

Use AI In Flutter Application

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Abstract

The use AI in flutter application integrating AI capabilities into flutter applications can greatly enhance their functionality and user experience.

Use AI in flutter there are the different ways to connect AI to the flutter application Choose AI services, determine what AI capabilities you want to integrate into flutter app there are different things are include that natural language processing(NLP), computer vision, speech recognition, recommendation systems.

There are different AI platform or libraries there are several AI platform and libraries available that offer APIs or SDKs for integrating AI into mobile applications. Tensorflow Lite that contain Google's machine learning framework for mobile support for flutter. MLKit for firebase that contain text recognition, image labeling and more.there are the different AI services into flutter Add dependencies,initialize services, implement functionality, handle response.

INTRODUCTION

The use of AI in flutter application first step is to choose AI services that include natural language processing(NLP), computer vision, speech recognition, recommendation systems are also include to connect the AI with flutter application.

The second step is to select the AI platform or libraries there are different AI platform and libraries available there are some popular options are available is TensorFlow Lite, ML kit for firebase , OpenAI API offer powerful natural language processing capabilities for tasks like text generation, language translation, sentiment analysis. Custom APIs or models you can train your own model using platforms like Tensorflow or PyTorch and deploy them using frameworks like tensorflow lite or tensorflow.js.

Integrate AI services into flutter these is the third step in these step add few things Add dependencies add necessary dependencies to your flutter project for interacting with the AI services. initialize the services, handel responses.

the some AI services and platform that integrate in your flutter application is Google Cloud Vision API,Google Cloud Natural Language,Google Cloud Speech-to-Text an Text-to-Speech APIs-convert speech to text and vice versa enabeling voice-enabled interactions in your flutter app.

LITURATURE SURVEY/BACKGROUND

AI is a powerful tool to implement the operations easy to the flutter application. flutter can be provide a single codebase for to develop the application using flutter there is no need to write UI part and integration part are seprete flutter can provide a single codebase to the user.

Using the AI in flutter app enhance the user experience AI is a powerful feature and personalized the user experience, AI can provide predictive text input, and intelligent search capabilities, user can be satisfied using the AI in flutter app.

Improve the decision making Flutter apps can make data-driven decisions in real-time. This helps users make informed choices and improves the overall quality of decision-making processes. They can provide accessibility AI-powered accessibility features, such as voice commands and image recognition for visually impaired users, can make Flutter apps more accessible to a wider range of users, including those with disabilities.

They can provide efficient resource utilization AI models optimized for mobile devices, such as TensorFlow Lite models, consume fewer resources and run efficiently on smartphones and tablets. This ensures that AI-powered features do not compromise app performance or drain device battery excessively. They can provide privacy and security Consider privacy and security implications when handling user data within AI-powered features. Implement measures to protect user privacy and ensure compliance with data protection regulations.

Easy to design the user interface Design intuitive user interfaces that incorporate AI features seamlessly into the app. Consider user interactions with AI-powered components and ensure a cohesive user experience across different devices and screen sizes.

PROPOSED SYSTEM

Google Lense:

Using google lense identify the objects and places bridging the gap between real and digital world.

Vivafit:

Vivafit is a fitness app that is created using flutter and AI that transcends static workout plans by using AI and CV to provide a new level of home fitness experience based on dancing, fun, and positive emotions.

