

# Criterion B: Design

## A. GENERAL VIEW

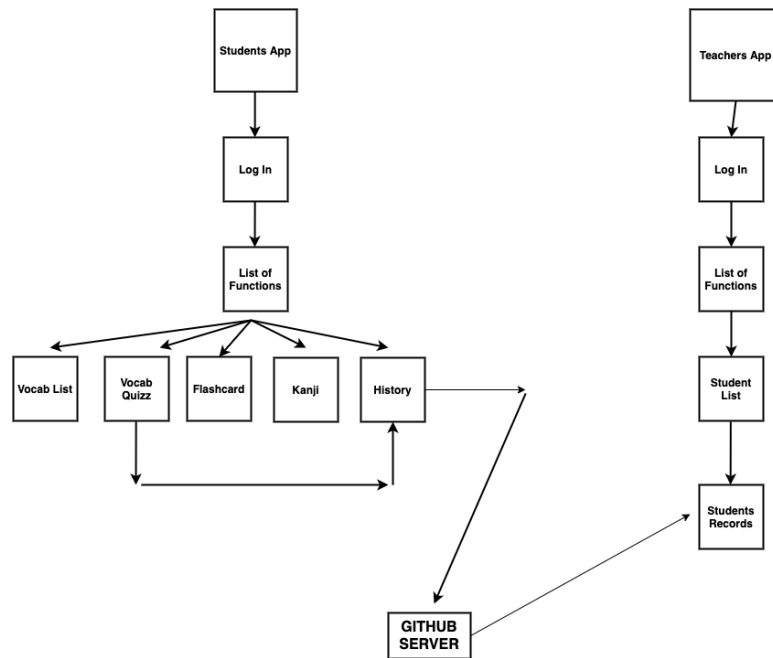


Figure 1: The overview diagram of the apps

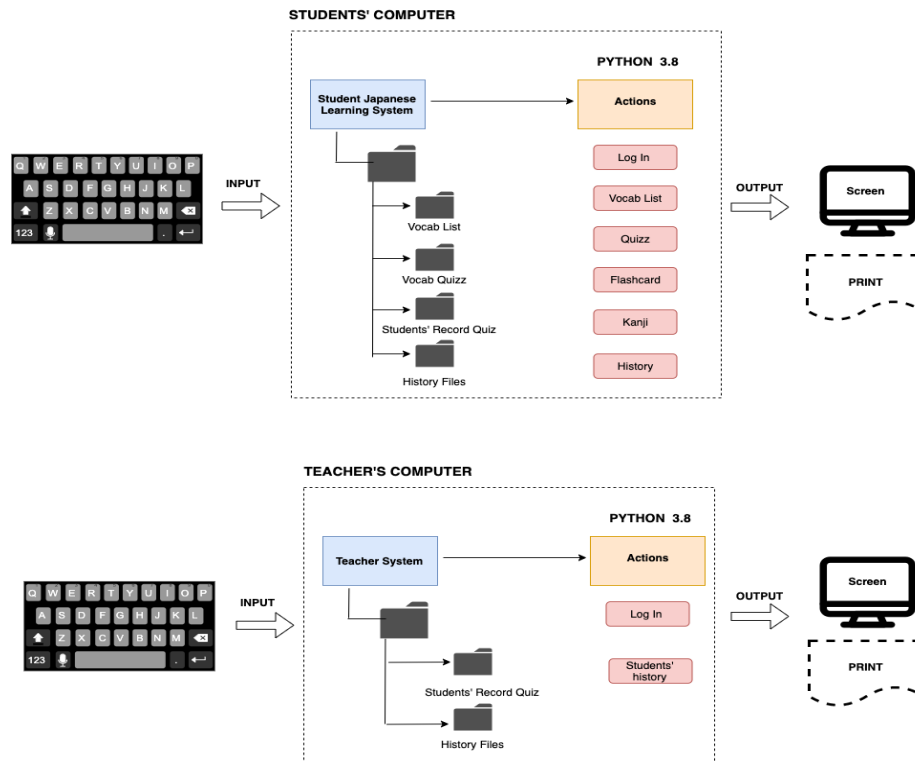


Figure 2: The system diagram shows the input and output of the program. The place where database stored, and the programming used for the program. Also, the actions that the users can do with the program.

