

SE 492 Biweekly Report
2/10/2024 - 2/24/2024

sdmay24-41

Griffith Buck Rose Website

Lindsey Smith: Client

Mai Zheng: Advisor

Amy Hartjen: Front-End Lead / Communications

Erik Sandberg: Database Lead

Devin Amdahl: Scrum Master / DevOps

Patrick Origer: Research / Third Party Manager

Greg Carter: Connections Master

Logan Schmidt: Backend Helper

Alex Reynolds: Testing Manager

Report Period Summary:

In this report period, our biggest accomplishment as a group was achieving a basic round trip functionality. As a group, we are well set up to create our MVP, however we did not meet our MVP deadline of Feb. 18. After discussion, we reevaluated our process and set a new MVP deadline for March 3rd, which coincides with our next meeting with our client.

This past report period we did more validation of the data which was in the database, as well as got data for unfilled tables that need to be compiled and validated.

For frontend features, we have a strong layout for the home page, which includes sorting flowers and a new footer. We also have layouts for the 'About Griffith Buck' page and Glossary pages.

For backend features,

Past Period Accomplishments

This past report period, we accomplished a lot. As a group, we met with both our advisor & client to discuss our progress.

Erik Sandberg

- Added 'paragraph' entity to database to allow for any editable text to be easily changed by the database, not the frontend.
- Manually entered the data for fluid key attributes for each flower based on the descriptions that lindsey provided, and with that finalized the layout for the fluid key attributes entity table in the database
- Fixed issue with parent and descendants table where column names were mismatched

Amy Hartjen

- Completed the pages and layouts for the Griffith Buck about page and About Us page
- Populated Griffith Buck page statically and glossary page
- Separated the glossary from the about page and linked that page to a information symbol near the filtering function
- Began set up for dynamically populating the informational pages by creating a csv file

Patrick Origer

- Was able to verify in one side of testing that the weather API is accurate when given latitude and longitude. In other tests, the temperatures returned by API were accurate to what the specific weather stations state.
- Researched specifics on Degree Day information for Pests, such as degree ranges, biofix, and model used in Degree Day calculation.
- Implemented a work in progress case of where when an image is clicked on certain positions, a 2 degree coordinate pair is returned.

Devin Amdahl

- Reorganized the directory/file structure for the Buck Rose images on the server.
- Helped assist Logan by answering questions about JPA.
- Reviewed code for errors and corrected discovered errors. Created some basic repository interfaces, service classes, and controller classes.
- Found a solution to the occasional StackOverflow from cyclic toString methods (JPA's ToString.Exclude annotation). Discovered and resolved a cyclical equals() and hashCode() problem (JPA's @EqualsAndHashCode.Exclude annotation).
- Added stand-in cascade behavior where it was missing, needs to be confirmed with Erik. Changed inheritance type of Flower to prevent duplicate results when querying the Flower table. Added SQL logging from Hibernate for JPA Repositories. Added some ID specific endpoints for FluidKey, RegularFlower, and Flower.
After speaking with Erik, Parent and Descendant issues in the DB have been resolved.
- Generated API documentation with Springdoc that is hosted on the server (<http://griffithbuck.ece.iastate.edu:8080/swagger-ui/index.html>).

Alexander Reynolds

- Learned how to quickly make progress in React and how to use some associated React libraries.
- Dynamically rendered the flowers on the frontend homepage.
- Found a good technology for us to use to create animated collapsible divs.
- Created the fluid key that dynamically filters the flowers on the homepage by their characteristics.

Issues

Erik Sandberg

- Issue 78: [Finalize VBA Scripts, Create CSV Files, and Validate All Data Needed to Initialize Our Server's Database](#)

Patrick Origer

- Issue 88: [Verify that Weather Results from Weather.gov API are Consistent and Accurate](#)
- Issue 90: [Research Functionality for Displaying Map of Iowa with Underlying Coordinate System](#)

Devin Amdahl

- Issue 102: [Create Individual Directories for Buck Rose Images and Move Corresponding Images to These Directories](#)
- Issue 81: [Add All Database Attributes to Constants.java and Create JPA and Lombok Annotated Classes for Entities from Our ER Diagram](#)
- Issue 77: [Refactor Backend to Replace DBActions with JPA Repository Interfaces for Each JPA Annotated Entity Class](#)
- Issue 104: [Implement Critical Service and Controller Classes and Corresponding Endpoints](#)
- Issue 100: [Generate Controller Documentation Using Swagger UI and Host the Documentation On Our Server](#)

Alex Reynolds

- Issue 103: [Implement Fluid Key Functionality on Frontend Utilizing List of All Fluid Key Attributes](#)

Amy Hartjen

- Issue 93: [Create "About Reiman Gardens Page" Informational Page](#)
- Issue 94: [Create "About Dr. Griffith Buck" Informational Page](#)
- Issue 105: [Separate Glossary from "About" page](#)

