Product Design Specification

Team/Project Info

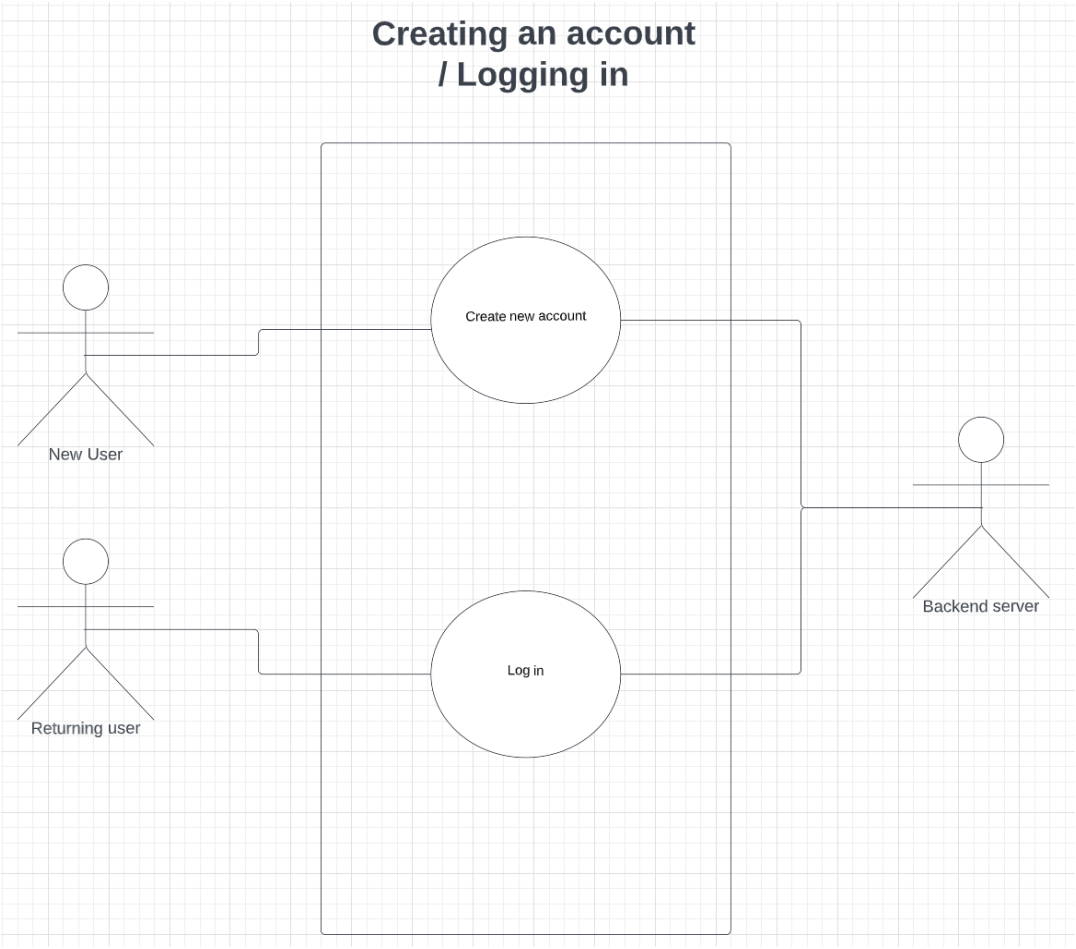
1. Team name: Deepcourse
2. Members: Maxwell Panec, Justin Barragan, Peizu Li, Hung Nguyen
3. Project Title: Study Sets

Application Description

1. Market space
    a. Our application, Study Sets, is in the wider education market space. It is an app that lets users create flashcards and take quizzes. The goal of the app is to help users learn their desired material faster and ingrain it in memory better. More specifically, our application would fall into the study aid market space which contains other applications such as Quizlet and Duolingo.
2. Feature List
    a. Creating accounts
    b. Creating flashcard sets
    c. Viewing individual flashcards in a set
    d. Viewing a list of all your different flashcard sets
    e. Taking a customizable generated quiz based on a flashcard set
    f. Viewing a timeline of your quiz scores
3. General play and outcome
    - General play:
        - A user creates a new flashcard set by entering terms, definitions, or other relevant information.
        - They customize the appearance and organization of the flashcards as per their needs.
        - The user then takes a quiz generated by the app based on the flashcards.
        - The quiz could be in various formats, such as multiple-choice, true/false, or fill-in-the-blank questions.
        - The user receives immediate feedback and can review the results to see which topics they need to study more.