## B. INTERFACE

### 1. Students App

#### a. Sketch Design

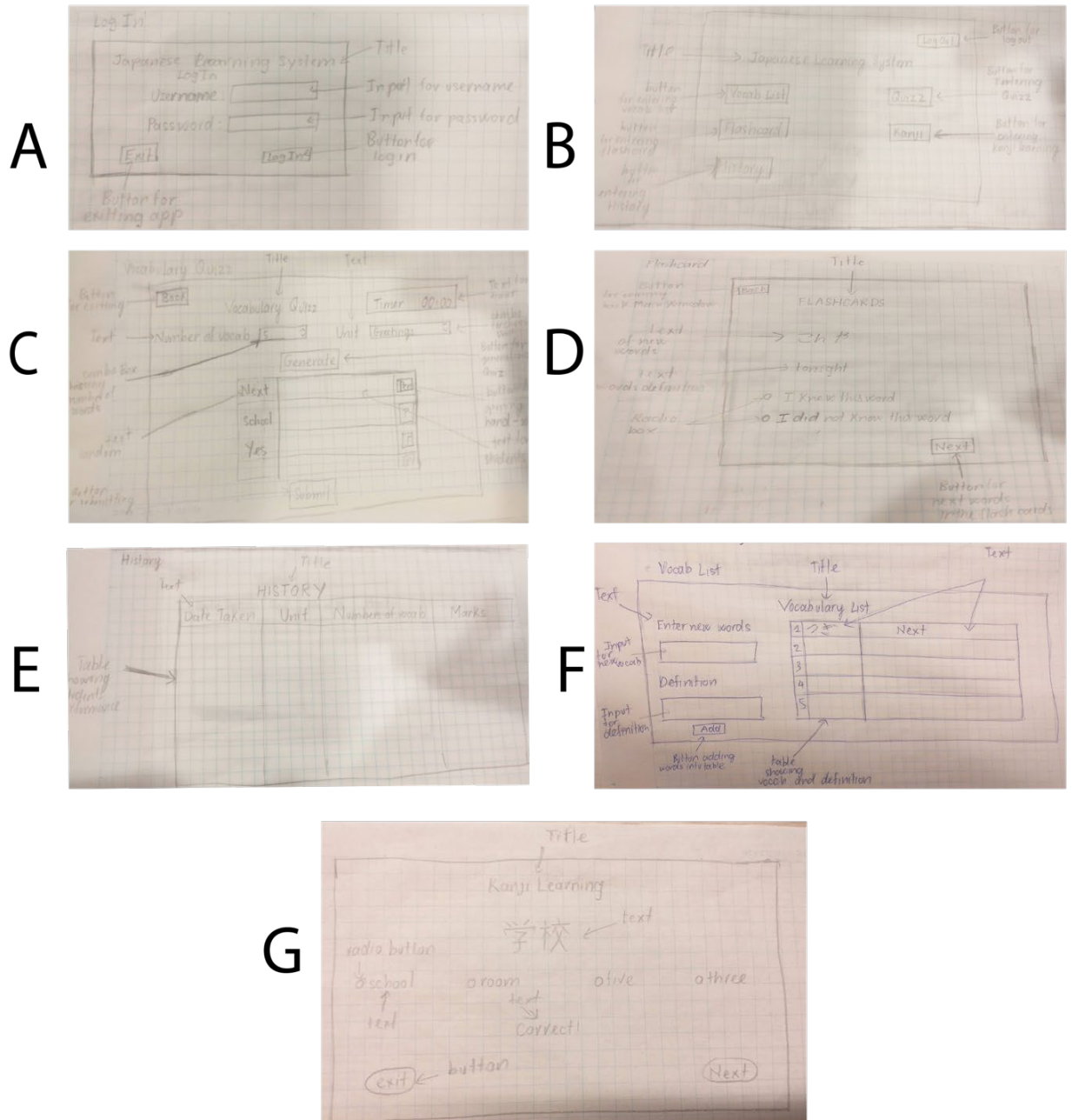


Figure 3: A. Log in Window; B. Students Main Window; C. Vocab Quizz Window; D. Flashcard Window; E. History Window; F. Vocab List Window; G. Kanji Learning Window

