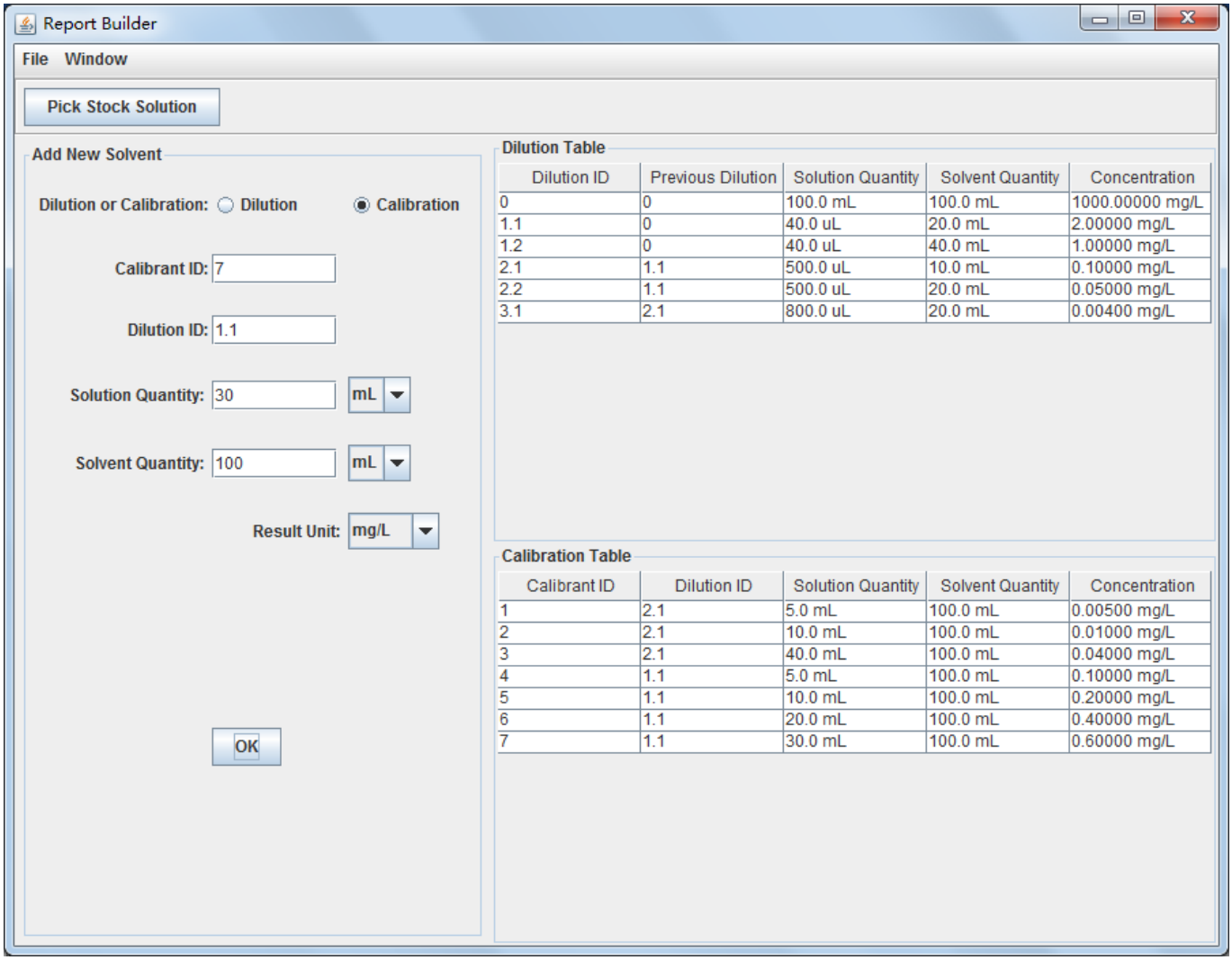
Project Progress Report

Reporter: Bin and the Team

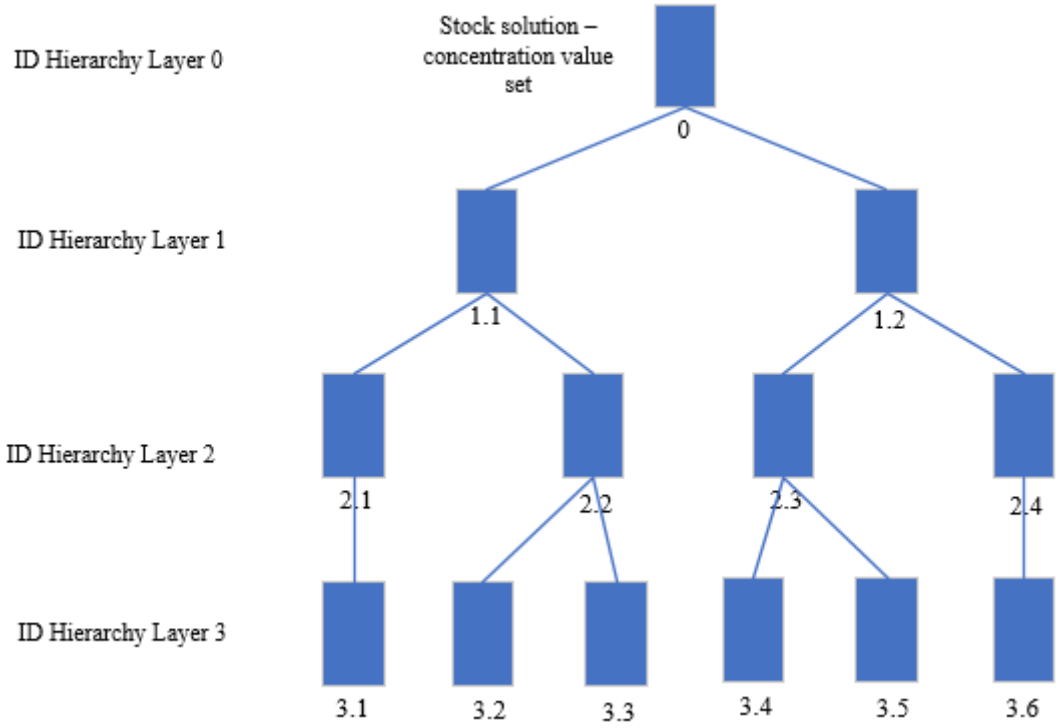
Date: April 20th 2020

1. Task Completed

The basic structure of the new application has been completed. It can successfully add new dilutions or calibrants as required. The application can save the table data separately and later on can be imported into the application. The structure of the application is as



I use the new ID hierarchy system for dilution process. For example, if the Dilution ID is 2.1, the number before the decimal point (2) indicates the hierarchy layer, and the number after the decimal point (1) represents which dilution was conducted in this layer. The dilution ID hierarchy system is explained as

