

# **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

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Date: 1/26-2/1

## **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.

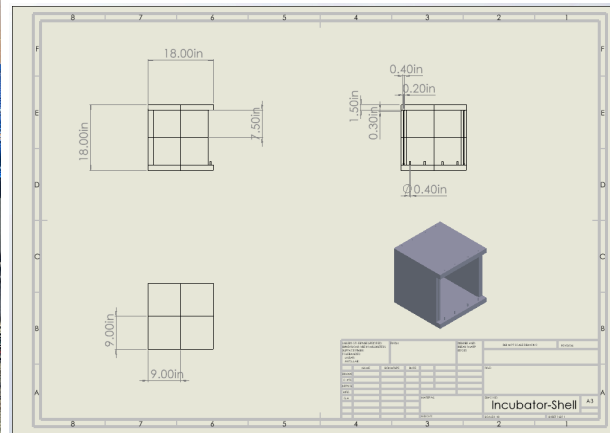
## **Brief status update**

The team has reshuffled team roles this semester. Thus far, the team has met with our advisor once to discuss our priorities and goals for the semester. We aim to focus on creating PID control for electronic components, work on the external shape of the incubator itself, and trying to see if we can move our circuitry off breadboards onto a clean circuit board.

## **Difficulties / advice requests**

Right now we are facing difficulties in trying to figure out how to move the breadboard circuitry onto a circuit board.

## Current design



## Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
<b>Category 1</b>										
									\$0.00	
									\$0.00	
<b>Category 2</b>										
									\$0.00	
									\$0.00	
								<b>TOTAL:</b>	<b>\$0.00</b>	

## Major team goals for the next week

1. Work on each of the three goals that have been outlined in the status update
  - a. This will be done by dividing the team into groups/individuals that will be focusing on each aspect
2. Figure out how to involve PID control into the existing Arduino circuitry.

## Next week's individual goals

- Team:
  - Split work to meet all goals required for a successful project

- Begin formulating a new testing plan assuming all components are worked on as planned
- Tanishka:
  - Research on PID control and how that fits into the current design
  - Brainstorm ways to test our prototype this semester for preliminary presentations
- Loukia:
  - Do research and compile a list of what is needed for my portion of the project
- Sophia:
  - Hammer out all the details of who is taking various aspects of the project.
  - Continue research as it pertains to my given project section.
- Erwin:
  - Attempt a print using completed CAD designs
  - Assign/split work for upcoming semester

## Timeline

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

Filled boxes = projected timeline

X = task was worked on or completed

## Previous week's goals and accomplishments

- Team:
  - The team has met with our advisor and developed goals for the semester
  - We recapped what was completed by the end of last semester and discussed where we saw our project moving forward in this upcoming semester
- Tanishka:

- Discussed with advisor and pinpointed that PID control was something I wanted to look into
- Began looking at how PID control and Arduino will interact and if it's possible to do without new components, and instead using alternative Arduino Libraries
- Loukia:
  - Touched base with the advisor to reorganize and do a check-in on the project and talked about prioritization.
  - Looked into aspects of the project that I want to focus on for my portion.
- Sophia:
  - Met with advisor to determine key factors in prototype approval
  - Coordinated new role
  - Researched PID libraries
- Erwin:
  - Collected old CAD designs
  - Met with advisor to reorganize project and work for final semester
  - Reviewed past project work
  - Contacted Madison 3D printing team to understand printing logistics

## Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Tanishka Sheth	1/26-2/1	Meeting with Advisor to discuss progress and goals, begin looking at PID control and Arduino Libraries	1.5	1.5	1.5
Loukia Agoudemos	01/26-2/1	Planning/Reviewing project progress and planning what the next steps were	1	1	1
Erwin Cruz	1/26-2/1	Meeting with Dr.Block and deciding next steps and collecting old CAD prints	1.5	1.5	1.5
Sophia Finn	1/26-2/1	Met with advisor, research Arduino PID libraries, updated website	1.5	1.5	1.5