        - The user can then track their progress over time by checking their quiz scores for the flashcard set.
    - Outcome:
        - The user has a more engaging and effective way to study, as they can use multimedia content to create their own flashcards.
        - The quiz generated from the flashcards helps the user test their knowledge and identify areas for improvement.
        - The user can easily review their progress and identify which topics they need to focus on more.
        - The app helps the user learn and remember information more efficiently by utilizing spaced repetition and active recall.
        - Overall, the user gains a better understanding of the subject matter and improves their chances of success in exams or real-world situations.
4. Feature Sets, User Cases, and Testing Plans
    a. Creating accounts
        i. Page description: the account creation page will be split down the middle vertically. The left half will contain a cover image for our landing page, and the right half will contain our account creation form. The form will contain fields for basic information such as email, password, date of birth, etc. The information entered by the user will be sent to our backend and stored in our database. There will be an option to log in for returning users that will appear instead of the account creation form when selected.

ii. UML use case diagram:

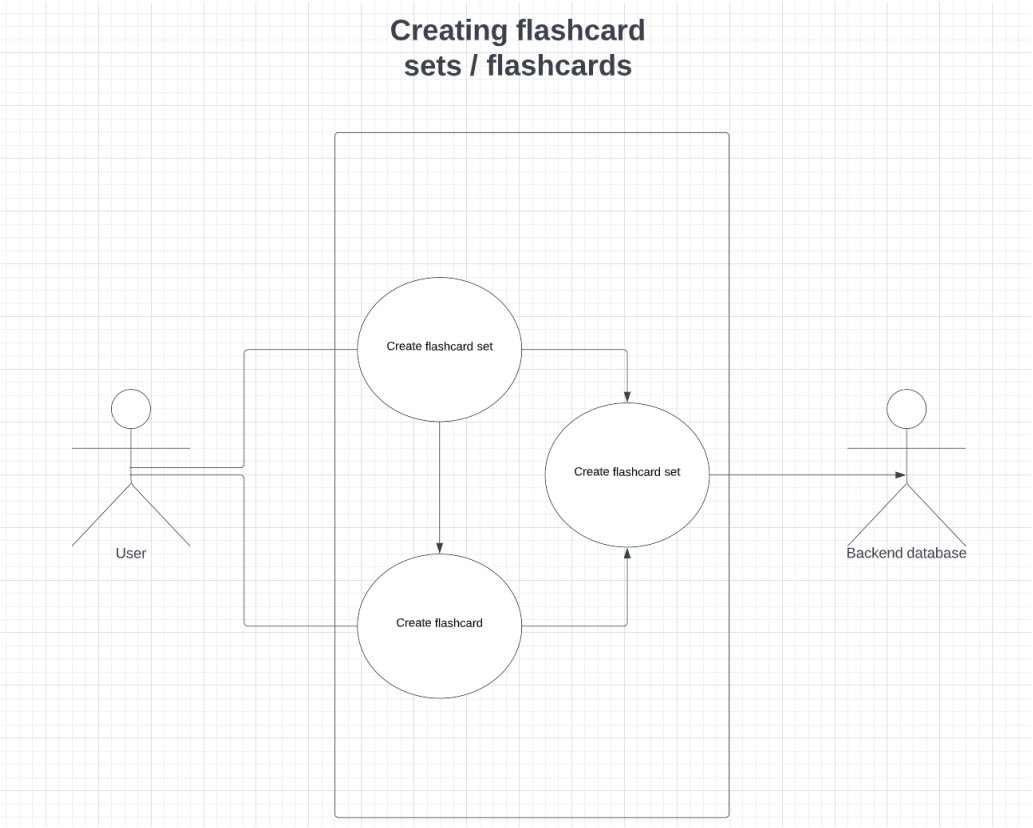


iii. Using Postman, we will create and verify the existence of an account using http requests. After this, we will create an account through our web app then verify its existence through Postman. Finally we will login to the account on the web app and check if the account details are stored in local storage correctly via the browsers inspect feature.

