# **Title: Progress Report 8**

Date: 03/20/2025

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

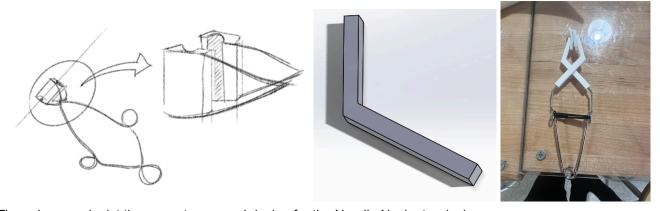
#### **Brief status update**

A preliminary CAD model was developed with SolidWorks and printed at UW-Madison Makerspace. Then a test tube holder was cut to fit. After that, a hole was drilled into the plastic pieces and hot glued onto the metal. Foam was also hot glued onto the end.

#### Difficulties / advice requests

None to report.

### **Current design**



These images depict 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	3/16-3/20	- Work on CAD - Fabricate the prototype - Attend 3D scan meeting/take dimensions of needle hub at TeamLab	4	4	23
Rini Anand	3/16-3/20	- Work on CAD - Discuss with team about fabrication plan - Print out CAD - Fabricate rest of prototype	3	3	22
Sofia Yeates-Delahoz	3/16-3/20	- Work on CAD - Print out CAD model at Makerspace - Discuss fabrication plan with the team - Attend 3D scan meeting/take dimensions of needle hub at TeamLab	3	3	22
Gabriela Cecon	3/16-3/20	- Discuss the fabrication plan with the team - Fill out the materials/expense sheet - Work on the fabrication of prototype	3	3	22

## Major team goals for the next week

1. None- Spring break

### Next week's individual goals

Ana Toscano

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Rini Anand

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Gabriela Cecon

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Sofia Yeates-Delahoz

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### **Timeline**

Task	Jan	ın Feb					March				April				May	
	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	
R&D																
Preliminary Design	Χ	Χ	Х	Х												
Final Design					Х	Х										

Prototyping							Χ	Х				
Testing												
Deliverables												
Progress Reports	Χ	Х	Х	Х	Х	Х	Х	Х				
Prelim presentation				Х								
Final Poster												
Meetings												
Team	Χ	Х	Х	Х	Х	Х	Х	Х				
Client		Х			Χ		Χ					
Advisor	Χ	Х	Χ	Х	Х	Х	Χ	Х				
Website												
Update	Х	Х	Х	Х	Х	Х	Х	Х				

# **Materials and expenses**

		Manufactu	Mft	Vendo	Vendo			Cost		
Item	Description	rer	Pt#	r	r Cat#	Date	#	Each	Total	Link
Category 1										
		UW-Madiso								
Needle	3D-printed PLA	n				03/19/				
Holder Jaws	needle holder jaws	Makerspace	N/A	N/A	N/A	2025	2	\$0.28	\$0.57	N/A
			SUC							
			ОНА							
	Labs Stoddard Test		NS-T							
	Tube Clamp,		BC-U							
	Stainless Steel with		nique							
Test Tube	Finger Grips, 6"		-Ident			03/19/	1			https://a.co/d/i
Clamp	Length	SUCOHANS	ifier	N/A	N/A	2025	0	\$1.43	\$14.28	C2k5td

TOTAL: \$14.85