

Human Machine Dialogue

Mandatory Homework

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Master's degree in Artificial Intelligence Systems

Submitted By

Sr #	Student Name	Reg. No.
01	Adnan Irshad	241763

To

**Giuseppe Riccardi
Seyed Mahed Mousavi
Giuliano Tortoreto**



**UNIVERSITY
OF TRENTO**

Department of Information Engineering and Computer Science

In the homework, I observed human conversations in context of Hospitality/Pizza Ordering, then according to that I fulfilled the requirements of the homework.

Step 01. Observe a Human-Human Dialog:

Human-Human Dialog:

Customer: Hi, I'd like to order a large pepperoni pizza for delivery.

Employee: Sure, can I get your address, please?

Customer: It's XYZ Main Street.

Employee: Great, any specific crust type or additional toppings?

Customer: Just the regular crust, and add some mushrooms, please.

Employee: Got it. Anything else?

Customer: Do you have any deals or discounts today?

Employee: Yes, we have a special on large pizzas – buy one get one free.

Customer: Perfect, add another large pepperoni then.

Employee: Your order will be delivered in about 30 minutes. Anything else?

Customer: No, that's it. Thanks!

Step 02. Write a Human-Machine Dialog:

Human-Machine Dialog:

Machine: Hello! Welcome to Pizza Haven. How can I assist you today?

User: I'd like to order a large pepperoni pizza for delivery.

Machine: Sure thing! Can I have your delivery address, please?

User: It's 456 Oak Street.

Machine: Great! Would you like to stick with the regular crust, or do you prefer thin or thick crust?

User: Regular is fine. Add some mushrooms to it as well.

Machine: Noted. And just to let you know, we have a special today – buy one large pizza, get another free. Would you like to take advantage of that?

User: Oh, sure! Add another large pepperoni then.

Machine: Perfect! Your order will be delivered in approximately 30 minutes. Anything else I can help you with?

User: No, that's it. Thanks!

Step 03. Identify Tasks, Informable, and Requestable Slots:

Tasks:

1. Take pizza order.
2. Confirm delivery address.
3. Customize pizza details (crust, toppings).
4. Inform about specials or deals.
5. Confirm order and delivery time.

Informable Slots:

1. Pizza size
2. Pizza type (pepperoni)
3. Crust type
4. Additional toppings
5. Delivery address
6. Special deals

Requestable Slots:

1. Address
2. Crust type
3. Toppings
4. Special deals

Step 04. Write 2 Mixed-Initiative Dialogs:

Mixed-Initiative Dialog 1 (Under-informative):

User: Order pizza.

Machine: Sure, what size and type of pizza would you like?

User: Just a large one.

Machine: Any specific crust or toppings?

User: Whatever.

Machine: Alright, I'll assume regular crust and basic toppings. Is that okay?

User: Sure.

Machine: Your order will be delivered. Anything else?

User: No.

Mixed-Initiative Dialog 2 (Over-informative):

User: I want a large pizza with pepperoni, mushrooms, onions, green peppers, and olives.

Machine: Great! We offer three crust options: thin, regular, and thick. Which one would you prefer? Also, we have a special deal today – buy one large pizza, get another free. Would you like to add another large pizza to your order?

User: Just the regular crust, and yes, add another large pizza.

Machine: Perfect! Your order will be delivered in approximately 30 minutes. Anything else you'd like to know about our menu?

User: No, that's fine.

Step 05. Write 3 Mixed-Initiative Dialogs with Different System Profiles and Error Handling Strategies:

Mixed-Initiative Dialog 1 (Proactive System):

Machine: Hi there! We have a fantastic deal on large pizzas today. Would you like to hear about it?

User: Sure.

Machine: Buy one large pizza, get one free! What type of pizzas are you interested in today?

User: Pepperoni.

Machine: Excellent choice! Would you like any additional toppings or stick with the classic pepperoni?

User: Just pepperoni.

Machine: Perfect! Your order is in progress. Anything else I can assist you with?

User: No, that's all.

Mixed-Initiative Dialog 2 (Error Handling- Clarification):

User: I want a large pizza with pepperoni and extra cheese.

Machine: Alright. Just to confirm, you'd like a large pepperoni pizza with extra cheese. Is that correct?

User: No, I meant pepperoni and mushrooms.

Machine: Got it! Large pepperoni with mushrooms. Anything else?

User: Nope, that's it.

Mixed-Initiative Dialog 3 (Error Handling- Apology):

User: I want a pizza delivered to XYZ Oak Street.

Machine: I'm sorry, but I couldn't find an address matching XYZ Oak Street. Could you please double-check the address?

User: Oh, I meant XYZ Maple Street.

Machine: No problem! Got it. Your pizza will be delivered to XYZ Maple Street. Anything else?

User: No, that's all.