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.

FRAME 1:
INSTRUCTION PAGE:

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.
- **Key Performance Metric (Step 6)** → Highlights that accuracy matters more than speed.

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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.
- **Bee-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.

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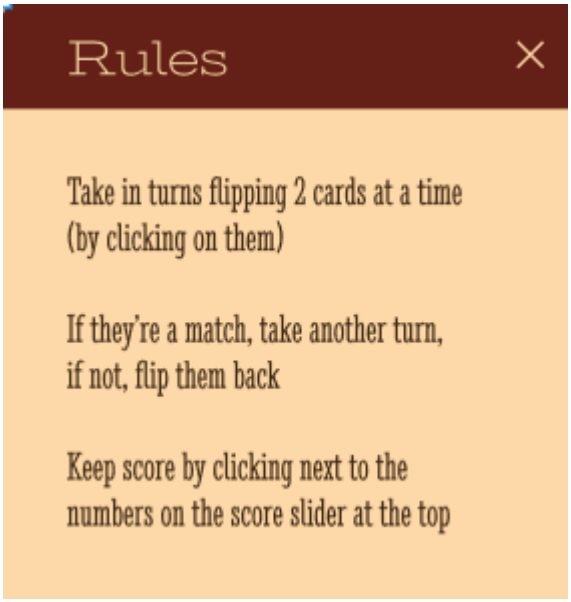
5. Simplicity and Clarity

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



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.

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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 **red color** and bold text create urgency, ensuring users stay focused.

🟪 **Progress Bar (Pink Bar Below Title)**

- Shows the **time remaining** visually, reinforcing the sense of urgency.

- A **partially filled bar** suggests that some time has already passed.

☐ **Grid of Icons**

- Various **icons** (such as a pig, burger, clock, police car, arrow, snowman, bee, laughing emoji, etc.) are displayed in a **5x4 grid format**.
- These icons are **visually distinct yet grouped by similarities**, encouraging **chunking strategies** like:
    - **Categorizing by theme** (e.g., animals, food, transportation).
    - **Grouping similar colors or backgrounds** (e.g., pink, blue, or yellow tiles).
    - **Associating repeated icons** (e.g., multiple bees, burgers, police cars).

🐝 **Bee Character Holding a Scroll (Top Right)**

- Acts as a **friendly mascot**, enhancing engagement and giving a playful theme.
- The scroll may imply **instructions or guidance** in later stages.

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3. How the Chunking Phase Works

1. Users **scan the grid** and look for **patterns or related items** to create mental chunks.
2. **The countdown timer limits observation time**, forcing quick memory strategies.
3. Once time is up, users **transition to the recall phase**, where they must identify previously seen items.