## b. Final GUI

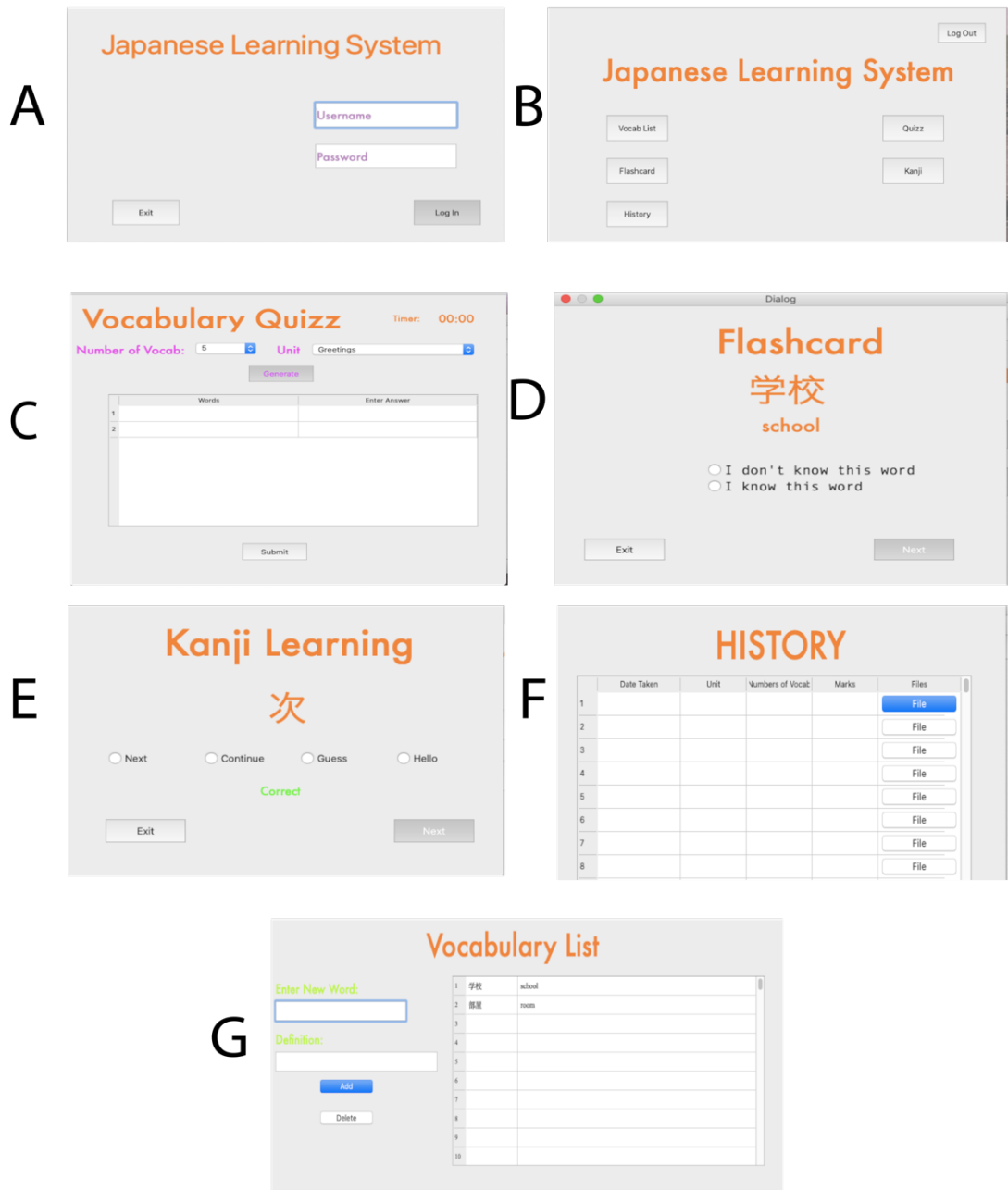


Figure 4: A. Log In Window; B. Students Main Window; C. Vocab Quizz Window; D. Flashcard Window; E. Kanji Window; F. History Window; G. Vocabulary List

