Experiment -2

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Design a UI where users recall visual elements (e.g., icons or text chunks). Evaluate the effect of chunking on user memory.

Chunking Analysis of the Instruction Page

Chunking is a cognitive technique that organizes information into smaller and meaningful units, making it easier for users to understand and remember instructions. The instruction page of the Memory Recall Task effectively applies chunking in the following ways:

1. Clear and Sequential Numbering

The instructions are presented in a numbered sequence, where each step describes one specific action the user must perform. This clear ordering helps users follow the task easily without confusion. By breaking the instructions into separate numbered points, the interface reduces cognitive overload and ensures that users understand the correct flow of the memory recall process.

2. Logical Grouping of Information

The instructions are logically arranged to explain the task flow step by step. Information related to observing, memorizing, and recalling images is grouped together, helping users understand

each phase of the task clearly. This structured grouping supports better comprehension and reduces confusion.

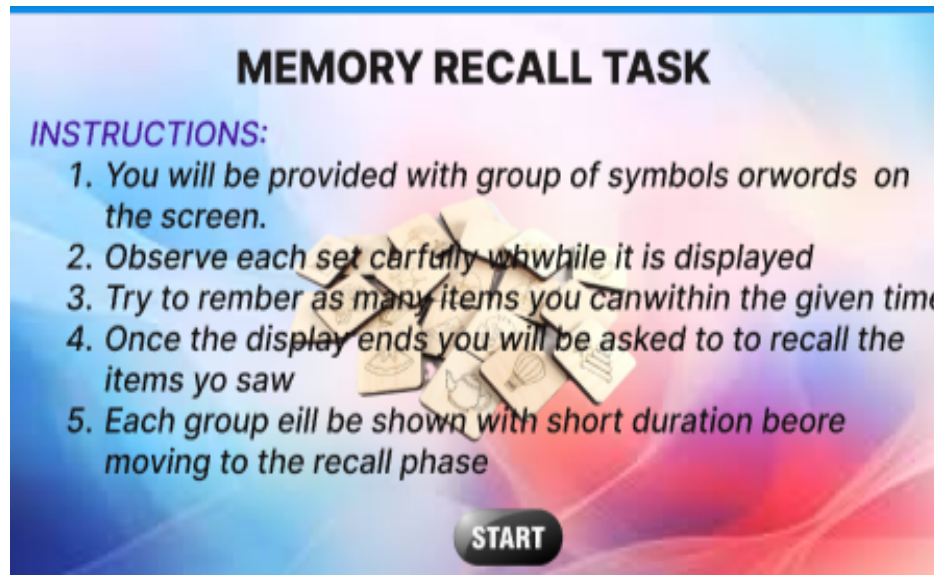## 3. Visual Hierarchy and Design Elements

Important elements such as the task title and the **START** button are visually emphasized using size, spacing, and contrast. This visual hierarchy guides the user's attention to key areas of the screen, making the instructions easier to scan and understand.

4. Time Constraint Reinforcement

The instruction page clearly informs users that the visual elements will be displayed for a limited time. This prepares users mentally for quick observation and encourages them to focus during the memorization phase.

5. Simplicity and Clarity

The instructions use short sentences and simple language, avoiding technical or complex terms. This clarity ensures that users of different skill levels can easily understand the task, resulting in a smooth and user-friendly experience.

MEMORY RECALL TASK

INSTRUCTIONS:
1. You will be provided with group of symbols orwords on the screen.
2. Observe each set carfully whwhile it is displayed
3. Try to rember as many items you canwithin the given time
4. Once the display ends you will be asked to to recall the items yo saw
5. Each group eill be shown with short duration beore moving to the recall phase

START

FRAME 2:

CHUNKING PHASE:

Analysis of the Memory Recall Task – Chunking Phase Screen

The Chunking Phase screen represents the memory encoding stage of the Memory Recall Task, where users observe and memorize visual elements within a limited time. This screen is designed to encourage users to apply chunking strategies for efficient memory storage.

1. Purpose of the Screen

The primary purpose of this screen is to allow users to visually encode information by observing multiple images at once. By presenting related visual elements together, the interface promotes chunking, which improves short-term memory retention.

2. Visual Layout and Content

The screen displays a structured grid of car images arranged uniformly. The consistent layout helps users scan the images quickly while identifying similarities and patterns among them.

3. Application of Chunking Principle

Users can mentally group the images based on visual attributes such as color, type of vehicle, angle of view, or background. This grouping reduces the mental effort required to remember individual items.

4. Time Constraint and User Focus

A progress indicator shows the remaining time for observation. The time limitation encourages users to focus and apply effective memorization strategies instead of passively viewing the images.

5. Cognitive and UX Benefits

The chunking phase minimizes cognitive overload by organizing information visually. It enhances recall accuracy, improves pattern recognition, and creates an engaging and efficient user experience.

