

# **STAR LION COLLEGE OF ENGINEERING AND TECHNOLOGY**

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<b>Project</b>	Create A Chat bot In Python
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**Project Title:** Create A Chat bot In Python:

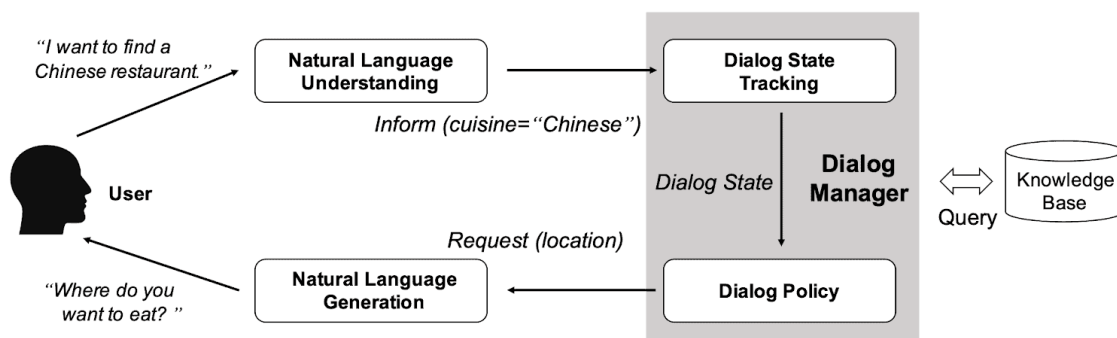
A chat bot is a computer program that can simulate a conversation or chat with a user in natural Language through messaging applications, website, or mobile applications and interact with users Accord to their input and should be available 24/7.

Chat bots are developed and became so popular due to the increased use of smart devices and Tech.

## 2.2 Types of chat bots

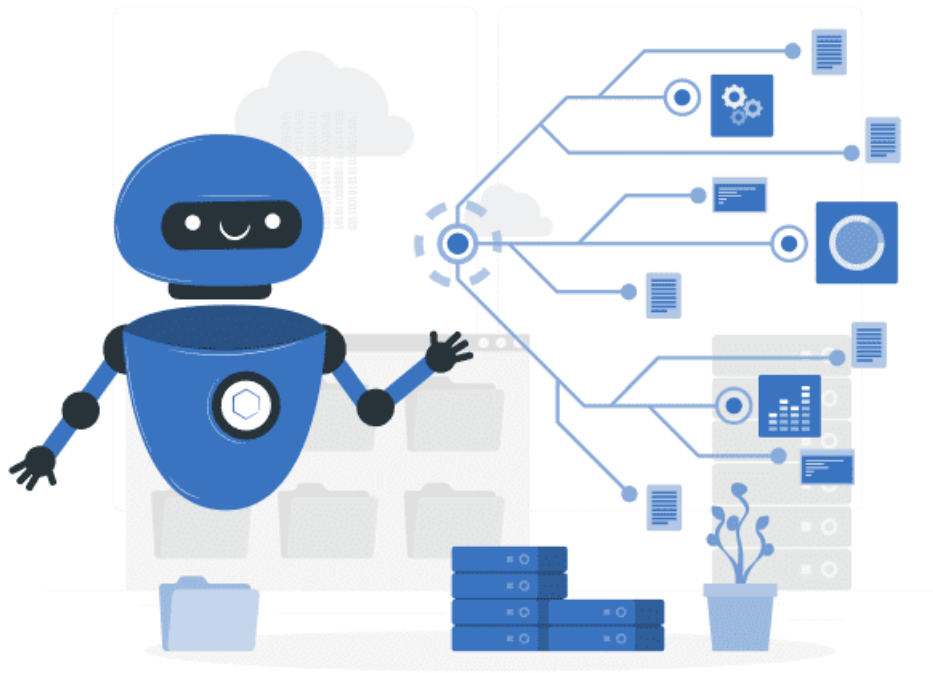
### a. Base-line chat bot:

It is a chat bot that is based on a database and uses if / then logic to create a Convert flow and that takes a lot of time to ensure the understanding of the Questions and the answer needed.[1]



### b. AI chat bot:

This type of chat bot is more complex than base-line but it is more interactive and personalized and needs big data training to be impressive if the problem is matched to their capabilities.[2].



### **c. Hybrid Model:**

A hybrid approach mixes the Base-line & AI chat bot to make it smart and his behavior more expected by depending on database and Ai algorithm to work together.[3]

#### **Text:**

Chat bot analyzes the inputted text and matches the text with predefined data called intents which are categorized to manage the conversation. The user utterance is tagged with one of these intents, even if what the user says stretches over two or more intents. Most chat bots will take the intent with the highest score and take the conversation down that avenue.

#### **Voice:**

Some chat bots can interact and understand the voice of the user using a set of application programming interfaces that converts the recorded voice to the language and then convert the voice to words of that language and then deal with the transformed text as mentioned above.