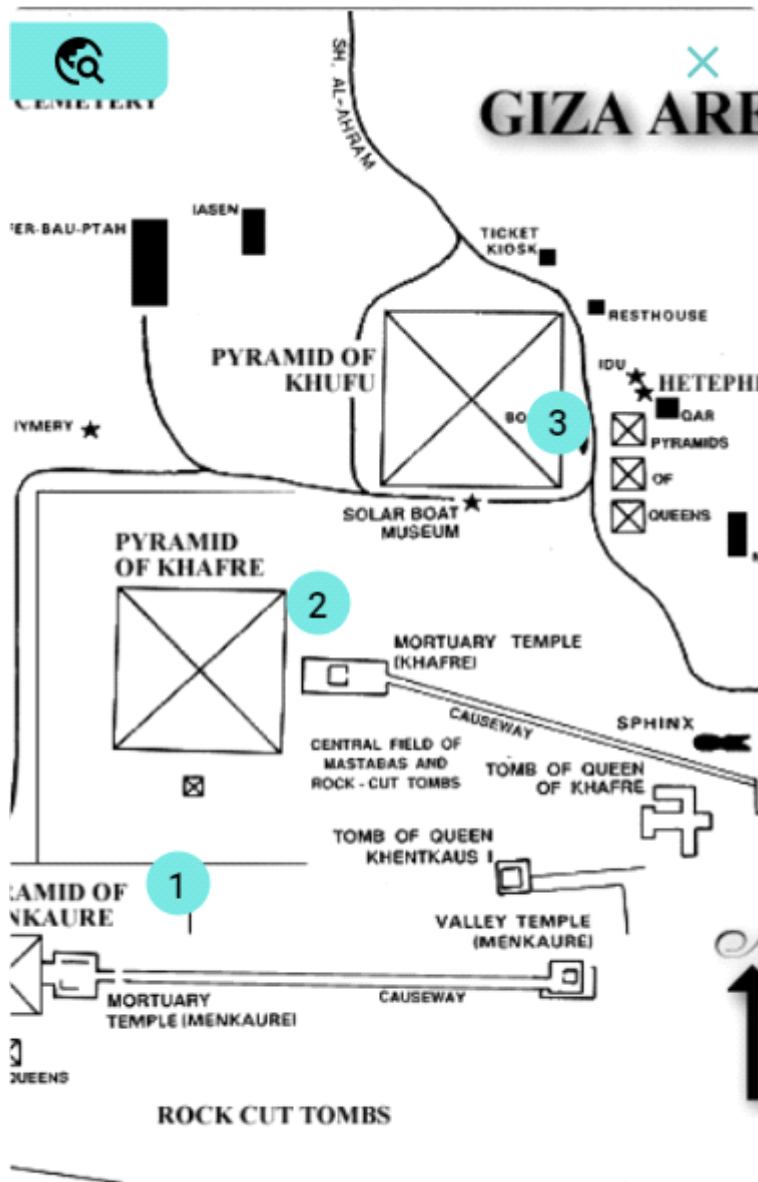
Amazon Lex:

Using that create a conversational interface that feel like human.

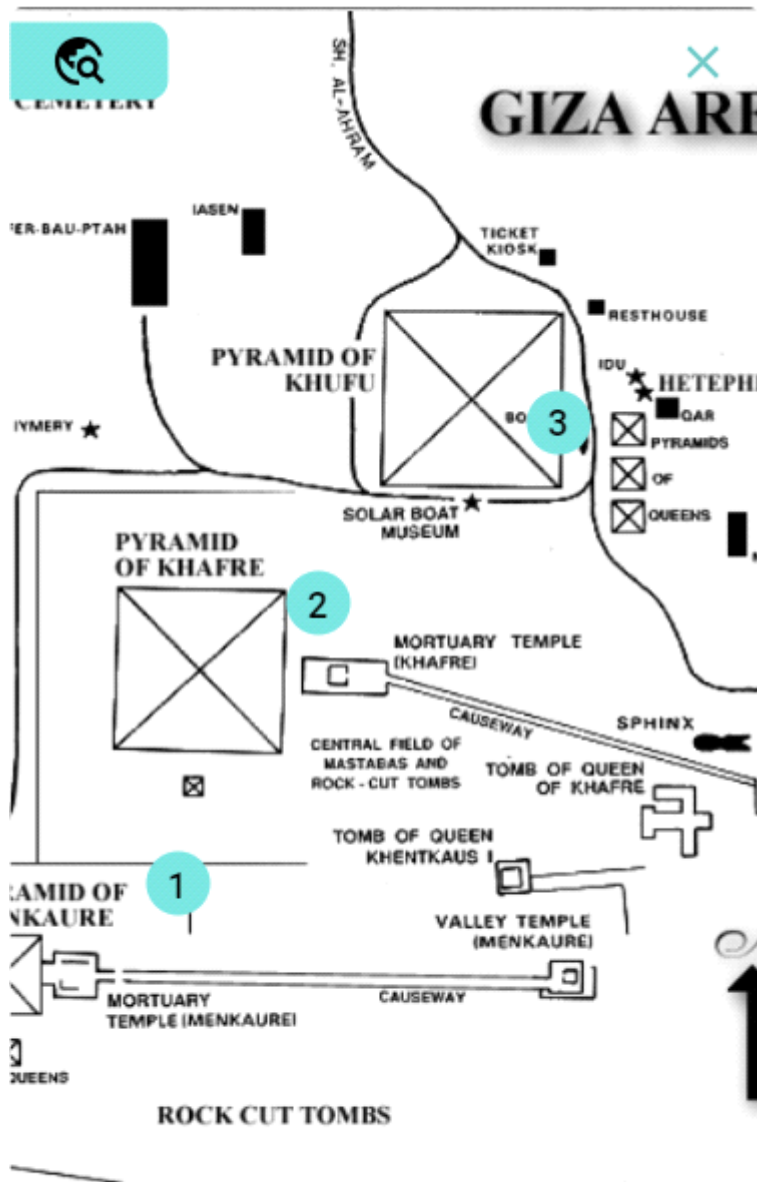
Chatboat:

chatboat is AI based application that generate the fast response of the user using chatboat application. these is a more powerful AI tool

