

Software Engineering 1: Project Documentation

Project type: CRUD System
Project Title: BSCS Student Information System
Software Development Method: Waterfall

-Initial Planning and Requirements-

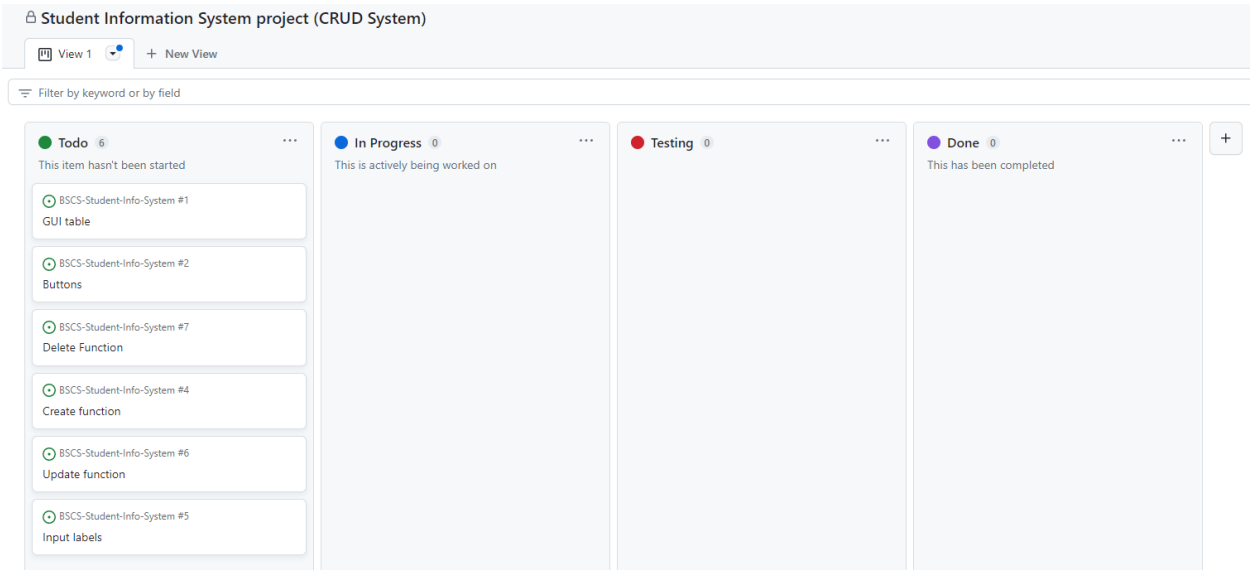
The proposed project is a simple Student information system. A CRUD system that focuses on recording and storing information of the students of Bachelor of Science in Computer Science.

During the discussion among members, we chosen the Waterfall development method to facilitate the progress of the project. The reason why this method is chosen among the others is because it is very friendly and easy to comprehend for beginners.

The content of the system contains the following table columns: Student Id, Last name, First name, Middle name, school year, and course, which are the requirements for a basic student information.

