MICO

SMART FLASH CARDS

by Helene Blackmer

SEPTEMBER 3 2021

BACKGROUND

One of the things I enjoyed during my time at my university was being a teaching assistant since I love helping others learn and helping them succeed. This project is inspired by one of the study styles I personally like to use to help solidify and test my knowledge.

INTRODUCTION

A study tool that utilizes randomized flash card style studying. Mico tests users on their knowledge by asking the user questions based on the web development and computer science categories the user chooses. Users input their answers to randomized questions via a text input for each customizable test run and a comprehensive report with all their answers are provided at the end of the test.

OBJECTIVE

The website is not to teach topics or to just memorize questions and answers, but rather help solidify one's own knowledge as well as help pinpoint weaknesses in knowledge.

EXAMPLE QUESTIONS

Example of questions in the Web Development category:
"Describe the different CSS transition timing functions."
"Explain how a web browser works."

ADVANCED FEATURES:

Future features include personal user accounts with user submitted questions as well as the option to easily remove questions that they have either mastered already or perhaps questions that the user feels are not relevant to their course of study.

EXPECTED LIST OF FEATURES

(Future features are listed as such since they will need personal user account functionality)

Customizable Flash Cards

- The user can choose a specific topic from various testing categories or also choose to have questions from multiple categories in the same test run.
- Timer so users can keep track of how long they are taking for each question as well as see how long it took them previously (if applicable).
- Future feature: Questions will be randomized and can be filtered by difficulty. Since difficulty for topics are subjective, this will be a feature exclusive to users with personal accounts on the website.
- Future feature: Personal questions can be submitted so users can practice on specific material they need to study for.
- Future feature: Users can pick questions that they have encountered and specifically to re-answer those in a custom test run.
- Future feature: Users can opt for voice recordings for their answers to provide accessibility for everyone and also for some user's personal preference.

Comprehensive Test Report

- Report with all the questions and answers from the test run for easy review by the user or by a peer. Future feature: Option to create a printer friendly page, linkable page, and/or downloadable document file for a different layout for personal review or peer review.
- Displays time taken per question as well as the entire test on the report so users can keep track of their time spent and possibly pinpoint weaknesses.
- Links to resources will be provided for the particular question. Direct solutions are ideally not provided to prevent the studying habit of just memorizing questions and answers rather than researching topics. Future feature: Answers can be provided for users if they really need it but make them register to be able to do so.

- Future feature: Users can rate the confidence of their answer to specific questions to affect the frequency of the question in future test runs.
- Future feature: Give the user the ability to record their answers on their personal database on the website so you can compare new answers to their past answers to specific questions. Feature exclusive to users with personal accounts on the website.
- Future feature: Make a comprehensive report on every question and their answers to every question/answer they have chosen to save.

MARKET SURVEY / REFERENCES

- Quizlet - No computer science/web development questions.

- Brainscape - Does not let you record your answer. Can't choose the difficulty level.

- Cram - Limited questions and not so friendly user interface.

- AnkiApp - No computer science/web development questions.

- Chegg - No computer science/web development questions.

QUESTION/ANSWER INTERFACE:

(Possible layout, not actual styling.)

Other features that may be implemented but not shown in above diagram:

- Add a progress bar which shows the percentage complete.
- Add arrow key buttons to be able to go back to previous questions or go forward to next questions.