BME Design: Progress reports

VET Stand: Adjustable bite block assembly for radiation therapy for pet

Date: October 29, 2026 - November 5, 2026
Client: Dr. James Sohn
Advisor: Prof. Randy Bartels
Team Members:
Norah Greer (njgreer2@wisc.edu) - Co-Leader
Cole Hwang (nahwang@wisc.edu) - Co-Leader
Zhien Luo (zluo244@wisc.edu) - Communicator
Bridget Jensen - (bcjensen2@wisc.edu) - BSAC
Ethan Abitz - (eabitz@wisc.edu) - BWIG
Isabel Hillwalker - (hillwalker@wisc.edu) - BPAG

Problem statement

Veterinary radiation oncology requires dogs and cats to undergo sedation during every treatment session. A common tool used to secure an anesthesia delivery hose and hold the animal's head still is a bite block, however, common bite blocks are cumbersome and lack adjustability. This project aims to create an adaptable bite block with a wide range of widths and heights, allowing technicians to precisely and repeatedly position the block for each patient over multiple treatment sessions.

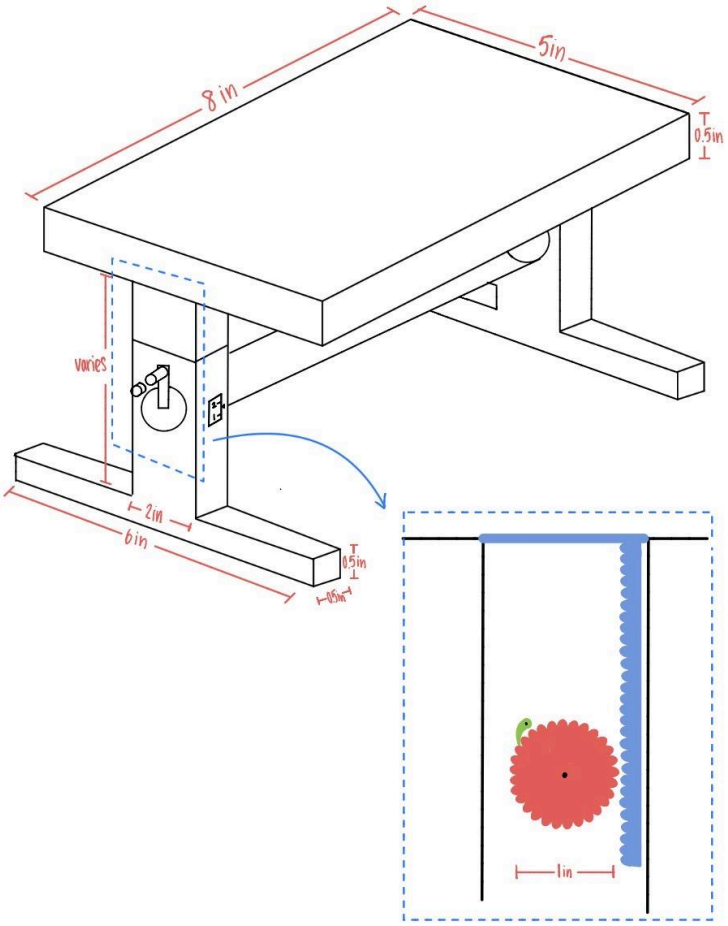
Brief status update

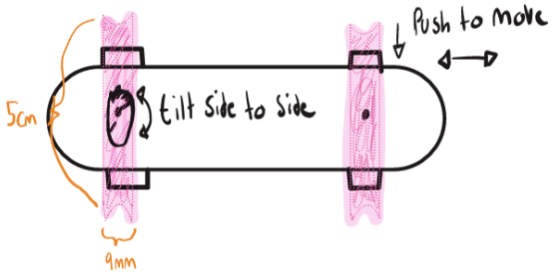
The team continued working on the bite block design matrix as well as the CAD model of the stand. An initial prototype was 3D printed.

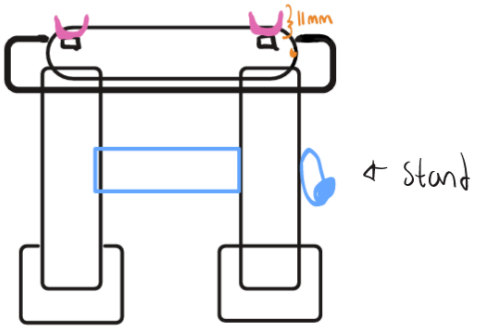
Difficulties / advice requests

None at this time

Current design







Materials and expenses

Item	Description	Manufac-turer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
PLA	Used for 3D printing			UW-Makerspace		10/21			$4.51	(blue)
PLA	Used for 3D printing			UW-Makerspace		10/22			$3.45	(white)
PLA	Used for 3D Printing			UW-Makerspace		10/22			$6.74	(black)
PLA	Used for 3D Printing			UW-Makerspace		11/5			$1.50	
PLA	Used for 3D Printing			UW-Makerspace		11/5			$2.25	
PLA	Used for 3D Printing			UW-Makerspace		11/5			$4.65	
Category 2										
									$0.00	
									$0.00	
								TOTAL:	**$23.10**	

Goals

Major team goals for the next week

1. Print Updated Stand
2. Print Bite Block
3. Test different types of gears

Next week's individual goals

- Norah Greer
    - Start testing on updated prototype
- Cole Hwang
    - Make gears in different filaments, find a way to connect the bite block and stand top.

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- Zhien Luo
    - Continue with modifications on bite-block or begin fabrication for the bite block.
- Bridget Jensen
    - Print the bite block and work on connecting the bite block to the stand
- Ethan Abitz
    - Research methods to automate cyclical testing
- Isabel Hillwalker
    - Complete research on more gear components, help with testing

Timeline

Task	Aug	Sep				Oct				Nov					Dec	
	31	7	14	21	28	5	12	19	26	2	9	16	23	30	3	10
Project R&D																
Empathize																
Background…																
Prototyping																
Testings																
Deliverables																
Progress Reports																
Prelim presentation																
Final Poster																
Meetings																
Client																
Advisor																
Website																
Update																

Filled boxes = projected timeline
X = task was worked on or completed

Detailed accomplishments

Previous week's goals and accomplishments

- Norah Greer
    - Start testing on updated prototype
- Cole Hwang
    - Start considering and planning testing, research testing.
- Zhien Luo
    - Developed a general mechanism for the bite-block adjustment.
- Bridget Jensen
    - Print the bite block and work on connecting the bite block to the stand
- Ethan Abitz
    - Start testing

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- Isabel Hillwalker
    - Print bite block, help test gear filaments
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Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Cole Hwang	11/3/26 11/4/26	Team meeting CAD for the bite block	1 1.5	2.5	24
Norah Greer	10/28/26 10/29/26	Updated CAD model to fix issues with initial prototype Bite block design matrix Printed new prototype components	1 0.25 0.25	1.5	24.5
Ethan Abitz	11/3/26	Team Meeting	1	1	21
Zhien Luo	11/3 11/5	Team Meeting CAD for bite block	2 4.5	6.5	30
Bridget Jensen	11/3/26 11/5/26	Team Meeting Printed gears	1 0.5	1.5	24
Isabel Hillwalker	11/3 11/3	Team meeting Gear research	2 0.5	2.5	23.5