Group 29 – Microbiology Lab Information Management and Visualization System

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Core Technical Goals

- GUI
  - Styling
    - Create a visually appealing front end that also shows all relevant data
    - User should be able to edit styles to their own liking
  - Layout
    - Layout should be easily understandable by the end user
    - Graphing should be the primary focus of the layout
- Data Import
  - The client should be able to import CSV or EXCEL files to be analyzed and graphed
- Parsing
  - The solution should be able to parse data from the files and sort them into data structures for better visualization options

Core Technical Goals (Continued)

- Data Holding
    - Create dynamic data structures to contain the data for graphing uses
- Backup
    - The system should store backups of the imported data in a hidden folder for data recovery
- Data Visualization/Graphing/Statistical Analysis
    - Create a system that integrates with Plotly to create and show custom graphs to the end user
    - System should perform some statistical analysis
- Saving Files
    - The user should be able to save a current file within the application
- Share Files
    - Create an export tool that can either share to Google Docs through an external API or save it as a picture to their local machine
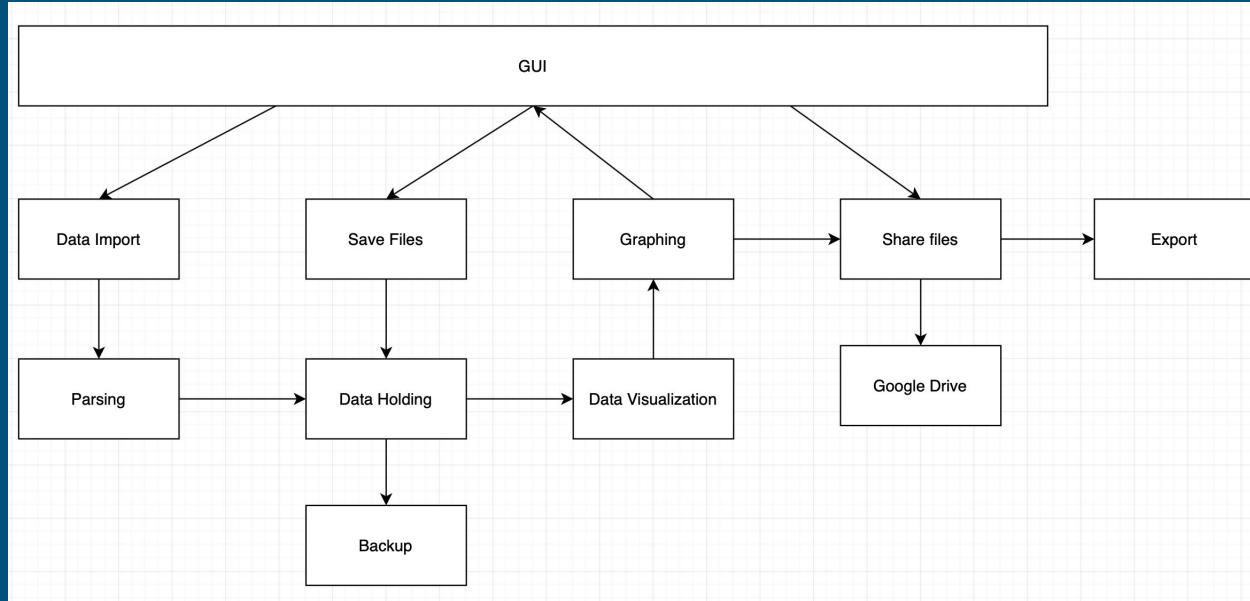
Stretch Technical Goals

- Utilize machine learning to determine if data is valid
- Be able to append data to previous versions of files
- Concurrent users pulling data from shared space

Conceptual Sketch

First Semester Timeline

Deadline 1 (April 30th): Frameworks

- Visualize Experiments
- Import Excel sheet
- Barebones UI
- First Rough Graph

Second Semester Timeline

Deadline 2 (Sep 15th): Prototype

Deadline 3 (October 15th): Functional Product

Deadline 4 (November 15th): Final Product

Deadline 5 (November 30th): Testing Finalized and CI/CD