

Improving and Updating a Web Application GUI for Aquatic Gametes

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GUI Overview

- ❖ Graphic User Interface.
- ❖ This GUI takes the models from the oyster team and creates a user-friendly interface to use the models on live data for predictions and eventually classification.
- ❖ Features like authentication, exporting data to excel files, setting management.

What we did

❖ Goal

- Maintain Graphic User Interface created by previous teams by adding and enhancing features

❖ Completed

- User authentication with basic login/account creation
- Added Exporting to an Electron Desktop App
- Graphical styles Updates

❖ Challenges

- Backend communication with frontend

Code Explanation

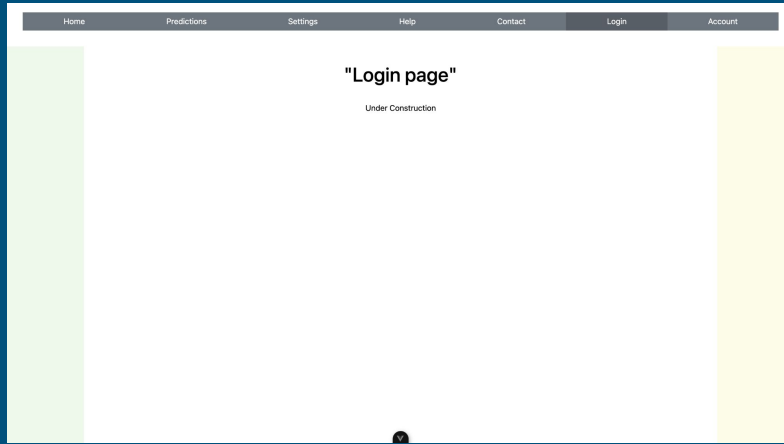
Set the authentication to use Simple JSON Web Token tool through Django.

Configures REST framework to use JWT tokens for auth and to require users to be logged in to access any API endpoint.

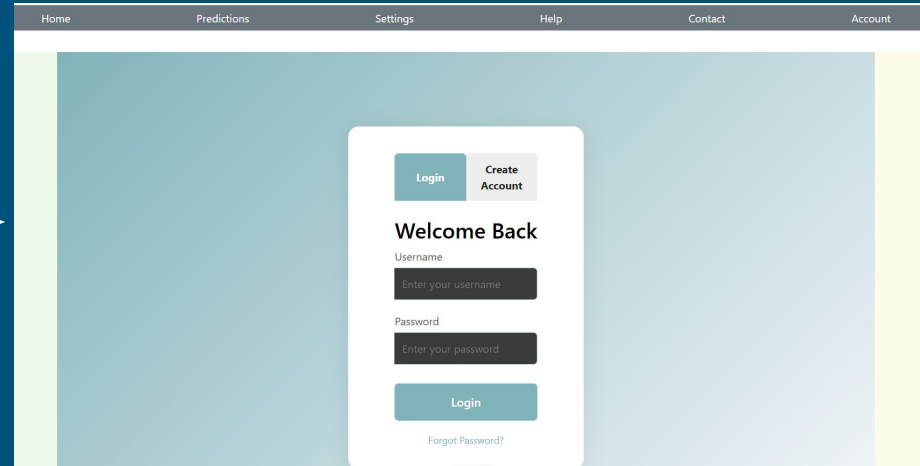
- JWT*: JSON Web Token
- API*: Application Programming Interface
- REST*: Representational State Transfer

```
REST_FRAMEWORK = {  
    'DEFAULT_AUTHENTICATION_CLASSES': (  
        'rest_framework_simplejwt.authentication.JWTAuthentication',  
    ),  
    'DEFAULT_PERMISSION_CLASSES': (  
        'rest_framework.permissions.IsAuthenticated',  
    ),  
}
```

Feature 1

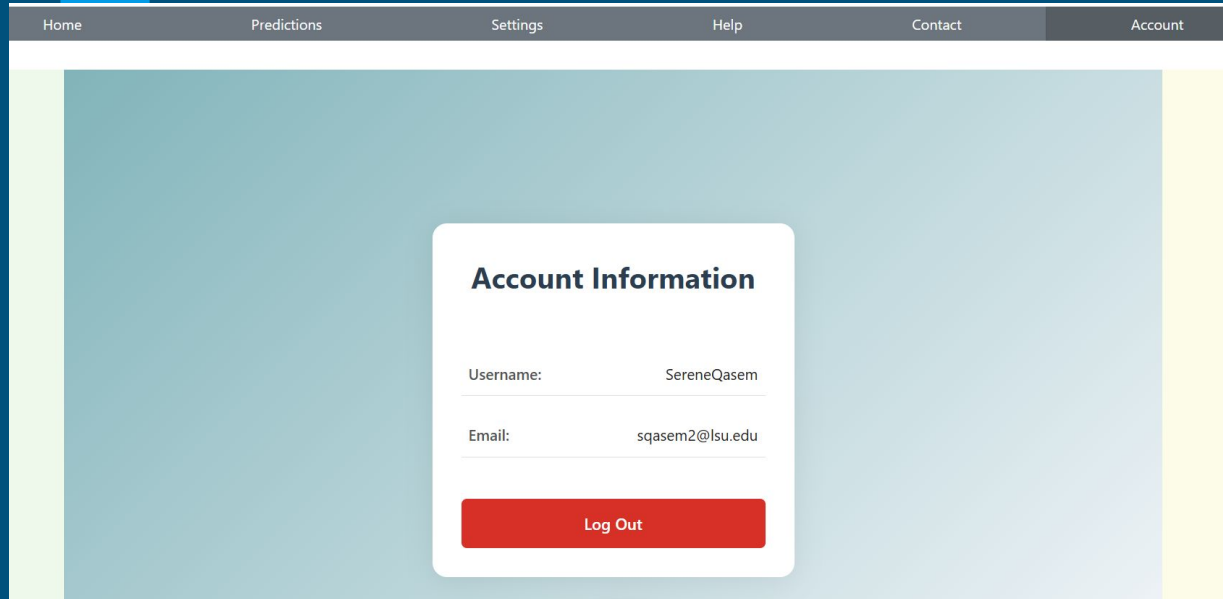


- ❖ Before, it needed to be implemented.



