

Embouchure Assist Device

Date: 9/4/2026-9/10/2026

Client: Linda Chickering - lindabhat@gmail.com

Advisor: Dr. William Murphy - wlmurphy@ortho.wisc.edu

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

The team began background research and project planning following selection. The team plans to meet with the client on Friday 9/11 at 2pm. Following the client meeting, the team will continue researching related physiology, pre-existing designs, and potential solutions.

Difficulties / advice requests

Current design

Materials and expenses

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	

Major team goals for the next week

1. Complete client meeting and preliminary research accordingly
2. Complete Product Design Specifications

Next week's individual goals

- Anna
 - CoPrepare for initial client meeting
 - Conduct research
 - Work on PDS
 - Start brainstorming design solutions
- Caden
 - Continue research
 - Work on PDS
 - First BSAC Meeting
- Celia
 - Further research competing designs and testing
 - Complete Product Design Specifications
 - Maintain communication with our client
- Erika
 - Complete Product Design Specifications
 - Further research client's physiology
 - Explore feasible test methods
- Owen
 - Conduct research
 - Work on PDS
 - Set up budget tracking spreadsheet
- Owynn
 - Work on Product Design Specifications
 - Conduct research
 - Add Progress Report and PDS to website

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													
Background...	X													
Prototyping														
Testings														
Deliverables														
Progress Reports	X													
Prelim presentation														
Final Poster														
Meetings														
Client														
Advisor	X													
Website														
Update														

Filled boxes = projected timeline

X = task was worked on or completed

Previous week's goals and accomplishments

- Anna
 - Researched woodwind instrument mechanics
 - Prepped for client meeting
- Caden
 - Prepared for initial client meeting
 - Researched existing designs and how double reed instruments function
- Celia
 - Research oboe reed socket anatomy
 - Set up and prepared for client meeting
- Erika
 - Research existing designs
 - Prepare for client meeting
- Owen
 - Brainstorm questions for our client
 - Research about the instrument specifications
- Owynn

- Prepared for the client meeting
- Did research on existing designs and what our clients facial palsy is

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Anna van Riessen	9/9	Research woodwind mechanics and facial palsy			
	9/10	Prepare for client meeting			
Caden Kleepsies	9/9	Preliminary research	2	3.5	3.5
	9/9	Prepared for client meeting	.5		
Celia Oslakovic	9/4/2026	Establish communication with our client	1	3.5	3.5
	9/8/2026	Preliminary research	2		
	9/10/2026	Client meeting prep	0.5		
Erika Daniels	9/7/2026	Research existing designs and general background	2	3	3
	9/9/2026	Prepare for client meeting	1		
Owen Johnson	9/9/2026	Brainstorm questions for client	1	1	1
Owynn Garrelts	9/7/2026	Research on clients facial palsy and existing designs	2	2.5	2.5
	9/9/2026	Brainstorm questions for client meeting	.5		