

**NAAN MUDALVAN**

**ARTIFICIAL**

**INTELLIGENCE**

PROJECT TITLE

**CREATE A CHATBOT  
IN PYTHON**

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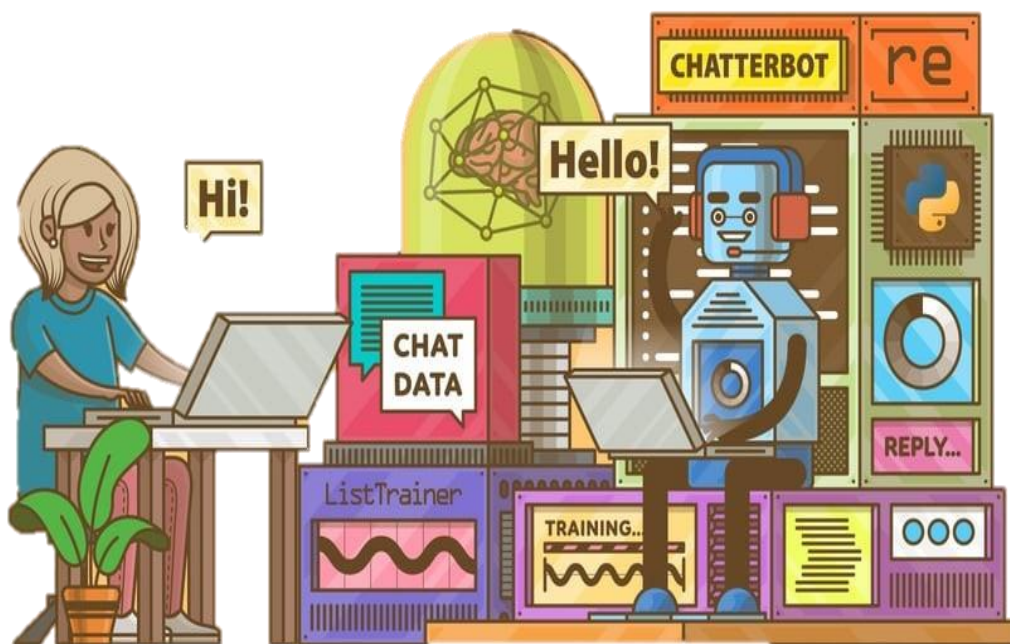
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# PHASE 1

