

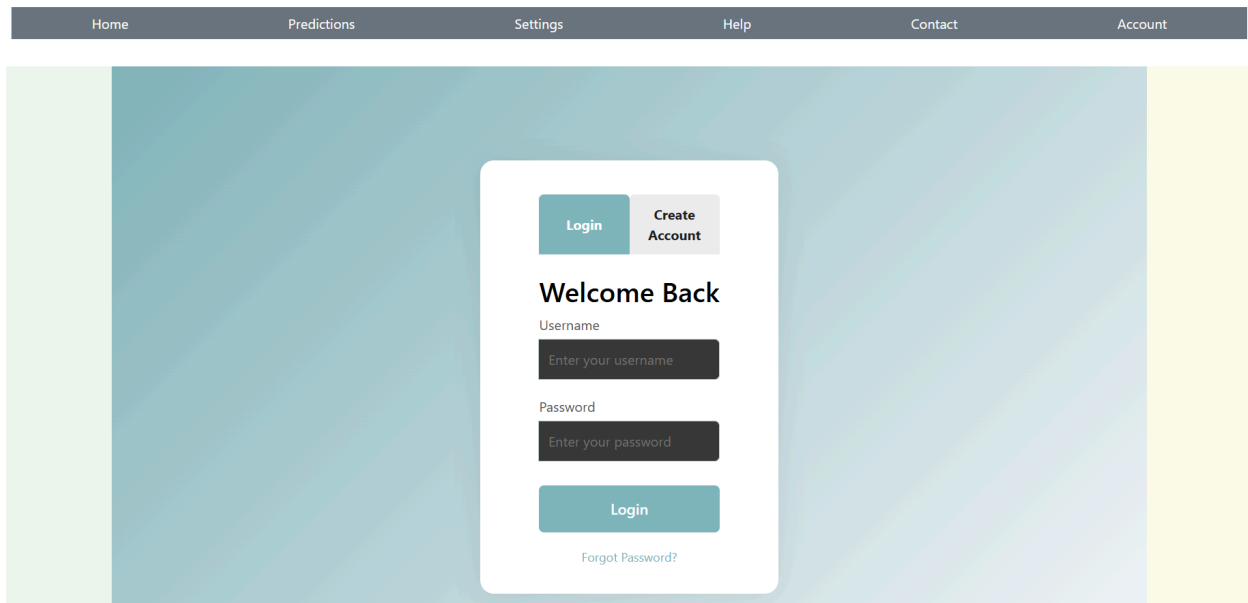
Fall GUI Report 2025

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This semester, we were tasked with maintaining the visual software GUI and the new functionalities made over the course of this fall semester were to make a new layout and look for the interface. When we started the semester, we were introduced to the repository in GitHub and spent a while reading the code files to get a better understanding of how it was already structured from previous students working on this, and thinking of a better strategy to build off of what was already there. We were in communication with the previous students who worked on this that guided us on their most recent changes and what they thought would be the best to next implement. The first thing we did was fork the original repository and work in our own repositories by creating branches in them to maintain author editor purposes so future students can see new comments and changes that have been implemented in Github to keep the cycle going. The two main features we implemented are a basic user authentication with basic login/account creation for users and added exporting to Electron Desktop App. We also worked on some major graphical style updates to maintain the overall UI and layout of the web app.

For the basic user authentication, the login page will only appear when needed and disappear after login, only accessible again if you logout and wish to log back in again or with another account. Since Django was already a part of the backend for this project when starting, we incorporated its REST framework with JWT (JSON Web Token) authentication to make this work. The login page shows a tabbed interface (login/create account) when the user is not authenticated. After a successful login, you will be logged in and will be redirected to the home page where you can work what you desire. There is an account tab at the top that will show logged in user information and a logout option so users know that they are logged in. It displays

