PROJECT PHASE I

COURSE NAME	ARTIFICIAL INTELLIGENCE
NAAN MUTHALVAN TEAM MEMBERS ID	aut61772321t502
PROJECT NAME	CREATE A CHATBOT USING PYTHON
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INTRODUCTION:

Problem Statement: Users often seek assistance while navigating websites. Addressing inquiries promptly is challenging. A chatbot solution is needed for real-time assistance and enhancing user experience.

PROPOSED SOLUTION:

S.No.	Parameter	Description
1.	Problem statement	• Users often have questions or require assistance while navigating a website, and addressing their inquiries promptly can be challenging. • There is a need for a chatbot solution that can enhance user experience, provide real-time assistance, and support customers' needs effectively.
2.	Novelty / Uniqueness	• Advanced NLP techniques for understanding user intent and context. • Continuous learning and improvement based on user feedback.

3.	Social Impact / Customer Satisfaction	**Improved User Experience:** The chatbot enhances website navigation, providing quick answers and assistance. **Accessibility:** It ensures that users can access support or information 24/7, improving accessibility for a broader audience.
4.	Business Model (Revenue Model)	Offer a basic version of the chatbot for free and charge for premium features, such as advanced personalization or priority support.
5.	Scalability of the Solution	Ensure that the chatbot architecture is scalable to accommodate an increasing number of users and interactions. Use cloud-based infrastructure and containerization to easily scale resources as needed.

BRAINSTORMING AND IDEA PRIORITIZATION:

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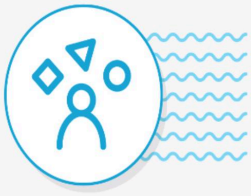

Conducting a brainstorm

Executing a brainstorm isn't unique; holding a productive brainstorm is. Great brainstorms are ones that set the stage for fresh and generative thinking through simple guidelines and an open and collaborative environment. Use this when you're just kicking-off a new project and want to hit the ground running with big ideas that will move your team forward.

- **15 minutes** to prepare
- **30-60 minutes** to collaborate
- **3-8 people** recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

15 minutes

A **Choose your best "How Might We" Questions**
Create 5 HMW statements before the activity to propose them to the team.

B **Set the stage for creativity and inclusivity**
Go over the brainstorming rules and keep them in front of your team while brainstorming to encourage collaboration, optimism, and creativity.

1. **Encourage wild ideas** (If none of the ideas sound a bit ridiculous, then you are filtering yourself too much.)
2. **Defer judgement** (This can be as direct as harsh words or as subtle as a condescending tone or talking over one another.)
3. **Build on the ideas of others** ("I want to build on that idea" or the use of "yes, and...")
4. **Stay focused on the topic at hand**
5. **Have one conversation at a time**
6. **Be visual** (Draw and/or upload to show ideas, whenever possible.)
7. **Go for quantity**

C **Interested in learning more?**
Check out the Meta Think Kit website for additional tools and resources to help your team collaborate, innovate and move ideas forward with confidence.

Open the website →

1

Choose your best "How Might We" Questions

Share the top 5 brainstorm questions that you created and let the group determine where to begin by selecting one question to move forward with based on what seems to be the most promising for idea generation in the areas you are trying to impact.

10 minutes

QUESTION

How might we CREATE A USER INTERACTION CHATBOT?

QUESTION

WHAT DOES IT DO?
HOW DOES IT HELPS?

HOW EFFECTIVE DOES IT WORKS WORKS?

How might we... [insert problem statement here]?

2

Brainstorm solo

Have each participant begin in the "solo brainstorm space" by silently brainstorming ideas and placing them into the template. This "silent-storming" avoids group-think and creates an inclusive environment for introverts and extroverts alike. Set a time limit. Encourage people to go for quantity.

10 minutes

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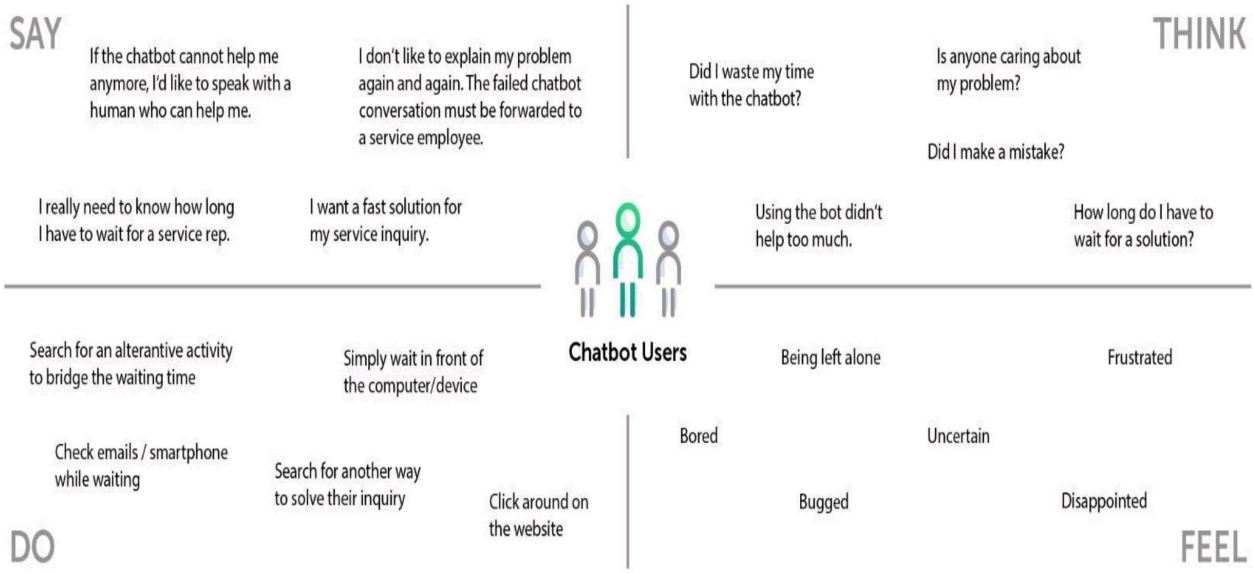
Objectives	Frameworks	Dataset
interactive and userfriendly chatbot for our website to enhance customer engagement, streamline support inquiries, and provide quick and accurate information, ultimately improving the overall user experience.	Openai, gradio, nltk, numpy, Torch,pandas	**https://www.kaggle.com/da tasets/grafstor/simpledialogs-for-chatbot**

EMPATHY MAP:



SOLUTION ARCHITECTURE:

- User Interface: Determine how users will interact with your chatbot. This can be through a web interface, a messaging app, or any other platform. You might need to use frameworks like Flask or Django for web-based interfaces.
- Input Processing: When a user sends a message, the chatbot needs to process it. This involves text preprocessing to clean and normalize the input.
- Natural Language Understanding (NLU): Use NLU techniques to extract meaning from user messages. This often includes tasks like intent recognition (what the user wants) and entity recognition (identifying specific details like dates, names, etc.). Libraries like spaCy or NLTK can be helpful here