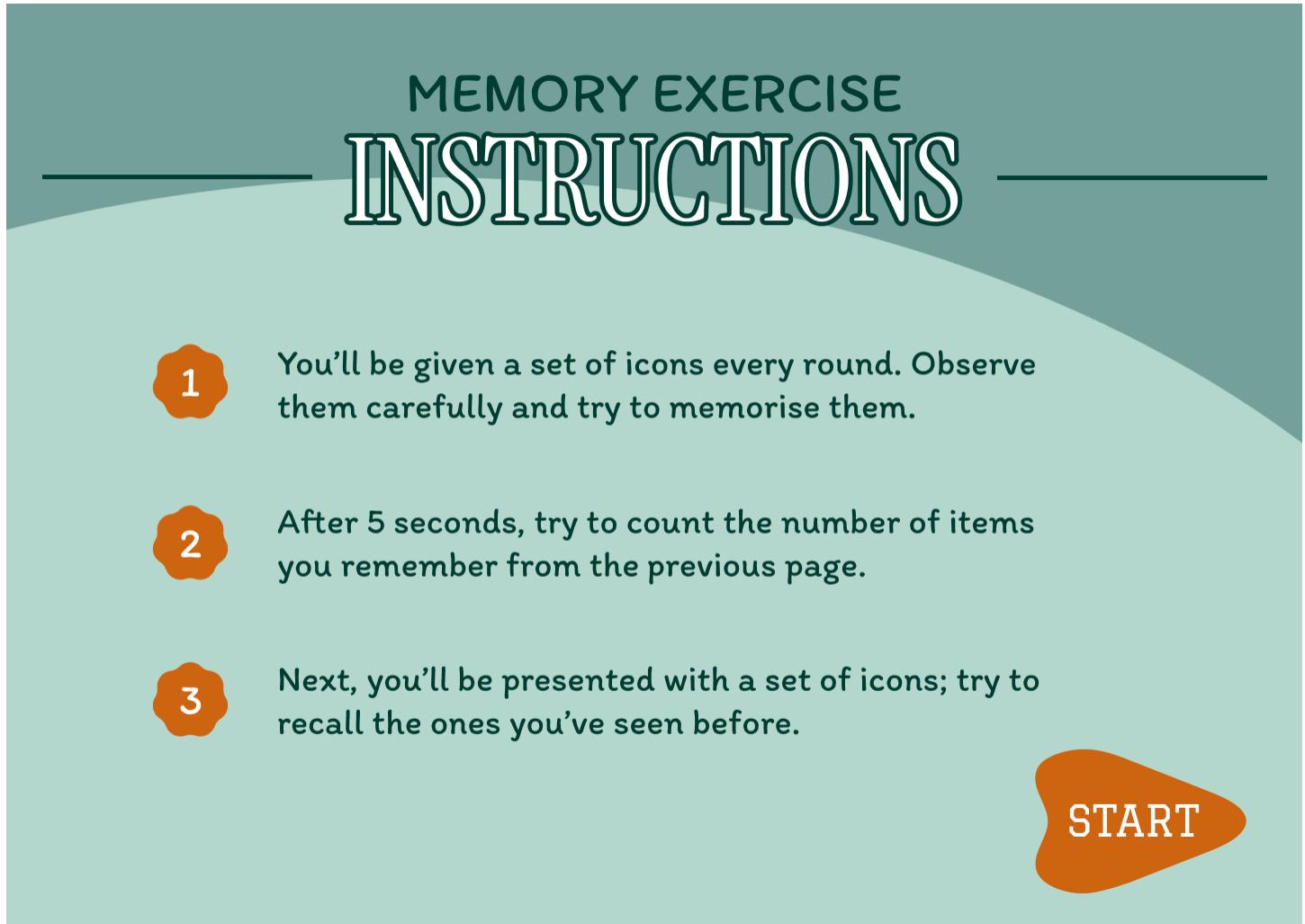


EXPERIMENT 1:
CHUNKING, RECOGNITION AND RECALL

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

FRAME 1: INSTRUCTION PAGE



The image shows a digital instruction page for a memory exercise. The title 'MEMORY EXERCISE' is at the top, followed by 'INSTRUCTIONS'. Three numbered steps (1, 2, 3) provide instructions: 1. Observe icons and memorize them. 2. Count items after 5 seconds. 3. Recall the items. A large orange button labeled 'START' is in the bottom right corner.

