

Teach a Prompt Pattern

Part 1: Understanding the “Ask for Input” Pattern

1. What is the Ask for Input Pattern?

The **Ask for Input Pattern** is a method used by AI where it asks the user for more information instead of guessing what the user might want. By asking clear questions, the AI can get the right details from the user, which helps it give better and more accurate answers. This approach makes the conversation more helpful and tailored to what the user really needs.

Core Ideas Behind the Ask for Input Pattern

1. Interactive Feedback Loop

- **What it means:**

The **Interactive Feedback Loop** is when the AI and the user go back and forth asking and answering questions. This helps the AI understand the user better and adjust its response based on what the user says.

- **How it works:**

- The AI asks a question to get more information.
- The user gives an answer.
- The AI uses the answer to adjust its next response or ask another question.

- **Example:**

Let's say a virtual assistant is helping with travel plans:

- The assistant asks, "Where would you like to travel?"
- The user says, "Paris."
- Then the assistant asks, "Would you prefer sightseeing or cultural experiences?"
- Based on the answer, the assistant suggests options like museums, city tours, or historical sites.

- **Why it's helpful:**

This back-and-forth helps the AI avoid making mistakes by getting more specific information from the user. For example, if a user says they want “affordable hotels,” the AI can ask about the price range or what features they need (like free Wi-Fi or a pool), so it gives the right recommendations.

The loop works by making sure the AI is always adjusting based on the user's input. It avoids giving the wrong answers by asking questions until it has enough details.

Example with a Healthcare Chatbot:

- **AI:** "What symptoms are you having?"
- **User:** "I have a headache and sore throat."
- **AI:** "How long have you had these symptoms?"
- **User:** "For two days."
- **AI:** "Do you have a fever or other symptoms?"
- As the conversation goes on, the AI gets more information and can give more specific advice or suggest seeing a doctor.

2. Tailored Responses

- **What it means:**

Tailored Responses are answers that the AI customizes based on what the user tells it. Instead of giving a general answer, the AI asks questions to learn more about the user's needs and then gives suggestions that match what they want.

- **How it works:**

The AI listens to the user's answers and uses that information to provide more accurate and personalized suggestions.

- **Example:**

For an online store, the AI might ask:

- "What kind of shoes are you looking for?"
- If the user answers, "Running shoes," the AI might follow up with, "Do you have a preferred brand or size?"
- Based on the answers, the AI can show running shoes from the right brand and size.

- **Why it's helpful:**

By tailoring its answers, the AI helps users find what they're really looking for. It makes the experience feel personal and relevant, instead of overwhelming the user with options that don't match their needs.

The AI uses the answers to customize the response, making it more useful and specific to what the user wants.

Example for Movie Suggestions:

- **AI:** What type of movies do you like? Action, comedy, drama?
- **User:** I like comedies.
- **AI:** Do you have a favorite actor or actress?
- **User:** I love Jim.
- **AI:** I recommend films like Dumb and Dumber and Liar Liar.

2. Purpose of the Ask for Input Pattern in NLP

The **Ask for Input Pattern** is significant in **Natural Language Processing (NLP)** because it helps AI systems engage users more effectively by asking for additional details or clarification. This allows AI to generate more accurate, relevant, and context-aware responses rather than making assumptions. It improves the quality of interaction, making the AI feel more personalized and user-centric.

Why Is This Pattern Important?

1. **Improves Accuracy:**

- By gathering more information from users, the AI can tailor its responses, leading to more precise and useful answers. For example, asking "What symptoms are you experiencing?" can help provide better health advice than assuming the user's needs.

2. **Enhances User Engagement:**

- The back-and-forth interaction creates a more dynamic and natural conversation. Users feel more involved, increasing their engagement and satisfaction. For example, a virtual assistant might follow up with questions to refine its understanding of the user's request.
- 3. **Reduces Ambiguity:**
 - The pattern helps clarify unclear user inputs, allowing the AI to understand intent more accurately. For instance, if a user asks for "good restaurants," the AI can ask, "What type of cuisine do you prefer?" to narrow down options.

Impact on Model Performance and User Interaction

1. **Improved Model Performance:**
 - **Contextual Understanding:** Asking for input lets the AI refine its understanding, leading to more accurate and contextually relevant responses.
 - **Personalization:** The AI can provide answers tailored to real-time user preferences, improving performance.
2. **Better User Interaction:**
 - **Trust:** Users feel more understood when the AI asks for clarification, building trust.
 - **Satisfaction:** Personalized and accurate responses lead to higher user satisfaction.

