

Project Title: Digital Traction with Finger Sleeves

Client: Mr. Pape Samb (asamb@jamarek.org)

Advisor: Prof. Randolph Ashton (rashton2@wisc.edu)

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Communicator: Anshpreet Sohal (sohal2@wisc.edu)

BSAC: Patricia Prakasam (pprakasam@wisc.edu)

BWIG: Henna Razeq (razeq@wisc.edu)

BPAG: Anem Karthik (kanem@wisc.edu)

Date: 10/2/26 - 10/8/26

Problem Statement

The objective of this project is to create a digital traction device using finger traps that precisely pulls the patient's hand, wrist, and forearm into a comfortable, neutral position while holding a stable static load about 1/10th of the patient's weight. To be feasible for Idrissa Pouye Hospital, the device must be portable and usable in both the plaster casting room and the operating room. This requires a compact device that can be transported easily between spaces and provides unobstructed access to the forearm for casting and arthroscopy. It must tolerate routine sterilization without degradation and maintain its mechanical material properties. In addition, the design must be simple enough to fabricate, assemble, and repair using materials and processes available in or near Dakar so that the hospital can maintain a reliable inventory even as individual devices are lost or damaged over time.

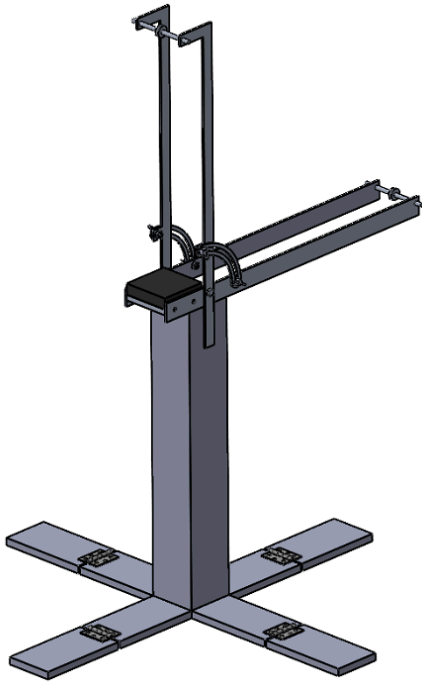
Brief Status Update:

This week the team worked on completing the preliminary report and the research required to complete it. We are planning to meet with the client next week to discuss possible finger sleeve options to buy and our final design moving forward.

Weekly/Ongoing Difficulties:

The client has not yet set us a video or image of the current traction device that they are using in the hospital.

Current Design



Final Preliminary Design: Guillotine Pulley traction mechanism with new base design.

Summary of Weekly Team Member Design Accomplishments

Team: Individual team members completed their section of the preliminary final report and together we worked to edit and revise it.

Individual:

- ❖ Amy Dang:
 - Completed section of the preliminary report (testing, testing protocols, abstract) and helped edit and revise other sections.
 - Completed feedback fruits
 - Prepared questions for client meeting
- ❖ Sean Carey:
 - Completed preliminary designs and final preliminary design section of report
 - Edited report
 - Completed Feedback fruits
- ❖ Anshpreet Sohal:
 - Completed feedback fruits
 - Completed fabrication section and Appendix B of preliminary report and helped edit sections

- Researched waterjet options for fabrication
- ❖ Patricia Prakasam:
 - Completed feedback fruits
 - Completed background section of preliminary report, as well as edited any parts necessary in my section
 - Emailed BSAC chairs concerning moving date of when preliminary report is due
- ❖ Henna Razeq:
 - Completed Feedback Fruits
 - Completed the introduction of the preliminary report, and made edits.
 - Uploaded work to the website
- ❖ Karthik Anem:
 - Completed feedback fruits
 - Completed discussion and conclusion of the preliminary report.
 - Edited preliminary report to match new testing procedures.

Upcoming Team and Individual Goals:

Team: The team hopes to meet with the client to choose finger sleeves to buy and begin fabricating the final design.

Individual:

- ❖ Amy Dang:
 - Complete reflection for feedback fruits.
 - Meet with the client
 - Brainstorm ways to fabricate the traction mechanism
 - Complete human subject testing training
- ❖ Sean Carey:
 - Improve model for design
 - Meet with client
 - Brainstorm traction locking systems
- ❖ Anshpreet Sohal:
 - Improve on preliminary design by making base sturdier
 - Meet with client
 - Complete feedback fruits reflection
- ❖ Patricia Prakasam:
 - Complete reflection for feedback fruits
 - Meet with the client
 - Complete the intro to machining training, book lathe and mill sometime next week
- ❖ Henna Razeq:
 - Complete feedback fruits reflection

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Project Timeline:

Project Goal	Deadline	Team Assigned	Progress	Completed
Product Design Specifications	09/18	All	Started	Yes
Design Matrix	09/25	All	Started	Yes
Preliminary Presentations	10/02	All	Started	Yes
Preliminary Deliverables	10/07	All	Started	Yes
Show and Tell	10/30	All	Not Started	No
Final Presentation	12/04	All	Not Started	No
Final Deliverables	12/09	All	Not Started	No

Timeline

[illegible]

Update	X	X	X	X	X	X										
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Filled boxes = projected timeline

X = task was worked on or completed – o = Not completed

Expenses

N/A

Activities Time

Team Member	Date	Activity	Time (h)	Weekly Total (h)	Semester Total (h)
Amy Dang	10/4 10/5-7	Feedback Fruits Preliminary Report	0.5 hr 8 hr	8.5 hr	33 hr
Sean Carey	10/3-7	Preliminary Report Feedback Fruits	5 hr 0.5 hr	5.5 hr	36.5 hr
Anshpreet Sohal	10/3 10/4-10/7	Feedback Fruits Preliminary Report	0.5 hr 2.5 hr	3 hr	34 hr
Patricia Prakasam	10/7 10/3-7	Feedback Fruits Preliminary Report	0.5 hr 3.5 hr	4 hr	27 hr
Henna Razeq	10/7 10/3-7	Feedback Fruits Preliminary Report	0.5 hr 3 hr	3.5 hr	28.5 hr
Karthik Anem	10/4	Feedback Fruits Preliminary Report	0.5 hr 3 hr	3.5 hr	23.5 hr