## **Options to build a chat bot:**

### **From Scratch:**

At first we have to identify the opportunities for our chat bot and decide its field and scope to achieve efficiency and accuracy. and a precise understanding of the customer needs is required to solve the operational challenges.

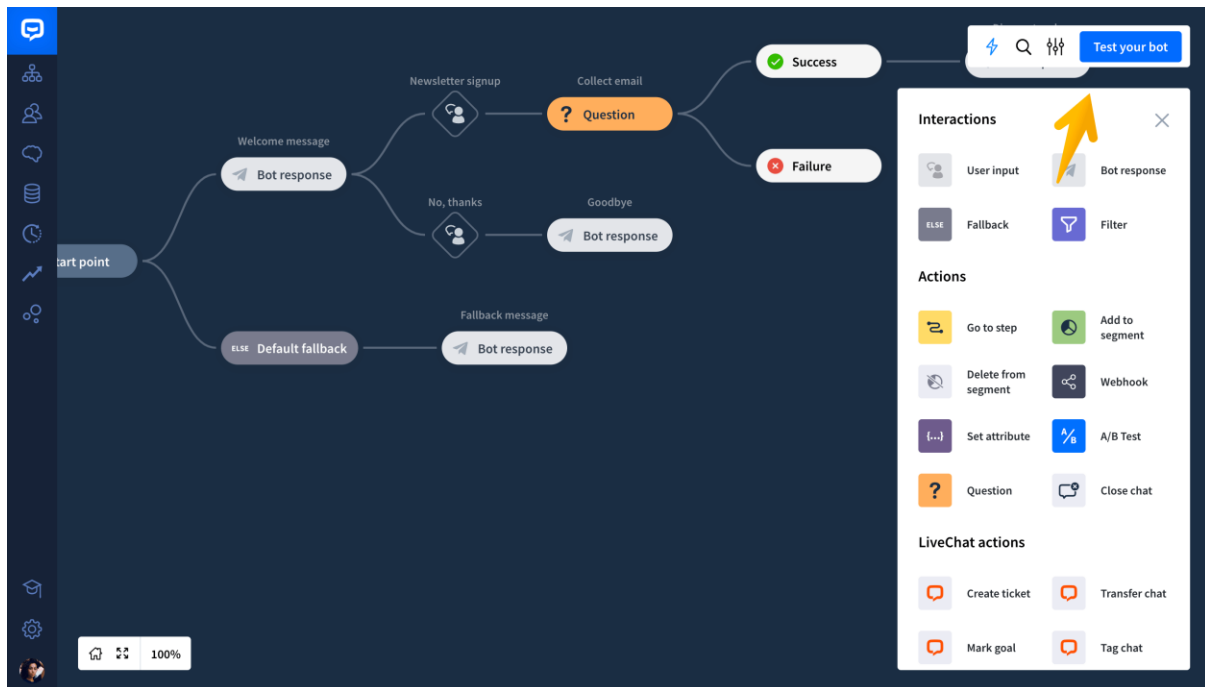
Then the design of the bot comes to be a significant stage to decide the user engagement with your app or website.

and we can categorize chat bot interactions as structured and unstructured interactions.

☐ Structured interaction. You already know about this kind of interaction. You know what your customers will ask and can design it easily — it's just like an FAQ section of your app or website[4] . This information will link to your contact information, services, products, etc.

☐ Unstructured interaction. The unstructured conversation flow includes freestyle plain text. It's hard to predict what queries will emerge and it looks like an extempore speech competition for your chat bot. the role of AI comes to lights here, it decodes the context of the text based on NLP analysis. while the same NLP will provide a voice to the chat bot.[5]

The later choice will need specialized chat bot developers with an understanding of programming languages, machine learning, and AI. We can use some of the code-based frameworks to build and handle the chat bot like wit.ai and api.ai.



## Using platforms

It is similar to scratch chat bots but the only difference is that you do not have to hire a specialized developer and use the chat bot builder platforms like Chat fuel, BotS and Rasa, it's not hard or impossible to achieve it. but it's not possible to create a NLP-enabled chat bot that can deal with unstructured data.

IBM Watson: is touted as a question-and-answer system that can be used to build applications and chat bots. The IBM Watson platform allows us to create an application that shares a dialog interaction between our chat bot and users on Quick n' Easy Projector Rentals. The IBM interface is simple to use, and no back-end coding is shown at first glance. The chat bot can be easily integrated into other applications such as Slack, Facebook,.

**b. Google Dialog flow:** is an easy to understand conversational agent. Theoretically, we can have a bot up and running by understanding 3 core concepts: intents, entities, and dialog control. As stated earlier, these general concepts are followed across a majority of the chat bot platforms we played with.

**c. Rasa:** is an open source chat bot that is equipped with a natural language processing tool.

The open source tool is called Rasa NLU. You can tweak and customize the machine learning algorithm that Rasa uses so that you can create a model that provides the results you desire. Rasa NLU can be run wherever you want it to, and none of your training data has to be passed over to Google, Microsoft, Amazon, or Facebook to train your chat bot.