



Progress Report #2

Interactive Touchscreen for Rhesus Macaque

BME 200/300

09/19/2025

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: Currently the project is in the development/research phase. The electronics/software components are nearing completion for the prototype and will be done by Sunday. Research regarding the touchscreen display and enclosure is in progress. Raspberry pi circuitry, ssh and vnc setup is complete.

Difficulties/Questions: No overarching difficulties in the present state of the project. The team needs to know

Current Design: N/A

Materials and Expenses:

Item	Quantity	Cost
Raspberry Pi	1	\$42.00
Micro SD	1	\$5.00

High Level Team Goals for Next Week: The main goal for the following week is to discuss design ideas as a team and converge on the three main designs. The designs should all have intricate details and unique specifications that go with their contrasting innovations. This will include deep research in materials, competing designs, patents, and other design adjacent categories. Documentation for this week includes regular lab archive work and the Design Matrix.

Individual Progress:

Logan Olivera – This week I laid out a general outline for how the project should function, who will do what, and began prototyping the electronics/software of the system.

Kalob Kimmel – This week I met with the client as well as the advisor. During the client meeting I asked questions based in failures, attachment, and overall structure to get a gauge of client expectations. Outside of meetings I worked on the PDS both writing

and sections and reviewing. For project progress I started working on a CAD design for the casing. I also researched materials that are compatible with our project.

Sameer Bhatt – This week I researched into touchscreens we could buy along with some standards that we have to meet for this project. I also helped with various aspects of the PDS to ensure that I had a solid understanding of the requirements for the project.

Jackson Stewart - This week I met with the client and the advisor. I sent the progress report to the client as well. Outside of the meetings, I worked on the PDS and continued my research into competing designs.

Andrew Dirkse – This week I met with the client and advisor. I worked on the PDS and researched competing, published designs. I also attended the BSAC meeting, providing input on the curriculum design and recording notes of the meeting for reference.

Charlie Fischesser – This week I was able to meet with the advisor and client. During the client meeting, I was able to get more information clarified and paint a better picture for designing. I was able to work on the PDS this week, completing the sections related to cost and amount of product. I was also able to complete more research focusing on past touchscreen training.

Individual Goals (next week):

Logan Olivera – In the following week I plan to finish the general electronics for the system, teach my team how it works and continue developing the mechanical parts of the system. I want to get all the orders in so parts arrive in time.

Kalob Kimmel – In the next week I plan to finish Solidworks work for at least one of the designs. I also plan to help the team finish the design matrix, and continue research.

Sameer Bhatt - In this next week, I want to finish the research and finalize the touchscreen and create a CAD drawing for a potential design.

Jackson Stewart - In the next week, I plan to continue my research and work on the design matrix.

Andrew Dirkse - I will conduct more research on competing designs, brainstorm ideas for the design matrix and touchscreen case, and get more hands-on with the Raspberry Pi and other electrical components.

Charlie Fischesser – I plan to conduct more research, focusing primarily on the casing and frame of the device. I also plan to work on the design matrix and help with ordering the materials we will need to further work on the design and prototyping stages.

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	N/a	N/a
Preliminary Presentations	10/5/25	N/a	N/a
Preliminary Deliverables	10/8/25	N/a	N/a
Show And Tell	10/31/25	N/a	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

Previous Week Goals: N/A