmett Jones	9/28-10/4	Presentation development and practice Progress Report Continue revising possible designs Biaxial Tensile Research	-1 -.5 -1 -.5	3	10.5
Cole Miller	9/28-10/4	Presentation work Presentation practice Background Research BSAC Executive Meeting	1 .5 1 1	3.5	12
Kendra Ohde	9/28-10/4	Presentation work Progress report Continue design modification Background research	1 .5 .5 1	3	11
			Total		30