## 2. Teacher App

### a. Sketch Design

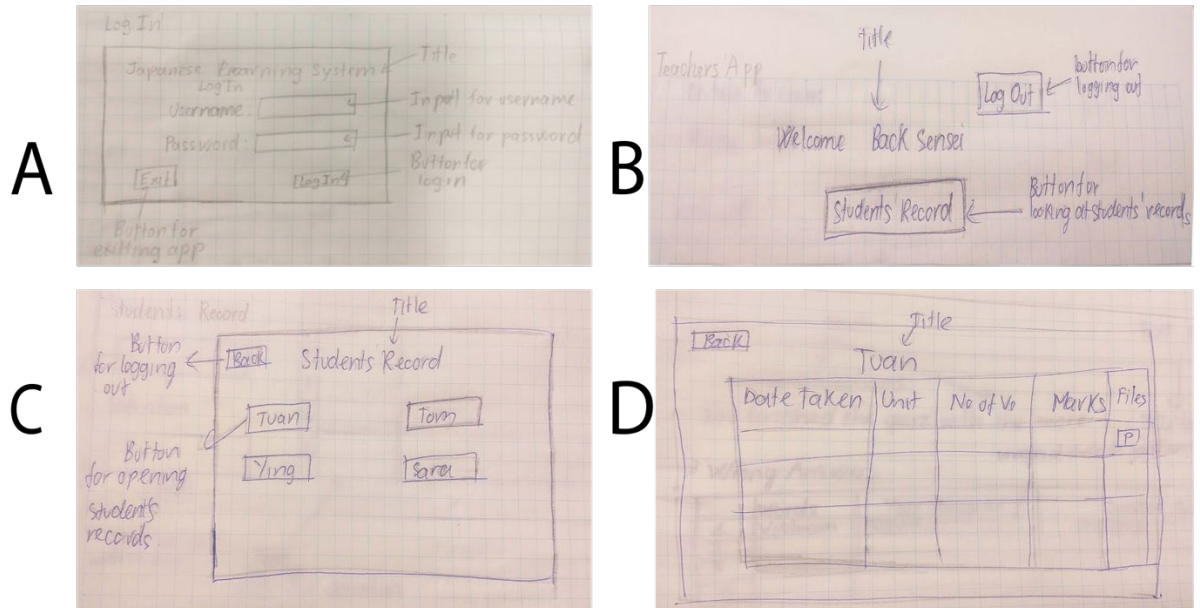


Figure 5: A. Log in Window; B. Teacher Main Window; C. Students List; D. Student's History

