

# USER INTERFACE DESIGN

Roll.No: 240701005

Name: Abenanthan P

## EXPERIMENT 2

Design a UI where users recall visual elements (e.g., icons).

Evaluate the effect of chunking on user memory.

### FRAME 1:

#### INSTRUCTION FRAME:

##### ***Chunking Analysis of the Instruction Page :***

Chunking is a cognitive strategy that breaks down information into smaller, manageable units, making it easier to process and retain. The Memory Recall Task instruction page effectively utilizes chunking in the following ways:

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##### ***1. Clear and Sequential Numbering :***

- The instructions are broken down into six steps, making it easier to follow.
- Each step presents one key action in a structured manner, reducing cognitive overload.

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##### ***2. Logical Grouping of Information :***

- **Observation Phase (Steps 1-2)** → Users learn about what they will see.
- **Memorization Strategy (Step 3)** → Encourages users to focus on remembering items.
- **Recall Phase (Steps 4-5)** → Explains how users will recall information.

### **3. Visual Hierarchy and Design Elements :**

- **Bold, large title ("MEMORY RECALL TASK")** → Grabs attention and clearly states the task.
  - **Bullet points and spacing** → Reduce clutter, enhancing readability.
  - **Highlighted "START" button** → Signals the next step, keeping navigation intuitive.
  - **Space-themed visuals** → Add a playful touch, engaging users without distraction.
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### **4. Time Constraint Reinforcement :**

- Step 5 explicitly states, "**You will have 5 seconds to view the items.**"
  - This reinforces expectations while subtly urging users to focus.
  - A Progressive bar also decreases for each second ensuring user to focus on time constraint.
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### **5. Simplicity and Clarity :**

- Instructions use short, direct sentences, avoiding unnecessary complexity.
  - The active voice makes it more engaging and action-oriented.
  - More clarity helps users to remember the icons
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# MINDFLAYER

## MEMORY RECALL TASK

### INSTRUCTIONS:

1. You will be shown several groups of icons or text.
2. Carefully observe each group during the viewing time.
3. Try to memorize as many items as possible.
4. After viewing, recall the items you remember.
5. You will have 5 seconds to view the items. Then, recall them on the next screen.
6. Accuracy in recall is more important than speed.

CONTINUE

## FRAME 2:

### CHUNKING PHASE:

#### ***Analysis of the Memory Recall Task - Chunking Phase Screen :***

This screen represents the Chunking Phase of a Memory Recall Task, where users observe and memorize different icons within a limited time. Below is a breakdown of its key components:

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#### ***1. Purpose of the Screen***

- This is the visual memory encoding phase, where users view and group items mentally before recalling them.
- The term "Chunking Phase" suggests that the game applies the chunking principle, which helps users remember items by categorizing them into meaningful groups.

## **2. Key Elements and UI Components :**

### **➤ Countdown Timer (Top Left – Purple Circle: "00:05") :**

- Indicates that users have 5 seconds to observe and memorize the displayed items.
  - The bright purple colour and bold text create urgency, ensuring users stay focused.
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### **➤ Progress Bar (White Bar Below Title) :**

- Shows the time remaining visually, reinforcing the sense of urgency
  - A partially filled bar suggests that some time has already passed.
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### **➤ Grid of Icons :**

- Various icons (such as stars , astronaut , comet , galaxies , rocket, thunder etc.) are displayed in a 5x4 grid format.
  - These icons are visually distinct yet grouped by similarities, encouraging chunking strategies
  - Categorizing by theme (e.g. space , science and galaxies).
  - Grouping similar colours or backgrounds (e.g., purple and white tiles).
  - Associating repeated icons (e.g., multiple rockets, stars, comet).
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## **3. How the Chunking Phase Works :**

- Users scan the grid and look for patterns or related items to create mental chunks.
  - The countdown timer limits observation time, forcing quick memory strategies.
  - Once time is up, users transition to the recall phase, where they must identify previously seen items
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#### **4. Cognitive and UX Benefits of Chunking :**

- Enhances short-term memory by allowing users to recall groups of information instead of individual elements.
  - Reduces cognitive overload by helping users organize data efficiently.
  - Improves pattern recognition, making recall easier and more accurate.
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## FRAME 3:

### RECALL PHASE:

#### ***Analysis of the Memory Recall Task - Selection Phase :***

This screen represents the Selection Phase of a Memory Recall Task, where users recall and choose the items they remember from the previous Chunking Phase. Below is a breakdown of its components:

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#### ***1. Purpose of the Screen :***

- This is the memory retrieval stage, where users select the items they remember seeing in the previous phase.
  - The goal is to test the effectiveness of chunking and short-term memory retention
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#### ***2. Key Elements and UI Components :***

##### ➤ ***Title & Instructions :***

- "**MEMORY RECALL TASK**" (Bold Header) – Reinforces the purpose of the task.
- "**SELECT THE ITEMS YOU REMEMBER:**" – Clear instruction guiding the user to choose remembered items.

##### ➤ ***Grid of Icon Choices :***

- A set of eight icons are presented as multiple-choice options.
- Some icons were previously displayed, while others are distractors (new icons added to confuse users).
- Users must identify which icons appeared in the Chunking Phase.