Real-World Examples

1. **Customer Service Chatbots:**
 - Chatbots ask for additional information, such as order numbers or delivery addresses, to provide specific support, reducing frustration and improving the experience.
2. **Healthcare Applications:**
 - AI can ask follow-up questions like "How long have you been feeling this way?" to offer more tailored medical advice.
3. **E-commerce Platforms:**
 - E-commerce assistants ask for preferences, such as product types or price ranges, to provide better product recommendations.

3. Significance in Real-World Applications: E-commerce Personalization with Ask for Input Pattern

Scenario:

A customer visits an online fashion store, planning to purchase clothing for an upcoming wedding. Instead of overwhelming the customer with thousands of options, the AI assistant engages them in a dynamic conversation to narrow down the choices.

How the Interaction Unfolds:

1. **Step 1: Gathering Context**

AI: "What occasion are you shopping for—work, casual, or a special event?"

User: "A wedding."

 - **Significance:** This first question helps categorize the customer's need, filtering the product catalog to show only formal attire suitable for weddings. It saves the customer from browsing irrelevant options like casual wear or activewear.

2. **Step 2: Refining Preferences**

AI: "Do you have a color or style preference?"

User: "I'd like something in pastel colors, maybe a long dress."

- **Significance:** The AI further narrows down the options by taking into account both the color preference (pastels) and the style (long dresses). This personalization not only improves the relevance of recommendations but also makes the shopping experience feel tailored to the individual's needs.

3. **Step 3: Final Recommendations**

Based on the inputs, the system displays a curated selection of long, pastel-colored dresses suitable for weddings. Additional options, such as matching accessories or shoes, may also be suggested.

Why This Example is Impactful:

1. **Reduced Cognitive Overload:**

- Without the Ask for Input Pattern, the customer might need to sift through hundreds of unrelated items, leading to frustration and decision fatigue. By asking targeted questions, the AI ensures the user only sees relevant products, streamlining the shopping process.

2. **Increased Customer Satisfaction:**

- The interaction feels personal and engaging, as if a sales assistant is helping them in a physical store. This increases the likelihood of the customer completing the purchase.

3. **Boosted Conversion Rates:**

- Personalization driven by input reduces bounce rates and enhances the likelihood of customers adding items to their cart. Customers are more likely to buy when they feel the product recommendations match their unique preferences.

4. **Enhanced Brand Loyalty:**

- Customers are more likely to return to a retailer that offers an intuitive and customized shopping experience. Positive experiences encourage repeat visits and foster trust in the brand.

Significance in Real-World Applications:

The Ask for Input Pattern is vital in e-commerce, where the sheer volume of products can overwhelm customers. By engaging users in a dialogue, the AI achieves:

- **Better Personalization:** Tailored product recommendations that reflect customer needs.
- **Time-Saving:** Faster browsing experience with minimal effort.
- **Improved Engagement:** Dynamic interaction that mimics human conversation, enhancing user experience.

Part 2: Demonstrating the Ask for Input Pattern Through Examples

1.Scenario: Personalized Recipe Suggestion Assistant

In this scenario, the **Ask for Input Pattern** is used by a recipe suggestion assistant that helps users find recipes based on their preferences, dietary restrictions, available ingredients, and cooking skill level. The assistant doesn't just offer random recipes but instead asks the user a series of questions to tailor the suggestions.

Scenario Description:

Sarah has a few ingredients in her kitchen and wants to prepare dinner but isn't sure what to cook. She opens the recipe assistant app, which uses the **Ask for Input Pattern** to gather information from Sarah. The assistant asks her a series of questions about what she has on hand, what her preferences are, and any dietary restrictions, and then gives her recipe suggestions based on her answers.

Example Interaction:

1. Assistant Initial Query:

- **Assistant:** "Hi Sarah! What ingredients do you have in your kitchen today? Feel free to list a few."
- **Purpose:** The assistant starts by gathering information about what Sarah already has in her kitchen, ensuring that the recipes suggested are practical and based on what's available.

2. Sarah's Response:

- **Sarah:** "I have chicken, tomatoes, onions, and some spinach."
- **Assistant Follow-up Question:**
- **Assistant:** "Thanks! Are you looking for a quick meal, or do you have some time to cook something more elaborate?"
- **Purpose:** The assistant asks about Sarah's time commitment to ensure that the recipe suggestion matches her availability and energy level.

3. Sarah's Response:

- **Sarah:** "I'm short on time, so something quick would be great."
- **Assistant Follow-up Question:**
- **Assistant:** "Got it! Do you have any dietary preferences or restrictions, like gluten-free, vegetarian, or low-carb?"
- **Purpose:** This question helps the assistant refine its recipe suggestions by considering Sarah's dietary preferences and restrictions.