b. Creating flashcard sets

i. Page description: on this page, users will have access to our simple interface that allows them to create their own flashcards to add to their study sets. The page will prompt them for a question and the corresponding answer. After the user is finished creating their flashcards, the user can save their new study set and the information will be stored on our database. From there, the study set can be accessed through the “View All Flashcard Sets” page.

ii. UML use case diagram:

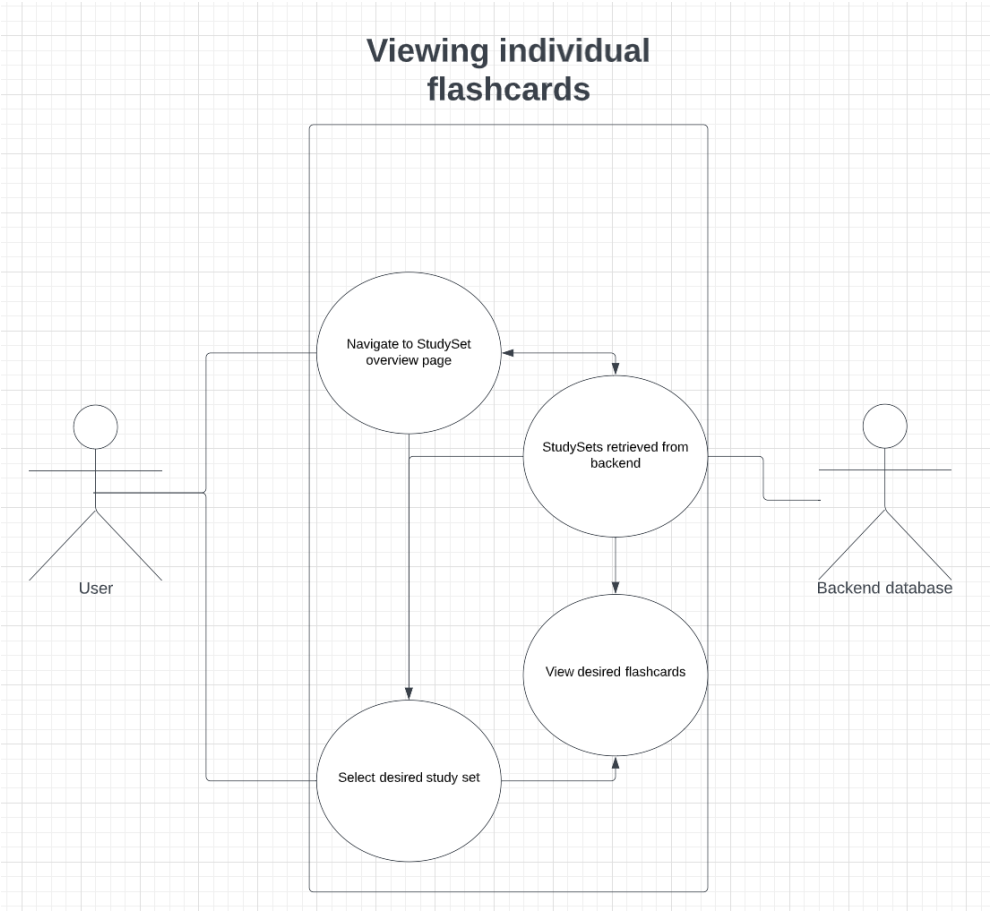


iii. Using Postman, we will create a flashcard set then view its contents and see if the returned data matches what we put when creating it. Then we will create a flashcard set with our web app and check using Postman if the returned data matches what we put on the webapp.

c. Viewing individual flashcards in a set

i. Page description: on this page, users will be able to scroll through a set of flashcards. They will be able to view the questions and answers simultaneously. The purpose of this page is to present the user with a simple and clear overview of the study set they're viewing. From this page, the user will be able to access the quiz option for their chosen study set. There will be a navigation bar at the top of the screen for ease of use.