-Defining To Do Tasks-

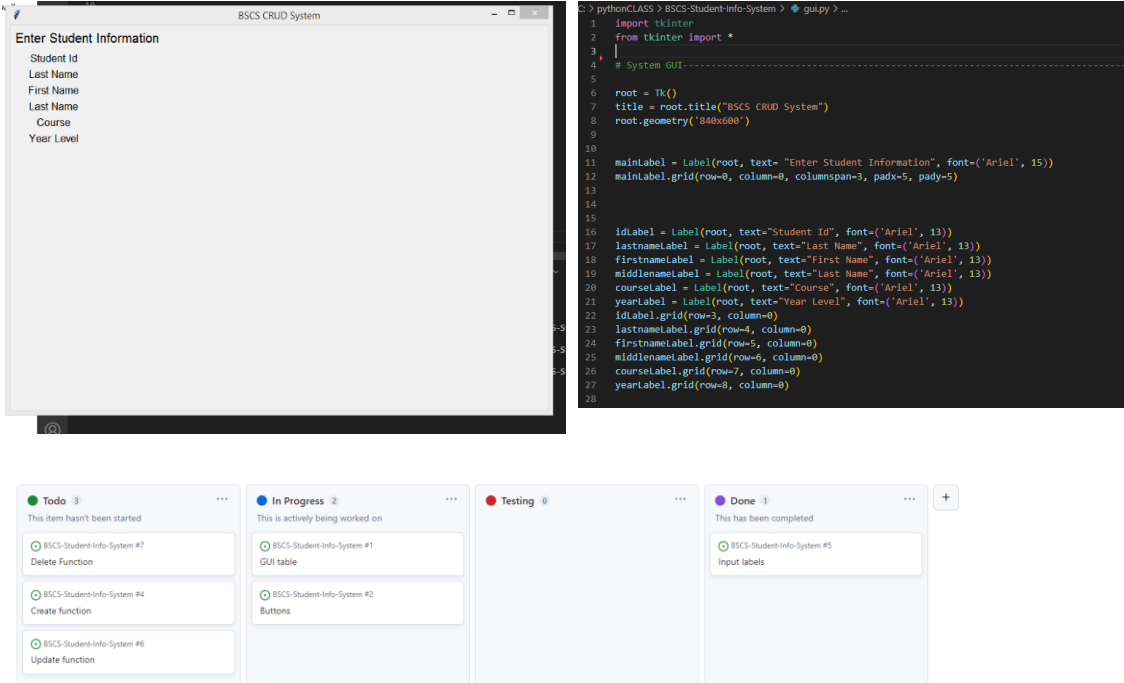
The development of the project has currently two high priority tasks: (1) GUI development and (2) CRUD function development, which can be further divided into subtasks to focus one function at a time.



Documentation

April 24, 2023

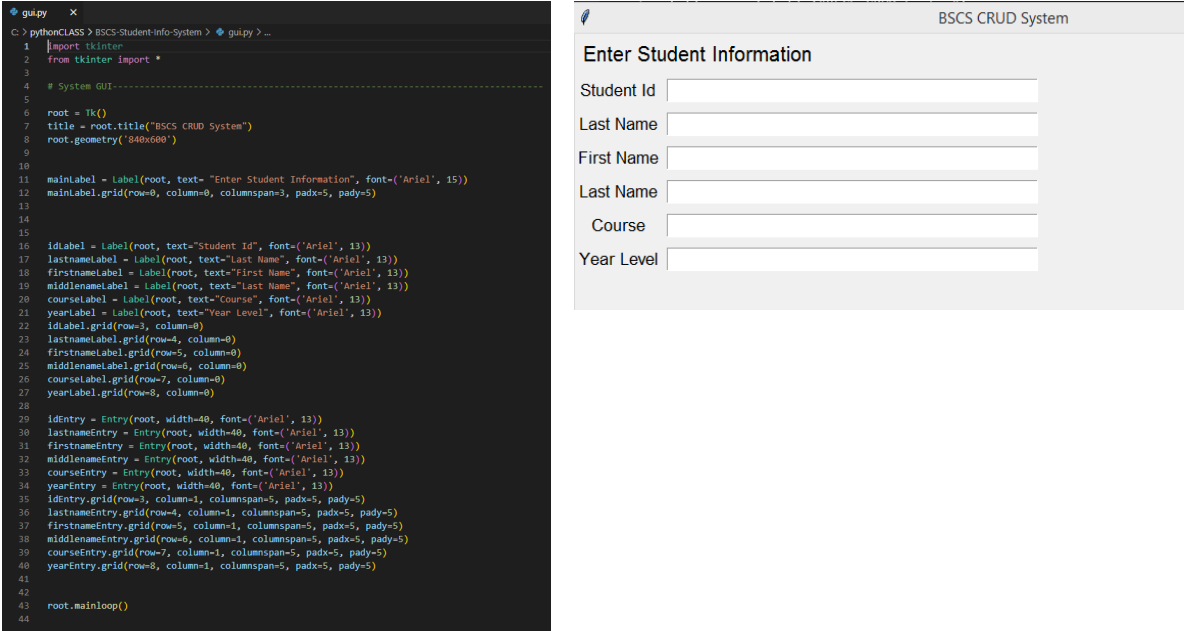
The first task that was worked on is the creation of the GUI. The first task was to assign a root widget to the code as well as the title, this is to initialize the tkinter package before any other widgets can be placed. After that, the developers move on into encoding labels and positioning them at their proper places, as well as some adjustments are made.