4. Sarah's Response:

- **Sarah:** "I'm trying to eat low-carb, so no pasta or rice, please."
- **Assistant Follow-up Question:**
- **Assistant:** "Perfect! Would you prefer a chicken stir-fry, a salad, or a light soup for dinner?"
- **Purpose:** The assistant narrows down the recipe choices further, offering only options that are compatible with Sarah's dietary preferences and time constraints.

5. Sarah's Response:

- **Sarah:** "A stir-fry sounds great."
- **Assistant Conclusion:**
- **Assistant:** "Here's a quick and easy chicken stir-fry recipe with the ingredients you have on hand: 1. Heat olive oil, 2. Add chicken and cook until browned, 3. Toss in the onions, tomatoes, and spinach, and stir-fry for 5 minutes. Done! Enjoy your healthy, low-carb meal!"
- **Purpose:** Based on Sarah's answers, the assistant delivers a tailored recipe that fits her ingredients, dietary restrictions, and time constraints.

How the Pattern Works in This Scenario:

1. Interactive Feedback Loop:

- The assistant doesn't provide a random recipe but asks a series of focused questions. Each question helps it gather more details about Sarah's ingredients, preferences, and time constraints. The assistant then adjusts the recipe suggestions based on the answers, ensuring that each step adds more relevance to the outcome.
- 2. **Tailored Responses:**
 - Rather than offering a list of general recipes, the assistant customizes its suggestions by considering Sarah's specific needs, including the available ingredients and her dietary preferences. This allows the assistant to provide a recipe that is both practical and aligned with Sarah's lifestyle.

Why This Pattern Works in Recipe Suggestions:

1. **Personalized Results:**
 - By asking detailed questions, the assistant ensures that the recipe suggestions match Sarah's specific situation, such as her available ingredients and the time she has to cook. This avoids offering recipes that would require ingredients she doesn't have or that would take too long to prepare.
2. **Efficiency and Convenience:**
 - The assistant tailors the recipe to be quick and easy based on Sarah's time constraint, which makes the process more efficient. She doesn't have to scroll through endless recipe options that aren't relevant to her current needs.
3. **User Satisfaction:**
 - The interaction feels more personalized, as Sarah is actively involved in guiding the assistant toward the recipe that works best for her. By narrowing down options through a series of questions, the assistant ensures that Sarah gets exactly what she needs, leading to a more satisfying and efficient cooking experience.

2. Prompt Creation and Application

Below are two distinct prompts for the **Personalized Recipe Suggestion Assistant** scenario, showcasing the **Ask for Input Pattern**'s flexibility in tone, structure, and intent:

Prompt 1: Casual and Friendly Tone

Intent: To make the user feel relaxed and engaged, guiding them through the process in a conversational manner.

Prompt: "Hey there, chef! 🍳 What do you have in your kitchen today? You know, I can help you whip up something delicious with whatever you've got. Just let me know a few ingredients, and I'll do the rest! 😊"

Structure & Tone:

- **Tone:** Friendly, casual, and upbeat.
- **Structure:** The prompt feels light and informal, inviting the user to share ingredients without feeling rushed or pressured.
- **Intent:** The aim is to make the user feel at ease and encourage them to share what they have without hesitation, making the assistant feel more approachable.

Prompt 2: Professional and Direct Tone

Intent: To convey the assistant's capabilities in a more formal and clear manner, focusing on precision and efficiency.

Prompt: "Welcome! To help you find the perfect recipe, could you please list the ingredients you currently have available? I'll then suggest a meal that best suits your needs based on those ingredients."

Structure & Tone:

- **Tone:** Formal, concise, and focused.
- **Structure:** The prompt is direct and to the point, with clear instructions for the user.
- **Intent:** The goal here is to make the interaction feel professional and straightforward, guiding the user to provide relevant information efficiently.

3. Analysis of Model Responses (Comparison of the Two Prompts):

1. **Tone:**
 - **Prompt 1** uses an informal, friendly approach with emojis, creating a warm and engaging environment for users who might appreciate a more casual experience.
 - **Prompt 2** adopts a more formal tone, focusing on clarity and professionalism, suitable for users who prefer a no-nonsense, straightforward interaction.
2. **Structure:**
 - **Prompt 1** introduces a conversational, relaxed style to encourage the user to open up and provide ingredients without feeling pressured.
 - **Prompt 2** is clear and precise, offering direct guidance to gather the necessary information quickly and efficiently.
3. **Intent:**
 - **Prompt 1** aims to make the experience fun and engaging, encouraging users to participate actively in the process.
 - **Prompt 2** is more focused on helping the user get to the solution quickly, with minimal fuss and clear expectations.