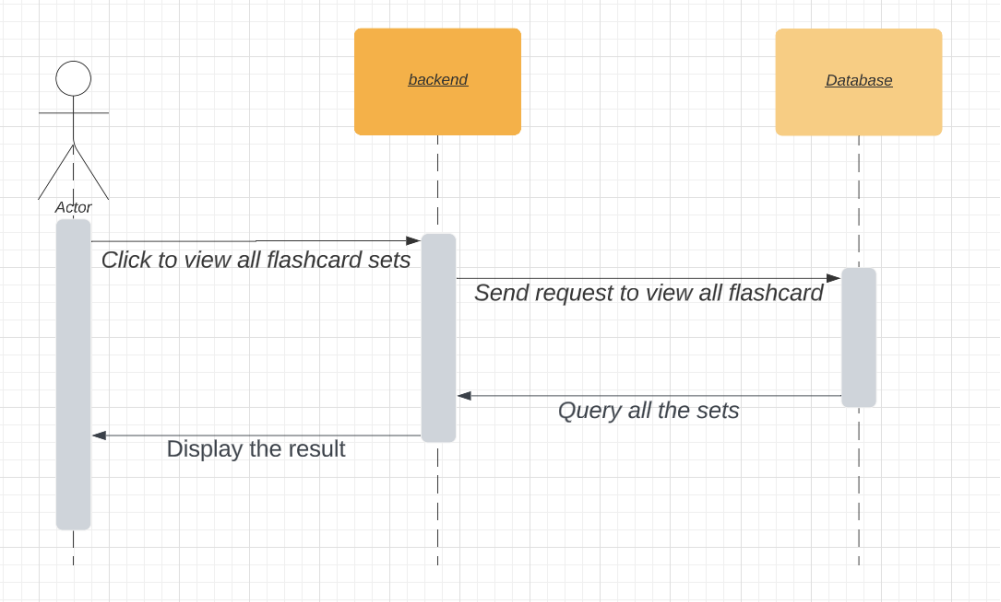
ii. UML use case diagram:

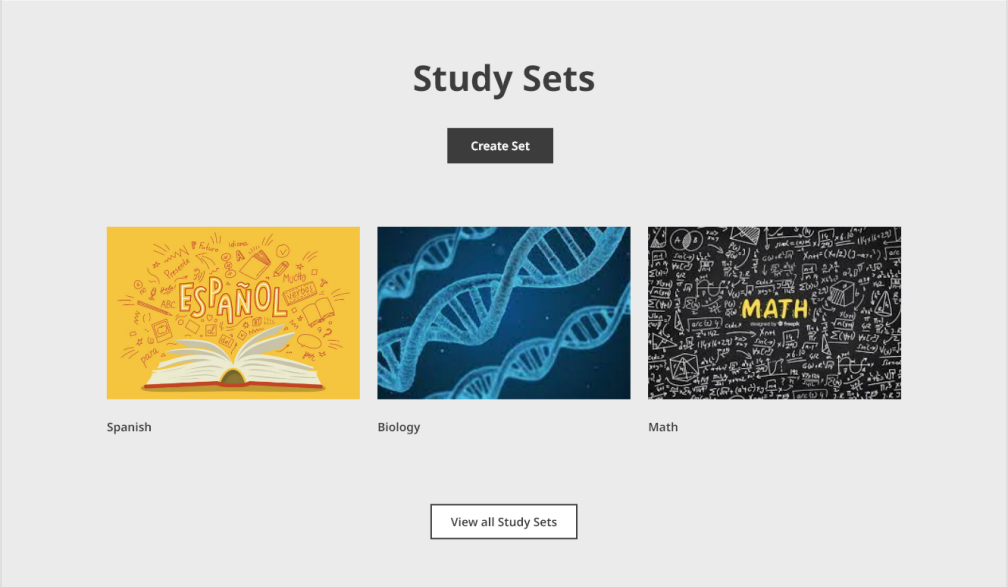


iii. At this point we have already verified that when a flashcard set is created the data in the DB is accurate. We will view the data using Postman and then view the same flashcard set on the webapp and see if their data matches (check to see if webapp is displaying data correctly)

d. Viewing all flashcard sets

i. When user want to look at all the flashcard sets. The system will request to query all the sets that are connect to this account, and display all the result from database to user.



