The logic behind personalizing and enhancing recommendations with OpenAI, workout data, and nutrition data API's involves steps that blend user inputs, external data, and AI-driven text generation.

1) Collecting User Inputs

The first step involves collecting detailed user inputs through a Streamlit interface. Inputs such as age, gender, weight, height, goal, food allergies, diet restrictions, target muscle, difficulty level, fitness goals are essential for tailoring recommendations. These inputs provide context to both the external APIs and the OpenAI model, ensuring that the recommendations are relevant to the user's specific needs and goals.

2) Fetching Data from APIs

Using the user input for preferences and goals, the app fetches relevant data from external sources using custom APIs:

Workout API: we are querying workout API https://www.api-ninjas.com/api/exercises , the app retrieves a list of exercises or workout routines. The requests to the API can be customized based on the user's fitness level, fitness goals.

Nutrition API: we are querying workout API https://spoonacular.com/food-api/docs , the app retrieves a list of diet plan. The requests to the API can be customized based on the user's diet restrictions, food allergies.

3) Enhancing Prompts with API Data

The fetched data from these custom APIs along with existing user inputs is used to enhance the prompts sent to the OpenAI API. This is a crucial step for personalization and improvement.

4) Generating Personalized Recommendations

With a rich, context-enhanced prompt, the OpenAI model generates recommendations that are personalized to user.

By basing the recommendations on the user's specific inputs and the data fetched from the APIs, the recommendations are made highly relevant to the user's unique situation and goals.

The model intelligently integrates the workout and nutrition information, possibly suggesting how to combine different exercises or how to incorporate specific foods into a meal plan.

We are using the advanced model gpt-3.5-turbo, so the recommendations include creative insights like tips that go beyond simple lists of exercises or food recommendations, offering a more holistic approach to fitness and nutrition.

In summary, the combination of detailed user inputs, specific data fetched from custom APIs, and the contextualized, goal-oriented prompts to the OpenAI model creates a powerful system for generating personalized and continuously improving fitness and diet recommendations.