### b. Final GUI

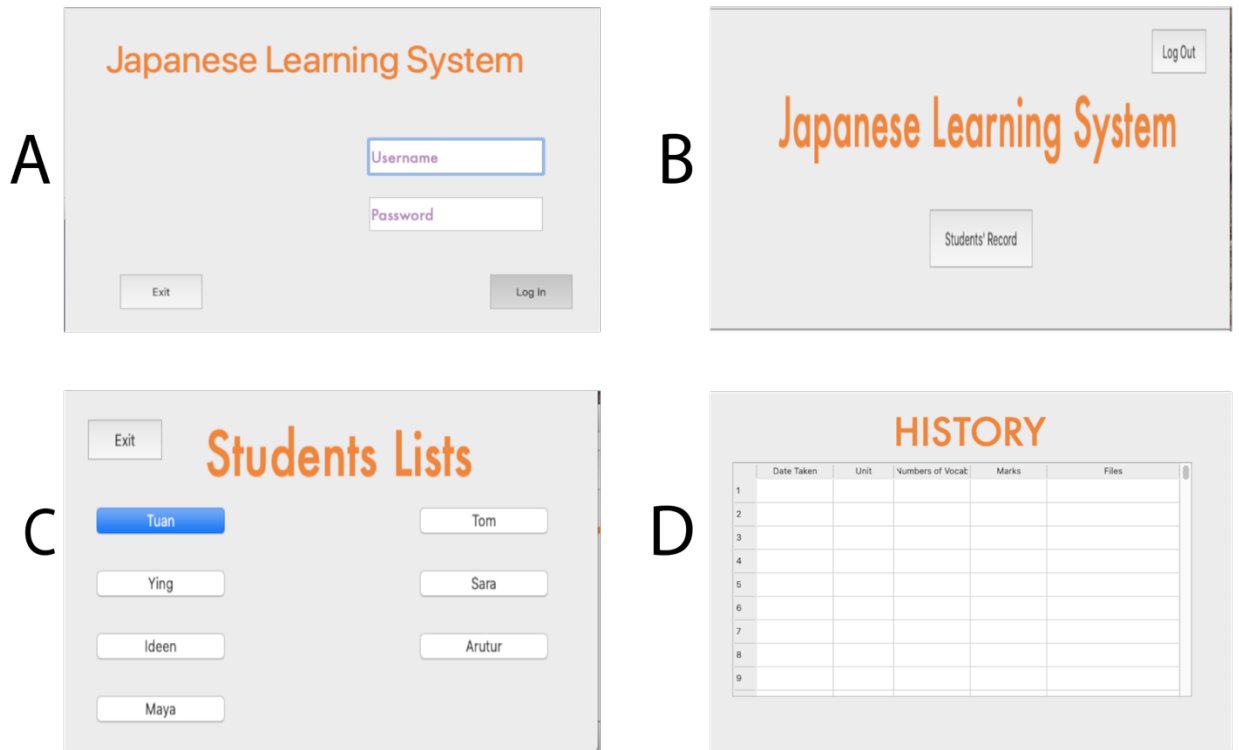


Figure 6: A. Log In Window; B. Teacher Main Window; C. Students List; D. Student's History

## C. FLOW CHART

### 1. Flashcard window

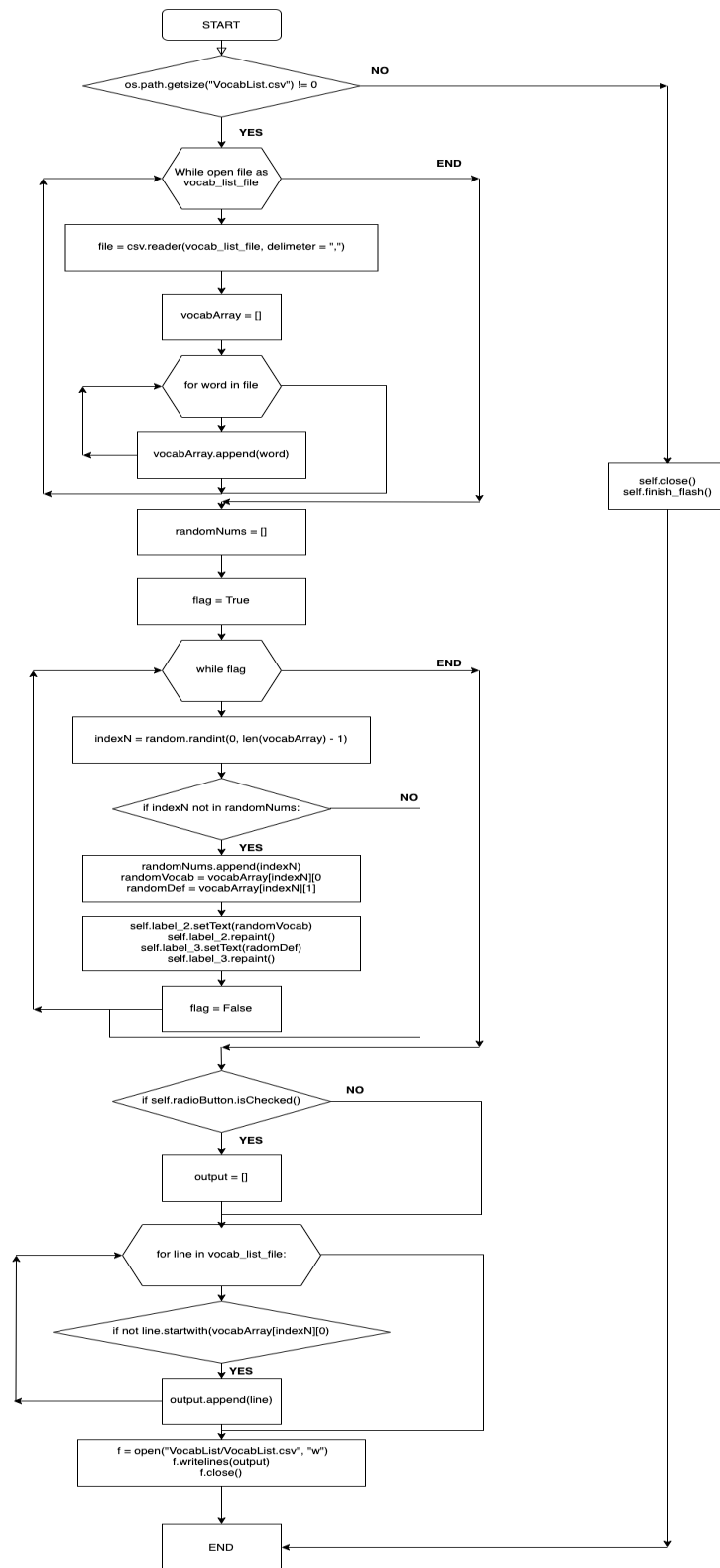


Figure 7: The flash card window will read the file line by line and randomly take the data from the file and then display it inside the window