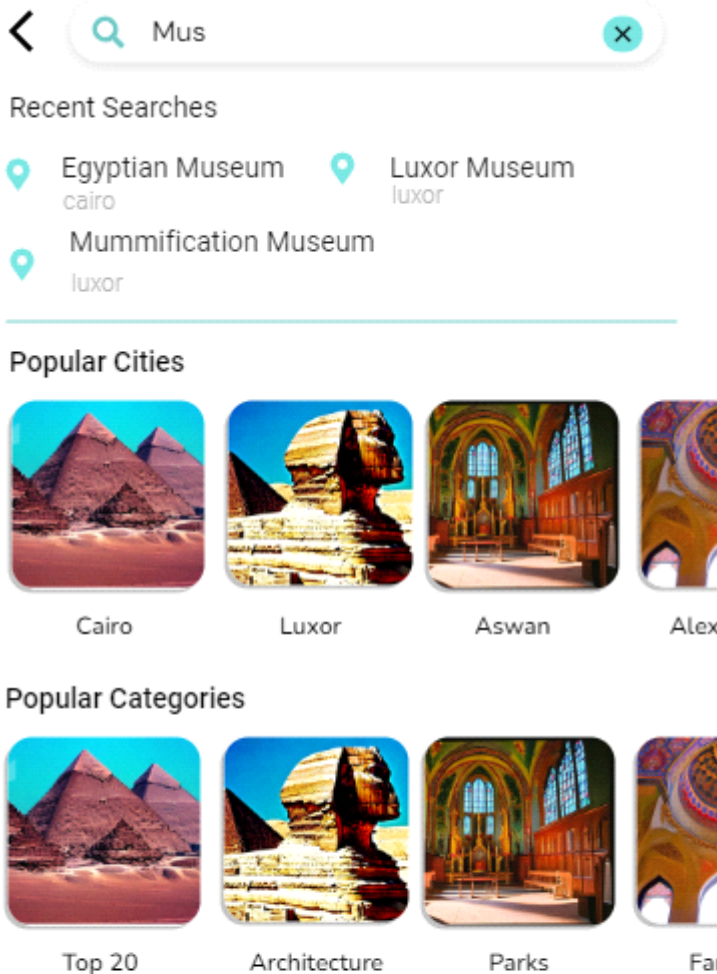
By using flutter with AI created some application given below:



< 1 Main Entrance >



< 2 Pyramid of Khafre >



RESULT AND DISCUSSIONS

Improved performance of app:

- Using flutter with AI help to improve the performance of the app.

Multi-Language support:

- these is helpful for multi language support, enhance the efficiency of flutter app.

Personalization:

- The application enhance to provide personalized recommendation or response based user preferences interactions.

Acessibility:

- using AI with flutter app the application make it improve acessibility to the user easily.

Security and Privacy:

- they can provide a security also, encryption of user data or two step authentication of user.

CONCLUSION

By integrating the AI with flutter, the created application not only visually appealing but also intelligent. It can help in personalizing user experience, automating tasks, providing insightful analytics, and much more. the mobile application development the flutter has emmerged game changer, the flutter has ability to create beautiful, high-performance, and platform-independent applications has won the hearts of developers worldwide. As developers harness the capabilities of AI, they're poised to deliver apps that are not only smart and responsive but also deeply immersive and personal. For developers seeking to stay ahead of the curve, adopting Google Generative AI within the Flutter ecosystem is not just an opportunity; it's a quantum leap toward building the next wave of revolutionary mobile applications that think, learn, and adapt.

REFERECS

- [1] Kumar, D., 2019. "Flutter" To Build iOS & Android Apps. [Blog] Medium. Available at: <https://levelup.gitconnected.com/flutter-to-build-iosandroid-apps-f8786d6fe987>, Accessed on: Sep. 26, 2020
- [2] Martin, S., 2019. Why Flutter Has Become the Best Choice to Develop A Startup Mobile App In 2020? [Blog] Medium. Available at: <https://medium.com/flutter-community/why-flutter-has-become-the-best-choice-to-develop-a-startup-mobile-app-in-2020-5785ea153b13#:~:text=Firstly%2C%20Flutter%20allows%20developers%20to,to%20work%20on%20multiple%20interfaces>, Accessed on: Sep. 30, 2020.
- [3] "Mastering Firebase for Android Development: Build Real-time, Scalable, and Cloud-enabled Android Apps with Firebase" by Ashok Kumar S[Book].
- [4] "Firebase Cookbook: Over 70 Recipes to Help You Create Real-time Web and Mobile Applications with Firebase" by Houssein Yahiaoui [Book].
- [5] A, Upadhyay A, Sabitha AS, Bansal A, White B, Cottrell L. Implementation of PingER on Android Mobile Devices Using Firebase. In 2020 10th International Conference on Cloud Computing, Data Science & Engineering (Confluence) 2020 Jan 29 (pp. 698-703). IEEE.