

Title: Progress Report 6

Date: 03/06/2025

Client: Dr. Andrew Ross

Advisor: Dr. Megan McClean

Team:

Student 1: Ana Toscano

Student 2: Rini Anand

Student 3: Gabriela Cecon

Student 4: Sofia Yeates-Delahoz

Problem statement:

Design and develop a prototype that securely supports, stabilizes, and precisely maneuvers needles during, image-guided minimally invasive radiology procedures to enhance ergonomics, reduce operator fatigue, and improve accuracy and patient outcomes

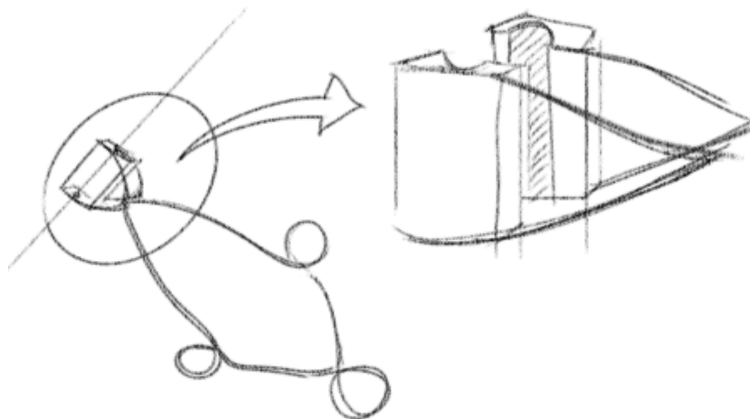
Brief status update

The team has proposed a final design (displayed below) and will begin to work on developing the CAD model to begin prototyping.

Difficulties / advice requests

None to report.

Current design



This image depicts the current proposed design for the Needle Navigator device.

This Week's Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Ana Toscano	3/1 - 3/4	Set up project timeline Brainstormed final design with team	1	1	17
Rini Anand	3/1-3/4	Research locking mechanisms Brainstormed final design with team Talked through final timeline	1	1	17
Sofia Yeates-Delahoz	3/3 - 3/4	Set up the project timeline Brainstormed final design idea with group Conducted research on 3D printing Nylon material	1.5	1.5	17
Gabriela Cecon	3/1-3/4	Worked on improvements to the design Set up the project timeline Conducted research on soft materials	1	1	16

Major team goals for the next week

1. Begin working on the CAD model for the prototype.
2. Conduct further research on soft material that will hold the needle
3. Update Product Design Specifications document

Next week's individual goals

- Ana Toscano
 - Work on CAD model for final design
 - Update PDS document
- Rini Anand
 - Work on CAD model for final design
 - Run FEA on model
 - Update PDS
- Gabriela Cecon
 - Work on the CAD model for the device
 - Wrap up research on soft materials
 - Order any necessary materials
- Sofia Yeates-Delahoz
 - Work on the CAD model for the device
 - Conduct research on materials for the device and fabrication methods

Timeline

Task	Jan	Feb				March				April				May	
	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8
R&D															
Preliminary Design	X	X	X	X											
Final Design					X	X									
Prototyping															
Testing															
Deliverables															
Progress Reports	X	X	X	X	X	X									
Prelim presentation				X											
Final Poster															
Meetings															
Team	X	X	X	X	X	X									
Client		X			X										
Advisor	X	X	X	X	X	X									
Website															
Update	X	X	X	X	X	X									

Materials and expenses

Currently, there are no expenses as the project is still in the preliminary prototyping phase.

Item	Description	Manufacturer	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	