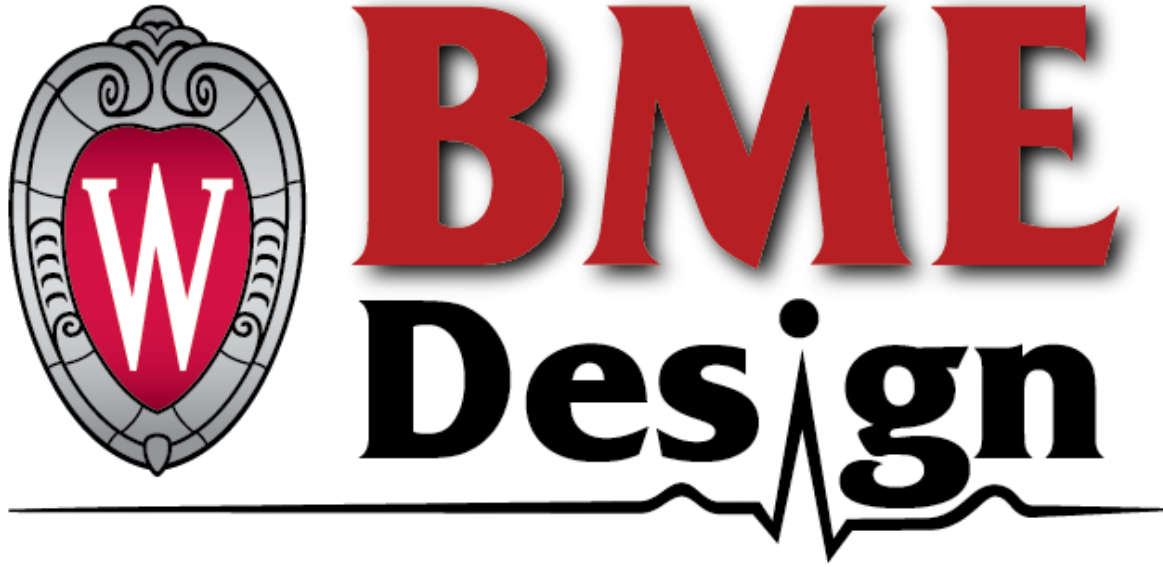




Progress Report #7

Interactive Touchscreen for Rhesus Macaque

BME 200/300

10/28/2025

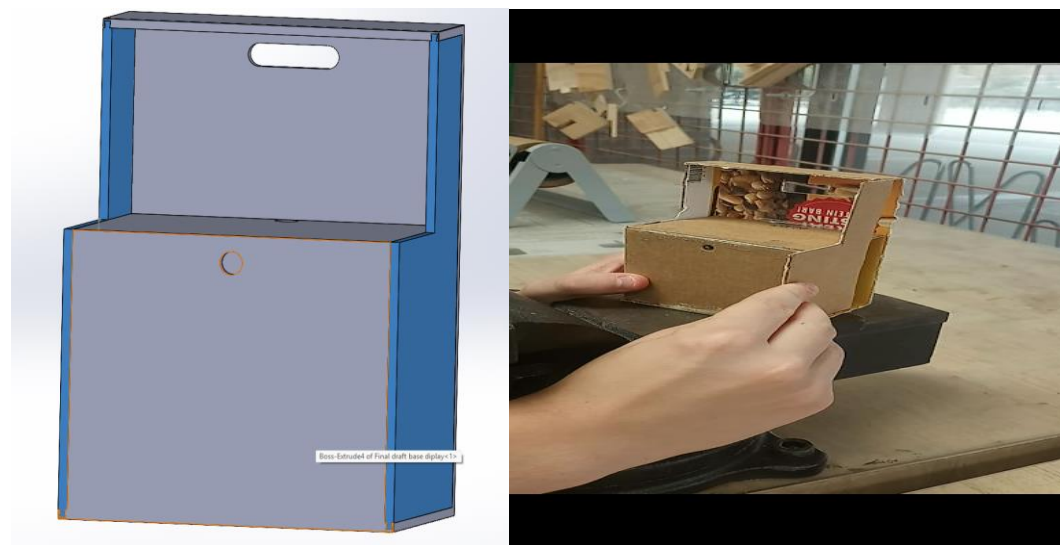
Team Members: Logan Olivera (co-leader), Kalob Kimmel (co-leader), Jackson Stewart (communicator), Andrew Dirkse (BSAC), Sameer Bhatt (BWIG), Charlie Fischesser (BPAG)

Project Statement: To design a modular, raspberry pi based interactive touchscreen, with a corresponding liquid dispensing to observe and understand the cognitive function of complex neural systems.

