**NAAN MUDHALVAN-IBM(AI) PROJECT**

IBM AL 101 ARTIFICIAL INTELLIGENCE-GROUP 1(TEAM 5)

PROJECT TITLE:

CREATE A CHATBOT USING PYTHON

TEAM MEMBERS:

* + - CHIRANJEEVI C(reg no:110321106005)
    - DAYANIDHI N(reg no:110321106007)
    - CHOLA PRASAD D A(reg no:110321106006)
    - ARIVUMATHI V(reg no:110321106002)
    - BHARATHKUMAR N(reg no:110321106003)

**Problem Statement: Building a General-Purpose Chatbot**

**Background:**

In the digital age, chatbots have become an integral part of online communication. Organizations and individuals use chatbots for a wide range of purposes, from customer support to information retrieval and entertainment. The objective is to create a versatile chatbot that can engage in meaningful conversations and assist users across different domains.

**Requirements:**

**1.Chatbot Framework**:

Develop a chatbot using Python that can engage in text-based conversations with users.

**2. User Input Handling**: Implement a mechanism for the chatbot to receive, understand, and process user input in a way that feels natural and intuitive.

**3. Response Generation**:

Train the chatbot to generate contextually relevant and coherent responses to user queries or statements. Responses should make sense in the context of the conversation.

**4.Multi-domain Capability**:

Ensure that the chatbot can handle conversations on a variety of topics or domains. It should be able to switch between different conversation topics seamlessly.

**5.User Interaction:**

Design the chatbot to provide a user-friendly and engaging conversational experience. This includes appropriate greetings, farewells, and handling of user queries or requests.

**6.Error Handling:**

Implement robust error handling to gracefully handle situations where the chatbot doesn't understand the user's input or encounters unexpected issues.

**7.Extensibility:**

Make the chatbot extensible, allowing for easy integration with additional functionality or external data sources.

**8.Testing:**

Conduct comprehensive testing to ensure the chatbot performs well and provides meaningful responses in various conversation scenarios.

**9.Deployment:**  Deploy the chatbot on a suitable platform, whether it's a website, messaging app, or custom application.

**Deliverables:**

• A functional chatbot built in Python, meeting the specified requirements.

• Documentation detailing how to use, maintain, and extend the chatbot.

• Test reports demonstrating the chatbot's performance in different scenarios.

• Deployment instructions for putting the chatbot into production.

**Constraints:**

• The chatbot's primary language for interaction should be English, but support for additional languages can be a future enhancement.

• Ensure that the chatbot respects data privacy and adheres to any relevant regulations.

• Consider the limitations of the chosen platform for deployment (e.g., web server, messaging app, etc.).

**Evaluation Criteria:** The success of the project will be evaluated based on:

• The chatbot's ability to engage in meaningful and coherent conversations.

• Versatility in handling conversations across different domains.

• User-friendliness and engagement of the chatbot's interface.

• Robust error handling and graceful degradation during issues.

• Extensibility and potential for integration with external systems.

• Performance and reliability in a production environment.

**IMPORTANT NOTES:**

Depending on your specific use case or industry, you may need to tailor this problem statement to address more specialized requirements. This problem statement provides a foundation for creating a versatile chatbot, and you can adapt it to meet your specific project goals and constraints.