EE/CprE/SE 491 BI-WEEKLY REPORT 4

September 27, 2020 - October 12, 2020

Group number:
29

Project title:
Microbiology Lab Information Management and Visualization System

Client &/Advisor:
Karrie Daniels & Thomas Daniels

Team Members/Role:
Brittany McPeek — Report/Documentation Manager
Benjamin Vogel — Team Manager
Rob Reinhard — Meeting facilitator
Kyle Gansen — Meeting Scribe
Ben Alexander — Progress Manager
Samuel Jungman — Chief Engineer

Weekly Summary
The majority of our tasks the past week or so have been focused on cleaning up the code base. While we do have a good number of individual features working, we have been scattered among different branches and building up large amounts of technical debt in the pursuit of delivering features. We took these past two weeks to rebase everything into one branch, refocus the code structure, abstract commonly used methods, and develop a more modular graphing strategy rather than hard coding everything. We also worked on developing a base UI to work off of as we have made several individual examples, but not one cohesive GUI for the user. On top of that, we have begun work on graph customization and saving templates for the user to reuse.

Past week accomplishments
Brittany McPeek — Report/Documentation Manager
- Focused on graph customization
    - Completed color customization
        - User can make their own color schemes to use for their graphs
        - Saves previous color schemes the user has made
    - Working on data point shape customization
        - This would allow the user to change the data points for a scatter/dot plot to a square or triangle, for example

Benjamin Vogel — Team Manager
- Focused largely on refactoring graph generation to become more usable from the user/GUI/maintainer's perspective
  - Each graph now inherits from a Figure abstract class and implements the same 3 functions
  - There is now a factory class that the GUI will use to get the custom graph class they desire without manually making it
  - Each graph takes a Pandas DataFrame object and a config dictionary in order to construct the graph, making it easier to customize later down the line
- Added saving/loading config dictionaries to pickle files

Rob Reinhard — Meeting facilitator
- Finished the box and whisker plot
- Worked with Sam to integrate stat analysis into GUI
- Finished decoupling the data import from graphing functionality

Kyle Gansen — Meeting Scribe
- Created a newer more fleshed out GUI that allows user to make bar and scatter plots
  - Code is more maintainable and cleaner than previous GUI for bar graph creation
- Made a data frame functions module with functions to modify pandas dateframes or return informations about those dataframes relevant to graph creation
- Worked with Sam to integrate stat analysis into GUI

Ben Alexander — Progress Manager
- Merged scatter plot with everyone else's code
- Created a welcome page for the app
- Implemented navigation between the welcome page and the scatter plot

Samuel Jungman — Chief Engineer
- Worked with Kyle to help integrate stat analysis into GUI
- Worked to help verify codebase integrity and standardize UI for client demo

Pending issues
Brittany McPeek — Report/Documentation Manager
- Current comments and documentation needs to be cleaned up

Benjamin Vogel — Team Manager
- No pending issues individually

Rob Reinhard — Meeting facilitator
- No pending issues

Kyle Gansen — Meeting Scribe
- Will need to work on data filtering and exception handling in code because the graph creation GUI will error out if the data isn't cleaned

Ben Alexander — Progress Manager
- Not sure how the list of recent projects will work on the welcome page.

Samuel Jungman — Chief Engineer
- No pending issues

Individual contributions

Team Member	Contribution	Weekly Hours	Total Hours
Brittany McPeek	Worked on graph customization - shapes and colors	14	50
Benjamin Vogel	Refactored graph generation, developed template for expansion, Added saving/loading configs	14	43
Ben Alexander	Created welcome page with navigation to the scatter plot	5	44
Samuel Jungman	Worked with Kyle to integrate stat analysis in with the GUI	4	21
Kyle Gansen	Created a new more maintainable GUI that currently allows creation of bar and scatter plots	16	43
Rob Reinhard	Worked with Sam to integrate stat analysis in GUI, finished Box and Whisker,	13	31

Plans for the upcoming week
Brittany McPeek — Report/Documentation Manager

- Finish up the data point shape customization
- Ask client about any other graph customizations that are wanted and implement them
- Clean up comments throughout the code for better documentation

Benjamin Vogel — Team Manager
- Displaying the config to the user through a GUI for them to customize
- Expand the graphical user interface to other desired graphs
- Continue work on bringing aspects together

Rob Reinhard — Meeting facilitator
- Take into consideration client feedback to improve on GUI functionality
- Work on Data Filtering
- Continue work on bring aspects together

Kyle Gansen — Meeting Scribe
- Add box and whisker graphing capabilities to GUI
- Add Brittany's google drive export to GUI
- Work with Ben on how new graphing creation window should be lead into with welcome page

Ben Alexander — Progress Manager
- Work on making a template creation and modification page
- Work with Kyle to implement the main graphing page and how it interacts with the welcome page

Samuel Jungman — Chief Engineer
- Assist with code base and UI unification
- Assess figures and UIs with the client and improve the project based on what is asked of

Summary of weekly advisor meeting
No advisor/client meeting was conducted this week as we focused more on internal code.