## 2. Generating random quiz

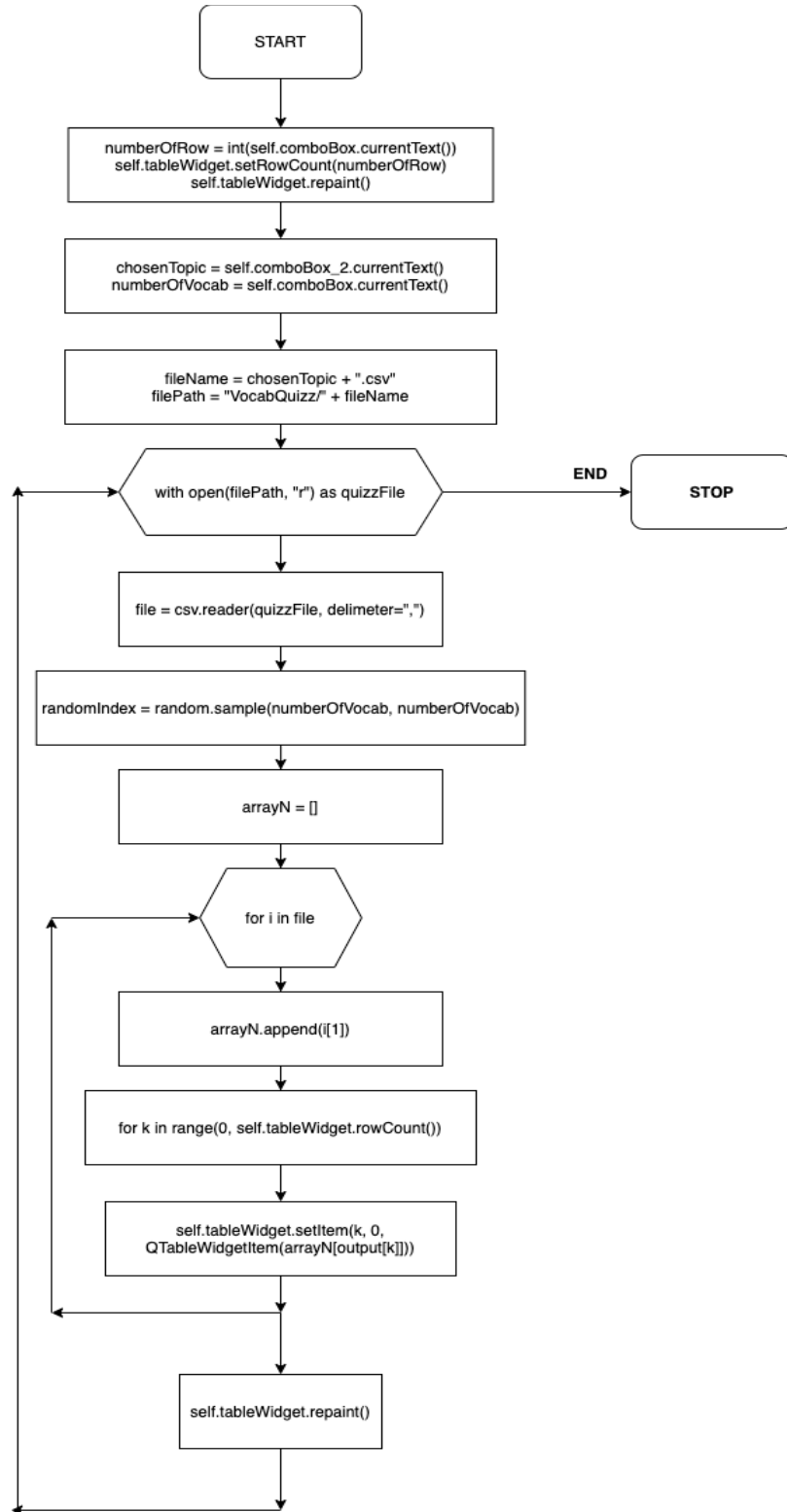


Figure 8: Here is the flowchart of generating random quizzes function, which is inside the Vocab Quiz windows. This solves the client's requirement as it will generate quiz with random English words that are sorted by topic, the number of vocabs can be chosen.

