TOKEN TRIVIA

(Android and IOS based app)

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DESCRIPTION:

Token Trivia is a dynamic quiz app designed to make learning fun, competitive, and rewarding! Built to encourage new users to niche techstacks where users can learn as well as earn Aptos tokens.

OBJECTIVE:

Main objective of this Quiz Application is to create an educational platform that allows users to learn new techstacks and get a basic idea about the techstacks which are not yet explored by the user . It becomes more engaging when the user gets rewarded with Aptos tokens with each passing quiz which can be used to unlock new quizzes .

Key objectives include:

1. **Engagement:** Provide an interactive experience with quizzes, challenges, and game-like features to keep users engaged and excited to learn.
2. **Knowledge Enhancement:** Offer diverse quiz topics covering a wide range of interests, enabling users to learn new facts and broaden their knowledge.
3. **Aptos Token Rewards:** Motivate users with Aptos token rewards for participation, achievements, and leaderboard standings, adding a unique value to their learning experience.
4. **Accessibility and Usability:** Ensure a user-friendly design that makes learning and participating in quizzes easy and enjoyable for users of all backgrounds.
5. **Community Building:** Foster a sense of community through leaderboards, social sharing, and multiplayer modes, allowing users to connect and learn together.

TECHNOLOGIES USED:

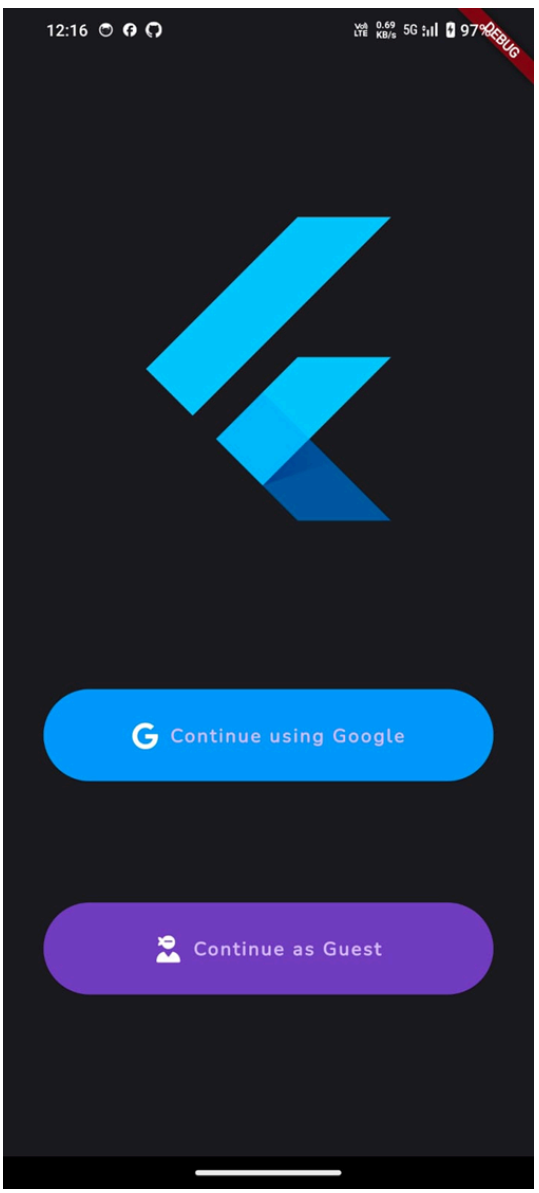
FRONTEND- used Flutter for building the user interface.

