TATA CONSULTANCY SERVICES

INFRAMIND 4

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Github Link: https://github.com/gogulnathsk/EnterpriseAI

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ENTERPRISE AI

Introduction/Understanding the Problem statement:

Enterprise AI is a category of enterprise software that harnesses advanced artificial intelligence techniques to drive digital transformation. This platform accelerates and democratizes data science by automating the end-to-end journey from data to value.

This technology that integrates the human ability to learn, understand, and interact at a level of sophistication that matches our own capabilities into an enterprise's data infrastructure.

To provide the resolution to the customer in faster phase and to interact with customer in an effective manner, AI/ML technologies will helps to get it achieved.

It is expected to drive the customer experience to a new level of awareness and acceptance. The sea of technologies changes, have also brought to the table, newer and better aspects towards our customer experience. These customers include the internal as well as external customers.

Some key attributes of Enterprise AI:

- Natural Interactivity
- Knowledge representation and reasoning
- Algorithmic intelligence and Hypothesis
- Continuous learning

Types of AI:

- Reactive machines
- Limited memory
- Theory of aware
- Self - aware
- Artificial narrow intelligence
- Artificial general intelligence
- Artificial super intelligence.

DETAILS OF TECHNOLOGY USED:

Language Used:

Python:

Python is an interpreted, high-level and general-purpose programming language. It is dynamically typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly, procedural), object-oriented and functional programming.

AI Algorithms Used:

Tensor Flow:

TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystem of tools, libraries and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML powered applications.

Build and train state-of-the-art models without sacrificing speed or performance. TensorFlow gives you the flexibility and control with features like the Keras Functional API and Model Subclassing API for creation of complex topologies. For easy prototyping and fast debugging, use eager execution.

- **Keras:**

  Keras is a deep learning API written in Python, running on top of the machine learning platform Tensor Flow.

  An approachable, highly-productive interface for solving machine learning problems, with a focus on modern deep learning. It provides essential abstractions and building blocks for developing and shipping machine learning solutions with high iteration velocity.

SOFTWARE USED:

- Operating System: Windows 10
- Python 3.9
- Visual Studio Code

BUSINESS OPERATION CONSIDERED:

How to interact with customers to provide quick and effortless solutions to their problems?

SOLUTION:

To easily interact with the customers and to provide quick and effortless solution to the customer in a faster and effective phase, ChatBot AI technology will largely help to achieve it.

Artificial intelligence in chatbots comes in many forms. The most common are natural language processing (NLP) which powers the language side of the chatbot, to machine learning (ML) which powers data and algorithms.

In real-time, only limited live agent can able to interact with customer, but chatbots can operate with an upper limit. To drive up organizational efficiency on reducing the backend support, chatbots will be our way to achieve this.

Why ChatBot?

ChatBot applications streamline interactions between people and services, enhancing customer experience.

It will improve the customer's engagement process and operational efficiency by reducing the typical cost of customer service. To save the human resources for qualitative tasks, it will highly help customer whenever they want.