➤ ✓ *Check Box :*

- A component set containing checkboxes of empty and filled checkboxes are created
- The component set is renamed as TRUE and FALSE respectively
- The asset is added in frame

➤ █ "SUBMIT" *Button (Bottom Center)* :

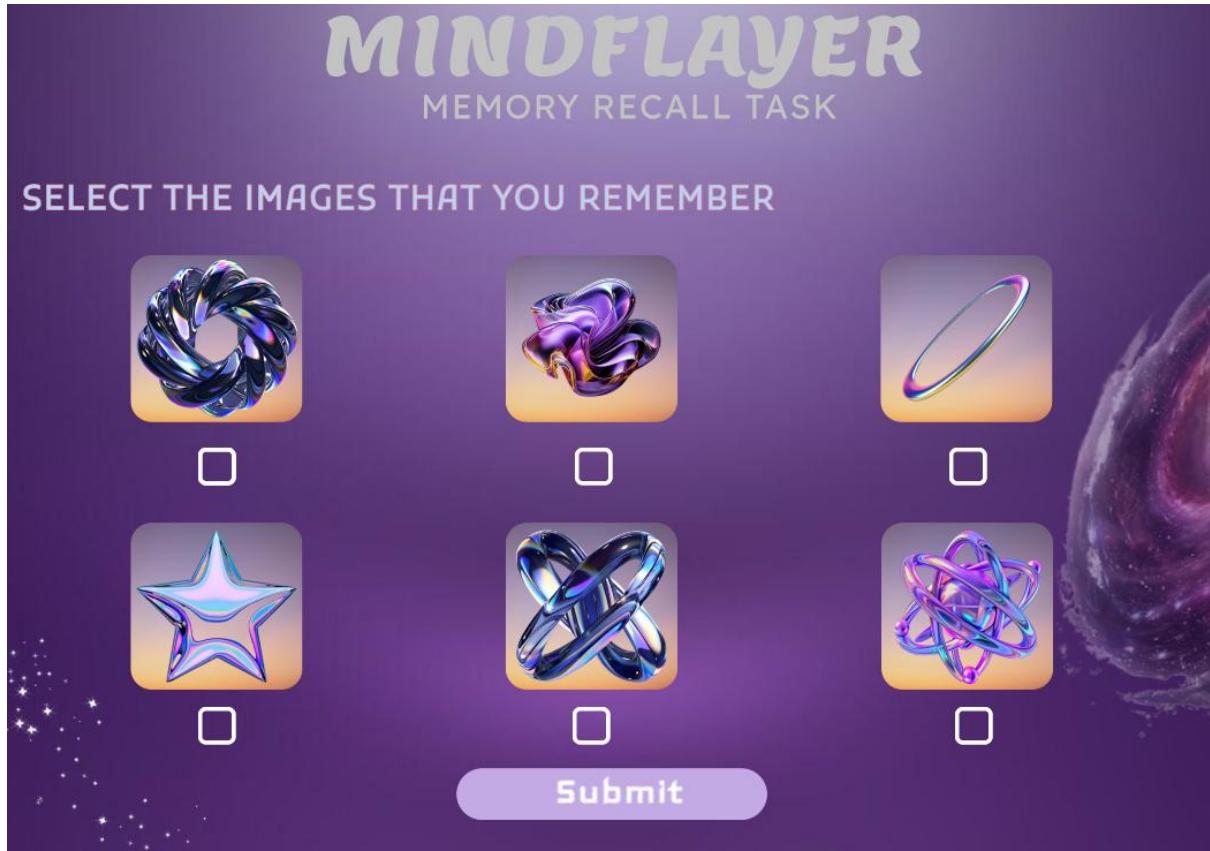
- Once users have made their selections, they press "SUBMIT" to confirm their recall choices.
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**3. How the Selection Phase Works :**

- Users analyze the displayed icons and recall which ones they saw in the Chunking Phase.
  - They select the remembered icons using the radio buttons below each option.
  - Some icons are distractors, testing whether the user's memory is accurate or if they mistakenly recall incorrect icons.
  - Clicking "SUBMIT" finalizes their choices, leading to a results or feedback screen.
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**4. Cognitive and UX Benefits :**

- Tests memory accuracy by comparing user selections with previously displayed items.
  - Incorporates distractors to evaluate how well users distinguish real vs. false memories.
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## FRAME 4:

### REMEMBER PHASE:

#### ***Analysis of the Memory Recall Task - Score & Feedback Screen :***

This screen represents the Score & Feedback Phase of the Memory Recall Task, where users receive their performance evaluation based on the selections made in the previous Recall Phase.

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#### ***1. Purpose of the Screen :***

- Provides feedback on recall accuracy by showing the number of correct answers.
  - Allows users to decide their next action (continue, restart, or exit).
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## **2. Key Elements & UI Components :**

### ➤ **Title & Score Display :**

- "MEMORY RECALL TASK" – Reinforces the game's title.
- "YOUR RECALL SCORE!" – Indicates that the user's performance is being displayed.

### ➤ **Action Buttons (Right Side) :**

- "RESTART" – Allows the user to retake the memory recall test.
  - "EXIT" – End Task and Exits Game.
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## **3. How This Phase Works :**

- A variable (number) is created and assigned to score value
  - Another prototype is added to checkbox present in "RECALL FRAME"
  - The prototype action is increased or decreased as per image in both frames
  - It calculates the accuracy score and displays it on a digital number
  - Users review their performance and choose their next action either Continue or Exit
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## **4. Cognitive & UX Benefits :**

- Instant feedback helps users track their memory performance.
  - Multiple options (Continue, Exit) give users control over their learning experience.
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MEMORY RECALL TASK

CONGRATULATIONS YOUR FINAL SCORE IS

3 / 4

CONTINUE

EXIT

**PROTOTYPE LINK:**

<https://www.figma.com/proto/geStc55wc5CMIVQ1Jg9Jdb/EXERCISE-1-CUP-CAKES?node-id=0-1&t=w9bOmT5LzSgmAkjN-1>