Current Project Status: The prototyping phase of the project is underway. Electronics/software integration is complete – testing is needed. A power system is being developed this week. Prototyping of the systems box is underway.

Difficulties/Questions: Little experience with power systems across the team so this must be heavily researched.

Current Design:



Materials and Expenses:

Item	Description	Manufacturer	Mfr P#	Vendor	Vendor Cat#	Date	QTY	Cost Each	Total	Link
Electronics										
Raspberry Pi Model 3 B+	Advanced Raspberry Pi used to send out signals for motor controller	N/A	SC0073	UW Makerspace	SC0073	9/15/2025	1	\$45.00	\$45.00	https://www.raspberrypi.com/products/raspberry-pi-3-model-b-plus/
Wiring	Wiring to connect Raspberry Pi	N/A	N/A	UW Makerspace	N/A	9/22/2025	1	\$1.00	\$1.00	
Micro SD	Store Research data for researchers	N/A	N/A	UW Makerspace	N/A	9/15/2025	1	\$4.00	\$4.00	
Motor Controller	Connects to Raspberry Pi to initiate pump	Hiletgo	3-01-833	Amazon	3-01-833	9/22/2025	1	\$10.99	\$10.99	https://www.amazon.com/dp/B00WSN98DC?ref=ppx_yo2ov_dt_b_fed_asin_title
Mechanical										
A300BX-S- Pump	Pump to push fluids	Anko	A302BX-300-S	Anko	A302BX-300-S	9/15/2025	1	Gifted	\$0.00	ANKO A300BX-S OEM Peristaltic Pump Serial Control Brushless DC Models to 1700 mL/min
								TOTAL:	\$60.99	

High Level Team Goals for Next Week: Have a working power system which can be used and improved on. Have a basic enclosure to hold all of the circuitry.

Individual Progress:

Logan Olivera – This week I was quite caught up with tasks for other classes but began brainstorming power systems.

Kalob Kimmel – This week I did some cad testing, brainstormed new possibilities for the case, and I got my training done.

Sameer Bhatt – This week I created a CAD model for the latching mechanism along with doing some online shopping to find a latching mechanism that could be online.

Jackson Stewart – This week I spent a lot of time learning how LT Spice works to help Logan simulate our circuit. I also researched several different power supply options that we could buy for the project.

Andrew Dirkse – This week I got my machining training, met with Logan to discuss integration of hardware and software, and attended the BSAC meeting.

Charlie Fischesser – This week I was able to do more research into aluminum and past experiments relative to our project.

Individual Goals (next week):

Logan Olivera – Next week I plan to finish a first power system to have a fully functional device (without enclosure) of which we can begin testing and find its shortcomings.

Kalob Kimmel – In the next week I plan to get the next progress report set up, continue mechanical prototyping, and get the cad printed out for show and tell. I also plan to do some research on waterproofing.

Sameer Bhatt – Next week, I want to prototype the model I created and compare it to simply buying it online.

Jackson Stewart – Next week I hope to narrow down what exactly we want to use for power and get that ordered. I also want to look more into LT Spice to actually create our circuit in the software to simulate it. I also want to help Logan with the circuit to learn more about what we are working with.

Andrew Dirkse – In the next week, I plan to read up on basic electronics, read up on power sources, and attend the next BSAC meeting.

Charlie Fischesser – Next week, I hope to purchase some aluminum materials and update the expenses sheet with all current purchases. I also hope to assist in prototyping further.

Timeline:

Project Goal	Deadline	Progress	Date Completed
Contact Client and Meet	9/13/25	100%	9/8/25
Research	N/a	N/a	N/a
Order Material	N/a	N/a	N/a

Product Design Specification	9/18/25	100%	9/18/25
Design Matrix	9/26/25	100%	9/26/25
Preliminary Presentations	10/5/25	100%	10/3/25
Preliminary Deliverables	10/8/25	100%	10/10/25
Show And Tell	10/31/25	30%	N/a
Final Poster Presentation	12/5/25	N/a	N/a
Project Fabrication	12/10/25	N/a	N/a
Final Deliverables	12/10/25	N/a	N/a