AI Chatbot And Image Creator

An Android App Using Flutter
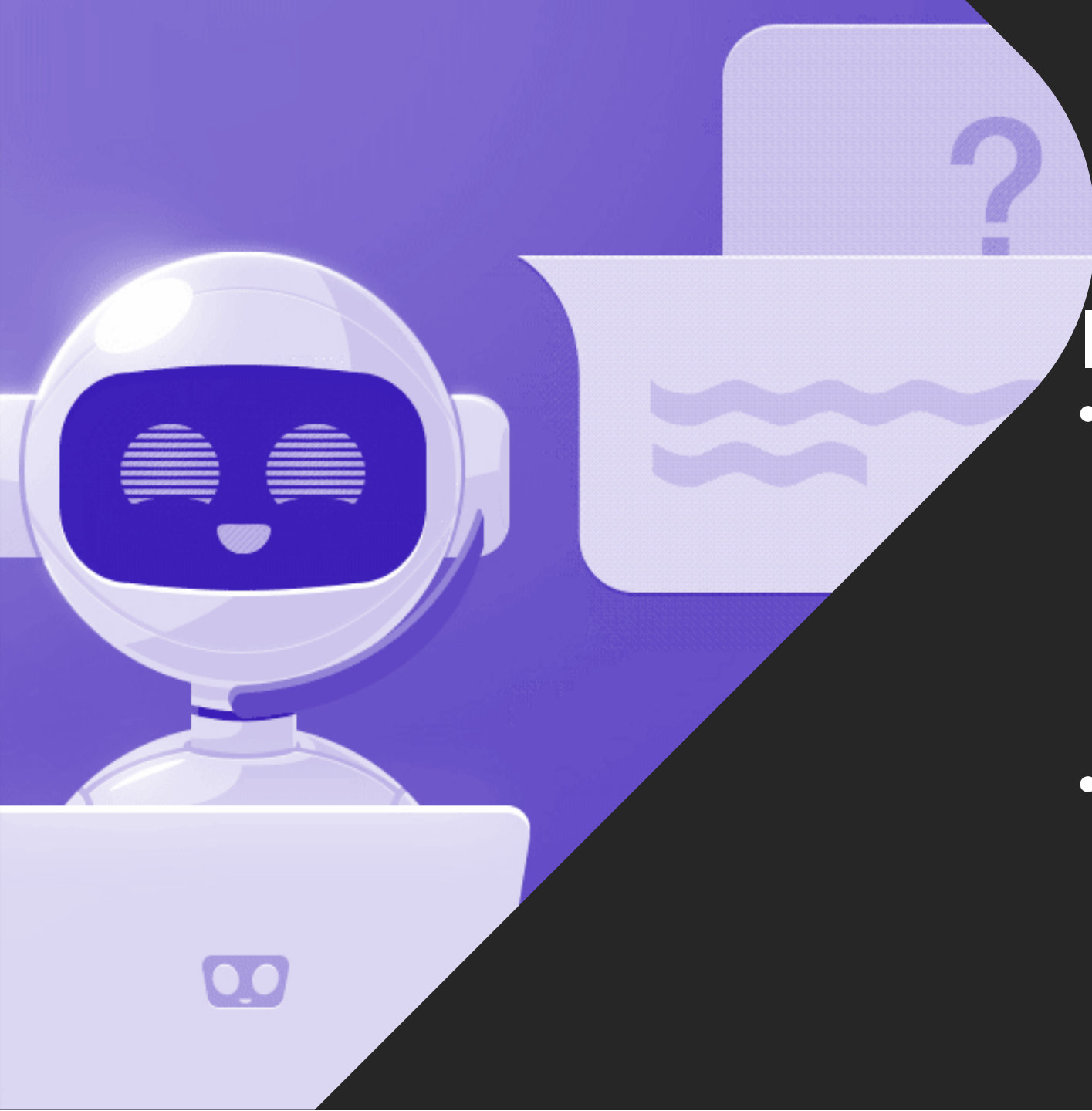
