

Final Project: Trivia Application

Android Gang

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Course Code: 2803 Special Topics MAD

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Application Goals

Introduction

Our application fills the gaps in the current education system by providing necessary life skills that are not being taught in a typical classroom setting. These skills include financial literacy, health and wellness, and internet safety. The application keeps the user engaged, while also making our teenage target audience more ready to make the transition from a teenager to an adult. The application is relaxing to play due to the ability to change background and transitions/animation.

For our introduction screen, we have a login activity screen consisting of username edit-text, password edit-text, registration button, and submit button. First-time users can create their account by entering username and password and clicking the registration button; clicking the login button will cause an error message if they are not already in the database. If the entered information was found in the database and a login process has been successfully processed, the user will be taken to the homepage activity screen. The homepage activity screen includes buttons for three categories of questions, which will allow the users to start the trivia for the selected category. The screen also includes buttons that will take the user to the leaderboard, my score, background setting, and log-out session. Our group has implemented 16 activities and 1 fragment, which uses parameters to decide which information is displayed.

Answering Trivia Questions

Our main focus was to provide users with a fun experience by allowing them to select and answer trivia questions in a variety of ways. In particular, we randomized the style of play by implementing lightning rounds for multiple choice questions to incentivize quick thinking and true/false questions. We have used basic Android components like TextView, and Buttons to display each question and corresponding answer choices or true/false. The app will randomly generate a question based on the ratio of true/false to multiple-choice questions from a string file, and the user can simply select their answer by clicking one of the buttons. For example, **Feature 1**, shows a question with 4 answer choices. If they selected a correct answer it will show a new screen with the question and the answer they selected with the next question and quit button in the green background as shown in **Feature 2**. On the other hand, if they choose the wrong answer, it will show a new screen with the question, the answer they selected, the correct answer, with the next question and quit button in the red background as shown in **Feature 3**. In the case

where the user decided to quit the game, they can click the quit button to redirect themselves to the homepage activity. To implement this, we decided to pass the category, correct answer, selected answer, and question as parameters using `intent.putExtra()` function between activities to check whether it is a correct answer or not.



Feature 1.

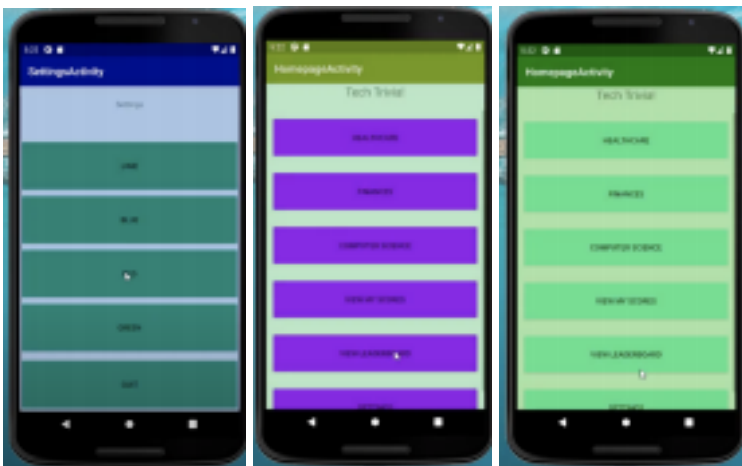
Feature 2.

Feature 3.

Customizing backgrounds and themes

Our goal is to enhance the user experience by allowing users to control their interaction. In particular, we will provide a feature that allows users to make their own selections of the background. We allowed a user to change the background color from the provided color palette in the settings tab. We specifically choose to include lime, blue, red, and green since they are consisting of colors that are used for learning situations to enhance cognitive skills and improve brain function as well as colors that are adapted for colorblindness. The users can change their background color by clicking the settings button and selecting the color they want. Once the color is selected, they will be redirected to the homepage screen with a new background color with the message “New Color Theme: nameOfTheColor”. Their shared preferences are associated with their account meaning that the selected color theme will stay in the shared

preferences even if a user logs out and logs back into the app. When a new activity is being called, every class refers back to the color value that is saved in shared preferences to apply the color theme. We used `setOnClickListener` and `Intent` to apply styles to `ContentView`. We also added an animation to smooth the transition of color changing. **Feature 4, Feature 5.** and **Feature 6** are examples of some different color themes.



Feature 4.

Feature 5.

Feature 6.

Viewing and updating leaderboards / My Score

This activity makes the app competitive. The users will be able to see where they stand against other users. The fragment takes in a parameter based on the button clicked, which decides what leaderboard is displayed. The title is also set. The leaderboard is updated based on how well the user answered questions, and how many they got correct.

Conclusion

Everyday we interact with our finances, activities which affect our health, and technology. During these engagements, it is important for us to make smart decisions which will affect our future. Our application is presented in a way that will help users make better decisions

focused on these aspects in life while keeping them entertained. We include animations to help grab our audience's attention while keeping them informed about these pivotal aspects of life. However, this application is not all encompassing. Rather, we create and foster a learning experience which will enhance each user's breadth of understanding surrounding finance, health, and security. It is our hope that with this application, users will build the motivation to seek out additional resources to further their knowledge in each subject area.