FRAME 3:

RECALL PHASE:

Analysis of the Memory Recall Task – Selection Phase

The Selection Phase represents the memory retrieval stage of the Memory Recall Task, where users recall and identify visual elements observed during the previous chunking phase. This phase evaluates the effectiveness of memory encoding and chunking strategies used by the user.

1. Purpose of the Screen

The main purpose of this screen is to test the user's ability to retrieve stored visual information. Users must recognize and select only the images they remember seeing earlier.

2. Key Elements and UI Components

 The screen displays a clear title indicating the memorization or chunking phase, helping users understand the current stage of the task.

Grid of Visual Elements
 A structured grid of car images is presented. The uniform arrangement supports quick scanning and encourages users to group similar images using chunking strategies.

Progress Indicator
 A progress bar shows the remaining viewing time. This visual cue helps users manage their attention and stay focused during the memorization period.

Time Constraint Display
 The limited display duration reinforces urgency and motivates users to actively memorize the images rather than passively view them.

Clean and Consistent Layout
 Consistent spacing, alignment, and visual balance reduce distractions and enhance clarity, supporting effective memory encoding.

3. How the Selection Phase Works

1. After completing the chunking phase, users are presented with a new set of images on the selection screen.
2. The displayed images include both previously seen items and new distractor images.

3. Users carefully recall the images they observed earlier and compare them with the options shown.
4. They select only the images they remember using the provided selection controls.
5. Once all choices are made, users submit their selections to complete the recall process.
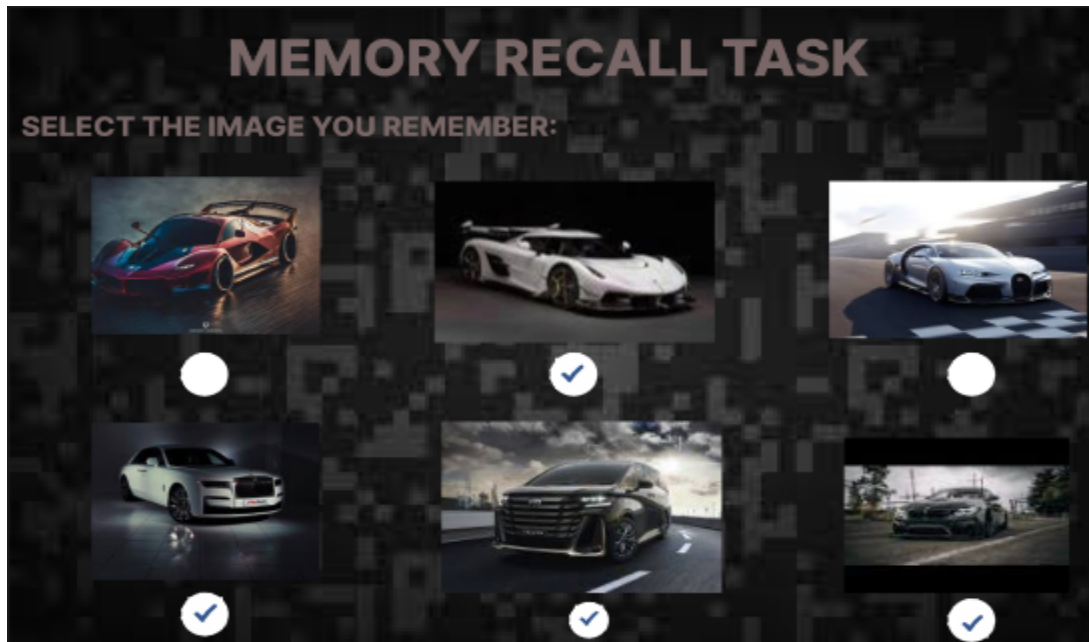
4. Cognitive and UX Benefits

Enhances short-term memory by allowing users to group similar visual elements into meaningful chunks.

Reduces cognitive load by presenting information in an organized and structured grid layout.

Improves pattern recognition, enabling faster and more accurate recall in later phases.

Encourages active user engagement due to time constraints and focused observation.

FRAME 4:

RESULT PAGE:

Analysis of the Memory Recall Task – Score & Feedback Screen

The Score and Feedback Screen represents the final phase of the Memory Recall Task, where users receive immediate evaluation of their performance. This screen plays a crucial role in reinforcing learning and guiding user decisions.

1. Purpose of the Screen

The main purpose of this screen is to display the user's recall accuracy based on selections made during the recall phase. It provides clear feedback on task performance.

2. Key Elements & UI Components

 The screen displays a clear title indicating the result stage of the task, helping users immediately understand that they are viewing their performance outcome.

Score Display Area
 The recall score is shown prominently in a numerical format, making it easy for users to quickly interpret their accuracy level.