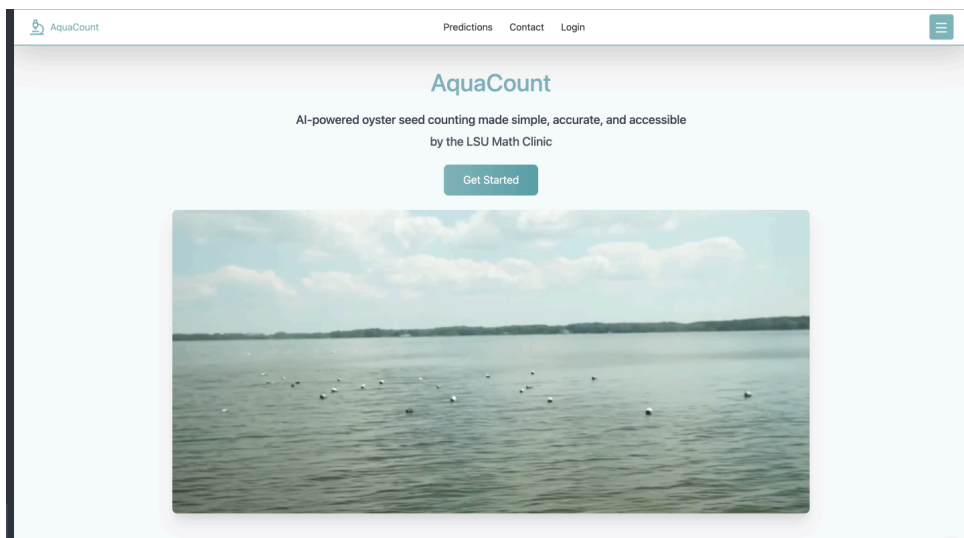
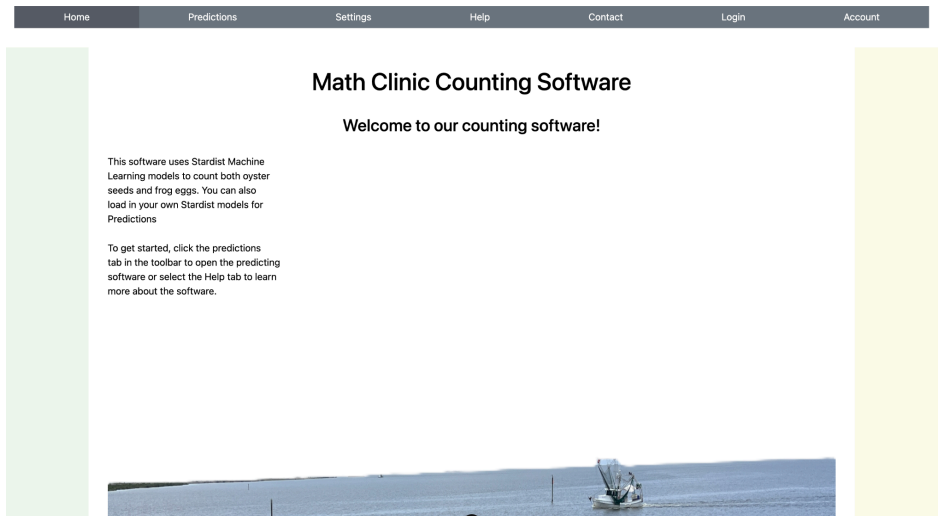
the username and email in a card layout. The challenge here was to maintain the JWT token refresh system because we were running into an issue where users stayed logged in but could not access the account page after a browser restart. So we added a global axios response interceptor that automatically detects 401 responses and uses a fresh token to get a new access token.



I think the two main things for future students to continue implementing in this authentication feature is which email addresses it will allow or take users to some kind of portal depending on the extension of the address. It would be a good idea to have someone be in communication with LSU ITS next semester to try and implement myLSU logins into this program. For a longer term, also getting with farmers that are using this and getting their logins implemented as well. There is also a “Forgot Password?” link at the bottom of the login screen so users can change their password if they forgot it, which can also be something that can be implemented as it is currently not functional right now.

Besides the authentication feature, another thing that was implemented was finalizing the export feature. Previously, it was only accessible on the web, but we were able to export our Vue web app as Electron Desktop App. In doing so we updated the build configurations for the three

major operating systems Linux, Mac, and Windows. We also improved the apps overall layout and UI to make it more friendly for users. Below is a before and after of the Home page upon logging in.



Below is a before and after of the Predictions page to help navigation for users and seeing where they are at in the program step by step.

Prediction Page

Choose Files

No file chosen

Select a model ▾

Prediction

Clear

Select an image to display

Select an image to display

Previous

Next

Sample Measurements

Group Number

0

Size Class

Enter Size

Brood Tray Weight (g)

0

Empty Slide Weight (g)

0

Sub-sample + Slide Weight (g)

0

Sub-sample

1 Select Model & Upload Images

oyster_2-4mm ▾

Choose Files

frogeggs.jpg

Add Images

2 Review Images & Run Prediction

Run Prediction

Clear All

3 View Results

Images (1)

frogeggs.jpg

Remove

Image 1 of 1

Original Image



← Previous

Next →