## D. DATABASE

### VOCAB FOLDER

#### VocabList.csv

おはようございます,Good Morning  
学校,School  
.....

#### Kanji.csv

一,one  
部屋,room  
.....

### VOCAB QUIZZ FOLDER

#### Greeting.csv

おはようございます,Good Morning  
こんにちは,Hello  
.....

#### Friends.csv

ともだち,friends  
せんこう,major  
.....

.....

### QUIZZ RECORD FOLDER

#### historyFile.csv

20-11-2020,Friends,10,1  
21-11-2020,Greetings,15, 10  
.....

### HISTORY FILES FOLDER

#### 20-11-2020-correctAns.csv

Good Evening,こんばんわ  
Good Morning,おはようございます  
.....

#### 20-11-2020-wrongAns.csv

20-11-2020,Friends,10,1  
21-11-2020,Greetings,15, 10  
.....

.....

Figure 9: This shows the database the folders that they are in.

In the Japanese Learning system, it will store the vocabulary, its definition, and quiz. This has to be achieved through a database. While database solutions such as SQL and SQLite could be chosen, a more practical and lightweight solution will be suitable for such a small-scale project. Except for the history and record files database, most of the database files will contain English words and Japanese words that are separated by [,]. While for the history file, there will be information about date, marks related to the quizz.