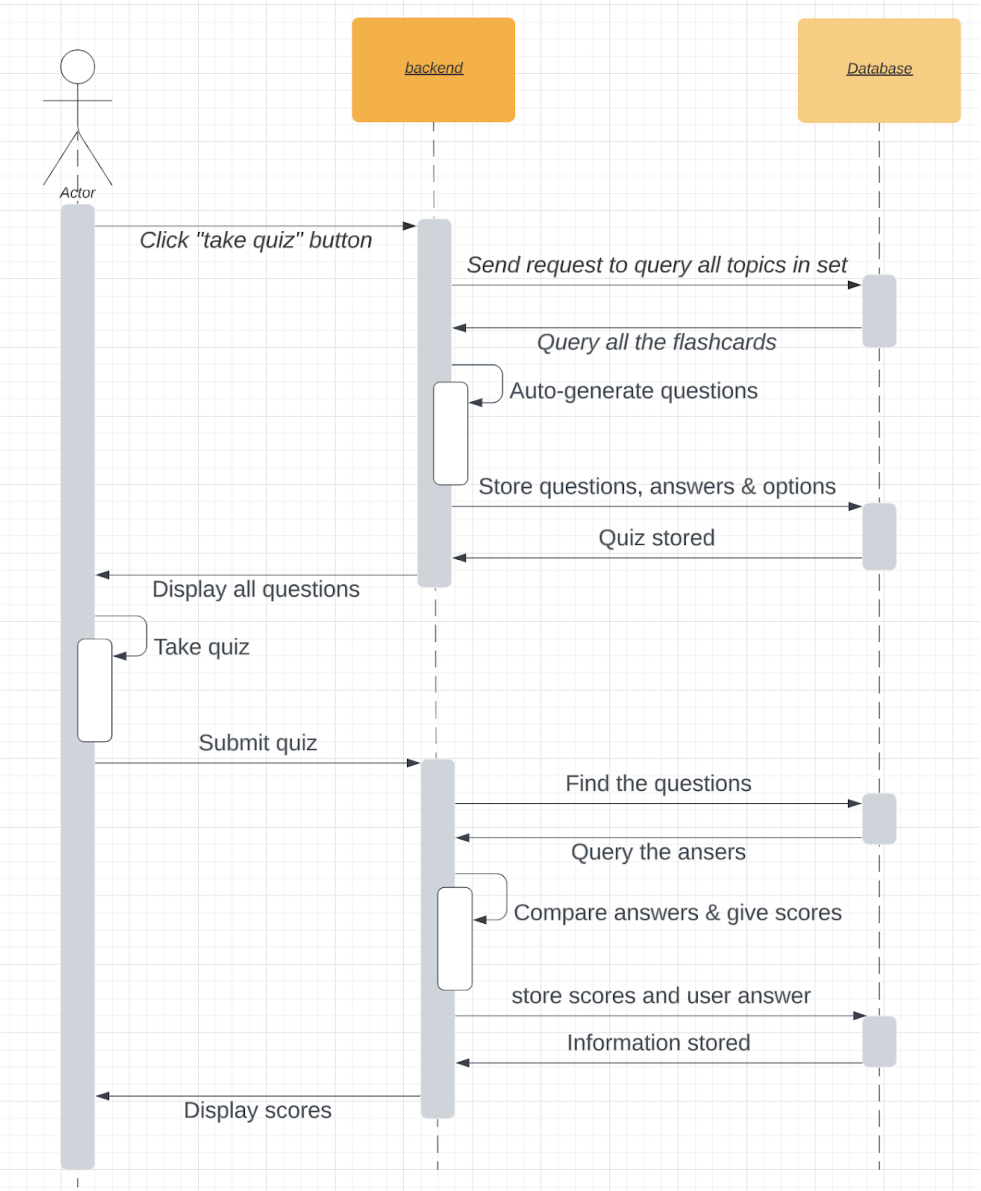


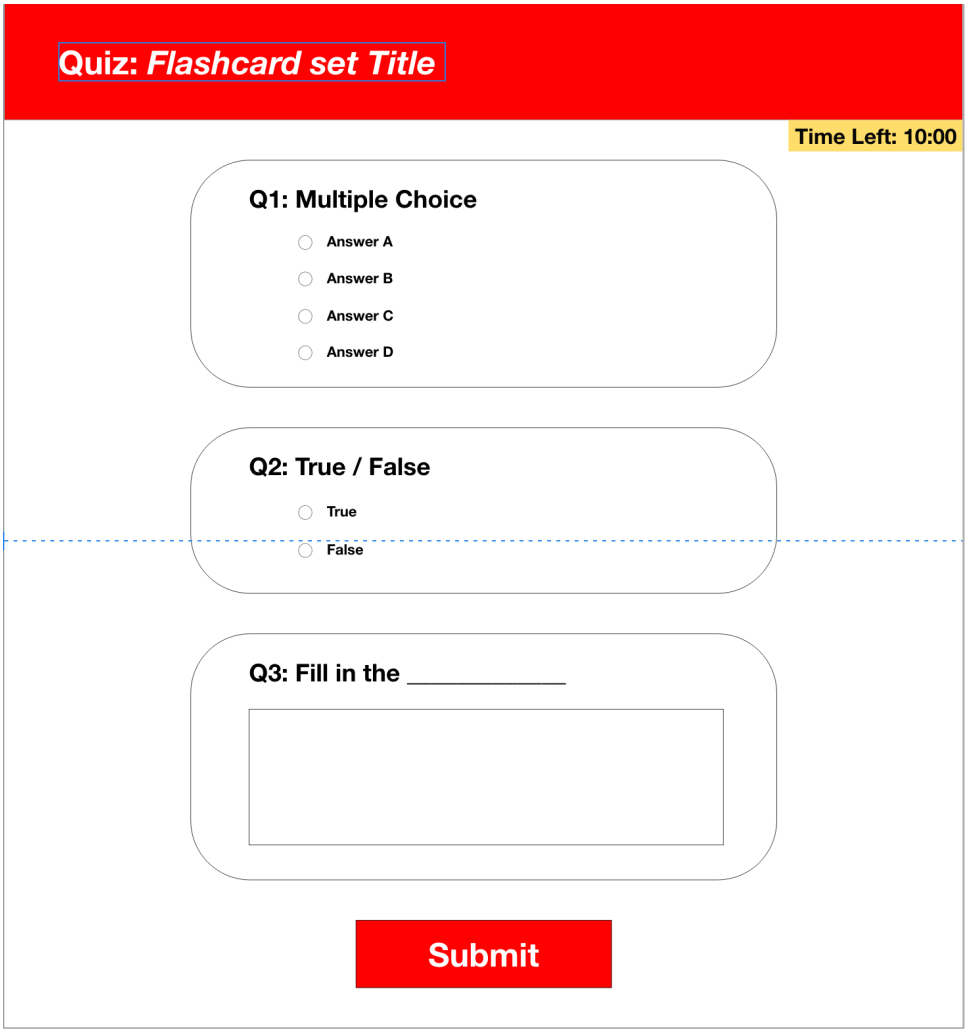
ii. First we will create a new account. Then create 3 different flashcard sets. Using postman we will check if our api to get all flashcard sets returns the corresponding 3 sets. After, we will check if our webapp correctly displays the different flashcard sets (will just be displaying titles of the sets)

e. Taking quiz

i. User can take a quiz for a set of flashcards user selected. The system will automatically generate a untimed quiz for user. After the quiz is submitted by the user, the total score and scores for each question will be stored into

the database, and the information will also display to the user.



