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AnimeChat: An Android Chat Application with Anime Characters

Introduction

In the realm of mobile applications, chat applications have always held a significant place. With the advent of AI, these applications have evolved beyond simple text exchanges between users. The project, AnimeChat, is an innovative Android application that leverages the power of AI to allow users to engage in text-based conversations with anime characters. The application aims to provide a unique and engaging experience for anime fans, allowing them to interact with their favorite characters in a novel way.

Project Idea

The core idea behind AnimeChat is to create an immersive chat experience where users can interact with AI-powered anime characters. The application uses OpenAI's ChatGPT model to simulate the responses of the anime characters. This powerful language model has been trained on a diverse range of internet text and can generate human-like text based on the input it receives. By integrating this model into the application, AnimeChat can simulate engaging and realistic conversations with anime characters.

To provide a wide range of characters for users to interact with, the application uses the Jikan API. This API provides a comprehensive database of anime characters, allowing users to search for and select their favorite characters to chat with.

Status of Development

The development of the AnimeChat application is currently in progress. The application has been structured using the Model-View-Controller (MVC) architectural pattern, ensuring a clean separation of concerns and facilitating easier maintenance and scalability.

The application currently includes several key features:

1. Character Selection: Users can search for their favorite anime characters using the Jikan API. The search results are displayed in a RecyclerView, allowing users to easily scroll through the list of characters and select the one they wish to chat with.

2. Chat Interface: Once a character is selected, users are taken to a chat interface where they can engage in a conversation with the character. The chat interface is designed to be user-friendly and intuitive, with messages displayed in a RecyclerView for easy scrolling.

3. Recent Conversations: The application also includes a feature to save recent conversations. This is implemented using SharedPreferences, a simple mechanism provided by Android for storing small amounts of data. This allows users to quickly access their most recent chats when they open the application.

4. Background Loading: The application uses the Picasso library for efficient image loading and caching. This ensures that character images are loaded smoothly in the background without affecting the app's performance.

5. Data Handling: The Gson library is used for handling JSON data. This ensures efficient data parsing when interacting with the Jikan API and storing recent conversations.

App Components

The AnimeChat application is composed of several key components:

1. Activities: The application includes a main activity for character selection and a chat activity for individual conversations. These activities serve as the main user interfaces of the application.

2. RecyclerView: Two RecyclerViews are used in the application. One is used to display the list of anime characters in the main activity, and the other is used to display the chat messages in the chat activity.

3. SharedPreferences: SharedPreferences is used to store and retrieve recent conversations. This allows the application to remember the user's recent chats and display them when the application is opened.

4. External Libraries: The application utilizes several external libraries to enhance its functionality. These include Picasso for image loading, Gson for JSON handling, and the OpenAI API for generating AI-powered chat responses.

Future Work

While the current version of the AnimeChat application is functional and includes several key features, there are several areas for future development. These include refining the user interface, improving the chat functionality, and adding additional features such as the ability to customize the appearance of the anime characters. Additionally, extensive testing will be conducted to ensure a smooth and engaging user experience

App Workflow

The following sequence diagram illustrates the workflow of the AnimeChat application:
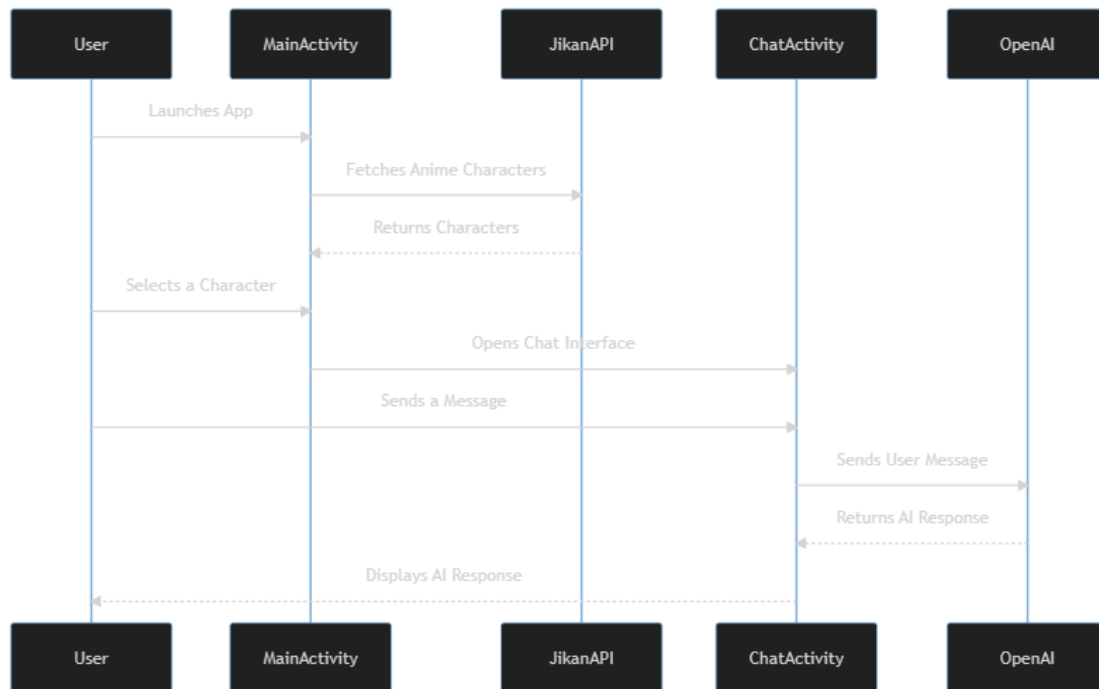
References

- OpenAI. (2021). ChatGPT. [Online]. Available: https://openai.com/research/chatgpt
- Jikan. (2021). Jikan API. [Online]. Available: https://jikan.moe/
- Google. (2021). SharedPreferences | Android Developers. [Online]. Available: https://developer.android.com/reference/android/content/SharedPreferences
- Square. (2021). Picasso. [Online]. Available: https://square.github.io/picasso/
- Google. (2021). Gson. [Online]. Available: https://github.com/google/gson
- Android. (2021). RecyclerView | Android Developers. [Online]. Available: https://developer.android.com/reference/androidx/recyclerview/widget/RecyclerView
- Android. (2021). Activities | Android Developers. [Online]. Available: https://developer.android.com/guide/components/activities/intro-activities

This report has provided a comprehensive overview of the AnimeChat application, including its core idea, current status of development, key components, and future work. The application represents a novel integration of AI and mobile technology to create an engaging chat experience for anime fans. As development continues, the application is expected to provide an increasingly immersive and enjoyable user experience.

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Github repo: **https://github.com/TYPW1/AnimeChat.git**