## E. UML DIAGRAM



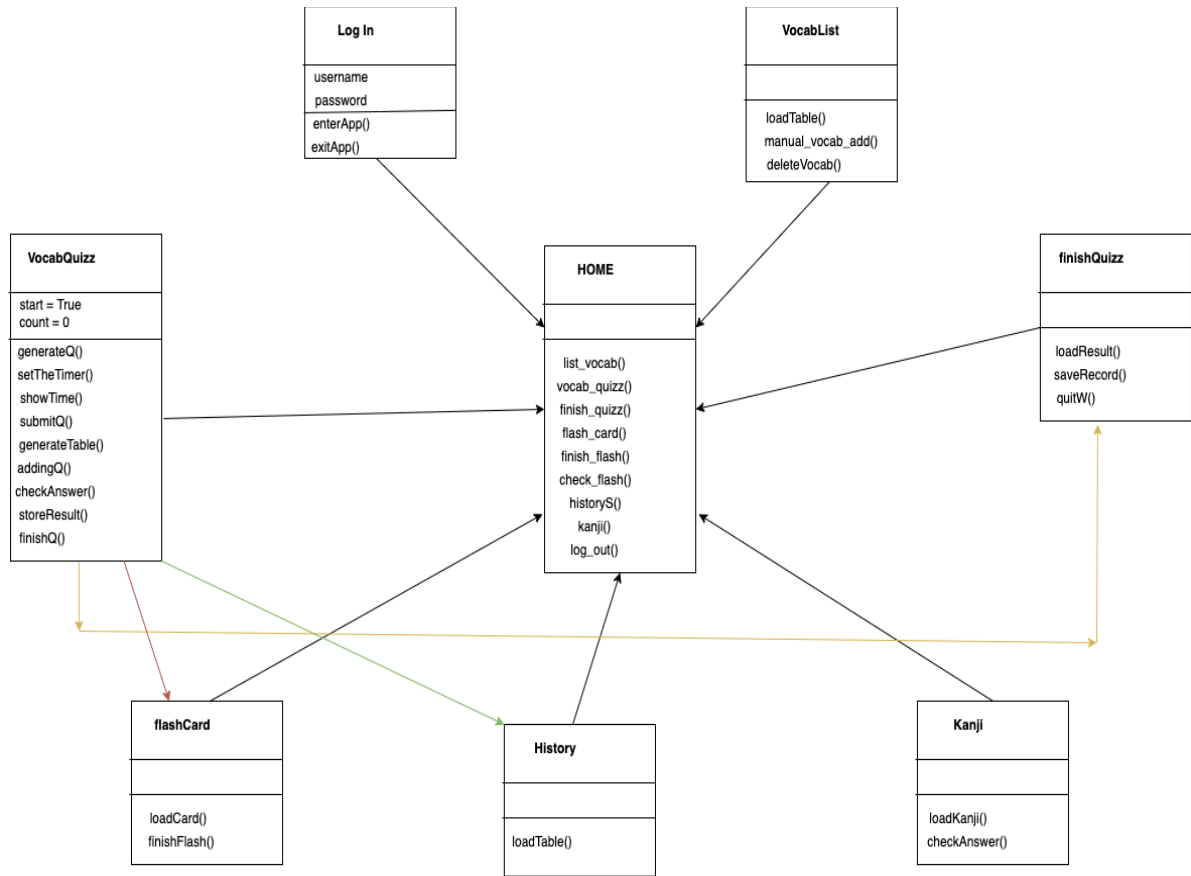


Figure 10: OOP UML Diagram showing the classes inside the program

Also, classes' functions, variables and how they are related to each other are shown in this diagram. The program is organized in 8 classes. As the program has 5 functions that fulfill the client's criteria, there are 5 classes containing functions and variables related to the functions. Also, there are 3 more windows that shows up the successful information, completed or results of the actions that they users have done. Thus, there are more 3 classes in responsible for showing these windows.

## F. TESTING PLAN

#	Function	INPUT/INSTRUCTIONS	OUTPUT
1	Sign Up	Enter Name, username, password and re_password to reconfirm.	If the Name and username are not existing inside the database and the password and re_password are matched, the windows notify sign up successfully will show up. Otherwise, the input will be emptied out for users to input again the information.
2	Log In	Enter the Username and Password into two boxes, then press 'Log In' button	If the username or password is correct, enter the app; Otherwise, the inputted username and password box will be emptied for users to enter again
3	Vocab Quizz generate randomly quizzes	Choosing the number of vocabs for the quiz and the unit; For e.g., 5 vocabs and Unit Greetings. Then press generate	There will be 5 Randoms English words appear in the first column of the table for example: Hello, Good morning, Good afternoon, Nice to meet you, Goodbye. Also, there will be 5 buttons at the last columns of the table appears for entering hand-written.
4	The vocabulary and its definition can be added by students	New words and their definition. For example: こんにちは and its definition: Hello. Then press Add.	The words and the definition will be added into the table on the right side
5	The vocabulary and its definition can be deleted by students	Click on the row of the table that containing the deleted word. For example: こんにちは.	The whole line that contains the word and its definition in the table will be deleted
6	The vocabulary in the list will be displayed in flashcard window	The vocabulary added inside the Vocablist windows. For example: こんにちは, こんにちは、おはよう	These vocabularies will be displayed randomly inside the flashcard window.

7	Check students' answer automatically	If the timer still has time, press the submit button if finish. If not, no need actions	There will be a window appear showing the score of the students, for example if students have 25 correct quizzes over 30, the window will print out 25/30. There also two tables, one for the correct answer and one for the wrong answers. For the wrong answer, it will show the English, images of students' answer and correct answer. For example, Hello, 'こんにちは', こんにちは. For the correct questions, the table will simply show the quiz and the students' answer
8	Vocab is sorted by topic	Choose the unit in the Quizz Windows, for example: Greetings then press Generate	The English words in the first column are related to Greetings for instance: Hello, Goodbye, Nice to meet you
9	The wrong vocabulary answer in the quiz will be added to the vocabulary list	Open the Vocab list	The wrong answers and its definition will appear in the table inside the window
10	The wrong vocab answer quiz can be added into the flash card	Open the flashcard windows	The users will see the Japanese words during the time of doing the flashcards
11	The vocabulary will be deleted if the students know the words in the flashcard	Doing the quizz one more time, with the same topic. And this time, do all the quizz correct. Or Open the flashcard, check the box "I know this word"	The word will disappear from the table of vocabulary list
12	History Windows	Doing quizz. For example: 5 vocabs, Unit: Greetings	The detail of the quizzes. E.g.: "Number of Vocabs": 5, "Date taken: " 20/11/2020,

			"Unit": Greetings, "Marks": 4
13	Students' Record on Teacher App	Press on the button with the name of students on it. E.g., "Tuan"	There will be a window look like history windows in the student's app, all the records should be the same on the Tuan's students app.