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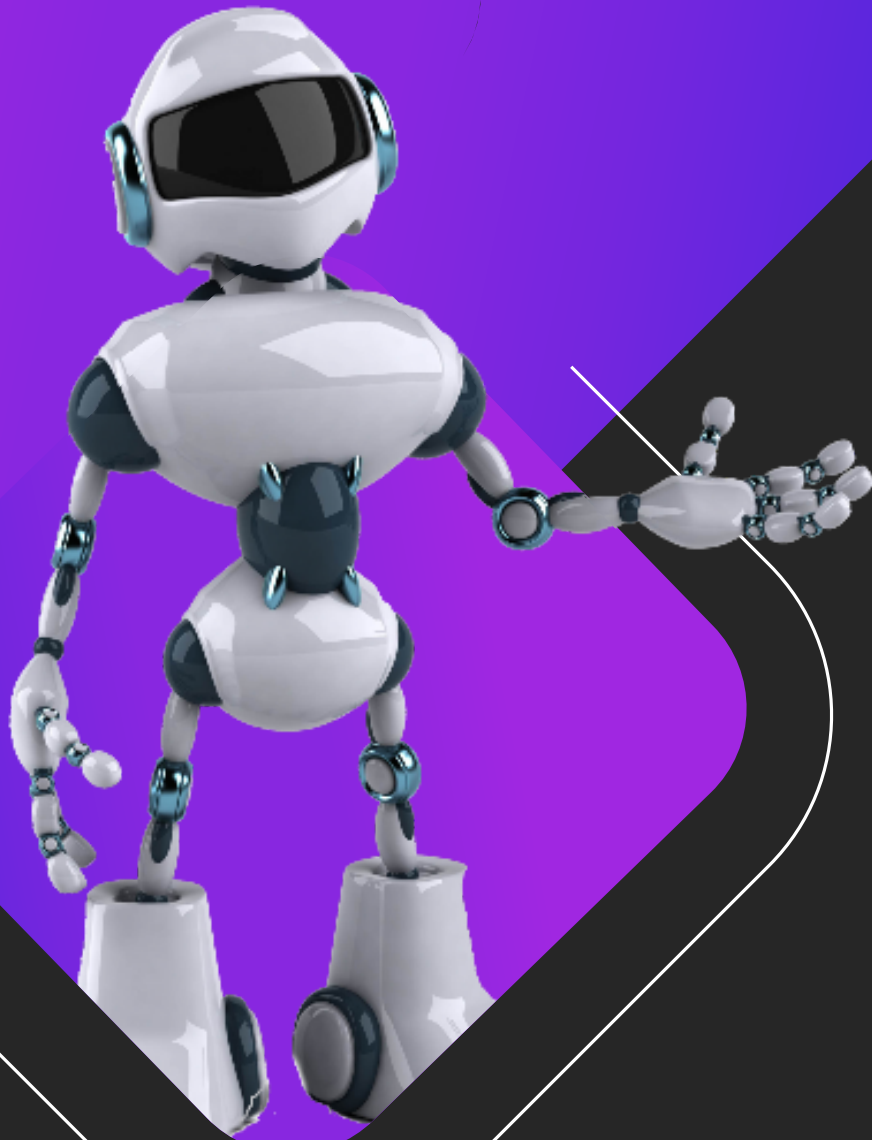
08/11/2024   Prof Vaheetha Salam