## PROBLEM DEFINITION AND DESIGN THINKING

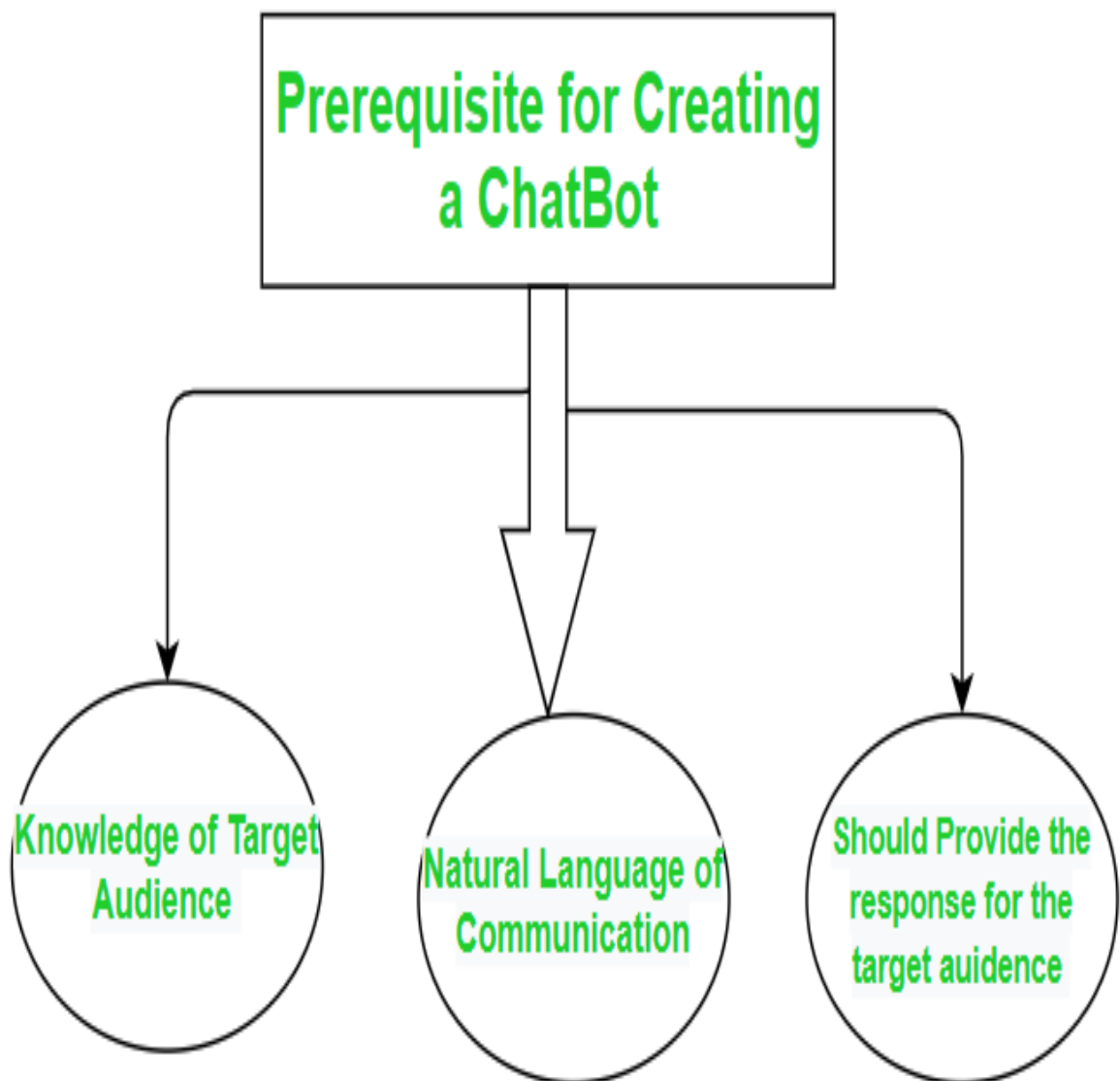
# PROBLEM DEFINITION

Chatbot Python has gained widespread attention from both technology and business sectors in the last few years. These smart robots are so capable of imitating natural human languages and talking to humans that companies in the various industrial sectors accept them. They have all harnessed this fun utility to drive business advantages, from, e.g., the digital commerce sector to healthcare institutions.



# DESIGN THINKING

Python is one of the best languages for building chatbots because of its ease of use, large libraries and high community support.



## What is a Chatbot?

Artificial intelligence is used to construct a computer program known as "a chatbot" that simulates human chats with users. It employs a technique known as NLP to comprehend the user's inquiries and offer pertinent information. Chatbots have various functions in customer service, information retrieval, and personal support.



