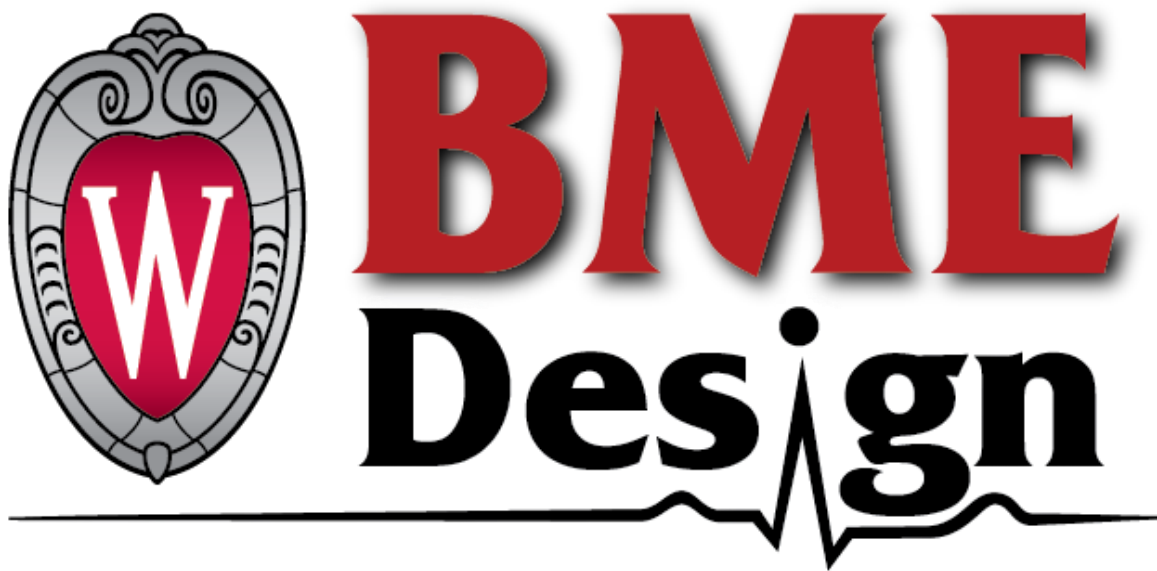




Progress Report #8

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. Prototyping of the systems box is underway, and printing is complete.

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	Hilletgo	3-01-833	Amazon	3-01-833	9/22/2025	1	\$10.99	\$10.99	https://www.amazon.com/dp/B00WSN96DC?ref=ppx_vo2ov_dt_b_fed_asin_title
Mechanical										
A300BX- 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: Finalize the electronics of the system and begin testing. Have a basic enclosure to hold all of the circuitry. Start the aluminum prototype.

Individual Progress:

Logan Olivera – This past week I worked with my team to get a fully functioning power system for the device. We also prepared for show and tell.

Kalob Kimmel – This week I did new cad design for the case after consulting with the team about waterproofing. I also printed out the cad design to get a physical idea of

the product. I formatted the progress report and I started thinking about door attachments after the print.

Sameer Bhatt – This week I finalized the latching mechanism and reprinted the newest model. Along with that, I helped Kalob finalize the mechanical design and did a lot of brainstorming on potential solutions to a few problems.

Jackson Stewart – This week I looked more into circuitry and helped Logan finish the circuit for our device. I also sent a power supply to our client to order.

Andrew Dirkse – I met further with Logan to discuss power, did more research on competing designs, and attended the BSAC meeting. I also read a book on electronics to get the requisite background knowledge.

Charlie Fischesser – I was able to create a guideline for our group's show and tell project. I was also able to collab with Kalob to work on another design to show at show and tell.

Individual Goals (next week):

Logan Olivera – For next week, I plan to get all of the electronics finalized and begin testing.

Kalob Kimmel – In the next week I plan to get the next progress report set up, continue mechanical prototyping, consult with staff at ECB about crafting the prototype with aluminum, and research as needed.

Sameer Bhatt – Next week I hope to 3D print another mechanical prototype along with working with Kalob to consult with staff about potential risks or limitations to our design.

Jackson Stewart – Next week I want to start testing the device with Andrew and Logan and learn more about how our circuit works to be able to better explain it.

Andrew Dirkse – Next week I want to continue reading about electronics, meet with Logan and Jackson to discuss power, and attend another BSAC meeting.

Charlie Fischesser – Next week, I plan to help prototype a design out of aluminum with Kalob. I also hope to continue to update the expenses.

Timeline:

Project Goal	Deadline	Progress	Date Completed
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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	100%	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