Introduction

- **AI Chatbots are computer programs that simulate human conversation, using artificial intelligence to interact with users and provide assistance.**

- **This project involves developing an Android app that integrates an AI chatbot and an image generator.**

Key Features

01. **Chatbot Capabilities**

- Understands and responds to user queries.

- Maintains context during interactions.

- Adapts responses based on user preferences and history.

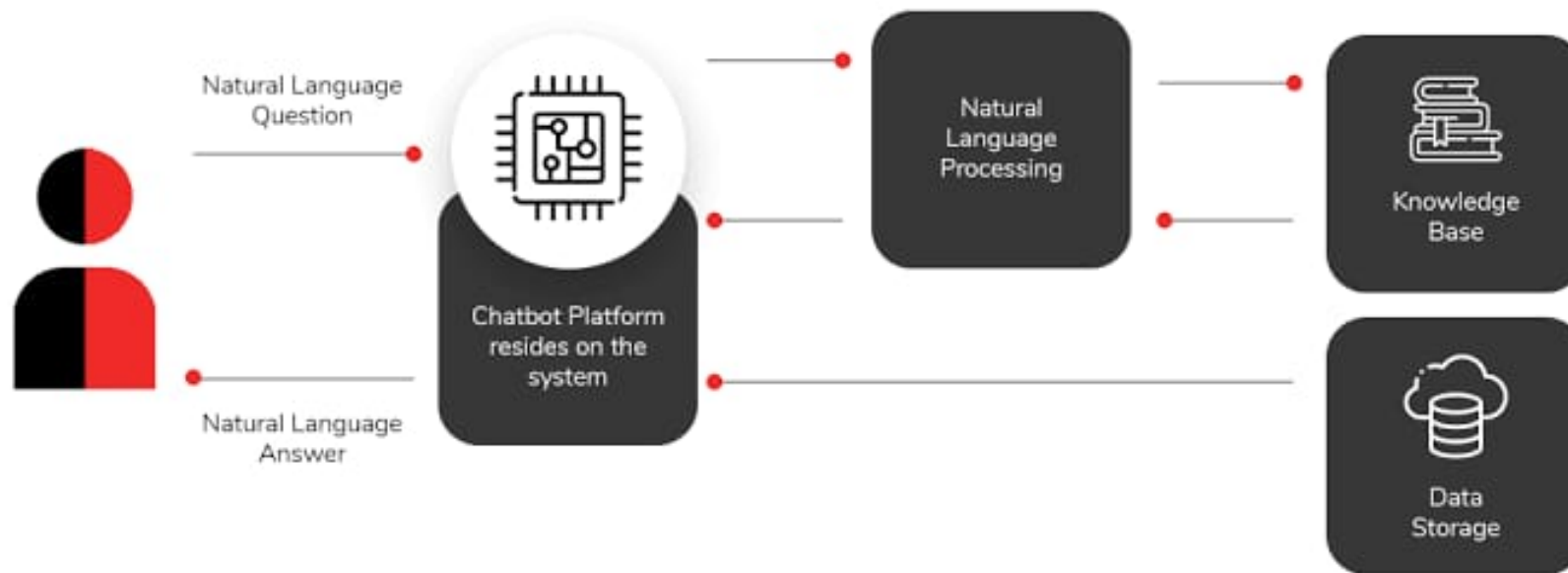- Enables intuitive and human-like interactions.

02. **Image Generation Functionality**

- Generates images based on user input.

- Offers various styles.

- We can download and use generated images .

