

Lec 10

# Cognitive Frameworks

How does/will users act?

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# Digital Behavior

- Online shopping funnel
- Apps quitting
- Multitasking in VR
- ....

# Cognitive Frameworks

**Mental  
Models**

**Gulfs of  
Execution and  
Evaluation**

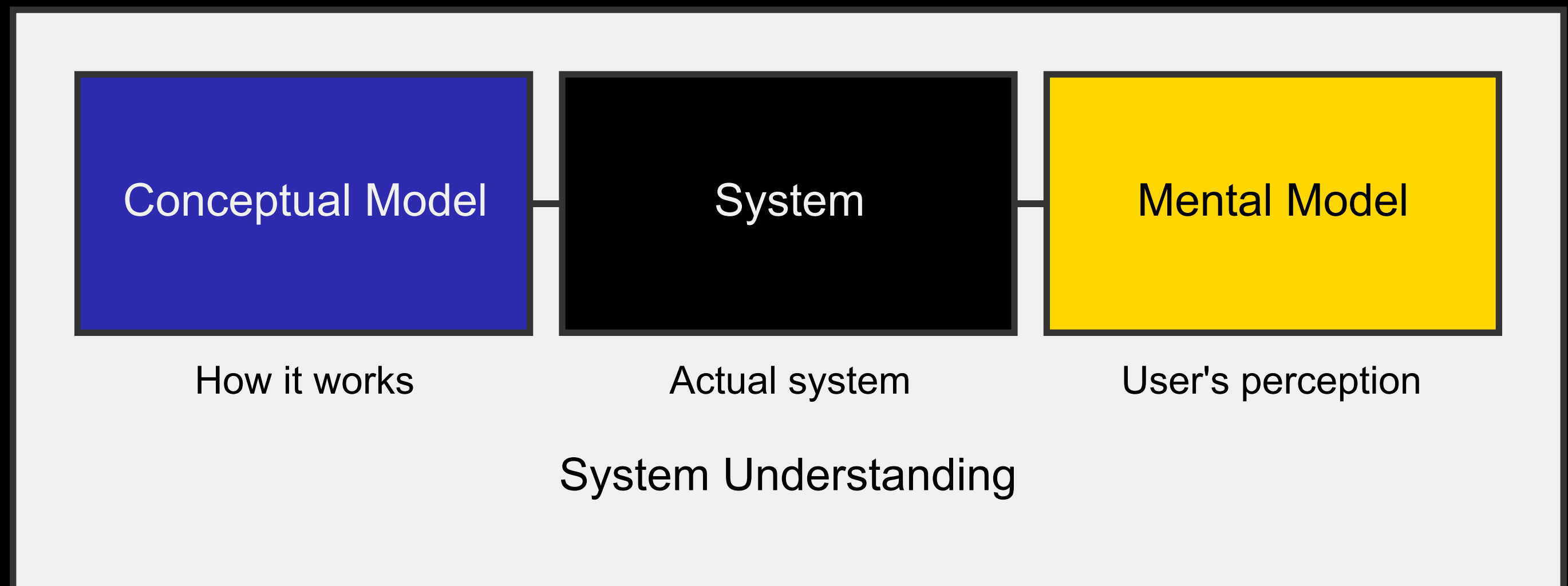
**Information  
Processing**

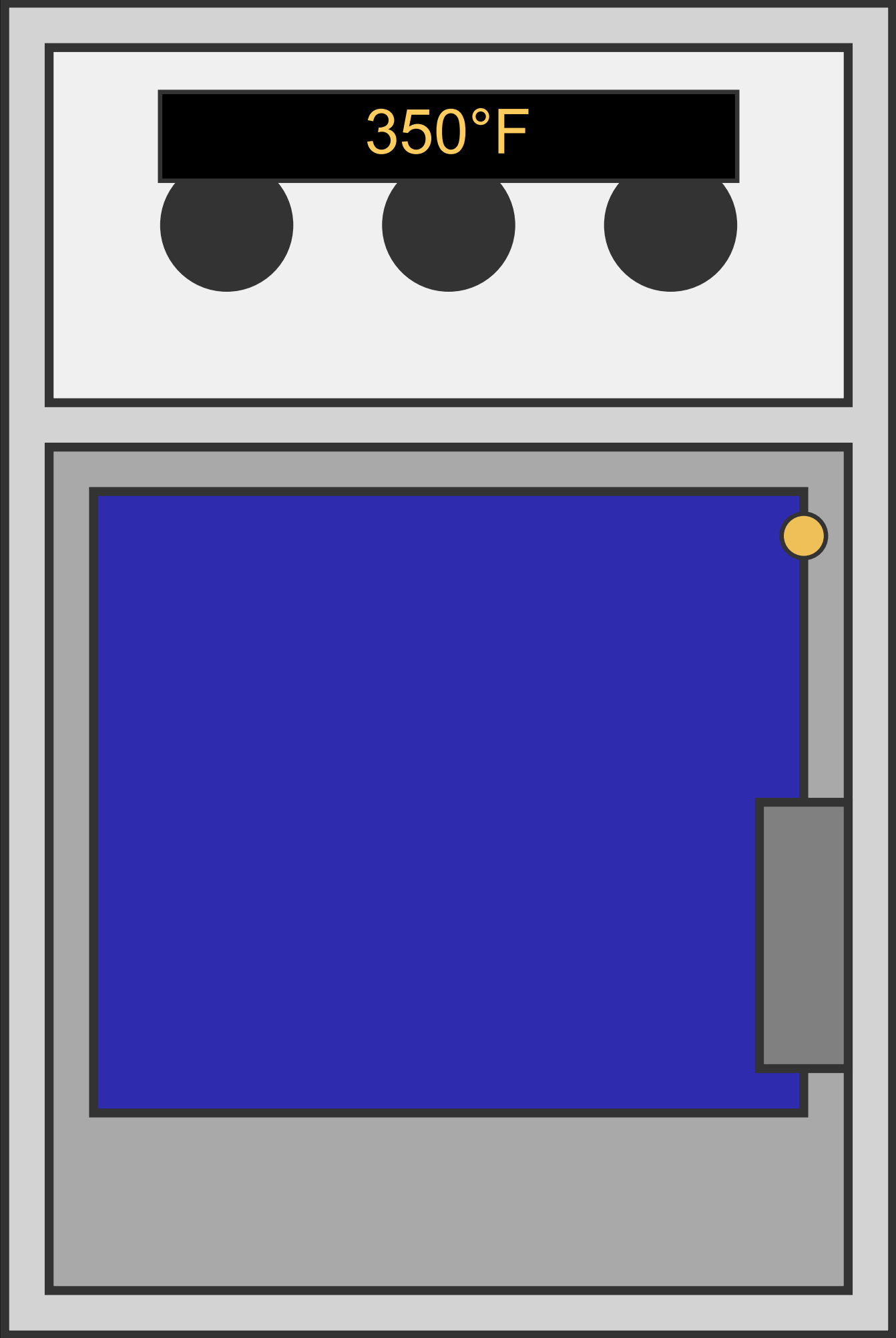
**Distributed  
Cognition**

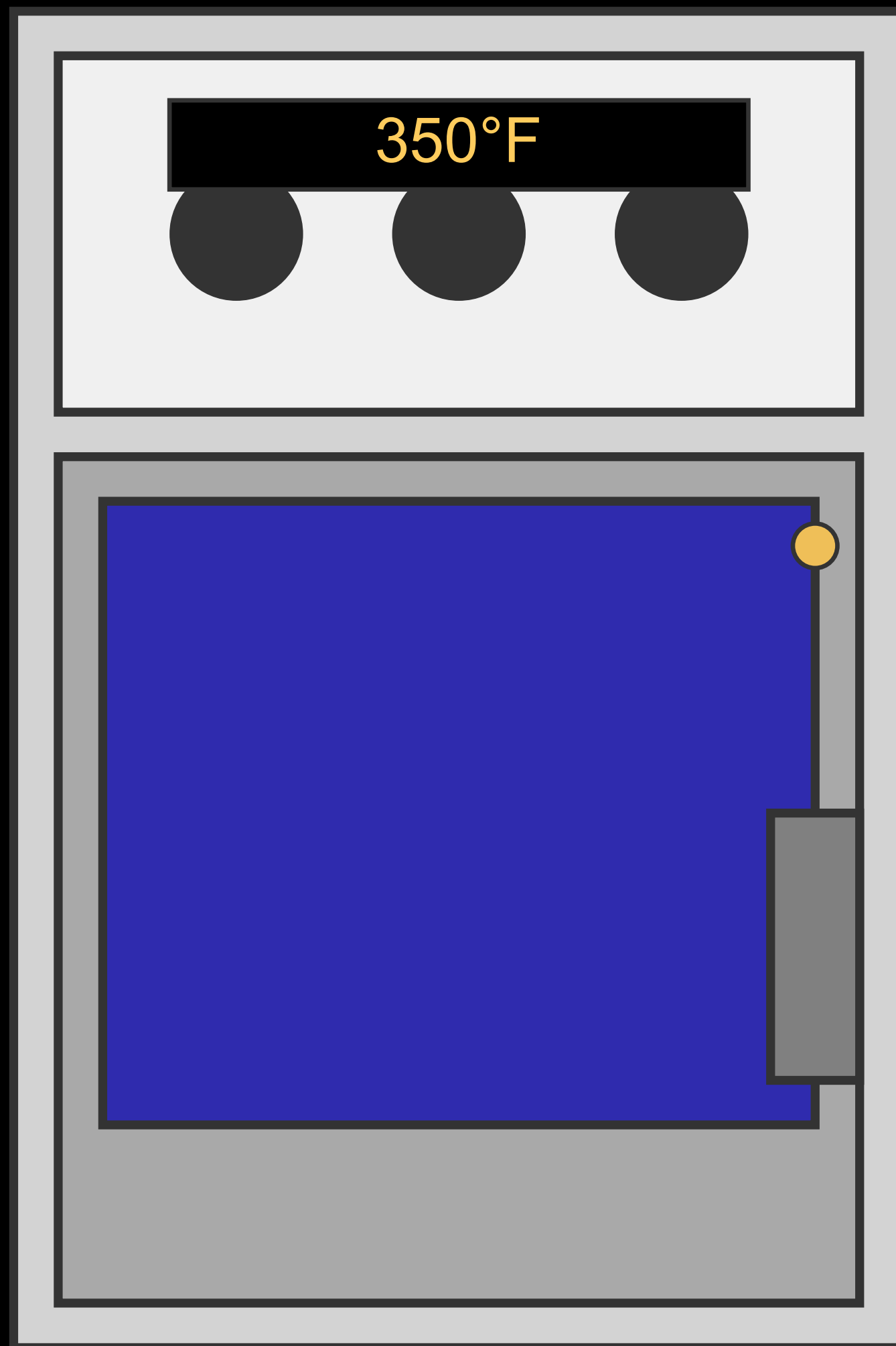
**External  
Cognition**

**Embodied  
Interaction**

# Mental Models







## Confused with “More is More”

- Fire oven > More heat
- Open Faucet > More water
- Food > Growth
- ...

**Other confusions with  
interfaces ..**

- ...