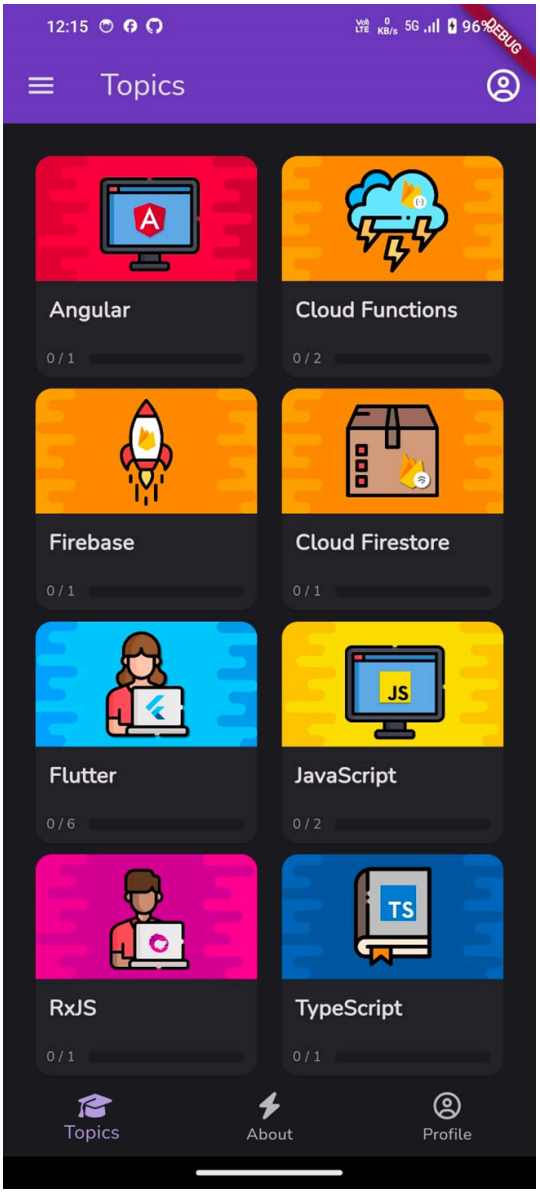
BACKEND- used MOVE programming language

BLOCKCHAIN INTEGRATION: The app utilises the Aptos blockchain for rewarding users with Aptos tokens. The Aptos wallet is integrated to facilitate transactions.

USER WORKFLOW:

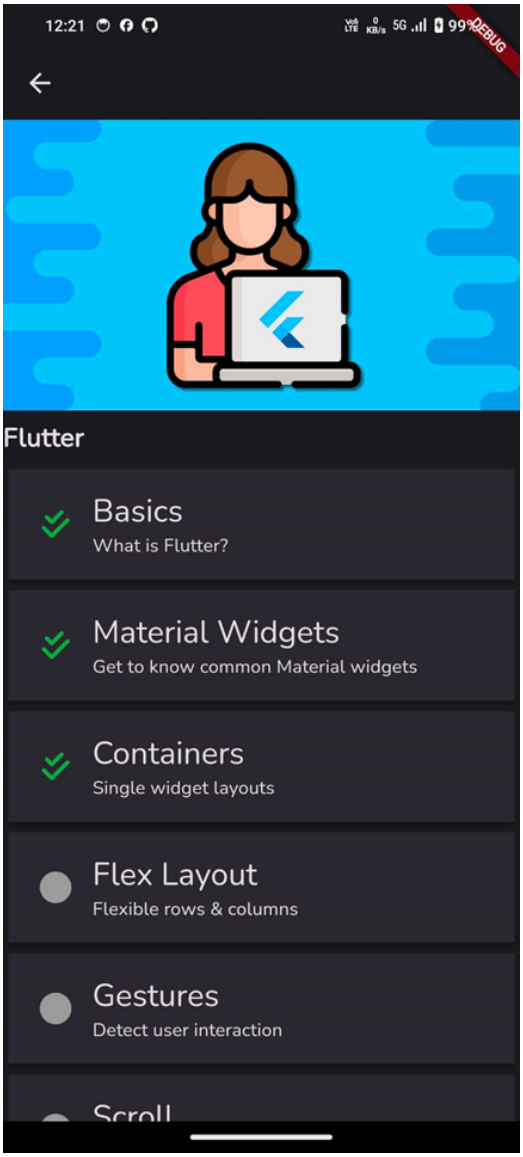
1. Users can sign up using their Google accounts or log in as a guest. After signing up, they'll fill in some basic details and then choose from a variety of tech stack or blockchain-themed quizzes.