Related Works

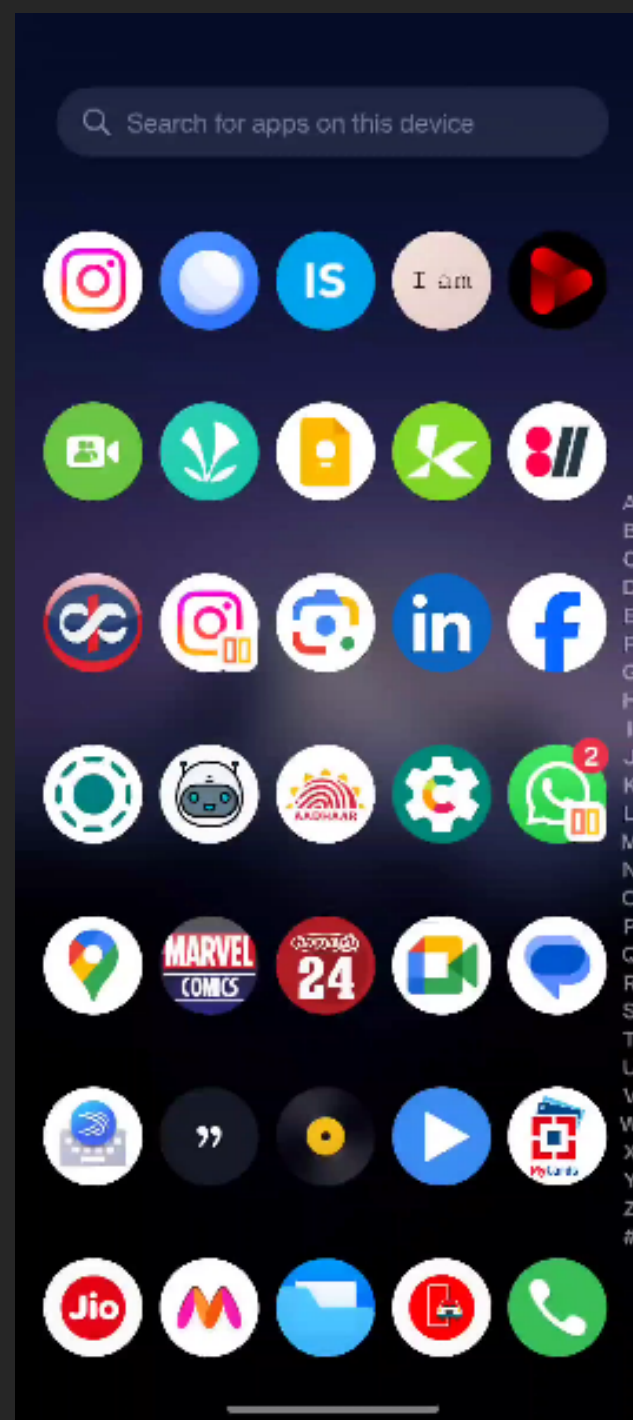| Name	Authors	Objective	Methods
GPT- 4	Josh Achiam, Steven Adler, Sandhini Agarwal, Lama Ahmad, Ilge Akkaya, (181 additional authors not shown)	One of the main goals of developing such models is to improve the ability to understand and generate natural language text, particularly in more complex and nuanced scenarios.	1 -Transformer Architecture 2 - Pre-training and Fine-tuning 3 - Self-supervised Learning 4 - Contextual Understanding
GEMINI	Rohan Anil, Sebastian Borgeaud, Jean-Baptiste Alayrac, Jiahui Yu, Radu Soricut, Johan Schalkwyk, Andrew M. Dai, (1250 additional authors not shown)	A family of highly capable multimodal models developed at Google.They trained Gemini models jointly across image, audio, video, and text data for the purpose of building a model with both strong generalist capabilities across modalities alongside cutting-edge understanding and reasoning performance in each respective domain.	1 - Multilinguality 2 - Machine Translation 3 - Multilingual Math and Summarization 4 - Complex Reasoning Systems
DALL-E	Aditya Ramesh, Prafulla Dhariwal, Alex Nichol, Casey Chu, Mark Chen	DALL·E converts natural language text prompts into unique, high-quality images. Its main objective is to understand and interpret complex textual descriptions and generate corresponding visuals, even for concepts that are abstract, imaginative, or previously unseen.	1 - Transformer Architecture 2 - VQ-VAE 3 - Autoregressive Modeling 4 - Multimodal Learning

Architecture

Future Enhancements

- **User Data and Chat History Management.**

- **Text Recognition from Images (OCR).**

- **AI-Powered Text-to-Speech (TTS) Generator.**

- **Expanded Image Generation Options.**

- **User Interface (UI) Enhancements.**

Project Demo

"AI is like a canvas, and human creativity is the paintbrush that brings it to life."

Thank You-