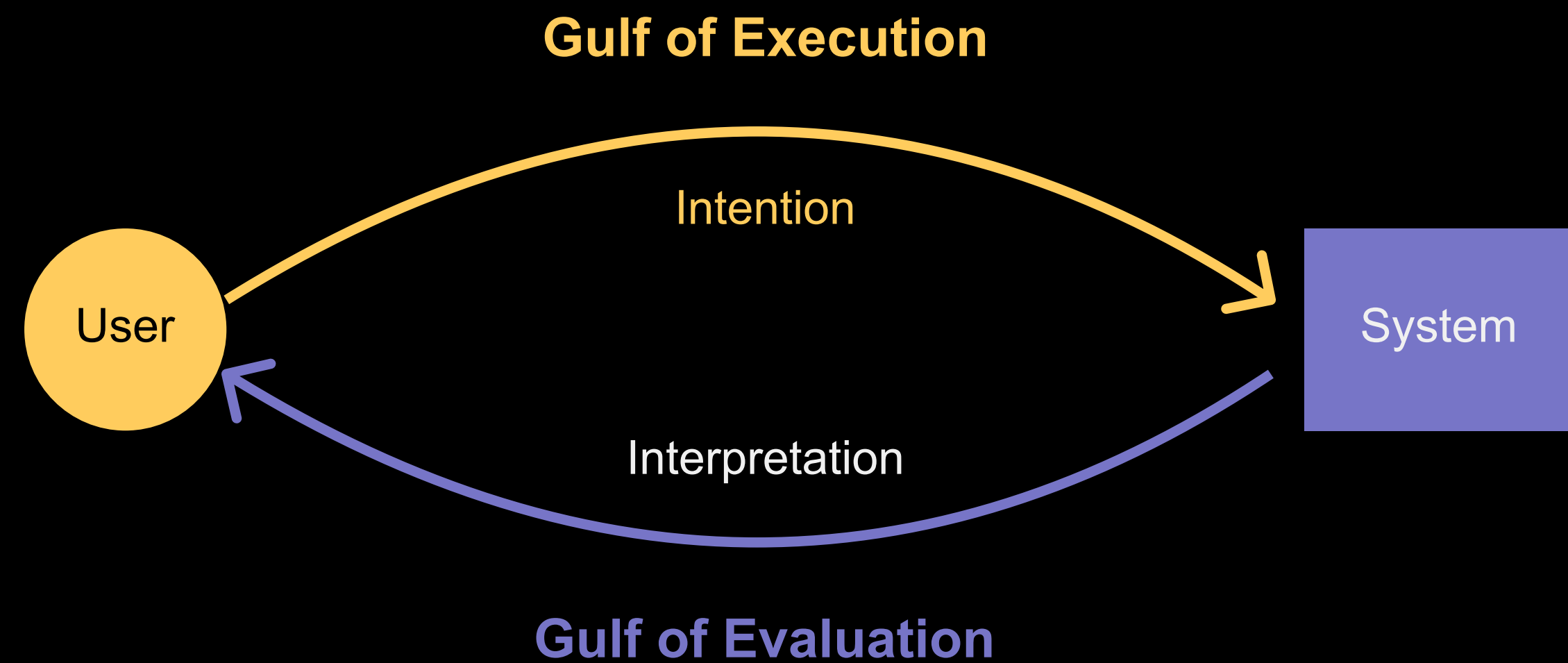
initially building on familiar patterns to ensure  
comprehension while gradually introducing new  
elements and components





- What information is sent between the mobile and the card reader?
- how does the reader works?
- maximum amount to pay?
- what happens when stolen?

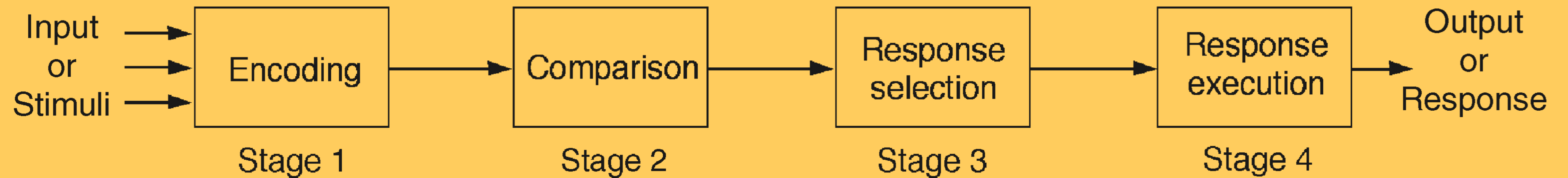
# Gulf of Execution/ Evaluation



**Examples of  
confusion that  
happens in intention/  
interpretation ..**

- Banking app .. Transfer ..
- ...