Part 3: Making the Ask for Input Pattern Easy to Understand in 2 different formats

Format 1: Interactive presentation available via **Prezi**:

<https://prezi.com/view/cigvQOLqfYaM6iIQlz5x/>

Format 2: Comprehensive documentation ppt available via **Gamma App**:

<https://gamma.app/docs/The-Ask-for-Input-Pattern-in-AI-Interactions-d2ssknoguhs5bmr>

Part 4: Quizzes and Challenges

a. Quiz on the Ask for Input Pattern

1. Multiple-Choice Question:

a. Which of the following best describes the core concept of the Ask for Input Pattern?

- a) AI makes assumptions about what the user needs
- b) AI asks specific questions to gather more information from the user
- c) AI provides generalized responses without asking the user for more details
- d) AI doesn't interact with the user at all

Answer: b) AI asks specific questions to gather more information from the user

b. How does the Ask for Input Pattern improve user experience?

- a) By guessing the user's needs without clarification
- b) By providing random suggestions based on vague user input
- c) By involving the user in the process to create more personalized responses
- d) By offering generic, one-size-fits-all answers

Answer: c) By involving the user in the process to create more personalized responses

2. Short-Answer Question:

a. What is the primary benefit of using an Interactive Feedback Loop in the Ask for Input Pattern?

Answer:

The primary benefit is that it allows the AI to gather more accurate information from the user, improving the relevance and quality of the AI's responses.

3. Scenario-Based Question:

You're using a virtual assistant to book a flight. The assistant first asks, "Where would you like to go?" You answer, "Paris." It then asks, "What dates are you thinking of?" You respond with specific dates. Why is this an example of the Ask for Input Pattern?

Answer:

This is an example of the Ask for Input Pattern because the virtual assistant asks specific questions to gather more detailed information from the user (destination and dates), which helps tailor the response (flight options) based on the user's input.

4. True/False Question

The Ask for Input Pattern is primarily used to make AI interactions more automated and impersonal.

Answer: False - The Ask for Input Pattern makes AI interactions more personalized and responsive to the user's specific needs.

b.Challenge Activity

Activity: Applying the Ask for Input Pattern

Objective:

Participants will learn to design AI prompts and follow-up questions using the Ask for Input Pattern. They will also analyze how tailored responses improve interaction quality.

Scenario:

You are designing a virtual assistant for **travel planning**. The assistant needs to gather detailed input from the user to recommend an itinerary based on their preferences, destination, and budget.

Instructions for Participants:

1. **Craft an Initial Prompt**
Write an initial prompt that the virtual assistant will use to start the conversation. The goal is to encourage the user to share their travel destination.
2. **Design Follow-Up Questions**
Create **2–3 follow-up questions** to refine the assistant's understanding of the user's preferences. These should focus on activities, budget, and other preferences.
3. **Analyze the Response**
Reflect on the effectiveness of the interaction:
 - Did the prompts help gather the necessary details?
 - Was the AI response aligned with user needs?
 - How did the Ask for Input Pattern enhance the quality of the conversation?
4. **Optional:**
If you want, choose another scenario to practice, such as:
 - A shopping assistant recommending gifts.
 - A health chatbot assisting with symptoms.

Example Solution

Initial Prompt:

"Hi! I can help you plan your perfect trip. Where are you planning to travel?"

Follow-Up Questions:

- "What kind of activities are you interested in—adventure, sightseeing, or relaxation?"
- "What is your budget for the trip?"
- "Are you traveling solo or with others?"

Simulated User Input:

1. "I'm traveling to Paris."
2. "I enjoy sightseeing and cultural experiences."
3. "My budget is around \$1,500, and I'm traveling solo."

Tailored AI Response:

"Based on your preferences, I suggest visiting landmarks like the Eiffel Tower and the Louvre Museum. For cultural experiences, you could attend a local cooking class or a wine-tasting tour. With a \$1,500 budget, I recommend staying at boutique hotels or exploring Airbnb options. Would you like me to help you book these activities?"

Analysis:

- The prompts effectively gathered details about the destination, activity preferences, and budget.
- The tailored response aligned with the user's preferences, suggesting activities and accommodations that matched their needs.
- The Ask for Input Pattern ensured the AI avoided assumptions and provided a personalized experience.