

# The Primate Portal

## Executive Summary

### Community Partner

Jessica Cantlon

### Student Consulting Team

Shayan Panjwani

Maya Pandurangan

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## Background

The Primate Portal is a collaborative project started by scientists at Carnegie Mellon University (CMU) and the Rochester Institute of Technology (RIT). It is located primarily at the Seneca Park Zoo in Rochester, New York. Dr. Jessica Cantlon, a professor of developmental neuroscience at Carnegie Mellon, leads the project remotely from Pittsburgh. The organization's purpose is to study the origins and nature of thought by researching a troop of olive baboons that have been trained to solve cognitive problems daily using touchscreen computers. The Portal offers open access to data, code, and video of primates solving cognitive problems, with the goal that students everywhere can study animal minds. They lead an outreach program that involves students from grades K through 10 and gives them the opportunity to design, code, and run their own memory games with the baboons at Seneca Park Zoo.

## Project Description

### Project Opportunity

Originally, the Primate Portal administrators received student project submissions through email and had no way to link a project to student or school data, and then had to manually convert projects from Scratch to Javascript. And, there was no way for students to see their projects being run with baboons. This project allowed us to implement both internal and external solutions to optimize user workflows and integrate students more closely into research going on at the primate portal.

### Project Vision

Our project vision to address the problems presented above had three major components. Our first component was to create a livestream of the zoo exhibit so that students could see their projects being used for experiments. Our second component was to streamline the process of accepting student code submissions from their teachers to help Primate Portal staff manage data and give teachers an easier time submitting code. Our final component was to build an app to convert student-made Scratch projects into experiment-ready JavaScript applications in order to save Portal staff members' time.

## Project Outcomes

Submission Form: This form allows teachers to submit all of their students' projects at one time and collects student information for each project. This form was created with Google Forms. It is easy to use and shareable with a web link.

OBS Livestream: The Open Broadcaster Software livestream is hosted on YouTube Live under the Primate Portal account. It serves to increase outreach for the program, allow students to watch the animals, as well as support the zoo as a backup public streaming system.

Scratch Translation: This command-line application allows Primate Portal staff to take one or many files and automatically translate them from Scratch to JavaScript. It is useful for converting student Scratch projects to JavaScript that is configured properly for running on the Primate Portal's touchscreen and interfacing with their preexisting codebase.

## **Project Deliverables**

Our final project deliverables consist of a Google Form, OBS livestream system, GUI to translate code from Scratch to JS, and documentation for all three parts of our project. The Google Form and documentation for the livestream are all on a Google Drive folder owned by the Primate Portal Google Account. The documentation and code for the Scratch JS application are on the Primate Portal's Gitlab instance.

## **Recommendations**

We recommend that the staff creates a live stream schedule that shares when a student's project will be run and streamable. This will help improve the program's educational impact on students by allowing them to see their project being used. Additionally, we suggest that the translation system adds a student or school name to the touch screen display when a project is run. This will both increase educational impact for students and increase outreach impact. To future IS student teams, we recommend that they put a strong emphasis on communicating well with the community partner to see what their immediate needs are as well as thoroughly reading team proposals and final reports from past student work.

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## **Student Consulting Team**

**Scott King** is a junior at Carnegie Mellon studying Information Systems, Computer Science, and Game Design. He served as the team's Quality Assurance Coordinator. He hopes to pursue a career in Game Development.

**Maya Pandurangan** served as the Client Relationship Manager. She is a fourth-year majoring in Information Systems and minoring Human-Computer Interaction. They are graduating this semester, Spring 2022, and following a career in UX/UI Design.

**Shayan Panjwani** was the team Project Manager. He is a third-year majoring in Information Systems and Statistics and Machine Learning. He will be pursuing a Masters in information Systems degree at CMU after graduation.