Butterfly Longevity Tracker

Bi-Weekly Report 2 (2/3/25 - 2/13/25)

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 front end, we finalized all of our currently required page views, meaning they are all correctly styled for all devices and set up correctly for the best user experience. We have also added navigation between all of these pages, which allows users to navigate to any and all pages of the website. For the front end we also brainstormed potential implementation details for the multi-institutional portion of the website and how we would handle different domains being served different information. There was also a minor ongoing Gitlab repository issue due to incorrect merges that resulted in conflicting and incorrect branches; this has been resolved.

On the back end we worked on the authentication system and began the migration process to update our old methods to use authentication.

Accomplishments

- **Alex**
  - Worked with Andrew and Charles to finish up the frontend screen designs and ensure that they are compatible with every screen size
  - Did code reviews for front end development
  - Worked on planning out milestones for our project using a gannt chart
  - Brainstormed ways to make a multi-institutional system
  - Resolved an issue within GitLab
  - Completed site navigation

- **Andrew**
  - Worked with Alex and Charles to finish the frontend screen design and implementation
  - Completed Code Reviews for a multitude of HTML views
  - Gannt Chart implementation and project planning
  - Worked with Alex and Charles to soft out some multi-institutional frontend design problems
  - Worked with Alex to resolve major GitLab issues with code repositories.

- **Charles**
  - Developing frontend display for data reports
  - Collaborated to ensure compatibility on different screen sizes
  - Planning for milestones

- **Jaret**
  - Built csv export based off database
  - Research AWS implementation for database and server
  - Database reports
  - Built specialized queries for butterflies

- **Carter**
  - Mastered Spring Security 6 by watching Lectures and Reading through the entire documentation
  - Created JWT token generation system
  - Created JWT Authentication System
  - Setup Spring Security Request Chain to support JWT authentication
  - Setup Spring Security Authorization System using Jakarta EE
  - Began Enabling Methodized Security
  - Created JWT methods in Bruno so that the frontend devs are able to understand how to use it
  - Researched best way to implement Spring and MongoDB on AWS

Pending Issues

Front End

- Implement backend requests on screens that require GET or POST requests
- Administrator facility editing
- JWT Authentication
- Complete UI functionality
- Mult-Institute functionality

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)
  - Discuss the expected costs of hosting on AWS

Individual Contributions

NAME	Individual Contributions	Hours this week	HOURS cumulative
Alex Herting	Frontend screen design, resolved issue within gitlab, contributed in creating schedule for frontend, brainstormed ways to implement all of required multi-institute features on frontend, site navigation	20	76
Andrew Ahrenkiel	Frontend Screens Gitlab issue resolution Code reviews for frontend merges Gannt Chart Frontend Planning Brainstorming Request implementation per screen	18	70
Charles Dougherty	Frontend report display screen, compatibility for screen sizes, milestone planning	15	57
Jaret Van Zee	Database report generation, querying database, csv export generation, AWS research.	18	55
Carter Awbrey	Authentication System	21	77

Future Plans

For the frontend, we are planning to implement many of our backend requests to fill data within frontend views. We are also looking into JWT authentication for the front end so we can work with the back end to implement user accounts and authentication. Request implementation will be done page by page or with a set of pages that navigate together and retain information.

For the backend, we will launch the server and database on AWS as a production environment. Implementation of security will also be happening by setting up different types of permissions/authorizations that can be applied to different users depending on their permission level. Database report generation will also need to allow for specific querying on the database and generate specific types of reports.