The competition is really getting high, and customers get inclined toward a solution that does not require much trouble and at the same time offers an unlimited solution.
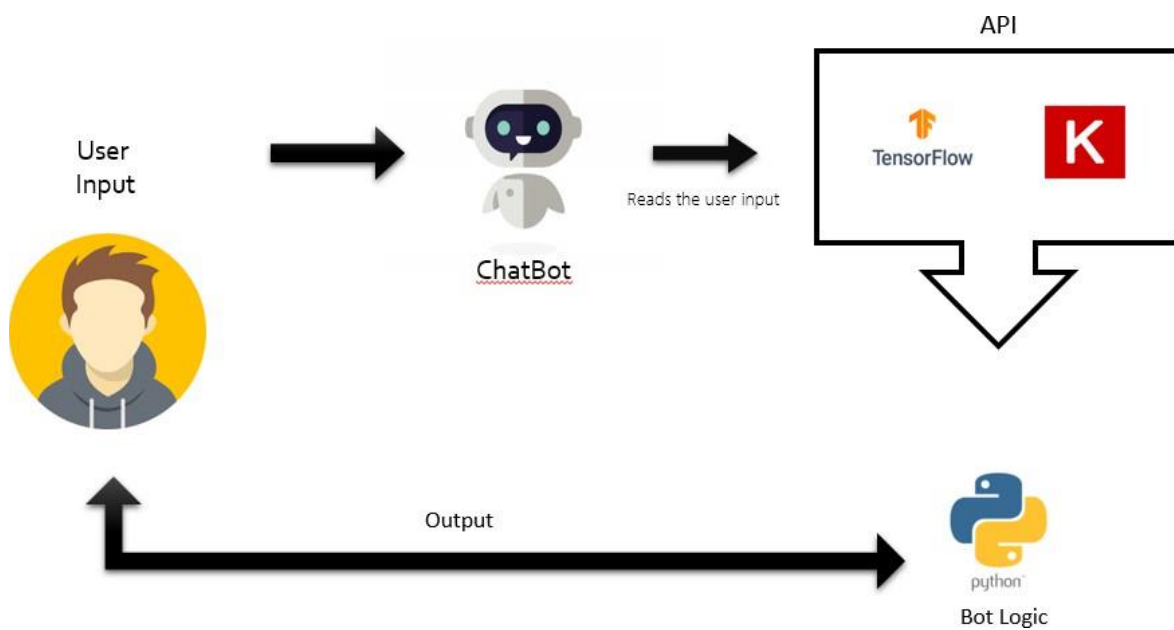
In short, they are looking for the more qualitative solution in minimum effort. With chatbots, hitting potential customers is easy by offering required information irrespective of the day or time. Bots are less prone to errors, hence, the better customer experience can help to establish a better brand.

## WORKFLOW:
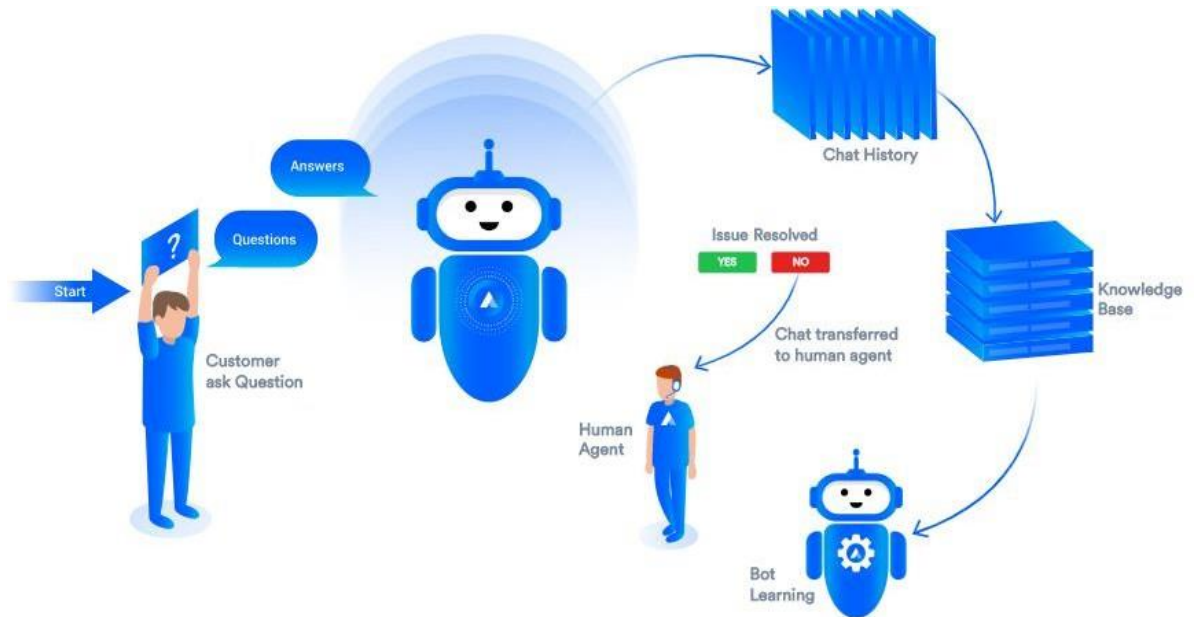
TECHNICAL FLOW:

TECHNICAL FLOW DESCRIPTION:

With respective of the user input, our AI Algorithm will look into our custom database to get the appropriate results and provide as a resolution to the customer. Bot logic will check the knowledge base storage to get the answer related to the customer queries. If the user satisfied with the results, we will be taking it as a positive feedback and if the algorithm doesn't able to find the right solution, our application will trigger a support request to connect with the human agent.

