

Butterfly Longevity Tracker

Bi-Weekly Report 2 (2/14/25 - 2/27/25)

Project Information

- Project Title: Global Butterfly Longevity Tracker
- Group Number: sdmay25-03
- Client: Nathan Brockman
- Advisor: Maruf Ahamed
- Team Members:
 - Alex Herting - Full-stack Engineer
 - Andrew Ahrenkiel - Full-stack Engineer
 - Charles Dougherty - Frontend Developer
 - Jaret Van Zee - Backend Engineer
 - Carter Awbrey - Visionary

Summary

On the frontend we worked on implementing JWT authentication for our login screens and storing that token and user role returned from the backend within local storage. We also changed some requests and added the token to the header files of our existing requests in order to implement the JWT authentication system. We fixed bugs within our screen designs, and we were able to brainstorm an efficient way to implement a multi-institutional system and user hierarchy.

On the back end we fixed some issues with the JWT authentication system. Implemented a database reports feature. Added images for domains using AWS S3. Continued working on AWS integration for our client to use and interact with.

Accomplishments

● Alex

- Worked on implementing JWT authentication in the frontend for our login screens
- Updated some requests to accommodate for changes on the backend
- Implemented local storage for user roles in frontend
- Completed code reviews for frontend in order to upkeep good coding practices
- Communicated with backend to enhance requests utilized by the frontend
- Worked on parsing the domain information to be in a useful form for the frontend to utilize
- Created tickets for backend and frontend for correct project workflow
- Worked to help resolve CORS local development errors to ensure easy workflow
- Created User Hierarchy site navigation so only authorized users can see and interact with the pages their role allows
- Created the create user screen and fully implemented its functionality

● Andrew

- Worked on implementing JWT authentication for frontend login screens
- Helped design requests for the domain information based on user login location
- Updated a variety of screens to meet client needs based on client meetings.
- Completed code reviews for frontend screens to keep good agile coding practices
- Worked to help resolve CORS local development errors to ensure easy workflow
- Communicated with the backend to enhance requests utilized by the frontend
- Implementing QR code and personal URL for guest login based on domain
- Fully implemented all requests for adding/editing/deleting butterflies for the EditButterflies.HTML page

● Charles

- Worked on adding functionality for the generate report screen
- Fixed issues with the existing report screen
- Troubleshooting color implementation

● Jaret

- Added attributes for alive status with butterflies
- Created Database reporting functionality for butterflies
 - Report butterflies by their dead or alive status
 - Finding butterfly sightings by a domain in a specific date range
 - Finding butterfly sightings by a domain before a date
 - Finding butterfly sightings by a domain after a date

- Enabled authentication for several reporting methods
- Updated Bruno API calls

● Carter

- Authentication System DAO Loop fixes
- Security fixes relating to resource sharing
- Integrated AWS S3 buckets for storing images
- Integrated AWS S3 so that users can upload images
- Researched AWS database options
- Implemented S3 buckets for static web hosting with AWS
- Implemented Cloudfront CDN with AWS to allow global caching and gateway access to server and static web components
- Worked with Jaret on implementing reporting methods
- Researched how to do complex queries with MongoDB aggregations within the Spring framework

Pending Issues

Front End

- Implement backend requests on screens that require GET or POST requests
- Administrator facility editing
- Fully implemented user hierarchy
- JWT Authentication
- Complete UI functionality
- Mult-Institute functionality
- Generate report statistics and data results

Back End

- Finish Implement JWT authentication
 - Fingerprinting Database Actions?
- Unit Tests
- API Tests
- Optimize Database Queries For Better Performance
- Improve Input Validation
- Create API documentation with “Spring REST Docs”
- Configure long-term hosting site (AWS)

Individual Contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Alex Herting	JWT Authentication, updated request bodies, user roles, code reviews, backend request enhancements, parsing domain specific info, user hierarchy navigation, create new user screen	25	101
Andrew Ahrenkiel	Request Implementation, domain verification, authentication for admin and guest, code reviews, CORS requisition, domain requests based on login, EditButterflies.html full request functionality.	25	95
Charles Dougherty	Generate Report Screen Development, fix report screen, color tagging implementation,	17	73
Jaret Van Zee	Database reporting features	16	71
Carter Awbrey	AWS Integrations, Authentication System Fixes	23	100

Future Plans

For the frontend, we will be implementing user authentication throughout the entire web application. We will create our user hierarchy within the frontend design such that certain features are only available to certain user roles. We will need to add the user's JWT authentication token to the header of each request in order to ensure security. We plan to implement a way to distinguish each domain from one another in order to offer each user a custom experience. Along with this we plan to work on our database report functionality in order to return statistics requested by an admin user.

For the backend, we need to finish our AWS integration and our database reporting systems. After that we plan to move on to user and domain management features as well as butterfly queue creation API requests. We will also soon build out the database queries with efficiency in mind.