

Incubator for Infant Wildlife (Wildlife Incubator Team) BME 402

Client: Dr. Mark Stelford

Advisor: Dr. Walter Block

Team: Tanishka Sheth (Leader + Communicator) - tsheth@wisc.edu

Loukia Agoudemos (BPAC) - lagoudemos@wisc.edu

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Date: 2/16-2/22

Problem statement

Wildlife rehabilitation often includes caring for neonatal wildlife who are unable to control their own body temperature, thus the incubator must provide supplemental temperature control. Although private parties frequently contribute to wildlife rehabilitation efforts, they do not have enough financial resources to purchase an incubator. As such the wildlife incubator must be low-cost, durable, modular, easy to clean, and precise in temperature control. It is essential to create an incubator that is more accessible and accommodating for those interested and passionate about wildlife rehabilitation but may lack the financial resources to purchase components currently available in the market.

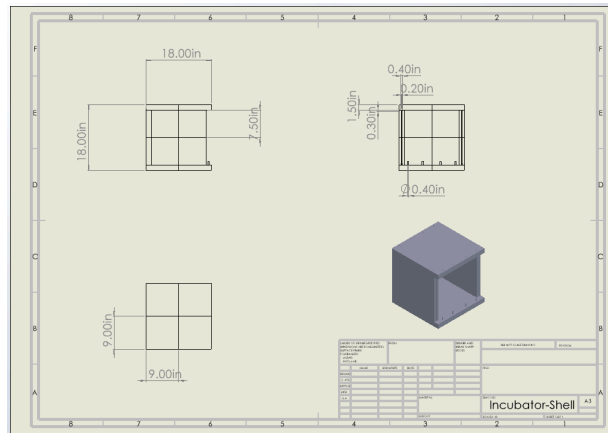
Brief status update

The team has pivoted to laser cutting the exterior of the shell and half of the members have gotten certified to do this. The other half has been trying to fix bugs in the implementation of the PID controller. Additionally, the whole team is working on creating a draft of our final journal.

Difficulties / advice requests

Getting the PID controller to help decrease oscillations. The code and control theory are proving to be challenging.

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. Put the PID library in place and begin testing
2. Complete printing of the exterior shell of the design

Next week's individual goals

- Tanishka:
 - Complete PID implementation using AutoPID library
- Loukia:
 - Help Sophoa with laser cutting and making adjustments
- Sophia:
 - Finish laser cutting process with adjustments as needed.

- Erwin:
 - Complete PID implementation and ensure temperature and humidity control are compatible

Timeline

Task	Jan	Feb				March					April				May	
	26	2	9	16	23	1	8	15	22	29	5	12	19	26	3	10
Project R&D																
Designing	X	X	X	X												
Prototyping																
Testing																
Feedback																
Deliverables																
Progress Reports	X	X	X													
Prelim presentation			X													
Final Poster																
Meetings																
Client																
Advisor	X	X	X	X												
Website																
Update	X	X	X	X												

Filled boxes = projected timeline

X = task was worked on or completed

Previous week's goals and accomplishments

- Team:
 - The team has been moving forward with completing the two separate tasks (controller and exterior)
- Tanishka:
 - Worked on PID implementation
 - Re-evaluated direction of shell printing with Sophia
- Loukia:
 - Helped with beginning laser cutting and accurate price quotes for exterior fabricating.
- Sophia:
 - Began laser cutting process and acquired accurate price quotes for entire exterior fabrication process.
- Erwin:
 - Worked on PID implementation
 - Reached out to possible outreach location

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Tanishka Sheth	2/16/2/22	Attempted to complete inclusion of PID library doing some trial and error	2	2	7.5
Loukia Agoudemos	2/16-2/22	Exterior fabrication work	2	2	6 =\
Erwin Cruz	2/16-2/22	Worked with PID library and sent emails to outreach location	1.5	1.5	6
Sophia Finn	2/16-2/22	Met with advisor, research Arduino PID libraries, updated website	3	2	8.5