APPLICATION UI:

Chatbot Start page
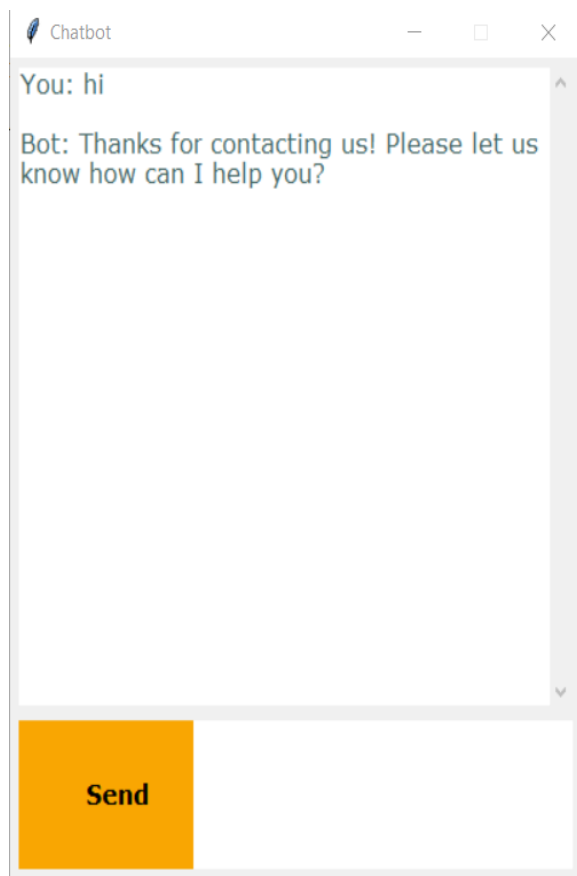
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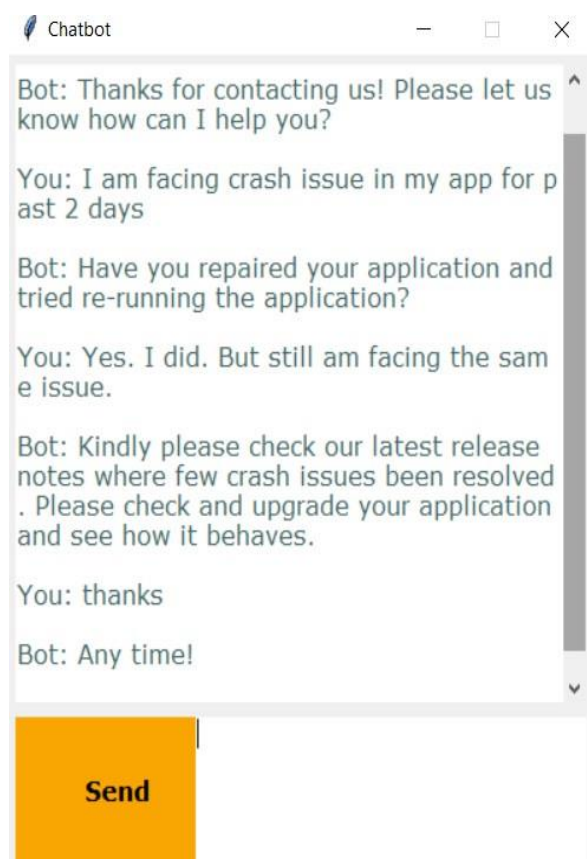
PROS:

- Cost Effective and Time-Efficient
- Better User Interaction
- Less Development Cost
- Improves Business Branding With Minimum Effort
- Save Human Resources for Qualitative Tasks
- Gather Customer feedback

CONCLUSION:

Chatbots or smart assistants with artificial intelligence are dramatically changing businesses. There is a wide range of chatbot building platforms that are available for various enterprises, such as e-commerce, retail, banking, leisure, travel, healthcare, and so on.

Implementation of the chatbot technology will highly help to provide the pre-defined resolutions to the customer in a faster phase whenever they want. Chatbots can reach out to a large audience on messaging apps and be more effective than humans. They may develop into a capable information-gathering tool in the near future.

THANK YOU ☺