



## Progress Report #11

### Interactive Touchscreen for Rhesus Macaque

**BME 200/300**

**11/21/2025**

**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 final 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 complete, and final printing is underway.

**Difficulties/Questions:** Pump is not working so we are working around it.

**Current Design:**

## Materials and Expenses:

Item	Description	Manufacturer	MFR P/N	Vendor	Vendor Cat#	Date	QTY	Cost Each	Total	Link
<b>Electronics</b>										
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	<a href="https://www.raspberrypi.com/products/raspberry-pi-3-model-b-plus/">https://www.raspberrypi.com/products/raspberry-pi-3-model-b-plus/</a>
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	<a href="https://www.amazon.com/dp/B00V5H98DC?ref=ppx&amp;th=1">https://www.amazon.com/dp/B00V5H98DC?ref=ppx&amp;th=1</a>
<b>Mechanical</b>										
A300BX- Pump	Pump to push fluids by accepting signals from motor controller.	Anko	A300BX-S	Anko	A302BX-300-S	9/15/2025	1	Gifted	\$575.00	<a href="https://www.walmart.com/ip/GreenTouch-8-Inch-Open-Frame-102-6x600-HDMI-PCAP-Touch-Monitors-for-Consumer-Retail-POS-and-Hospitality-Markets/15594114325?classType=REGULAR">https://www.walmart.com/ip/GreenTouch-8-Inch-Open-Frame-102-6x600-HDMI-PCAP-Touch-Monitors-for-Consumer-Retail-POS-and-Hospitality-Markets/15594114325?classType=REGULAR</a>
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	
<b>Power</b>										
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	B0C55Y34G	10/29/2025	1	\$16.99	\$16.99	<a href="https://www.amazon.com/Supply-Adapter-100-240V-Transformer-Connector/dp/B0C55Y34G?th=1">https://www.amazon.com/Supply-Adapter-100-240V-Transformer-Connector/dp/B0C55Y34G?th=1</a>
24V 2A DC barrel power supply	Power supply to safely power the motor controller, touchscreen, raspberry pi, and pump	Onerbl	1204000-BY	N/A	J3611204000	10/29/2025	1	Gifted	\$13.89	<a href="https://www.amazon.com/Adapter-Replacement-J361-1204000U-J3611204000U-100-240-50/dp/B0D31FRO9G">https://www.amazon.com/Adapter-Replacement-J361-1204000U-J3611204000U-100-240-50/dp/B0D31FRO9G</a>
<b>TOTAL:</b>									<b>\$857.76</b>	

**High Level Team Goals for Next Week:** Have a final product done, and ready for finetuning.

## Individual Progress:

**Logan Olivera –** This past week I continued to troubleshoot the pump but nothing worked out. We ordered a new pump and I planned out actions for the next few weeks.

**Kalob Kimmel –** This past week I worked with Sameer to get the new case created and printed at the makerspace. I also created the final poster and report so the team can progress through those documents. I also put together the progress report.

**Sameer Bhatt –** This past week I worked with Kalob to get the new case created and printed at the makerspace.

**Jackson Stewart –** This past week I helped Charlie send in the order for the new pump and did some more research on electronics.

**Andrew Dirkse –** This past week I was able to work on the final poster and do more reading on electronics. I also attended and took notes on the final BSAC meeting.

**Charlie Fischesser – This past week I was able to do research on finding a suitable backup pump to order since our original pump was broken. I also was able to do some work on the poster.**

**Individual Goals (next week):**

**Logan Olivera –** My goals for this upcoming week are to write all testing protocols, complete them and work on final documentation. Also plan to calibrate the new pump when it comes in.

**Kalob Kimmel – Next week I hope to get a lot of the reports and poster done, format the next progress report, and fine tune the touchscreen casing.**

**Sameer Bhatt –** Next week I plan to print out the final design and start to work on my part of the poster.

**Jackson Stewart – Next** week I hope to finish my part of the poster before I leave for Thanksgiving break. I would also like to start testing if we get the new pump in time.

**Andrew Dirkse –** I plan to enjoy Thanksgiving break, work on the poster and report, and attend and take notes on the advisor meeting.

**Charlie Fischesser – Next week, I hope to enjoy thanksgiving break. Prior to break, I plan on continuing to work on the poster and help with any remaining testing we need to complete.**

**Timeline:**

<b>Project Goal</b>	<b>Deadline</b>	<b>Progress</b>	<b>Date Completed</b>
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	30%	N/a
Project Fabrication	12/10/25	90%	N/a
Final Deliverables	12/10/25	15%	N/a