

StudyApp project analysis

Project Description

Title

StudyApp

Description

StudyApp is an online web application designed to facilitate user engagement through various interactive exercise types such as multiple choice questions, regex exercises and flashcards. The system supports two types of users: regular users and admins. Regular users can log in to solve predefined exercises, while admins have the additional capabilities to create, edit, and assign exercises.

User Stories

User Stories & Acceptance Criteria

User Authentication & Profile Management

1. Create Account:

As a user, I want to create an account so that I can log in and access the platform.

- Given the user provides a unique username, email, and password, the system should create an account.
- If the username or email already exists, the system should show an appropriate error message.
- The password must meet defined complexity rules (e.g., minimum length, special characters).

2. Log In:

As a user, I want to log in with my username and password so that I can access my exercises.

- Given a registered user, the system should authenticate using the correct username/email and password.
- If credentials are incorrect, the system should display an error message.
- Upon successful login, the user should be redirected to the dashboard.

3. Reset Password:

As a user, I want to reset my password in case I forget it.

- Given a user who has forgotten their password, they should be able to request a password reset via email.
- A reset link should be sent to the provided email address if it is registered.
- After clicking the link, the user should be able to set a new password.

4. Update Profile Information:

As a user, I want to update my profile information (email, username, password) so that my account is up to date.

- Given a logged-in user, they should be able to update their username, email, and password.
- If a new email or username is already taken, the system should display an appropriate error.
- Successful updates should reflect immediately in the user's profile.

5. Manage User Accounts (Admin):

As an admin, I want to manage user accounts (create, edit, delete) so that I can control access to the system.

- Admins should be able to view a list of all users.
- Admins should be able to edit a user's details (username, email).
- Admins should be able to deactivate or delete a user account.

Exercise Management

6. View Assigned Exercises (User Version):

As a user, I want to view a list of all exercises assigned to me so that I can track my progress and complete them.

- Users should be able to see all the exercises assigned to them in a clear, organized list.
- Each exercise should display relevant details such as the title, due date, and status (e.g., "completed," "pending").
- The list should be easily navigable, allowing users to sort or filter exercises based on status or due date.

7. Manage Exercise List (Admin Version):

As an admin, I want to view, edit, or delete exercises from the exercise list so that I can manage the learning content for users.

- Admins should be able to see a list of all created exercises, including title, type, and difficulty.
- Admins should have the option to edit or delete any exercise from the list.
- Admins should be prompted to confirm deletion to avoid accidental removal of exercises.
- Any updates or deletions should immediately reflect in the exercise list view.

8. Create New Exercise:

As an admin, I want to create new exercises so that users can engage in learning activities.

- Admins should be able to create a new exercise by specifying the title, description, type, and difficulty.
- The exercise should be saved and visible in the list of exercises.

9. Specify Exercise Type:

As an admin, I want to specify the type of exercise (multiple-choice, flashcard, regex) when creating a new exercise.

- When creating an exercise, admins should choose from "multiple_choice", "flashcard", or "regex".
- The system should dynamically adjust the creation form based on the selected exercise type.

10. **Edit Existing Exercise:**

As an admin, I want to edit existing exercises to update or correct them.

- Admins should be able to modify the title, description, type, or difficulty of any exercise.
- Changes should be saved and reflected in the exercise details.

11. **Delete Exercise:**

As an admin, I want to delete exercises that are no longer relevant.

- Admins should be able to delete an exercise.
- The system should confirm deletion with a warning if the exercise has existing responses.

12. **Set Difficulty Level:**

As an admin, I want to set the difficulty level for each exercise (easy, medium, hard).

- Admins should be able to select the difficulty level (easy, medium, hard) for each exercise.
- The difficulty should be displayed on the exercise list and detail pages.

13. **Assign Exercises to Users:**

As an admin, I want to assign exercises to specific users so that they can complete them.

- Admins should be able to assign exercises to one or more users.
- Users should receive a notification about newly assigned exercises.
- The assignment should be visible on the users' dashboard.

Question Management

14. Add Multiple-Choice Questions:

As an admin, I want to add multiple-choice questions and specify the options and correct answer(s).

- Admins should be able to enter a question prompt and add a list of options.
- Admins should specify the correct option(s) for evaluation.
- The options should be stored in a JSON format.

15. Create Flashcard Questions:

As an admin, I want to create flashcard questions where users can see front and back content.

- Admins should be able to add a front and back text for flashcard-type questions.
- Flashcards should be linked to a parent question.

16. Create Regex Exercises:

As an admin, I want to create regex exercises where users submit regex patterns to match specific criteria.

- Admins should be able to define a set of match strings and non-match strings.
- The system should store this data in JSON format.

17. **Edit Questions:**

As an admin, I want to edit questions to improve clarity or fix mistakes.

- Admins should be able to edit the text, options, or correct answers of existing questions.
- The system should reflect changes immediately.

18. **Delete Questions:**

As an admin, I want to delete questions that are no longer needed.

- Admins should be able to delete questions.
- If a question has user responses, the system should show a warning before deletion.

Exercise Assignment & Tracking (Admin)

19. **View Users & Assign Exercises:**

As an admin, I want to view a list of all users and assign exercises to them individually or in bulk.

- Admins should see a list of users with checkboxes to select for assignment.
- Admins should be able to assign one or more exercises to selected users.

20. **Track User Progress:**

As an admin, I want to track the progress of users on their assigned exercises.

- Admins should be able to see a list of users along with their progress on assigned exercises.
- The progress should show the number of exercises completed vs. pending.

21. **View User Performance:**

As an admin, I want to see user performance on exercises, including correct and incorrect answers.

- Admins should be able to view detailed performance data for each user.
- For each exercise, the system should display the number of correct and incorrect answers.

User Interaction with Exercises

22. **View Assigned Exercises:**

As a user, I want to view a list of assigned exercises so that I can see what I need to complete.

- Users should see a list of assigned exercises.
- Each exercise should display its type, difficulty, and status (completed or pending).

23. **Filter Exercises:**

As a user, I want to filter exercises based on their type (open, multiple-choice, flashcard, regex) so I can focus on specific kinds of exercises.

- Users should be able to filter exercises by type, status, or difficulty.
- The filtered list should update dynamically.

24. **Answer Multiple-Choice Questions:**

As a user, I want to answer multiple-choice questions by selecting one or more options.

- Users should be able to select one or more options and submit their answer.
- If the answer is incorrect, the system should provide feedback and the correct answer.

25. Interact with Flashcards:

As a user, I want to interact with flashcards by flipping between front and back content.

- Users should see flashcards one at a time and be able to flip them.
- Users should be able to mark flashcards as "learned" or "not learned".

26. Submit Regex Patterns:

As a user, I want to submit a regex pattern for regex exercises and receive feedback on whether it matches the required conditions.

- Users should be able to submit a regex pattern and view the results.
- The system should display if the pattern matches the required strings.

27. Receive Feedback:

As a user, I want to receive feedback on whether my responses were correct or incorrect after submission.

- After submitting answers, users should see whether their responses were correct.
- For regex exercises, feedback should show which strings matched and which did not.

28. View Exercise Progress:

As a user, I want to see my progress on exercises, such as which ones I've completed and which ones are pending.

- Users should be able to see their completion status for each exercise.

29. Reattempt Exercises:

As a user, I want to reattempt exercises after receiving feedback (if allowed by the admin).

- If allowed, users should be able to reattempt exercises and update their responses.