

# 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**

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



**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

**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



**MEMENTO**

: Personalized Embodied Agent Evaluation Framework

# 2. Memory Utilization Stage

Single-memory Task

**Object Semantics:** Preference



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

**Personalized Instruction**

Episode #1  
(Memory)



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

**Thought:** Based on the previous example, the user's cup is blue.  
**Act:** Pick[cup\_1] ...

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:** FindObject[bowl] ...