

Embouchure Assist Device

Date: 9/18/2026-9/24/2026

Client: Linda Chickering - lindabhat@gmail.com

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Team:

Team Leader: Erika Daniels - emdaniels2@wisc.edu

Team Leader: Anna van Riessen - avanriessen@wisc.edu

Communicator: Celia Oslakovic - oslakovic@wisc.edu

BPAG: Owen Johnson - otjohnson2@wisc.edu

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Problem statement

Facial nerve weakness and palsy can affect many aspects of a patient's daily life, including their ability to maintain an adequate air seal around a musical instrument's mouthpiece. This creates significant challenges for musicians playing woodwind instruments, such as the oboe. Unlike other woodwind instruments, the oboe uses a unique double reed that is unsupported by a traditional mouthpiece, requiring precise and stable embouchure control. The objective of this project is to develop a tailored device to stabilize the embouchure for individuals with facial nerve weakness.

Brief status update

This week the team worked on brainstorming and developing design ideas. After sharing them in a team meeting, we combined aspects of team members' ideas to develop three separate designs to evaluate in our design matrix. We evaluated the designs and have included the details of our selection and criteria with this progress report. Our next steps include developing the CAD for the final design as well along with the testing and fabrication plans in preparation for next week's preliminary design presentation.

Difficulties / advice requests

Current design

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

1. Prepare for our preliminary design presentation
2. Prepare associated design evaluations and test methods

Next week's individual goals

- Anna
 - Complete my portion of the preliminary design presentation
 - Practice my part of the presentation
 - Continue research
- Caden
 - Prepare for preliminary design presentation
 - Continue research
 - Prepare for prototype fabrication
- Celia
 - Complete and rehearse my section of the preliminary design presentation
 - Continue research
 - Work on fabrication plan for prototype
- Erika
 - Work on preliminary design presentation and associated information
 - Continue conducting research
 - Test method development

- Begin CAD for final design
- Owen
 - Work on Preliminary design presentation
 - Conduct materials research
 - Brainstorm fabrication methods
 - Begin CAD for final design
- Owynn
 - Work on preliminary design presentation
 - Conduct research
 - Continue thinking of ideas for testing
 - Being CAD for final design

Timeline

Task	September				October				November				December	
	7	14	21	28	5	12	19	26	2	9	16	23	1	7
Project R&D														
Empathize	X	X												
Background...	X	X	X											
Prototyping			X											
Testings														
Deliverables														
Progress Reports	X	X	X											
Prelim presentation														
Final Poster														
Meetings														
Client		X												
Advisor	X	X	X											
Website														
Update	X	X	X											

Filled boxes = projected timeline

X = task was worked on or completed

Previous week's goals and accomplishments

- Anna
 - Drew three design ideas
 - Assisted in creating the design matrix

- Continued research
- Caden
 - Brainstormed design ideas
 - Contributed to design matrix
 - Continued research
- Celia
 - Developed initial design ideas
 - Evaluated designs via design matrix
 - Broadened research scope
- Erika/
 - Brainstormed design ideas
 - Completed a design matrix for ideas
 - Continued researching test methods
- Owen
 - Continued research
 - Brainstormed materials
 - Brainstormed design ideas
- Owynn
 - Brainstormed designs
 - Conducted research
 - Constructed a design matrix
 - Started thinking about how we could test designs in the future

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Anna van Riessen	9/20	Team meeting	1	3	9.5
	9/23	Evaluated our second design	1		
	9/23	Finalized design matrix	1		
Caden Kleepsies	9/20	team meeting	1	2.5	8.5
	9/23	Added to Design Matrix	.5		
		Finalized Design Matrix	1		
Celia Oslakovic	9/20	Team meeting	1	4	10.5
	9/21	Designed iteration 2 and evaluated in design matrix	2		
	9/22	Finalized design matrix justifications	1		
Erika Daniels	9/20	Team meeting about design matrix	1	4	11
	9/21	Developed my group's design and evaluated in the design matrix	2		
	9/23	Worked on design matrix justifications	1		

Owen Johnson	9/20	Work on design matrix	1	5	9
	9/22	Draw design	1		
	9/22	Iterate design	1		
	9/23	Conduct research	2		
Owynn Garrelts	9/20	Team meeting about design matrix	1	3	9
	9/21	Explain the different criteria we used for design matrix	.5		
	9/22	Brainstormed idea for testing the different design in design matrix	1		
	9/23	Rate the criteria for my group's design	1.5		