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Design Proposal

Project Description: Waterfall Flashcards is a flashcard memorization tool that enables users to track their progress on which cards they are doing the worst and best on, and also suggests what cards users should be practicing. There will also be numerical summaries of the cards across all users, along with personalized summaries for each user in the system.

Competitive Analysis:
Quizlet is the first similar idea that may pop in mind. This project is geared towards to be pretty similar to quizlet, but this project intends to display more stats for the user related to the call (like the amount of time they took to answer the flashcards). The actual flashcard interface will also be more colorful and intuitive.

Anki is another tool that's similar, but this one is different in that the card can be used any time and there's no set periods that users must log-in. It's similar in how users answer they feel about certain flashcards, with Hard, Good, and Easy. The Good here is to reinforce the concepts.

Structural Plan: Log-in screen will tell the program which user information to branch off into; the home-page will essentially ask the user which deck of flashcards they want to study (there will also be a tool that enables them to add or delete flashcards); the flashcard page is the meat of the program and will have timers, definitions, level, etc. The plan is to split these three up into different files, or use if-statements to only call them at certain times in the redrawAll function.

Algorithmic Plan: The trickiest part of the program will be storing user log-in information as they pertain to the certain flashcards. The way to get around this is to have a finite number of users and flashcards. Adding a flashcard should not be that difficult, but pairing the information for that flashcard with specific users may be more difficult. The idea here is to append to lists information for users, or to append tuples that has information for that user and the specific number of the flashcard. So, for example, (4, 1) would correspond to user 1 taking 4 seconds to answer a flashcard.

Timeline Plan:

TP2 -- Have general log-in feature working (4/21); some storage of data for the users working (4/23); a reasonable and working flashcard interface (4/19)

TP3 -- Create a general dashboard for each user that displays their information (5/1); display and let users download all their information (4/29); compare different players like a leaderboard or implement a multi-player game (4/27)

Version Control Plan: I have downloaded Github Desktop and every time I update code, I simply push and commit the code to the Github. The link to my Github is https://github.com/pwu97 and the repository for the term project is available upon request.

Module List: The modules used is the Tkinter log-in system (not taught in standard 15-112 curriculum, but still in Tkinter documentation). I may also use 'import statistics' to analyze some of the data from the time each user takes on each flashcard (pending email asking term project mentor).