● **Team:** Alex Sheehan, Elias Bezanis, Tyler Glotz

● **Title:** Data Analysis Tools

● **Project Summary**: Take in different types of data files (starting with .txt, .csv, possibly expand to JSON files, etc). Process the data from the files with minimal user interaction and produce manipulatable data sets for high level analysis in a User Interface. Provide “easy-to-use” data analysis tools for the user.

● **Project Requirements:** Based on the project summary, what are the requirements and responsibilities for your system? List the requirements and their associated responsibilities in this section in a table. Be sure to break them down into small manageable separate requirements and label each one with an ID # for reference. These requirements need to be in tables. You can write the requirements in short sentences or in the Agile format.

- 3 Separate tables for the requirements:
    - Business Requirements
    - User Requirements
    - Non-Functional Requirements

If there are no business requirements then state so instead of a table.
- [optional] you can add priority (Critical, High, Med, Low, Nice-to-have) UR
- [optional] you can add topic/area (e.g., Login, Profile, DB, etc.)
- [optional] you can add user(s)/actor(s) involved in each requirement
- [optional] you may have a functional requirements table if desired

User Requirements Table

ID #	Functional Requirements	Topic Area	Priority
UR-01	As a user, I need to Parse .txt file into .csv file using given delimiter, so I can use .txt data in a database	Functional	High
UR-02	As a user, I need to Parse .csv file into .txt file with given delimiter, so I can output information cleanly	Functional	High
UR-03	As a user, I need to import .txt and .csv files, so that I can use the tool to manipulate data	Functional	High
UR-04	As a user, I need to store data from files into a database, so that I can access them and combine them	Functional	High
UR-05	As a user, I need to compare data from between two files	Functional	High
UR-06	As a User I need to be able to keybind shortcuts for functions	Functional	Low
UR-07	As a user, I need to combine rows and columns in csv and txt files	Functional	High
UR-08	As a user, I need to analyze table data using standard visualization and mathematical functions (min, rotate, etc.)	Functional	High
UR-09	As a user, I need to be able to pop-out the current table into a new window so I can view multiple tables at the same time	Functional	High
UR-10	As a user, I need to be able to rename data tables	Functional	High

Non-Functional Requirements Table

ID #	Non-Functional Requirements
#01	system shall be usable to someone with basic computer and file traversal skills
#02	system shall be usable >99% of the time
#03	system shall have database that supports multiple users
#04	system must restart if unresponsive for X amount of time

● **Use Cases:** Document how the system will support each task via a use case. For the Project Part 2 GROUP, provide the use case diagram (the use case documents will be in your individual submission).

● Use Case Overview: Create a single overview use case diagram depicting the main use cases the actors interact with. Note that these should map back to your user requirements.

● Sub-diagrams: Create any necessary sub-diagrams to show more in depth the details of the use cases including any <<includes>> and/or <<extends>>. Be sure to label which use case you are describing in more detail.

● **UI Mockup:**

1.Welcome/Home Page

Prompts user to import

2.Database Analysis Page

This is the main page that users will almost always be working out of, tables are viewable, changeable by click and scrollable. “New Table”(left navigation tab) is where the results of any function are outputted.

3.File Dropdown

i. Import: browses file location to import from->take you too Page 7

ii. Export: Exports file in certain format with chosen tables

4.View

i. Compare: Splits DB view screen(page 7) with view of another DB or another Table

ii. Pops out the current table into new window

5. Tools

i.Basic functions: Select desired function(min, max, add, subtract, average, median, rotate,combine, create table/row/col) then select desired row or rows. Any function creates a new row/table/column

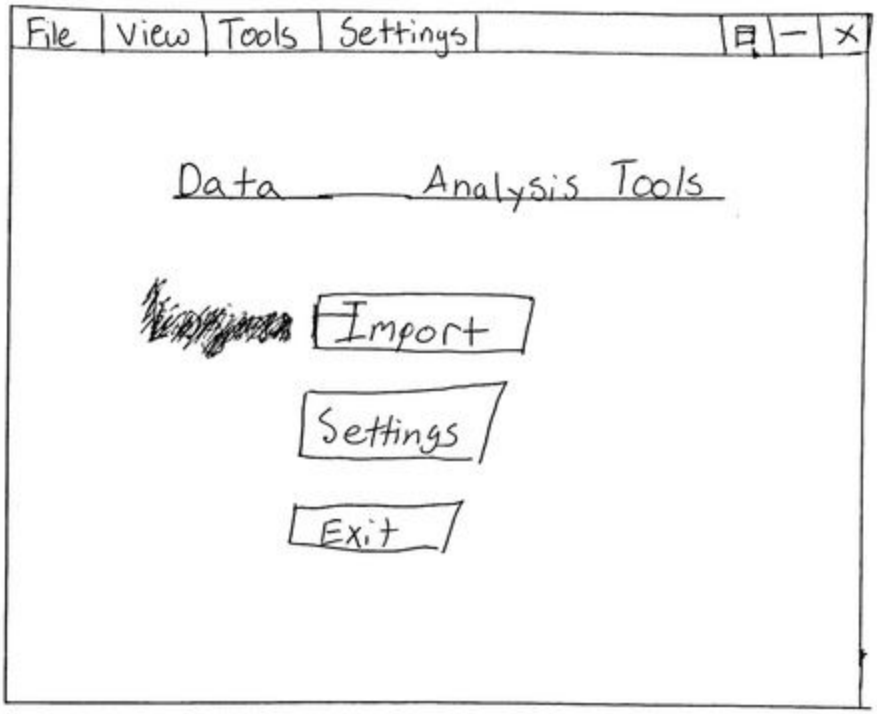
Ii. Visualization: Flexible graphing functions for tables that open in new windows