- ❖ Basic authentication for users to create an account or login upon landing on the site.
- ❖ Currently allows all email addresses.

Feature 2



The screenshot displays a web application interface with a dark blue header bar containing navigation links: Home, Predictions, Settings, Help, Contact, and Account. The 'Account' link is highlighted. Below the header, a light blue sidebar is visible on the left. The main content area features a white card titled 'Account Information'. This card contains two input fields: 'Username:' with the value 'SereneQasem' and 'Email:' with the value 'sqasem2@lsu.edu'. At the bottom of the card is a red button labeled 'Log Out'.

- ❖ Shows your information when you are logged in.
- ❖ If you are logged in and exit the program, then come back, your information is cached so no need to log back in.
- ❖ Option to log out of account.

Feature 2

- Finalized Export Feature
- Able to Export our Vue Web App as Electron Desktop App
- Updated Build Config for Linux, Mac, and Windows





GUI Redesign

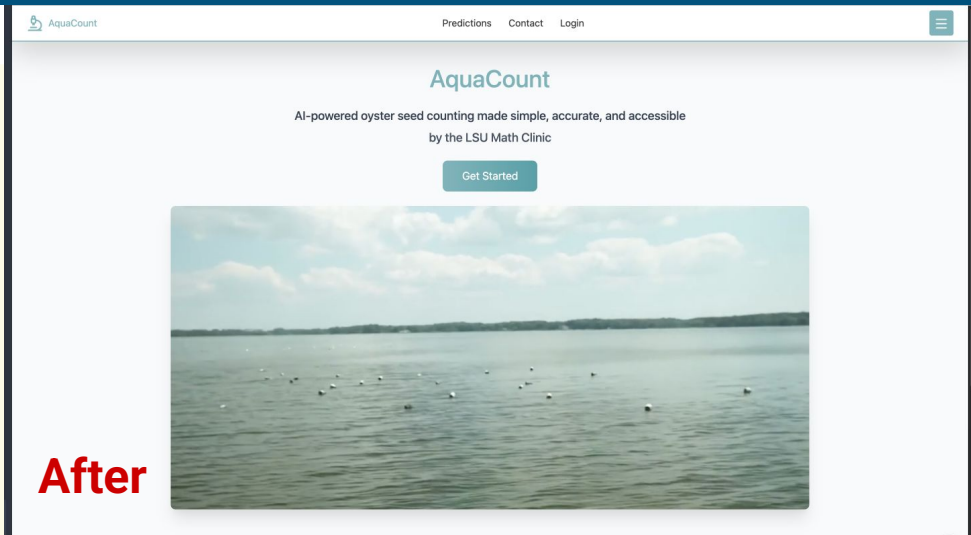
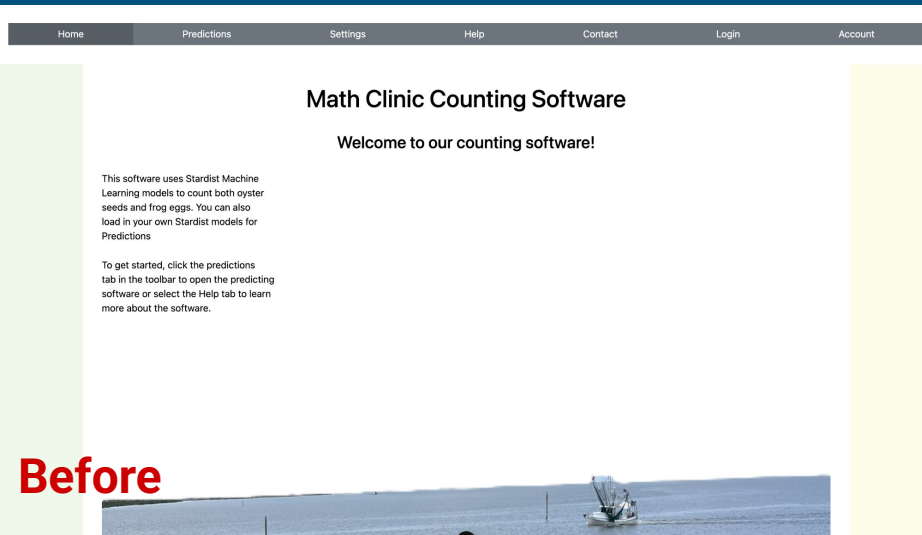
Redesign Goals

- Consistency across pages
- Making things easier to understand and use
- Retain the Usability of the original site

Main Targets

- Home Page
- Prediction Page

Home Page



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

Prediction Page

1. Select Model & Upload Images

oyster_2-4mm

oyster_4-6mm

oyster_2-4mm ▾

Choose Files

No file chosen

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 →

Contact Information

Math Department Contacts

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Future Work

- Continuing to implement the authentication feature to which email address it will allow or take to a portal, depending on the extension of the address. An example would be to get with LSU ITS to implement myLSU logins into the program.