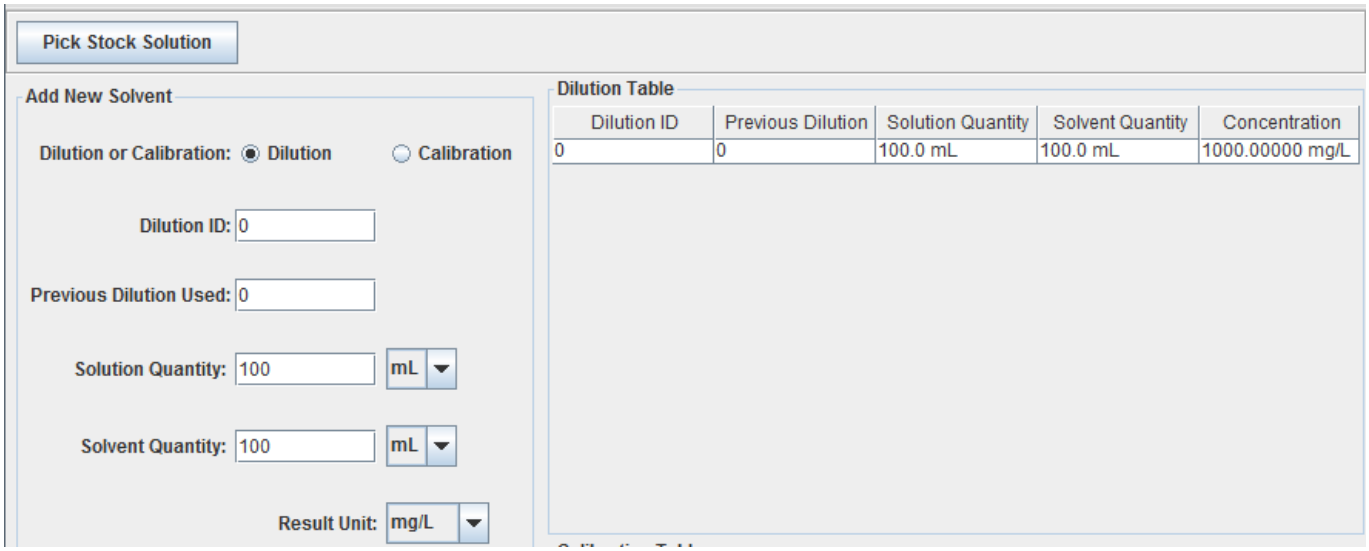


In the calibration process, the new calibrants can be generated from any dilution solution from different hierarchy layers. The dilutions used in generating calibrants are in the Dilution Table.

The data generated from this application can be saved as either .dil files or .cal files. Different filename extension stands for different tables. Similarly, when opening the files, the chosen file with particular filename extension will be shown in different tables. Detailed information will be illustrated in the next chapter.