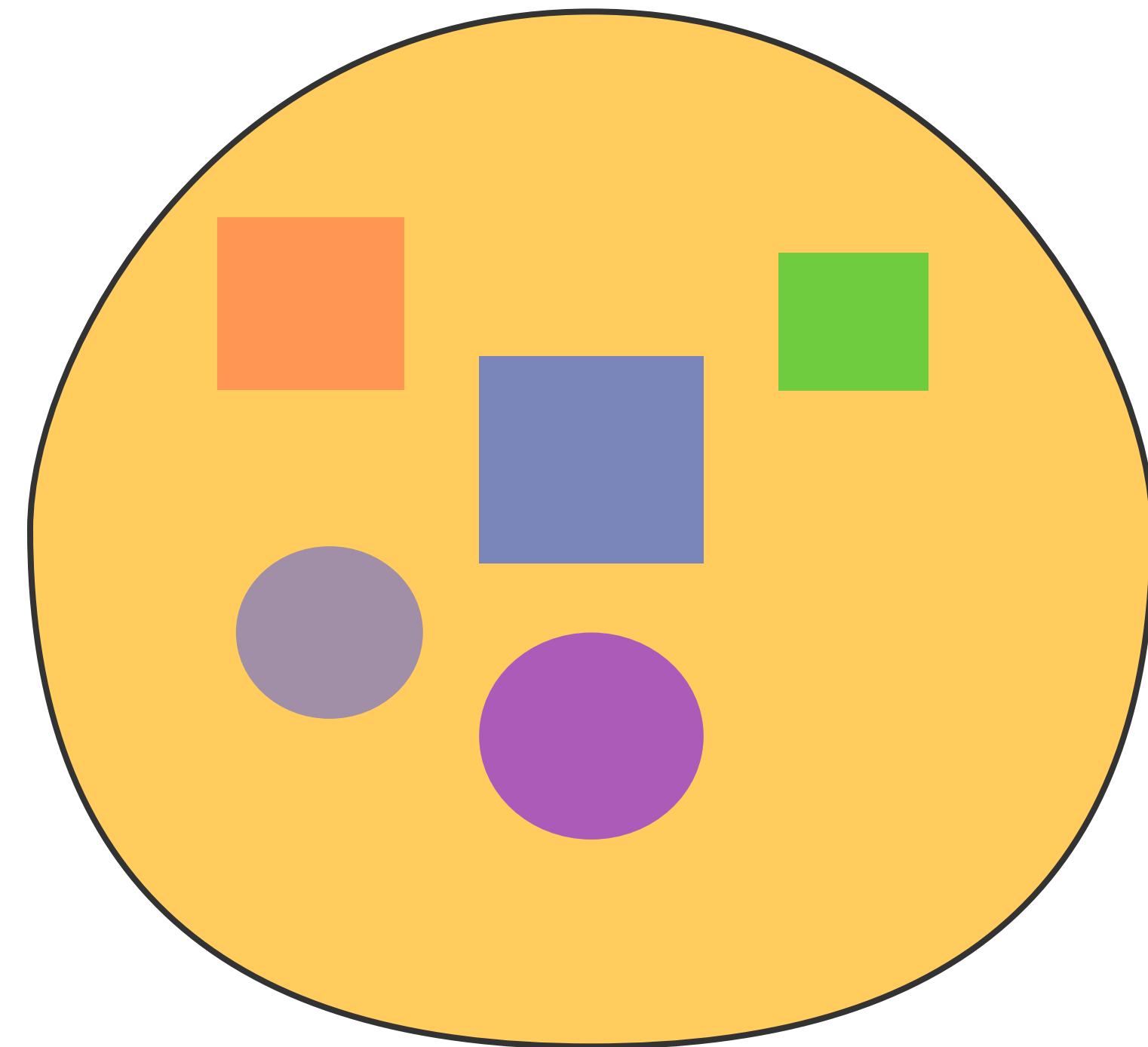
# Information Processing



# Cognitive Load

The mental effort required to learn something new or perform a task, with the assumption that mental capacity is limited.

Cognitive Load Illustration



Tasks and Memory Items

# Read & Present

## Mental Processes

- Learning
- Reading, Speaking & Listening
- Problem-Solving, Planning, Reasoning, and Decision-Making

## Mental Frameworks

- Distributed cognition
- External cognition
- Embedded interaction

## **Reducing cognitive load examples**

- Google maps ..
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