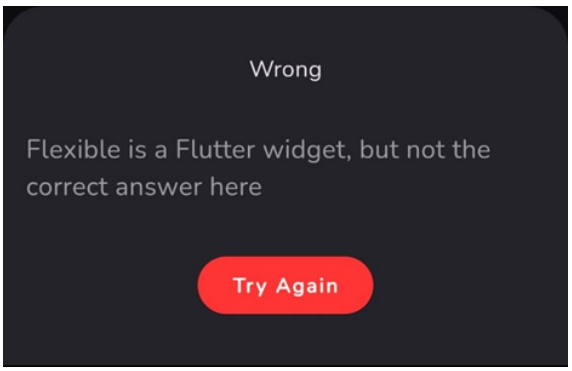


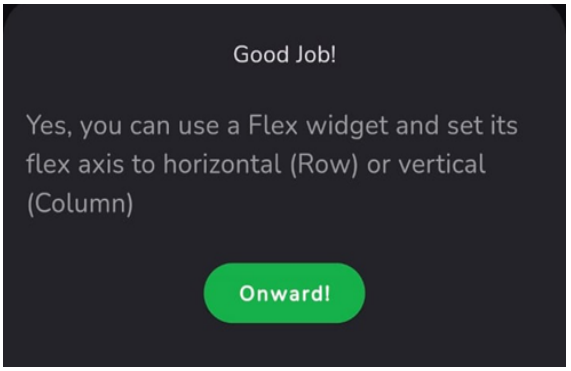
2. Users can start by attempting some free quizzes, but for a more challenging experience, they have the option to

purchase high-difficulty quizzes that require more advanced thinking.



3. Answering these premium quizzes correctly gives users the opportunity to earn tokens back.





How Flutter Was Used in the Project ?

1. **UI Design:**
    - The app’s user interface was built using **Flutter's widget-based system**, which allows for the creation of custom widgets to fit our specific design needs.
    - **Material Design** components were used to create a consistent, modern UI with intuitive navigation. We also customise the default Flutter widgets to fit the branding and theme of the app.
    - "We used **ListView**, **GridView**, and **Card** widgets to display quiz categories and questions. Flutter's **AnimatedContainer** was also used for smooth transitions between quiz stages."
2. **State Management**:
    - Flutter's **Provider** package was used to manage the app’s state, ensuring that user data, quiz progress, and token earnings were updated in real-time.
    - "We used **Provider** to handle the state of the quiz, including tracking the user's score, managing their quiz attempts, and updating the leaderboard dynamically."
3. **Navigation**:
    - Flutter's **Navigator** system was used to manage the app's routing and navigation between different screens (e.g., home screen, quiz screen, leaderboard, user profile).

- "We implemented **Flutter's Navigator** to ensure smooth transitions between the main quiz interface, results, and user profile screens."

4. **Integrating Firebase**:
   - **Firebase** was integrated with Flutter to handle user authentication, quiz data storage, and real-time syncing of user progress.
   - We used **firebase_auth** for handling user sign-ins and **cloud_firestore** to store and retrieve user data (e.g., quiz scores, token balance).
   - "Using **Firebase with Flutter** allowed us to quickly set up authentication, store quiz data, and manage user profiles with minimal backend development."
5. **Flutter and Blockchain Integration (Aptos)**:
   - Flutter was used to interact with the Aptos blockchain for managing token rewards. We made API calls to the blockchain network to track users' rewards and update their token balance.
   - "The app utilises **Flutter's Aptos SDK/ Dart package** to communicate with the Aptos blockchain API. We used JSON parsing to send and receive blockchain data related to token transactions and smart contracts."

How Move Was Used in Token Trivia ?

In the **Token Trivia** app, Move was used to design the smart contracts that manage the **issuance and transfer of Aptos tokens** based on user actions, such as answering quiz questions correctly. Here's a breakdown of how we implemented Move in the app:

Creating Smart Contracts for Token Rewards:

The core functionality of the app is centered around rewarding users with **Aptos tokens** for correct answers. To implement this, we wrote Move smart contracts to handle token transfers securely and manage user balances.