Individual Contributions

Person	Issue	Contribution	Date	Hours
Devin Amdahl	#102	Reorganized the directory/file structure for the Buck Rose images on the server.	2/11	1
Amy Hartjen	#93	Input information into page and started reformatting	2/12	4
Erik Sandberg		Manual data entry of fluid keys from Lindsey's descriptions into a data file.	2/12 - 2/13	3
Devin Amdahl	#81	Helped assist by answering questions about JPA.	2/13	1.5
Devin Amdahl	#81, #77, and #104	Reviewed code for errors and corrected discovered errors. Began creating some basic repository interfaces, service classes, and controller classes. Tried debugging BuckColor deserialization issues. Ended up being a lot more of a time-sink than expected, ran into JPA issues I haven't encountered before. Way more	2/14 - 2/15	8

		rusty with JPA than I expected.		
Erik Sandberg	#78	Finished compiling all data from spreadsheet & fluid keys and inserted data into database	2/13-2/15	4
Amy Hartjen	#93	Redesigned page and navigation buttons	2/13-2/15	2
Devin Amdahl	#100	Generated API documentation with Springdoc that is hosted on the server.	2/14 - 2/16	2.5
Devin Amdahl	#81, #77, and #104	Attempted to debug BuckColor deserialization issues. Has not been resolved. Did however find a solution to the occasional StackOverflow from cyclic toString methods. JPA's ToString.Exclude annotation. Also discovered that the deserialization issue seems to occur with the first BuckColor's RHS value of 139A. Added another endpoint for BuckFlower and created a get all endpoint for FluidKey (repository interface, service and controller class).	2/16	4
Amy Hartjen	#94	Created the glossary for the "About Us" page	2/18	2
Devin Amdahl	#81, #77, and #104	Finally resolved the "deserialization" errors with BuckColors... Hibernate needs better error messages. All that was needed was mapping the relations in the ManyToMany tables that utilized the composite key classes. Also discovered and resolved a cyclical equals() and hashCode() problem (similar to the toString() ones from 2/16). Added stand-in cascade behavior where it was missing, needs to be confirmed with Erik. Changed inheritance type of Flower to prevent duplicate results when querying the Flower table. Added SQL logging from Hibernate for JPA Repositories. Added some ID specific endpoints for FluidKey, RegularFlower, and Flower. Likely not necessary. Just wanted to see the differences in query times between single and full retrievals.	2/19 - 2/20	4
Devin Amdahl	#81, #77, and #104	While implementing the necessary entity, service, and controller classes for Descendants and Parents (in regard to MVP functionality) I found some potential issues in the "child_name" entries for Parents. Was unable to query Parents based on the "child_name" attribute, and backend code would fail. The backend code for Parents worked with manually entered Parent entries. Took much longer than expected as the data looked/looks free of errors, so I was convinced the errors were because of the backend code. Encountered no issues with Descendant entries other than identifying some duplicate Flower and RegularFlower entries that	2/20	3

		were misspelled, which I have since corrected. Infomed Erik of what I discovered.		
Devin Amdahl	#81, #77, and #104	After speaking with Erik, Parent and Descendant issues in the DB have been resolved. Tested and ensured Parent and Descendant code worked with real data. Created FluidKeyService method and FluidKeyController endpoint for retrieving a FluidKey's associated BuckColor's first Thumbnail based on Alex's current FluidKey implementation on frontend. Added all changes to backendLogan branch. Created corresponding merge request for merging backendLogan into Backend.	2/20	1
Erik Sandberg		Worked on more data validation in the database. Not linked to a specific git issue, but I removed unwanted characters from some columns. Worked with devin to diagnose and fix issues with descendants and parents tables.	2/20	2
Patrick Origer	#88	I was able to verify that the weather data returned by the API is consist and accurate.	2/19-2/20	3
Patrick Origer		Researched up to date information on Degree Day pests. Was able to find relevant information for more than half pest, and will reach out to clients for their recommendations for remaining pests.	2/18-2/25	2
Erik Sandberg		Started working on sorting images on the server. Downloaded all images, and started writing a script to sort each image into a folder for its flower.	2/23	3
Alex Reynolds	#103, #101	Planned and Implemented fluid key functionality. Included dynamic rendering of flowers, the fluid key ui and logic, animated dynamic collapsible div using react-spring, and setting up modular components for team collaboration.	2/10-2/24	16
Amy Hartjen	#105	Placed glossary on separate page that is linked through filtering info icon	2/24	2
Patrick Origer	#90	Began implementing a solution to having a coordinate system mapped to an image.	2/19-2/22	3
Amy Hartjen	#107	Created csv file to populate paragraph info on backend	2/22	1
Greg Carter	#95	Created format for layout, added/refactored components to properly display information, debugging errors	2/22/24	4
Greg Carter		Planning for backend refactor and code cleanup		1

Person	WT	Total
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Erik Sandberg	12	22
Amy Hartjen	11	17
Alex Reynolds	16	20.5
Greg Carter	5	5
Logan Schmit	0	6
Devin Amdahl	25	32.5
Patrick Origer	8	14

Plans For Upcoming Report Period

Our first major goal for this upcoming report period is to have a presentable MVP to demonstrate to our client on March 3rd. This MVP includes features such as the home page with sortable flower cards, the individual flower pages, and the About Griffith Buck page.

