***Project Report***

***Automated Diet Plan Chatbot for Gym Beginners***

**Introduction:**

The **Automated Diet Plan Chatbot for Gym Beginners** is a personalized meal recommendation system designed to help new gym-goers meet their fitness goals, whether muscle gain, fat loss, or maintenance. This chatbot simplifies diet planning by offering curated recipes tailored to each user's dietary objectives.

**Objectives:**

* Provide personalized diet plans based on fitness goals.
* Enable easy user interaction to access diet suggestions.
* Use a rule-based model to filter recipes by calorie and nutrient needs.

**System Design:**

The chatbot uses a rule-based architecture where users input their fitness goals, and the chatbot recommends meal options from a predefined dataset, displaying detailed recipe information including ingredients, calories, and macronutrients.

**Dataset:**

The dataset includes recipes with fields like:

* **Recipe Name**, **Ingredients**, **Calories**, **Macronutrients** (protein, carbs, fat), **Dietary Category** (high-protein, low-carb), and **Prep Time**.

**Implementation and Algorithm:**

* **Algorithm**: Based on user goal input, recipes are filtered by calorie and macronutrient values.
* **Code Structure**: Python-based with a simple command-line interface for testing.

**Use Cases:**

1. **Muscle Gain**: High-protein recipes for muscle-building.
2. **Fat Loss**: Low-calorie, low-carb meal options.
3. **Maintenance**: Balanced recipes for weight maintenance.

**Challenges and Future Enhancements:**

* **Challenges**: Curating goal-aligned recipes and catering to diverse dietary preferences.
* **Enhancements**: Integrating calorie calculation, expanded recipe database, and deployment to chat platforms.

**Conclusion:**

The **Automated Diet Plan Chatbot** is a user-friendly tool for gym beginners, simplifying meal planning and aligning diet choices with specific fitness goals. It provides targeted diet support, helping users make informed, health-conscious decisions.