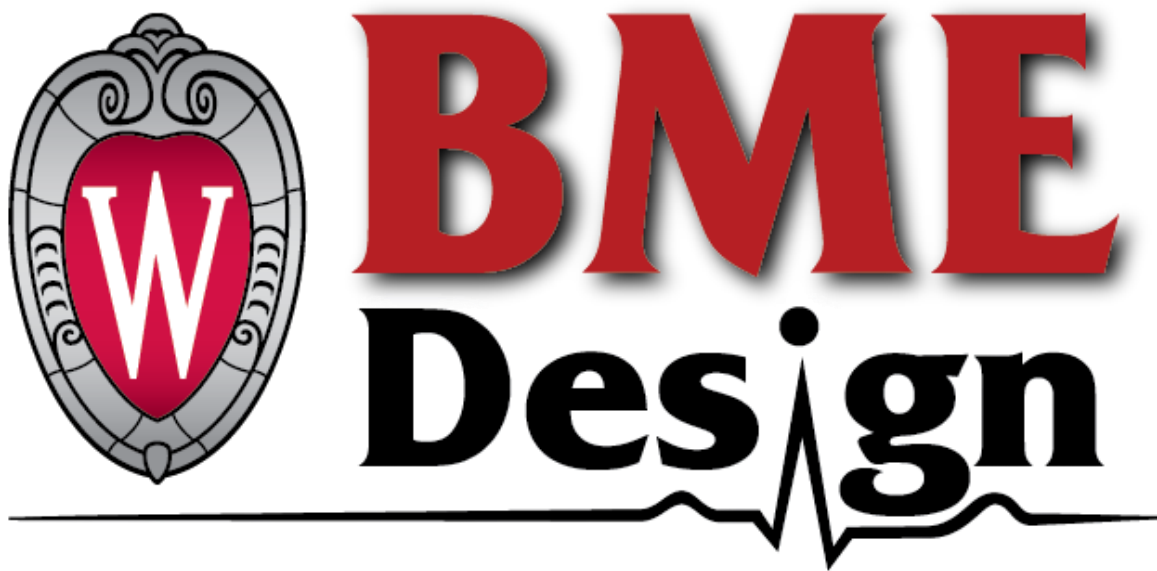




Progress Report #10

Interactive Touchscreen for Rhesus Macaque

BME 200/300

11/14/2025

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 input signals from touchscreen and output signals to 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 to motor controller	N/A	N/A	UW Makerspace	N/A	9/22/2025	1	\$1.00	\$1.00	
Micro SD	Store 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 output signals to turn on pump device	Hitlego	3-01-833	Amazon	3-01-833	9/22/2025	1	\$1.00	\$1.00	https://www.amazon.com/dp/B00WSN98DC?ref=ppx&th=1
Mechanical										
A300BX5- Pump	Pump to push fluids by accepting signals from motor controller.	Anko	A300BX-5	Anko	A302BX-300-S	9/15/2025	1	Gifted	\$575.00	https://www.walmart.com/ip/GreenTouch-8-Inch-Open-Frame-1024x600-HDMI-PCAP-Touch-Monitors-for-Consumer-Retail-POS-and-Hospitality-Markets/1594114325?classType=REGULAR
8 inch GreenTouch Touchscreen	Touchscreen device with high water and impact resistance and USB ports to connect to raspberry pi	GreenTouch	GT-TM080(2C)	Walmart	GT-TM080	10/14/2025	1	\$200.88	\$200.88	
Power										
24V 2A 48W DC barrel power supply (2 Pack)	Power supply to safely power the motor controller, touchscreen, raspberry pi, and pump	Fletergib	N/A	Amazon	B0C65Y34G	10/29/2025	1	\$16.99	\$16.99	https://www.amazon.com/Supply-Adapter-100-240V-Transformer-Connector/dp/B0C65Y34G?th=1
24V 2A DC barrel power supply	Power supply to safely power the motor controller, touchscreen, raspberry pi, and pump	Onerbl	JYH36-1204000-BY	N/A	J3611204000-U	10/29/2025	1	Gifted	\$13.89	https://www.amazon.com/Adapter-Replacement-J361-1204000U-J3611204000U-100-240-50/dp/B0D31FBC9G
								TOTAL:	\$857.76	

High Level Team Goals for Next Week: Begin testing of the electronics and put together a final prototype of the mechanical side.

Individual Progress:

Logan Olivera – This week I worked with the pump to diagnose that the pump is not drawing current most likely we will need to use a new pump.

Kalob Kimmel – This week I looked more into PETG, I worked on a little SolidWorks, and made progress report.

Sameer Bhatt – This week I 3D printed another prototype and tested it with the touchscreen.

Jackson Stewart – This week I looked more into circuitry and LT Spice.

Andrew Dirkse – I continued to read a book on electronics to get more background knowledge and discussed circuitry with Logan.

Charlie Fischesser – This week I worked on updating the expenses sheet. I also did some research into different 3d printing materials to determine the most viable one for our project.

Individual Goals (next week):

Logan Olivera – My goal for the upcoming weeks is to create a backup solution (cheaper pump) and try to fix the one we currently have.

Kalob Kimmel – In the next week I plan to make more connection mechanisms for the case, do more testing, more research, and dive into more 3d printing.

Sameer Bhatt – I want to finalize the design and get another print as quick as possible so that we have enough time for any revisions if necessary.

Jackson Stewart – Next week I hope to look more at how the circuit works as well as start testing on the device.

Andrew Dirkse – Next week I want to continue reading about electronics, meet with the electrical and mechanical teams again to discuss power, start working on the final poster, and attend the BSAC meeting and advisor meeting.

Charlie Fischesser – My plan for next week is to look into different pumps and purchase a backup option in case Logan cannot figure out a solution to the current pump device.

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	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