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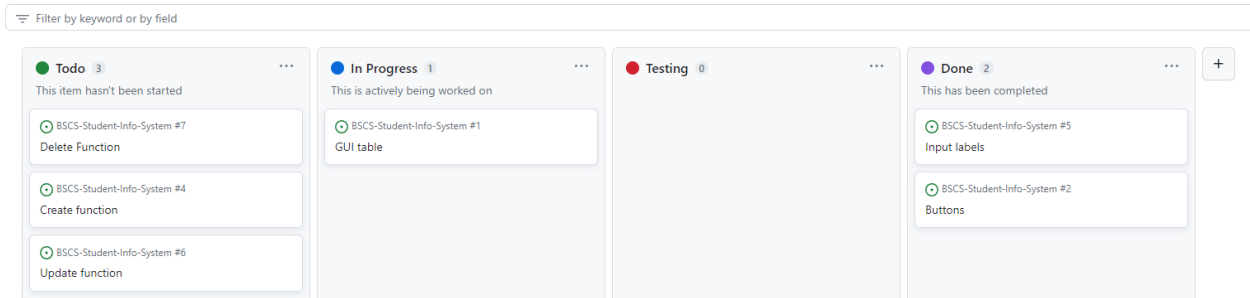
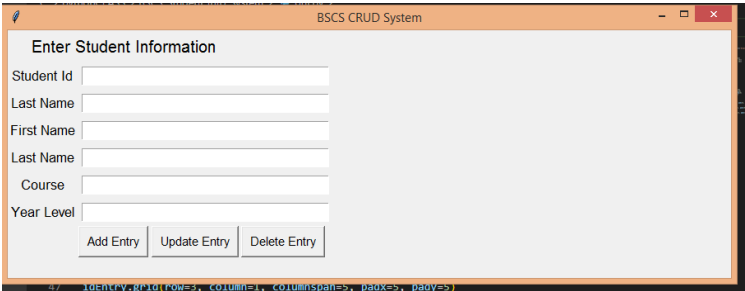
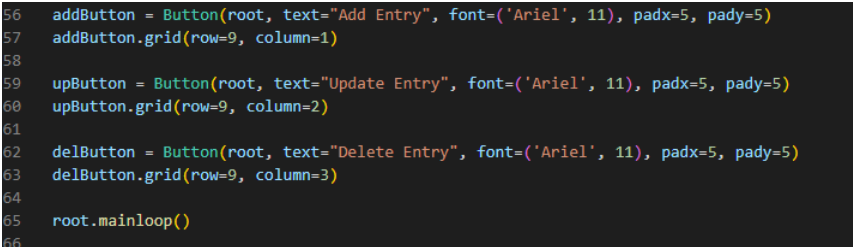
April 25, 2023

This day’s agenda is focusing on creating the input fields for each label. During the development, the developers encountered some obstacles in positioning the input fields to their respected labels. The rows and columns seems to not cooperate despite the correct values encoded. However, this was solved by adding additional build-in tkinter functions such as ‘columnspan=’, ‘padx’, and ‘pady’, which fixes the widgets as well as create a padding between other widgets, for horizontal or vertical padding.



April 26, 2023

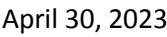
Buttons were coded and implemented in the GUI, which each button labeled with their exact functions. Although there are some slight misalignment during the placement, but it was immediately solved by swapping some built in functions to the button attribute. In addition, the window size was adjusted to save space and make reservation for the table in the future.



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There has been some miscommunication, mainly in the development, as well as some complications in using the Github and its commands. We had a trouble using the branch command as we are having difficulty in merging and creating branches. Moreover, the task was switched and adjusted between members: (1) the GUI development was switched to Saga and Sanchez and (2) the CRUD function development was now handled by Bayotas. In addition, some slight changes were done in the entry section: (1) the first, last, and middle names are now combined into one complete name and (2) a new attribute was added named *urios_email*.