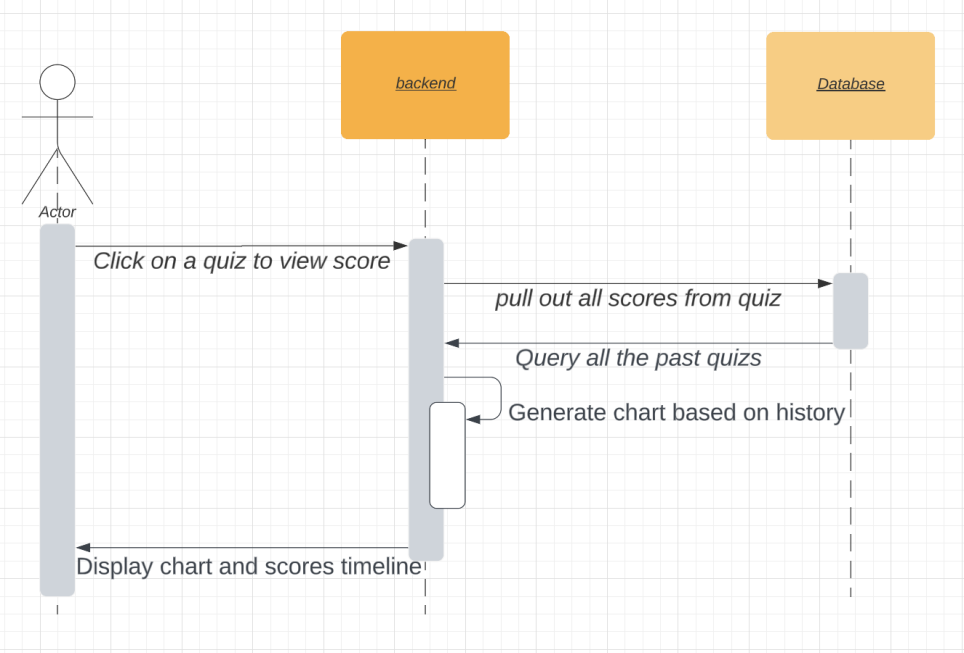


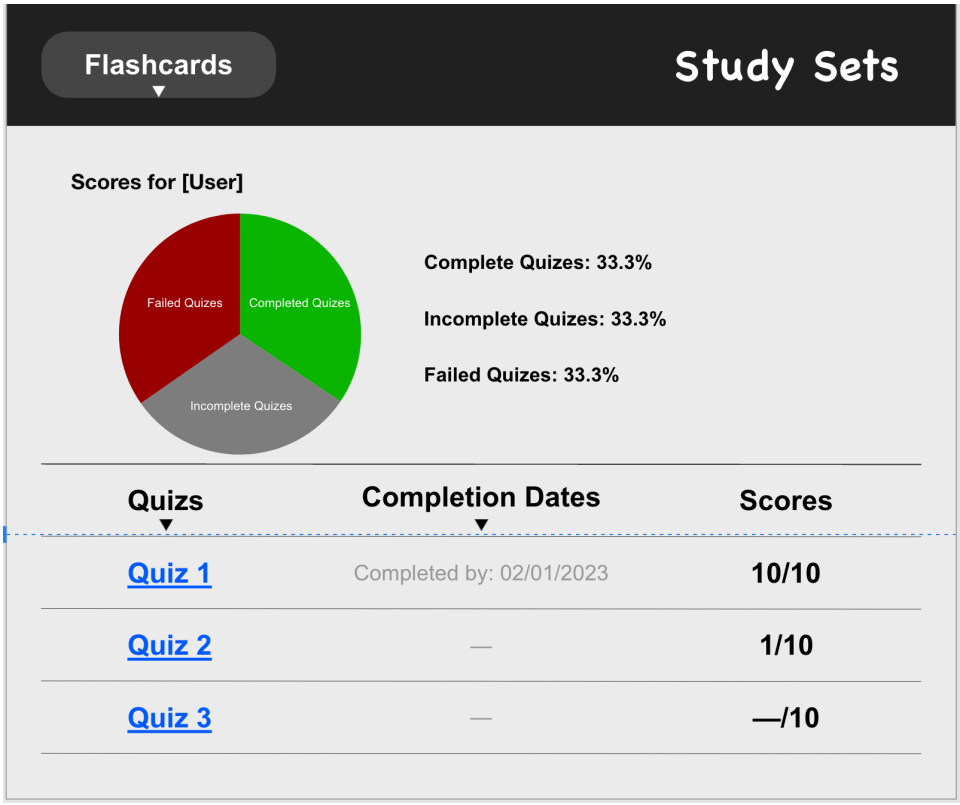
ii. Make a simple flashcard set. Take a quiz with each of the different quiz options. While taking the quiz, verify the questions and answers being asked are the way our code should be generating them. Repeat with a more complex flashcard set