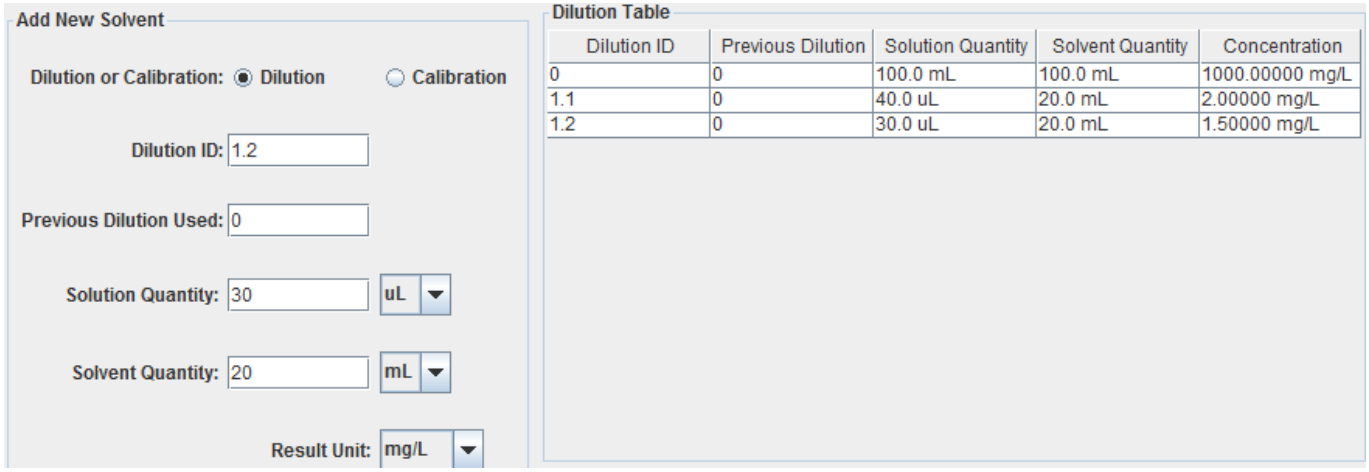
2. Application Guide-through

***Step 1**: Add the stock solution:*

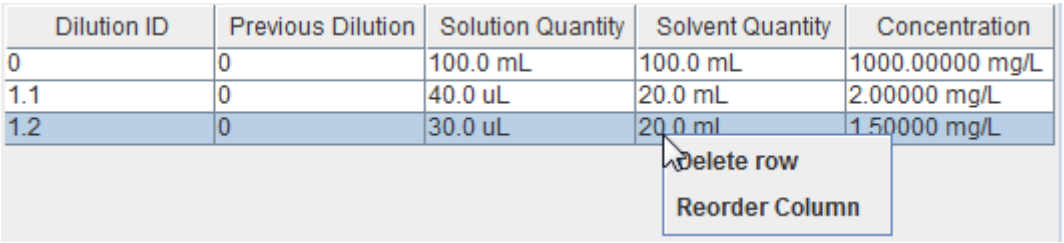


Ideally, the original solution should be shown in the table after selecting it by clicking the **Pick Stock Solution**. At this moment, it is designated by using 100 mL for both solution quantity and solvent quantity. **The previous Dilution used should be set as 0**, indicating that the original solution is used for this dilution.

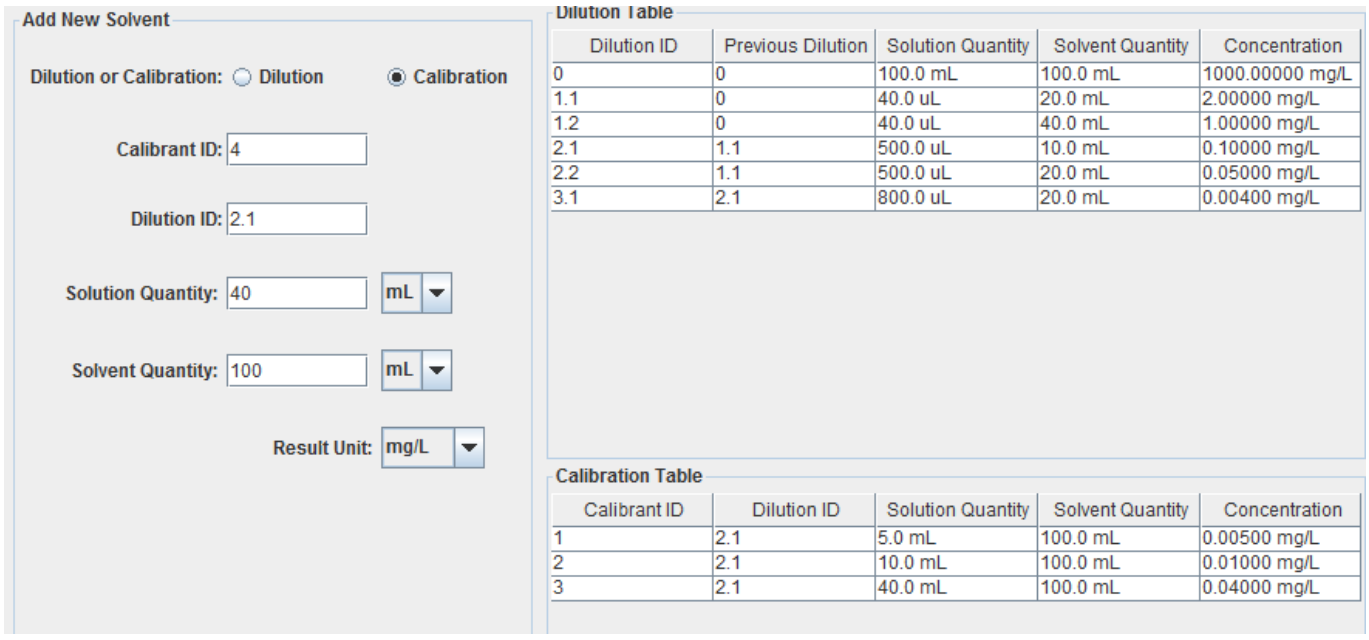
***Step 2**: Add new dilutions:*



You may add as much solutions as you desire. But the **Dilution ID should be unique** for reference purpose in other dilutions or calibrations. **You may also delete any rows** if they are not satisfying.

