# 1. Memory Acquisition Stage

Episode #1

**Object Semantics: Preference** 



Move cup to the living room table, and move bowl...

The cup is blue.

That's my favorite cup!

### Task instruction

- + Additional info
- + Personalized knowledge



## **Episodic Memory**

Episode #1

#### **Task Instruction**

Move cup to the living room table ... That's my favorite cup!

#### Interaction History

Thought: To find the user's favorite cup, I need to identify ... Act: DescribeObject[cup\_1] Results: A blue cup.

Episode #2

User Pattern: Routine



Move bowl ... and then, put apple on the bowl. It's my light breakfast setting!

#### **Task instruction**

+ Personalized knowledge

Accumulate the history of interaction

## Episode #2

## **Task Instruction**

... and then, put apple on the bowl. It's my light breakfast setting!

### Interaction History

Thought: To set up the user's light breakfast setting, I should move... Act: Pick[bowl\_1] Results: Success



## **Environment**

Utilize episodic memory for personalized task



# 2. Memory Utilization Stage

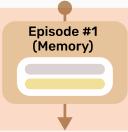
Single-memory Task

**Object Semantics: Preference** 



Move my favorite cup to the living room table ...

### **Personalized Instruction**



DescribeObject[cup\_1] Results: A blue cup.

Thought: Based on the previous example, the user's cup is blue.

## Joint-memory Task

**Object Semantics: Preference User Pattern:** Routine





Move my favorite cup to the living room table ... and then, prepare my light breakfast setting!

Sequential **Personalized Instruction** 

Episode #1 (Memory)

Episode #2 (Memory)



Act: Pick[bowl\_1] Results: Success

Thought: Next, I will prepare the user's ... Based on the previous example, ...



Act: FindObiect[bowl] ...