After reorganizing tasks, the development then continued for the project following the new plan. The task focused on this day is the Table development and the planned deadline was agreed to be before the next day, which was completed within the day. Also



Adjustments were made to fit the data needed to be entered. After which, new functions were added such as `clear()` and `viewtable()` to better optimize the code since these specific blocks of code are frequently used. In addition, the database connection was also retouched, to make it cleaner and understandable.

The remaining CRUD functions: `update_data()` and `delete_data()`, were encoded. After encoding the new functions, they are then added to their respective buttons. Widgets were also reorganized and repositioned to make it cleaner and user-friendly. There may be retouches and revisions in the future.

Aside from changing the treeview name from `my_tree` to `table`, we do encountered one small problem during this day. The main problem that was faced was some of the branches that were created by other members are not able to be pushed. In fear of accidentally deleting the main progress, we decided to do it on the main branch and manually pushing the features made by other members.

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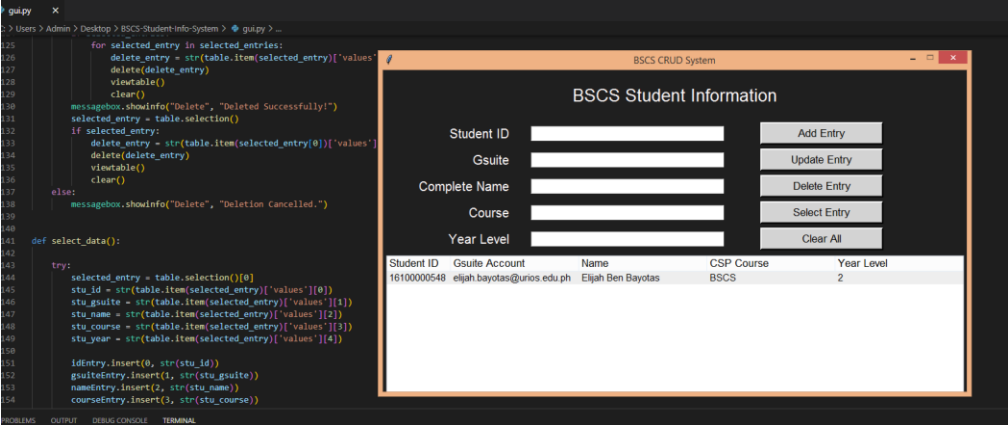
May 15, 2023

After resolving the branching problem on the previous day, the development was then continued. Buttons and functions were added to our Crud system, mainly the Select Button and its Function, which is essential in selecting a data from the table and able to edit or update the data.

```
def select_data():  
    try:  
        selected_entry = table.selection()[0]  
        stu_id = str(table.item(selected_entry)['values'][0])  
        stu_gsuite = str(table.item(selected_entry)['values'][1])  
        stu_name = str(table.item(selected_entry)['values'][2])  
        stu_course = str(table.item(selected_entry)['values'][3])  
        stu_year = str(table.item(selected_entry)['values'][4])  
  
        idEntry.insert(0, str(stu_id))  
        gsuiteEntry.insert(1, str(stu_gsuite))  
        nameEntry.insert(2, str(stu_name))  
        courseEntry.insert(3, str(stu_course))  
        yearEntry.insert(4, str(stu_year))  
    except:  
        messagebox.showerror("Error", "No Entry Selected")
```

May 16, 2023

After we finalize our codes and its functions, we simply added colors to our widgets and so it would be more likely a professional design in our GUI. Aside from that, nothing much has happened



May 17, 2023

Finalization of the project continued and the tasks achieved during this day is the realignment of text labels, window centering, and added a delete confirmation Toggle.

May 19, 2023

This is the day of the finalization of the project development. To finish off the code we added Error exemptions to update and select function. After that’s done, testing was then initiated to observe any changes to be made as well as to make sure that the system is both stable and satisfactory to the members of the project. Since there are no further errors and all members are satisfied with the system, we then conclude that the Student Information CRUD System is now complete.