After the MVP, our team plans on focusing on implementing the “Admin” page/portal, the “Degree Day” page, and basic tests for frontend and backend. For the “Admin” page/portal, we plan to gather a list of needs & design ideas from Lindsey during our upcoming client meeting.

Patrick Origer

- MVP:
 - Modify Home Page’s Fluid Key to Pull Data from Backend/DB
 - Issue #112
- Degree Day:
 - Create Page Layout for “Degree Day” Page
 - Issue #98
 - Implement Image Coordinate Mapping Into “Degree Day” Page
 - Issue #114
 - Connect “Degree Day” Page to Weather.gov API
 - Issue #115
- Admin Page:
 - N/A or yet TBD

Erik Sandberg

- MVP:
 - Populate Thumbnail Table
 - Issue #116
 - Add RG Photos to Server’s “thumbnails/” Directories and Change “thumbnails” to “gallery”

- Issue #108
- Degree Day:
 - Populate Pest Table with Patrick's CSV
 - Issue #78
- Admin Page:
 - N/A or yet TBD

Amy Hartjen

- MVP:
 - Modify the "Glossary", "About Us", and "About Griffith Buck" Pages to Use Backend Information
 - Issue #107
 - Stylize the "Home" page's Fluid Key and Individual Rose Pages
 - Issue #106
 - Assist other members with their MVP-related issues
- Degree Day:
 - N/A or yet TBD
- Admin Page:
 - Create Page Layouts for Admin Pages
 - Issue #97

Alex Reynolds

- MVP:
 - Implement a Toggle Between Inclusive and Exclusive Fluid Key Sorting
 - Issue #109
 - Add Dynamic Routing to Individual Flower Pages
 - Issue #113
- Degree Day:
 - N/A or yet TBD
- Admin Page:
 - N/A or yet TBD
- Testing:
 - Add Basic Tests for Frontend
 - Issue(s) TBD

Greg Carter

- MVP:
 - Modify Home Page to Pull Information from Backend
 - Issue #117
 - Create Backend Refactoring Plan
 - Issue #111
 - Assist in Refactoring Backend
 - Issue(s) TBD
- Degree Day:
 - N/A or yet TBD
- Admin Page:
 - Assist in Adding Admin Page Functionality on Backend

- Issue(s) TBD

Devin Amdahl

- MVP:
 - Implement Paragraph Entity, Repository, Service, and Controller Classes/Interfaces
 - Issue #110
 - Create GitLab Runners for Our Project's Repository
 - Issue #99
 - Assist in Refactoring Backend
 - Issue(s) TBD
- Degree Day:
 - N/A or yet TBD
- Admin Page:
 - Reach Out to ETG About Integrating with ISU's Okta Authentication
 - Issue #119
 - Assist in Adding Admin Page Functionality on Backend
 - Issue(s) TBD

Logan Schmit:

- MVP:
 - Assist in Refactoring Backend
 - Issue(s) TBD
- Degree Day:
 - Implement Pest Repository, Service, and Controller Classes/Interfaces
 - Issue #118
- Admin Page:
 - Assist in Adding Admin Page Functionality on Backend
 - Issue(s) TBD
- Testing:
 - Add Basic Tests for Backend
 - Issue(s) TBD

Summary of Advisor Meeting

This advisor meeting, only 3 members of our group attended. In this meeting, we talked about our expectations for individual group members and their work ethic moving forward, our progress as a team, especially with missing our MVP deadline, as well as ways to keep other members contributing throughout the week.

Broader Context

1. Individually review Section 4.4. Consider the following questions:
 1. Have we identified or become aware of new effects?

- i. Public health, safety, and welfare
 1. N/A
 - ii. Global, cultural, and social
 1. This webpage is designed to connect flower enthusiasts and Reiman Garden visitors with Buck Flowers. Hopefully this platform will promote a healthy culture around gardening with these flowers.
 2. Community page
 - a. All user created posts and images must adhere to Reiman Gardens' values.
 - iii. Environmental
 1. Hopefully this website will encourage more users to purchase and care for Buck roses in their home gardens, which could have numerous positive effects to their local environment.
 - iv. Economic
 1. The website will have a section of links to vendors who sell Buck Roses. The website will likely increase the number of customers for these flower shops.
2. How can we argue for or provide evidence of positive effects?
 - i. The legacy of Griffith Buck is memorialized in a way that better connects his work to the public.
 - ii. Our website shall promote the culture and values of Reiman Gardens. Hopefully this website will encourage more business for Reiman Gardens and its affiliates.
 3. How can we address or justify negative effects?
 - i. A possible negative effect of this project could be those who misuse the community page by positing unsavory content to the website. To address this, we plan to have strong auto moderation.