

Embouchure Assist Device

Date: 10/2/2026-10/8/2026

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Team:

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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 presented the preliminary presentation and completed the preliminary report. These deliverables are intended to update the BME department on design ideas and overall progress. Moving forward, the group will meet with the client face-to-face to take measurements and perform testing. This will help the team make decisions for the final product moving forward.

Difficulties / advice requests

Friday testing location access to 1002?

Current design

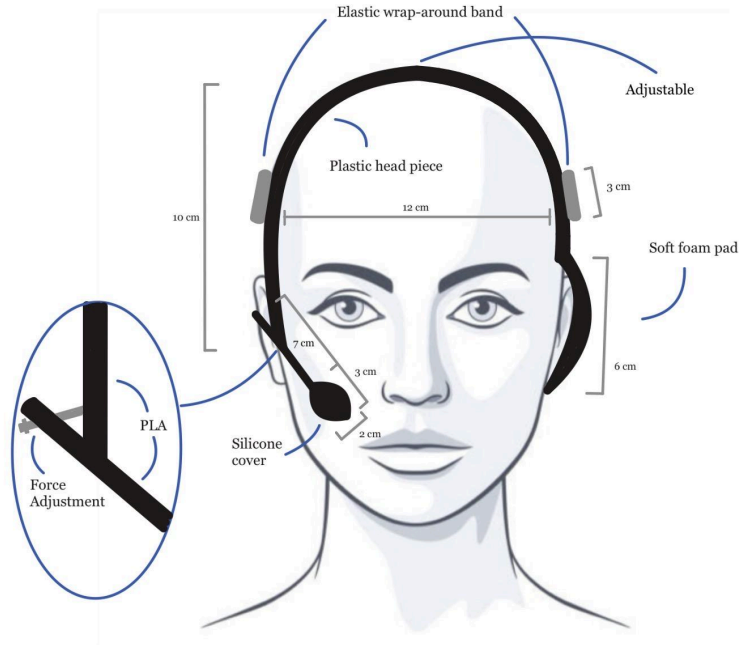


Figure 1: Headset with Clamped Pressure Piece Design

Materials and expenses

Item	Description	Manufac - turer	Mft Pt#	Vendor	Vend or Cat#	Date	#	Cost Each	Total	Link
Category : 3D Printing + DI Lab										
3-D Print	Force arm prop (TPU)	DI Lab				9/29/2026	1	\$0.32	\$0.32	
3-D Print	Force arm prop (PLA)	DI Lab				9/30/2026	1	\$0.17	\$0.17	
Category 2: Online purchases										
Pressure Sensors	Sensor pads	MECCANIXITY		Amazon		10/03/2026	1	\$12.34	\$12.34	MECCANIXITY Thin Film Pressure Sensor, ESR406B 20g-10Kg Force Sensing Resistor Stress Test Sensor Pad for Smart Home, Instruments, 2 Pack; Amazon.com: Industrial & Scientific
									\$0.00	
								TOTAL:	\$12.83	

Major team goals for the next week

1. CAD final design

Testing															
Deliverables															
Progress Reports	X	X	X	X	X										
Prelim presentation				X											
Final Poster															
Meetings															
Client		X			X										
Advisor	X	X		X	X										
Website															
Update	X	X	X	X	X										

Filled boxes = projected timeline

X = task was worked on or completed

Previous week's goals and accomplishments

- Anna
 - Complete my portion of the report
 - Edit the report
- Caden
 - Complete report
 - Prepare for testing
 - Begin preparing for prototyping
- Celia
 - Establish defined testing protocol for client visit
 - Complete section of preliminary report
- Erika
 - Finalize testing protocols for force application testing during client meeting
 - Work on the preliminary report
- Owen
 - Work on preliminary report
 - Further materials research
- Owynn
 - Work on preliminary report
 - Finalize testing

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
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Anna van Riessen	10/3-10/6 10/8	Work on preliminary report Prepare for client meeting	4 1	5	17.5
Caden Kleepsies	10/5 10/6	Preliminary report Finalize preliminary report	2 0.5	2.5	15
Celia Oslakovic	10/5 10/7	Design testing protocol including writing arduino code for testing Prep for client meeting	4 0.5	4.5	17
Erika Daniels	10/5 10/6 10/8	Preliminary report introduction and abstract Edit formatting and complete report Prepare for client testing using FSR	1.5 0.5 2.5	3.5	19
Owen Johnson	10/5 10/6	Preliminary report fabrication Edit preliminary report fabrication	2 1	3	17
Owynn Garrelts	10/4/26 10/5/26	Preliminary report background Finish preliminary report background	3 1	4	17