

Butterfly Longevity Tracker

Bi-Weekly Report 5 (3/14/25 - 4/3/25)

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 completed functionality for all pages that utilize the updated tag definition. This includes tag definitions that use three colored dots. Register butterflies, Sighting enter, and domain setup pages were all updated along with their requests to account for any of the possible tag definitions we allow. All core functionality is completed, other than database reporting which is still being worked on. We added functionality so the app pulls from a previous senior design team's digital ocean repository with pictures of each butterfly species. We also looked into converting to cookies for our authentication, as it would be more secure than the methods we are using to store the bearer token at this moment.

On the back end the database reporting features are now nearly complete, only minor revisions from the client or other sources may need to be made. Butterfly importing features are also now complete. We also made some minor API changes to better accommodate the front end team's model.

Accomplishments

● Alex

- Tweaked regex functionality in register butterflies to match request handling of grabbing regex
- Added color options and ability to add any shapes to register butterflies
- Added date option for when the internet is down to register butterflies that were registered in previous days in the system
- Added dots to domain creation so that facilities that only use colored dots in their tagging system can have a functioning system for users
- Added dots functionality in the register butterflies page so that domains that have dots can properly register butterflies
- Made minor adjustments to the flow of the web application and naming of the buttons for better clarity
- Adjusted guest enter page to send domain request prior to the guest pressing login, allowing for a smooth transition from the entry page
- Adjusted the call convention on frontend for get domain by id
- Created a way for passwords to be changed on the frontend, which will be done by super admins
- Created a way for super admins to create accounts under any domain they would like (admins are still limited to their own domain)
- Made it so that when guests return to guest login, they stay on the same domain
- Looked into adding cookies for our authentication rather than storing the bearer token in local storage
- Participated in code reviews within the frontend

● Andrew

- Added functionality to the site to pull butterfly images from the previous team's digital ocean repository whenever a photo is displayed (edit butterflies pages and sighting enter pages).
- Completed frontend regex checks for sighting enter page; sighting enter page now displays the proper information and creates the proper request per the domain tag definition.
- All tag options are implemented in the sighting enter page and are styled properly to work with each other. (character entries with regex check, dots, tag shape, tag color).
- Added the imports for the frontend regex to be stored in local storage.
- Added functionality for frontend tag character input to follow tag length and regex options.
- Looked into adding cookies for our authentication rather than storing the bearer token in local storage.
- Participated in code reviews within the frontend.

● Charles

- Fixed Individual report generation functionality and subset functions

- Added By species report generation and subset functions
- Added Date-registered report generation and subset functions
- Fixed Status report generation and subset functions
- Fixed Report Group generation and subset functions
- Fixed data display to display all sightings rather than unique entries
- Reformatted table to better display important information
- Report Generation is complete and can properly display needed statistics and filtered information
- Began working on the report table colored dot schema display

● Jaret

- Improved efficiency of report generation by butterfly species
- Improved efficiency of report generation by user type sightings
- Improved efficiency of report generation by username sightings
- Improved efficiency of report generation by species lifespan
- Added death time attribute for butterflies
- Added Butterfly Importing functionality
 - Modified existing butterfly and sighting classes to properly create imported butterflies
 - Modified existing class to properly create users in the domain when necessary
 - Added proper checks to ensure no errors will propagate to the rest of the database
- Added update butterfly functionality to database

● Carter

- Worked on implementing the final method for serving static web content
- Changed Butterfly Creation and Sighting creation APIs to allow for specific times to be input
- Improved query efficiency of existing reporting methods with MongoDB aggregations
- Fixed an authentication bug with the update user method
- Attempted to get access to DNS records from Nathan Brockman

Pending Issues

Front End

- Complete UI functionality
- Generate report statistics and data results
- Increase security
- Add cookies (some sort of increased security measure)
- Complete real logout functionality

Back End

- Unit Tests
- Optimize features (as necessary)
- Improve Input Validation
- Create API documentation with "Spring REST Docs"
- Finish Configuration for 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	Register butterflies complete functionality, create domain complete functionality, application flow adjustment, password changing, account creation under any domain, guest login adjustments, code reviews, investigating security options	25	146
Andrew Ahrenkiel	Sighting enter page divs for all possible tag entries with styling, foreground regex updates and tracks with character input restrictions, sighting enter request updated to work with any tag definition, error handling for improper tag inputs, looked into cookies for authentication purposes. Digital ocean image pulling.	25	135
Charles Dougherty	All generated report options added/fixed that were needed, fixed issues with the current data display method, reformatted data display to better display important information, began work on colored dot table display	20	103
Jaret Van Zee	All basic reporting features have been optimized properly. Added in additional attributes to existing objects to fulfill the client's requirements. Added butterfly import functionality for domain administrators to import butterfly data. Added in butterfly updating functionality.	25	118
Carter Awbrey	Static web Content Hosting using Spring, DNS Provider, Aggregation pipelines, Minor Bug Fixes	20	142

Future Plans

For the frontend, we are planning to finish the database reporting screens, which include all combinations of report generation options. We are also looking to implement the cookies for authentication to create a more secure application. We want to roll out some live versions to present for testing to get feedback as early as possible.

For the backend, we will be performing any finalization with the current functionality of the backend. AWS configuration will be completed with existing domain names. Stress testing will need to be performed in some areas to see if further optimization will be required.