Muscles of Mastication Group

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Problem Statement

In veterinary anatomy education, there is a notable absence of interactive, hands-on models that illustrate the muscles of mastication for both carnivores and herbivores. This gap limits students' ability to engage in effective learning and understanding of the complex relationships between muscular and bony structures. Our goal is to develop two models that accurately replicate the anatomy of mastication muscles in two carnivores and herbivores allowing for the visualization of muscle function and clearly define individual muscles to enhance educational outcomes.

Brief Status Update

We received feedback from Show and Tell, and have decided to scrap 3D printing springs for muscles. Instead, we have ordered new materials to fabricate our models and those come in on Friday. We also have begun thinking about our testing protocols for this project.

Summary of Weekly Team Member Design Accomplishments

- Team:
  - Order materials for fabrication
- Jensen Weik:
  - Located materials online that were inexpensive and relevant to design
- Kaiya Merritt:
  - Looked for new materials and sent them to the client to be ordered
  - Created a rough draft testing protocol for the durability of the skull
- An Hua:
  - Looked for new materials to be purchased
  - Updated materials and expenses sheet
- Noah Kalthoff:

    - Looked for materials online in order to fabricate our new design ideas
- Leah Nelson:
    - Looked for materials online for fabrication

Weekly/Ongoing Difficulties

The team is struggling to locate the origins and insertions of the muscles on the skulls.

Upcoming Team and Individual Goals

- Team:
    - Locate the origins and insertions
    - Fabricate the models
- Jensen Weik:
    - Fabricate the models
- Kaiya Merritt:
    - Fabricate the models
    - Begin testing the models and think of a potential second testing option
- An Hua:
    - Start fabricating the models
    - Start testing protocol
- Noah Kalthoff:
    - Find an efficient way to map where the mastication muscles should go
    - Fabricate the models once the supplies come in
- Leah Nelson:
    - Fabricate the models

Project Timeline

Project Goal	Deadline	Team Assigned	Progress	Completed
Meet with client	9/6	All	100%	9/13
Product Design Specification	9/19	All	100%	9/19 (ongoing with edits)
Preliminary Presentations	10/4	All	100%	10/4
Preliminary Report	10/9	All	100%	10/9
Show and Tell	11/1	All	100%	11/1
Poster Presentations	12/6	All		
Final Deliverables	12/11	All		

Expenses

Horse Skull				
Item	**Location Purchased**	**Quantity**	**Cost Each**	**Total Cost**
PLA	Makerspace	1	18.5	18.5
				0
				0
				0
				0
				0
				0
				0
				0
Total:				18.5

Dog Skull				
Item	**Location Purchased**	**Quantity**	**Cost Each**	**Total Cost**
PLA	Makerspace	1	13	13
				0
				0
				0
				0
				0
				0
				0

				0
Total:				13

Both				
Item	**Location Purchased**	**Quantity**	**Cost Each**	**Total Cost**
TPU	Makerspace	1	2.93	2.93
Elastic 50A	Makerspace	1	11.64	11.64
Hooks and Screws	Amazon	1	3.79	3.79
Springs	Amazon	1	10.99	10.99
Elastic Band	Amazon	1	12.99	12.99
Silicone	Amazon	1	6.69	6.69
				0
				0
				0
Total:				49.03