MEMORY EXERCISE

INSTRUCTIONS

1 You'll be given a set of icons every round. Observe them carefully and try to memorise them.

2 After 5 seconds, try to count the number of items you remember from the previous page.

3 Next, you'll be presented with a set of icons; try to recall the ones you've seen before.

START

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:

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.

2. Logical Grouping of Information

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

3. Visual Hierarchy and Design Elements

- Bold, large title ("MEMORY EXERCISE") → 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.

4. Time Constraint Reinforcement

- The steps explicitly state that the user has 5 seconds to view the page.
- This reinforces expectations while subtly urging users to focus.

5. Simplicity and Clarity

- Instructions use short, direct sentences, avoiding unnecessary complexity.
- The active voice makes it more engaging and action-oriented.

FRAME 2: CHUNKING PAGE



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:

1. Purpose of the Screen

This is the visual memory encoding phase, where users view and group items mentally before recalling them.

2. Key Elements and UI Components

- Countdown Timer (Top Left - Red Circle: "00:05") Indicates that users have 5 seconds to observe and memorize the displayed items.
The bright orange color and bold text create urgency, ensuring users stay focused.
- Grid of Icons
Various icons are displayed in a 6x3 grid format.
These icons are visually distinct yet grouped by similarities, encouraging chunking strategies like:
 - Categorizing by theme (e.g., activities, food, transportation).
 - Grouping similar colors or backgrounds (e.g., pink, blue, or yellow tiles).
 - Associating shaped icons (e.g., circles, rectangles).

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.

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.

FRAME 3: RECALL PAGE

The image shows a digital interface for a memory test. At the top center, the text "NOW TRY TO RECOGNISE!" is displayed in a large, bold, dark green font. Below this, a 3x4 grid of twelve icons is arranged. The icons include a sunburst, a blue butterfly, a lunchbox with food, a red bird, a person with scissors, a stadium, a blue robot, and a white shape containing the word "RESULTS". The background is a light teal color with a subtle gradient and wavy patterns.

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:

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.

2. Key Elements and UI Components

- Title & Instructions
 - "NOW TRY TO RECOGNISE!:" – Clear instruction guiding the user to choose remembered items.
- Grid of Icon Choices
 - A set of seven 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.
- "RESULTS" Button (Bottom Center)
Once users have made their selections, they press "SUBMIT" to confirm their recall choices.

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 "RESULTS" finalizes their choices, leading to a results or feedback screen.

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.
- User-friendly interface with clear selection mechanics (radio buttons).
- Gamified elements (bee character, bright colors) make the task engaging.

FRAME 4: RESULT PAGE



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.

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).

2. Key Elements & UI Components

- Title & Score Display
 - "YOUR RESULTS" –Indicates that the user's performance is being displayed.
 - A scoreboard with the user's score (5/7) in bold, showing correct answers out of total attempts.
 - "Good job!" – Positive reinforcement to the user, improving their overall experience and making the interaction feel more personable.
- Retry Button (Right Side)

3. How This Phase Works

- The game evaluates the user's selections from the Recall Phase.
- It calculates the accuracy score (5/7 in this case) and displays it.
- Users review their performance and can exit or choose to play again if they wish.

4. Cognitive & UX Benefits

- Instant feedback helps users track their memory performance.
- Multiple options (Continue, Restart, Exit) give users control over their learning experience.
- Visual & gamified elements make the task engaging and less stressful.

PROTOTYPE LINK:

<https://www.figma.com/proto/A4P2b8ubGvHglehntFIUym/Chunking?node-id=1-2&t=gk2cX74y80fLFpMy-0&scaling=min-zoom&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=1%3A2>