Ideation Phase Submission Document

Team Name: The Overfitters

Project Title: Chatbot for Gifting E-commerce Website

Problem Statement:

- Current Challenge: Finding the perfect gift can be a time-consuming and stressful process, especially when users are unsure of what to buy for specific occasions or recipients.
- Existing Pain Points:
    - Too many gift options make it hard to choose.
    - Users often need help with personalization, budget management, and delivery timing.
    - Many e-commerce sites lack a personalized and engaging shopping experience.

Project Overview (Summary):

- The objective is to develop a conversational AI-powered chatbot that guides users through the gift selection process. The chatbot will ask for details like occasion, recipient information, and budget, and then recommend personalized gifts from the catalogue. This chatbot enhances user engagement and creates a seamless, stress-free shopping experience while boosting e-commerce sales through targeted product recommendations.

Solution Approach:

- **User Flow:**
    1. The user interacts with the chatbot by selecting an occasion (e.g., Birthday, Wedding, Anniversary).
    2. The bot collects information on the recipient (age, gender, relationship to the user).
    3. The bot asks for the user's budget and preferences (e.g., personalized gifts, tech gadgets).
    4. Based on the user’s input, the chatbot generates personalized gift recommendations from the product catalogue.
    5. The user selects a gift, and the chatbot guides them through delivery options, personalization, and checkout.

- **Technical Features:**
    - NLP Model: The chatbot leverages a Natural Language Processing model (e.g., OpenAI's GPT-4 or Google Dialogflow) to interact with users conversationally.
    - Recommendation Engine: A rule-based or machine-learning-powered recommendation engine filters and suggests gifts based on the user's inputs.
    - E-commerce Integration: The chatbot integrates with the product catalogue via API to display real-time gift options.
    - Personalization: Users can select personalized gifts, add custom messages, and choose delivery preferences.
    - Seamless Checkout: Integration with the website's payment system for a seamless buying experience.

Features:

- **User Input Collection:**
    - Collects details such as occasion, recipient's age and relationship, budget, and preferences (e.g., same-day delivery).
- **Gift Recommendations:**
    - Curated suggestions based on user inputs, offering diverse options (e.g., personalized, trending, best-sellers).
- **Interactive Experience:**
    - Conversational chatbot that asks follow-up questions and handles clarifications when users provide vague responses.

Target Audience:

- **Primary Users:**
    - Online shoppers looking for gifts for special occasions.
    - Users who are unsure of what gift to buy and need guidance.
    - E-commerce platforms looking to boost sales and enhance user engagement.
- **Secondary Users:**
    - Retailers looking to add AI-driven personalization features to their platforms.
    - Customers interested in personalized, customized gifts.

Innovation:

- **Personalization & Conversational Flow:** The chatbot offers a personalized shopping experience by narrowing down options based on occasion, recipient, and preferences. This conversational flow differentiates it from traditional, static product recommendation systems.
- **Seamless Integration with E-commerce:** Users can complete their purchase directly through the chatbot, making the process intuitive and quick.
- **AI-Powered Insights:** The chatbot can analyse user behaviour over time and improve its recommendations, making future gift selection even more tailored.

Technology Stack:

- **Frontend:** React.js, Vue.js for building a dynamic chatbot interface.

- **Backend:** Node.js or Python (Flask/Django) for handling user inputs, business logic, and API calls.
- **NLP Engine:** GPT-4 (OpenAI) or Dialogflow for natural language understanding and response generation.
- **Database:** MySQL/PostgreSQL for user and product data.
- **Recommendation Engine:** TensorFlow/Scikit-learn for machine learning-powered recommendations.
- **Cloud Hosting:** AWS, Azure, or Google Cloud for scalability and deployment.