# How Does the Chatbot Python Work?

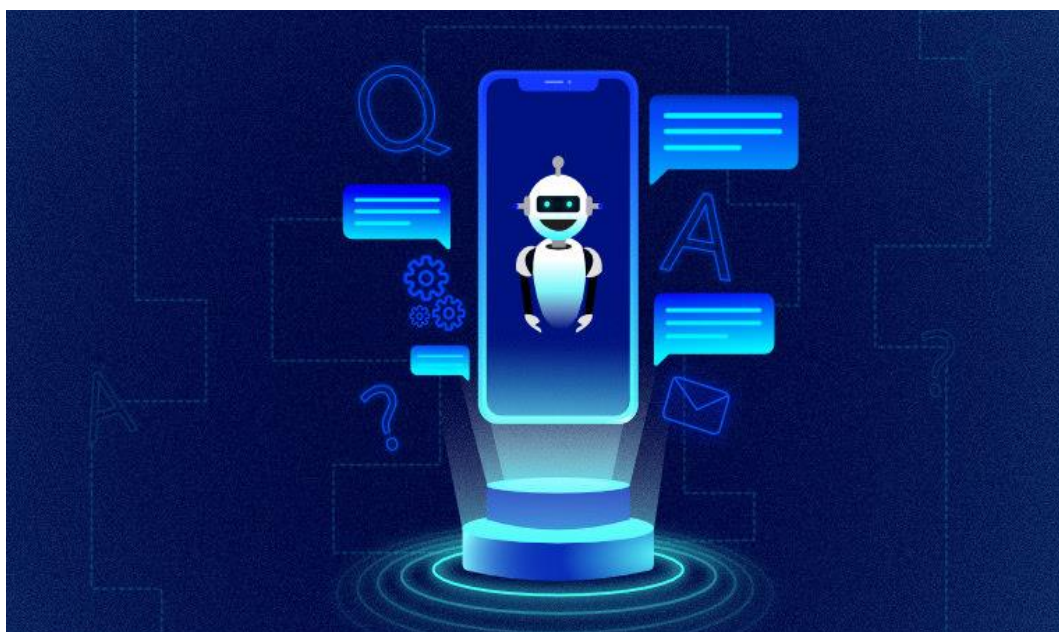
## 1. Rule-Based Approach

The Chatbot Python adheres to predefined guidelines when it comprehends user questions and provides an answer. The developers often define these rules and must manually program them

## 2. Self-Learning Approach:

**RetrievalBased Models:** Based on an input question, these models can obtain predefined responses from a knowledge base. They evaluate user input and compare it to the closest equivalent response in the knowledge base.

**Generative Models:** Generative models create responses from scratch based on the input query. They employ approaches like sequence-to-sequence models or transformers, for example, to produce human-like answers.



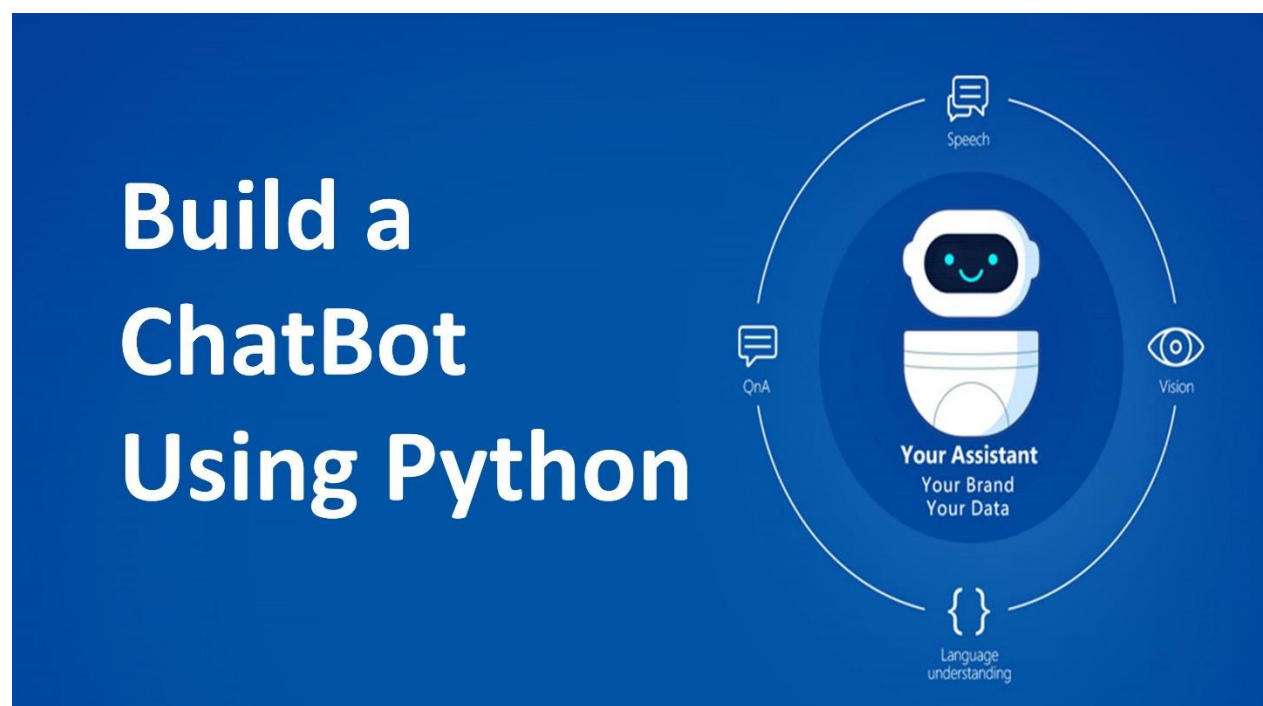
# What is ChatterBot Library?