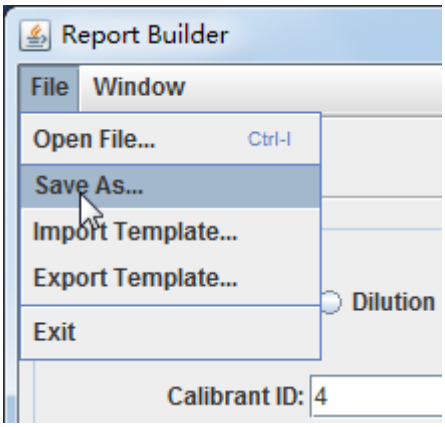


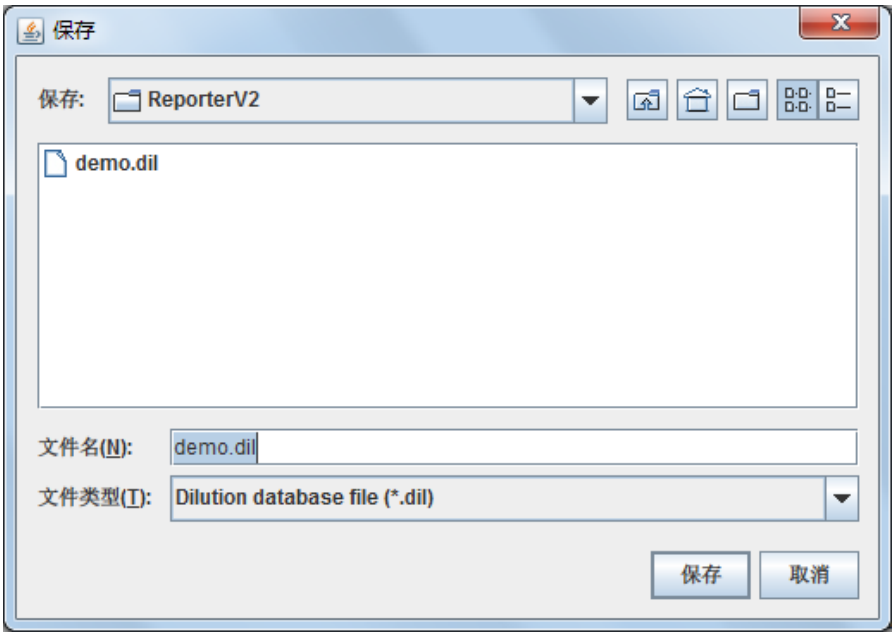
***Step 3**: Add new calibrants:*



Option button for Calibration should be selected in this step. You can add a new calibrant after the dilutions used in generating this calibrant is completed and can be referenced.

***Step 4**: Save data and open data:*





After the dilutions and calibrations are generated, they can be saved. **The filename extensions should be specified as .dil or .cal**. Different extensions represent different tables. If the file is saved as .dil file, only the Dilution Table is saved. If the file is saved as .cal file, only the Calibration Table is saved.

The same rule applies when the data is opened and displayed in tables. If the .dil file is opened, the dilution table saved before will be displayed and if the .cal file is opened, the calibration table saved before will be displayed.

3. Future tasks

Task	Description	Expected Complete Time
Generating and Importing Templates	The 'load curve template' would be able to load the set of instructions and feed a new original solution into it to generate a new set of calibrant values 'result set'. This is then saved with a unique name to be able to re-load as a 'result set' and view the calculations.	May 1st 2020
Furnish the applications	There are other functions I designed like reordering the column or may later on be proposed by sponsor will be programmed out to polish this application.	May 8th 2020
More tasks	The team, especially the team leader, is willing to carry more responsibilities in putting this application into practice. The team leader if possible, will take advantage of the 2 months semester break to incorporating more functions into this application like linking different databases, generating the calibrant curve and so on.	August 1st 2020

4. Comments

1. As I mentioned in the last email, the java development has been shifted from BlueJ to Eclipse for better development experience and future application maintenance.

2. The application is still in primitive status. It needs further testing and improvement. For example, if the Dilution ID is not found in calibration process, there should be a warning dialog.