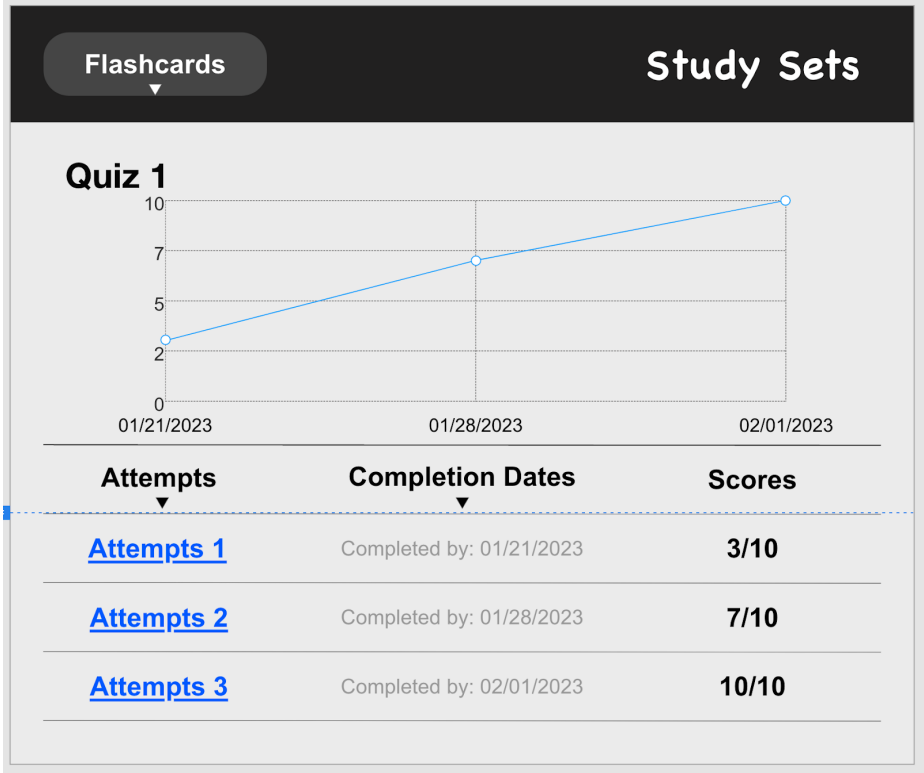
f. Viewing quiz scores

i. User can an overall scores of all quizzes. Inside the overall scores page, user can choose specific quiz to and view the timeline of that quiz. Inside the viewing timeline option, user can go deeper to view each quiz's history

such as each question with the user's response and scoring.







ii. Create a simple flashcard set. Take a quiz 7 times. Markdown scores from 7 quizzes. Using Postman, request the flashcard set data and verify those 7 quiz scores are present. View quiz score timeline on webapp and verify those 7 quiz scores are present

Major Milestones

1. Product Design Specification (3/2)
    a. Finalize project plan and feature design
2. Home Page and Basic Flashcard Demo (3/23)
    a. Home page
    b. Creating and logging into accounts
    c. Creating flashcard sets
    d. Viewing flashcards in a set
3. Quiz Demo (4/20)
    a. Form for creating a custom generated quiz
    b. Taking a quiz
    c. Viewing score timeline

4. Final Demo (5/4)
    a. Polish the UI/UX
    b. Optimizations (if necessary)
    c. Remaining bug fixes