A Chatbot Python library called The ChatterBot makes it simpler to create chatbots. It manages the challenges of natural language processing and provides a specific API. The following are some of Chatterbot's primary features:



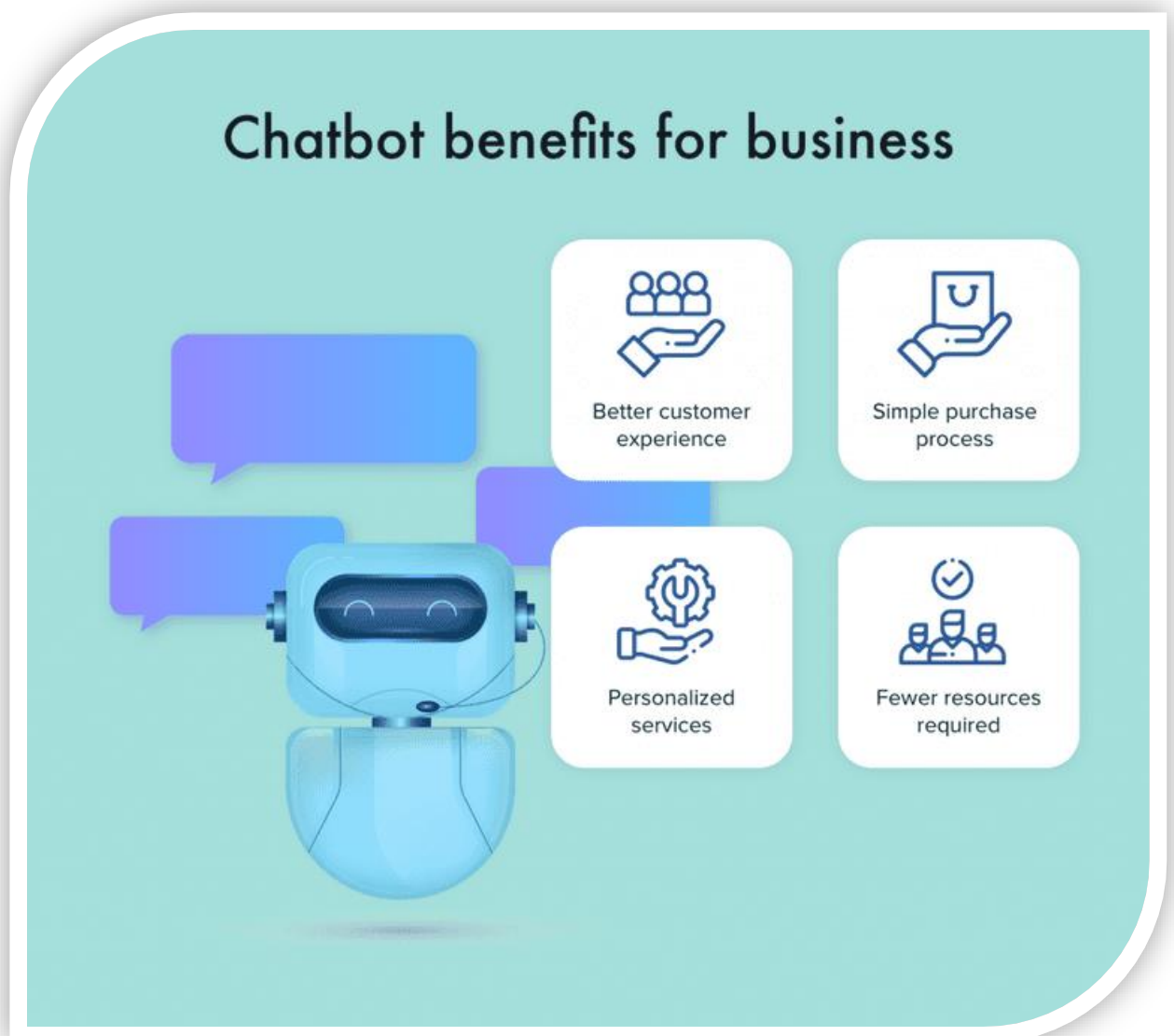
## 1. Language Independence

You can use Chatterbot to create chatbots in various languages based on your target demographic.



# Limitations With A Chatbot

Lack of semantic understanding: Chatbots may require assistance comprehending the discourse, which could result in misinterpretation or incorrect responses.





Dependency on training data: The caliber and volume of training data greatly impact chatterbotpython performance. There may be a need for more accurate or biased training data, which can result in incorrect responses.

