

Criterion A: Planning

Defining the Problem

Client XXX Sensei is a high school teacher at an International School in Japan. Seeing as she has to spend much time to create quizzes and marking for her students. Also, she sometimes makes mistakes in marking the students' work, leading to the wrong grade, and when it comes to the important test, it might be a big problem. Moreover, as each student has different vocabulary levels in the class, it takes her lots of time to create quizzes for individual students. Lastly, she could not keep track of all the students' quiz due to the large amount and had to spend a lot of time to find the quiz. These conveniences make her feel uncomfortable and wastes her time. During the Japanese class time, she had talked to me about her problems with Japanese quizzes. She described what she wanted: to have a program that can automatically generate a Japanese vocabulary quiz by topic and automatically marks the students' answers. Also, it can record the students' results and the correct and wrong answers after each quiz. It also has kanji studying function that creates multiple choices tests.

Proposed solution

I will make separate apps, one for sensei and one for students. Sensei will be able to look at the answers and the record of the performance of the students through the quiz they take. For student's app, there will be functions that are automatically generating random quiz, Vocabulary List for students to manually add and delete new words, Flashcard and Kanji study, and History showing the records of previous quizzes. I decided to use the Python language and QtDesigner to develop the system. The Python language is the second-ranking popular and widely used programming language.¹ The QtDesigner is a useful tool for creating GUI that can read input and represent the output inside the interface. Also, it can create a button and assign them with different methods through Python². The Python language can run well on many operating systems such as Windows, MacOS, and Linux¹. Lastly, the program can run offline.

Success Criteria

¹ Beri, R. (2019). *Python Made Simple: Learn Python Programming In Easy Steps With Examples*. Bpb Publications.

² *Qt Designer Manual*, doc.qt.io/qt-5/qt designer-manual.html.

1. The vocab quiz can be randomly generated and checked automatically
2. The record of students' answers and score will be displayed into the history windows
3. The vocabulary in the quiz is sorted by topic
4. The vocabulary and its definition can be deleted and added by students
5. The vocabulary in the vocab list will be displayed into flashcard windows.
6. The vocabulary in the list will be deleted if the students know the word in the flashcard
7. The kanji vocabulary for learning can be generated randomly and has multiple choices test
8. The record of students' answer will be showed in the Teacher's App
9. There are two versions of the program: one for teacher and one for students.
10. The programs have the sign up and log in system

Word count: 361