Feedback Section
 This area communicates performance feedback, reinforcing learning by showing how well the user recalled the visual elements.

Action Buttons
 Buttons such as **Continue**, **Restart**, and **Exit** allow users to decide their next action, supporting smooth navigation and user control.

Clean and Structured Layout
 Proper spacing, alignment, and visual clarity reduce cognitive load and ensure that the feedback is easily readable and stress-free.

3. How This Phase Works

1. The system evaluates the user's selections made during the recall phase.
2. It calculates the number of correct responses and generates a recall score.
3. The score is displayed clearly on the screen for user review.

4. Users analyze their performance and understand their recall accuracy.
5. Based on the feedback provided, users can choose to continue, restart, or exit the task.
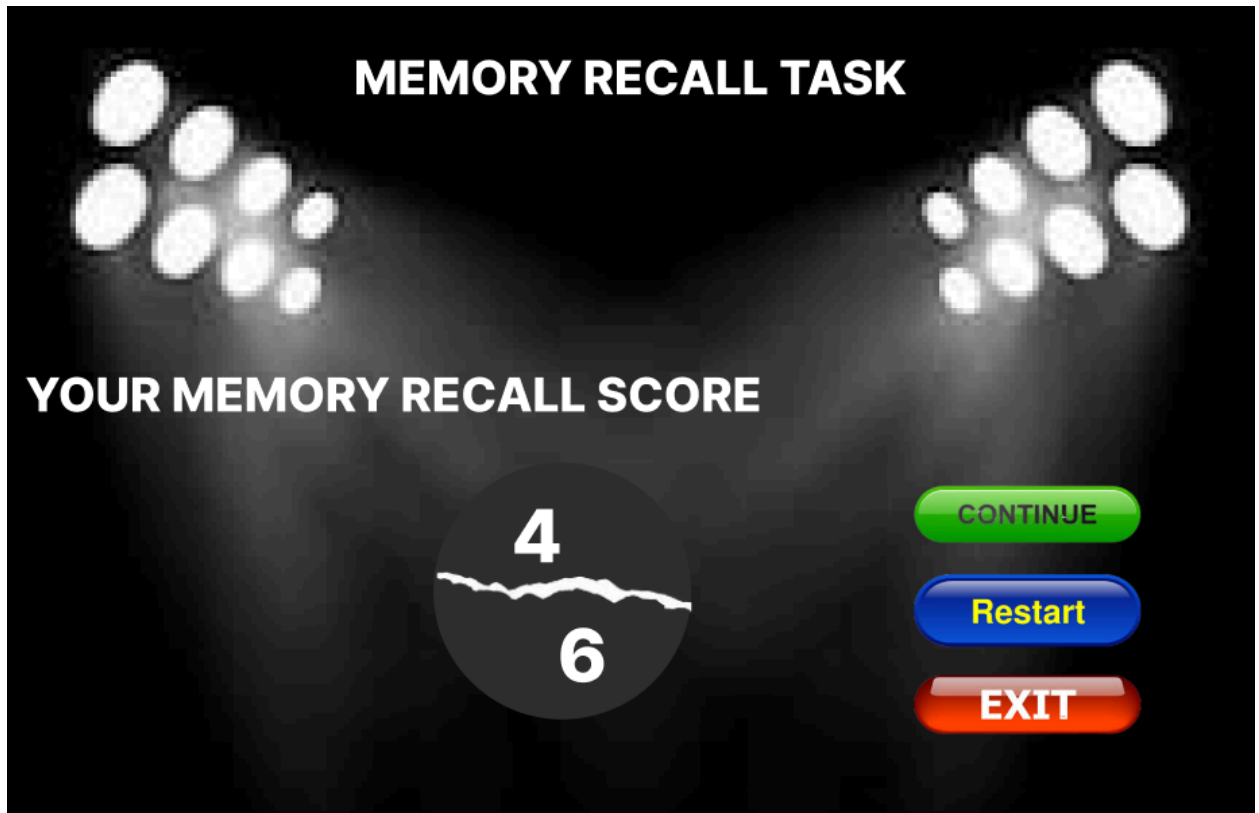
4. Cognitive & UX Benefits

Provides **instant feedback**, helping users quickly understand their recall performance.

Reinforces **learning and memory awareness** by showing accurate results.

Reduces **user anxiety** through clear and simple score presentation.

Improves **decision-making** by offering clear next-step options (Continue, Restart, Exit).

Encourages **self-improvement and repeated practice**, enhancing overall user engagement and experience.

PROTOTYPE LINK:

https://www.figma.com/design/SUmOV1jskYNtQxhBb1Bos1/Untitled?node-id=19-2&t=T28bVG9qEubJSKR4-1

⊡ Figma