6.Settings

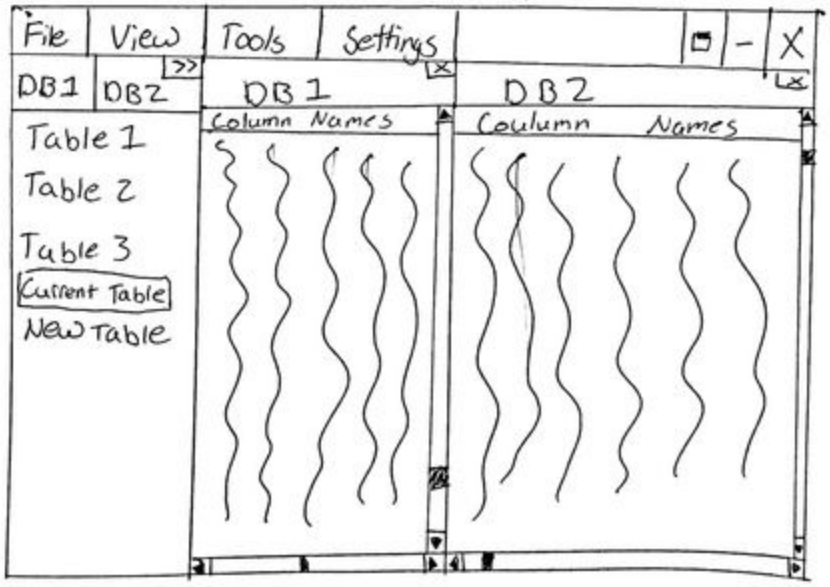
i. Shortcuts: hotkeys for tools

Images Corresponding on Next Page

1.


File
View
Tools
Settings
Data Analysis Tools
Import
Settings
Exit

2.


File
View
Tools
Settings
DB1
DB2
DB1
DB2
Column Names
Column Names
Table 1
Table 2
Table 3
Current Table
New Table

3.

3. File

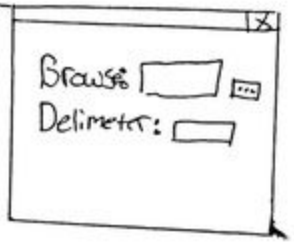
i) Import

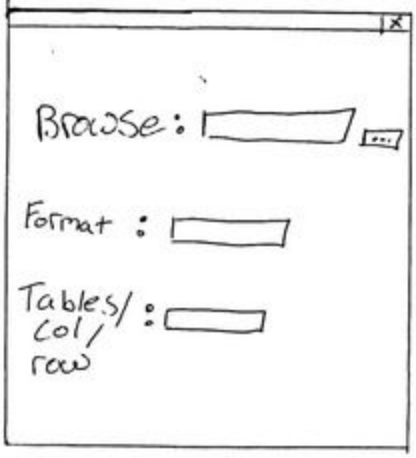
ii) Export

Save

Save as

Exit

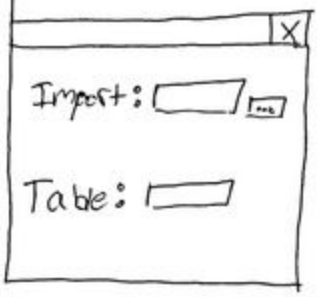




4. View:

i) compare

ii) popout



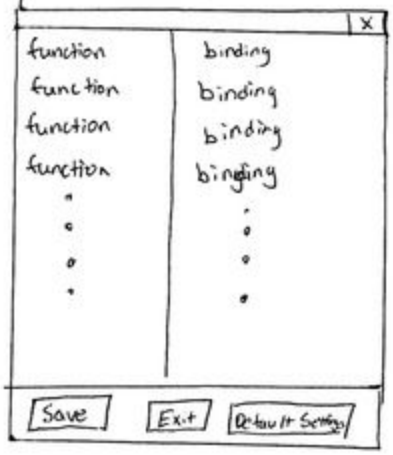
5. Tools

i) basic functions

ii) visualization

6. Settings

i) shortcuts



● **Data Storage:** What database are you going to use? What objects do you intend to persist?

Since our platform manipulates databases, we are working with .csv databases and .txt files which are being represented as “data or a database”. Each .csv and .txt file represents one table as that's all it could be represented without any flag for multiple tables, this single table will be manipulatable (to be broken down into new table/rows or to be added/joined with other tables) after being imported. Our program will have a view window which is a table view of the data in the file. Users will be able to save the file (export) into those same formats (.csv, .txt) after making their updates and changes.

● **Class Diagram:**