**Project Overview**

**CloudQuizzer** is a quiz application that allows users to test their knowledge on cloud certifications, offering timed quizzes, result tracking, and a screen of incorrect questions.

GitHub Link: <https://github.com/abdo-essam/Cloud_Quizzer_App>

**Key Technologies:**

**SQLite (sqflite):** Used for local data storage, allowing the app to save user progress, scores, and bookmarked questions. This database solution provides a structured way to store and retrieve data on the device.

**Google Fonts:** Provides access to a wide array of custom fonts that enhance the app’s visual style and make it more engaging. These fonts are integrated seamlessly into the app’s design.

**Flutter ScreenUtil:** A utility for handling screen responsiveness. It allows for consistent sizing and layout on different screen sizes and orientations, improving the app's usability across various devices.

**Flutter Timer Countdown:** Manages countdown timers, especially useful for timed quizzes. This package allows precise timer controls for quiz sessions, ensuring accurate tracking of time limits.

**Percent Indicator:** Used for progress bars and circular indicators within the app. This helps to visually convey the user's progress in a quiz or the completion status of an activity.

**Flutter Bloc:** A state management library that provides a predictable and testable way to handle app states. Bloc is particularly useful for managing the state of quizzes, bookmarks, and user settings throughout the app.

**Lottie:** Adds animation capabilities to the app by allowing the use of Lottie animations. This enhances the user experience by adding visual appeal to certain app actions and states.

**Google Nav Bar:** A customizable bottom navigation bar, improving navigation between key sections like Home, History, and Bookmarks, thus enhancing the app's usability and user experience.

**Features:**

1. **Quiz Navigation:**
   * Supports smooth and intuitive navigation through quizzes using google\_nav\_bar.
2. **Countdown Timer:**
   * Provides a timer for quizzes using flutter\_timer\_countdown to enforce time limits on quizzes.
3. **Progress Indicator:**
   * Shows quiz progress using percent\_indicator, allowing users to track their completion rate within a quiz.
4. **Responsive Design:**
   * Utilizes flutter\_screenutil to adapt to different screen sizes and orientations, ensuring a consistent experience across devices.
5. **Custom Fonts and Animations:**
   * Leverages google\_fonts for typography customization and lottie animations to enhance user engagement and interactivity.
6. **Local Storage:**
   * Stores user data, such as quiz scores and question details, locally using sqflite, enabling offline access and quick retrieval of data.
7. **State Management:**
   * Manages app state efficiently with flutter\_bloc, improving performance and allowing scalable code structure.

**Future Features:**

1. **History Score Tracking:**
   * Users will be able to view their past quiz scores and track performance over time, helping them understand progress and areas for improvement.
2. **Bookmark Questions:**
   * Users can bookmark specific questions for review or quick access later, aiding in focused study sessions.
3. **Question Explanations:**
   * Each question will have a detailed explanation available after completion, providing users with valuable insights into correct answers and underlying concepts.
4. **Custom Exams:**
   * Users will have the option to create custom exams by specifying the number of questions and setting a timer, allowing for a tailored quiz experience.