Alexander Pavicic

Capstone Project

Review

Reviewer: Alexander Pavicic

Reviewee: James Finkelstein (Finch Finders Project)

Testing:

Basic run through/demo of available code + Setup: ~20 minutes

Discussion about future plans, hardware, and upcoming changes: ~ 25 minutes

Summary

When the user first launches the program, a Finch Tracker Configuration menu is available, which enables users to customize the upcoming QR recording session. For example, it allows for multiple birds in a session, multiple cameras for observation, and the assignment of bird IDs. Additionally, the user can preview the camera setup.

I found the Configuration Menu to be well-organized and well-spaced, with an impressive amount of customizability. In addition, the configuration menu maintains the previous session's inputs, which is ideal for users and eliminates needless repetition, while still allowing for updates if necessary. The purpose of the configuration menu is similar to what my group plans to implement in our upcoming sprint, so we may be able to utilize the same library.

Once the configurations are complete, a user can start the recording with a single click. The recording continues until the user stops it, which requires high maintenance and is not ideal given that birds will not be continuously present. Following discussions after testing, we agreed that limiting recordings would be an important goal, but at the moment it's not a primary focus. Various solutions could help with that goal, but it would likely complicate the program. Therefore, they will focus on the primary goals.

The testing I did using a QR code on my phone demonstrated the program was proficient in detection. The team's next objective is to apply this to birds, with users equipping the birds with the QR codes themselves. Therefore, an environment needs to be set up, with a running GoPro camera for 12 hours, and analyze the QR code detection's successes and failures. Then, the group will improve accuracy and address the expected challenges such as distance, bird angle, and other possible technical issues.