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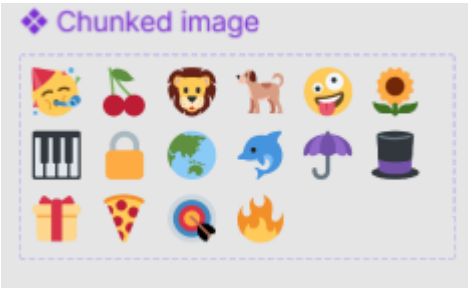
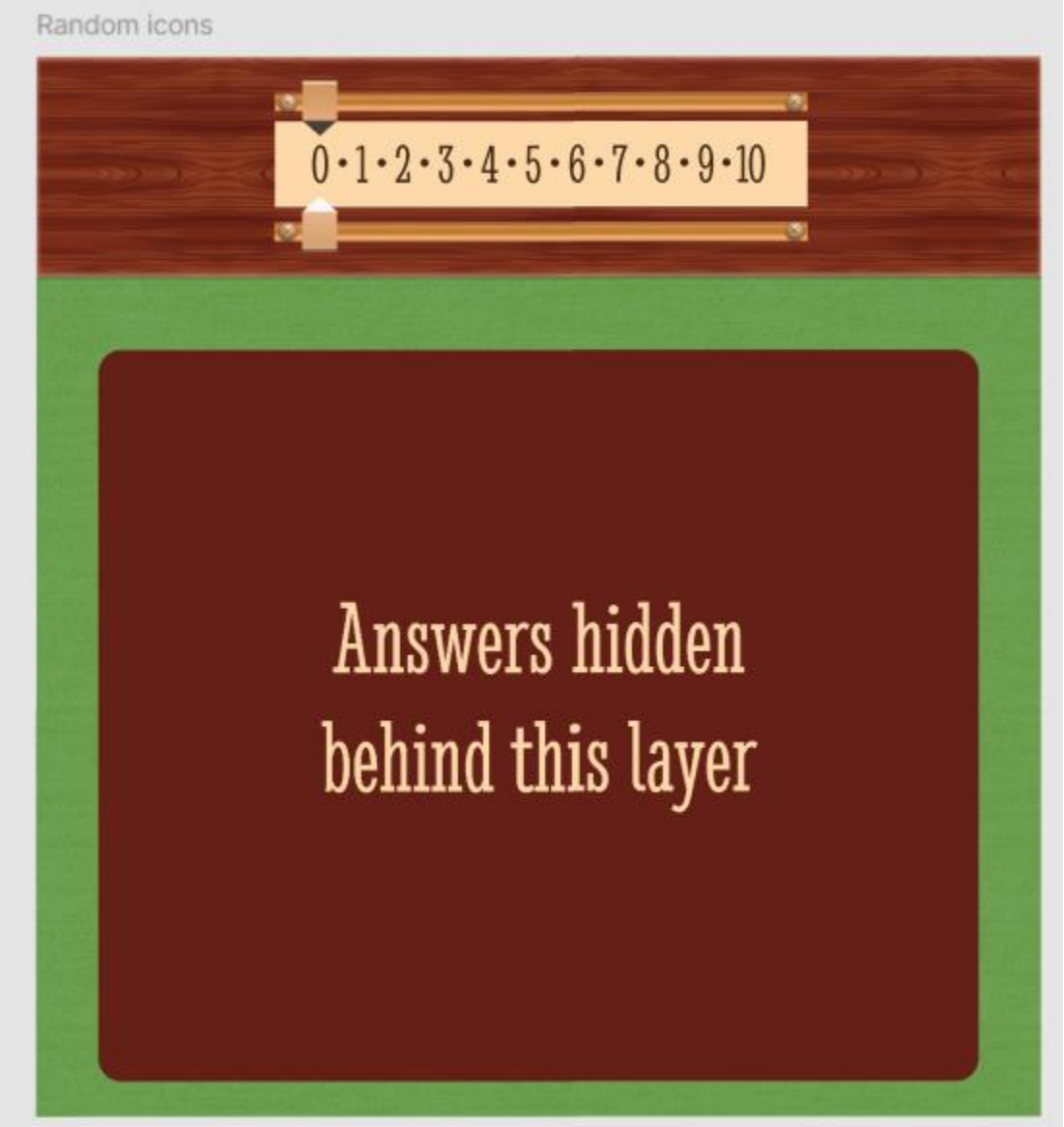
4. Cognitive and UX Benefits of Chunking

- **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.





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**.
- Each icon has a **radio button** below it for selection.

🟡🐝 **Animated Bee Character (Bottom Left)**

- The bee character reinforces a **playful, engaging theme**.
- It may act as a **mascot or guide** throughout the memory task.

🟥 **"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

1. Users **analyze the displayed icons** and recall which ones they saw in the **Chunking Phase**.
2. They **select the remembered icons** using the **radio buttons** below each option.
3. Some **icons are distractors**, testing whether the user's memory is accurate or if they mistakenly recall incorrect icons.
4. 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.
- **User-friendly interface** with clear selection mechanics (radio buttons).
- **Gamified elements** (bee character, bright colors) make the task engaging.

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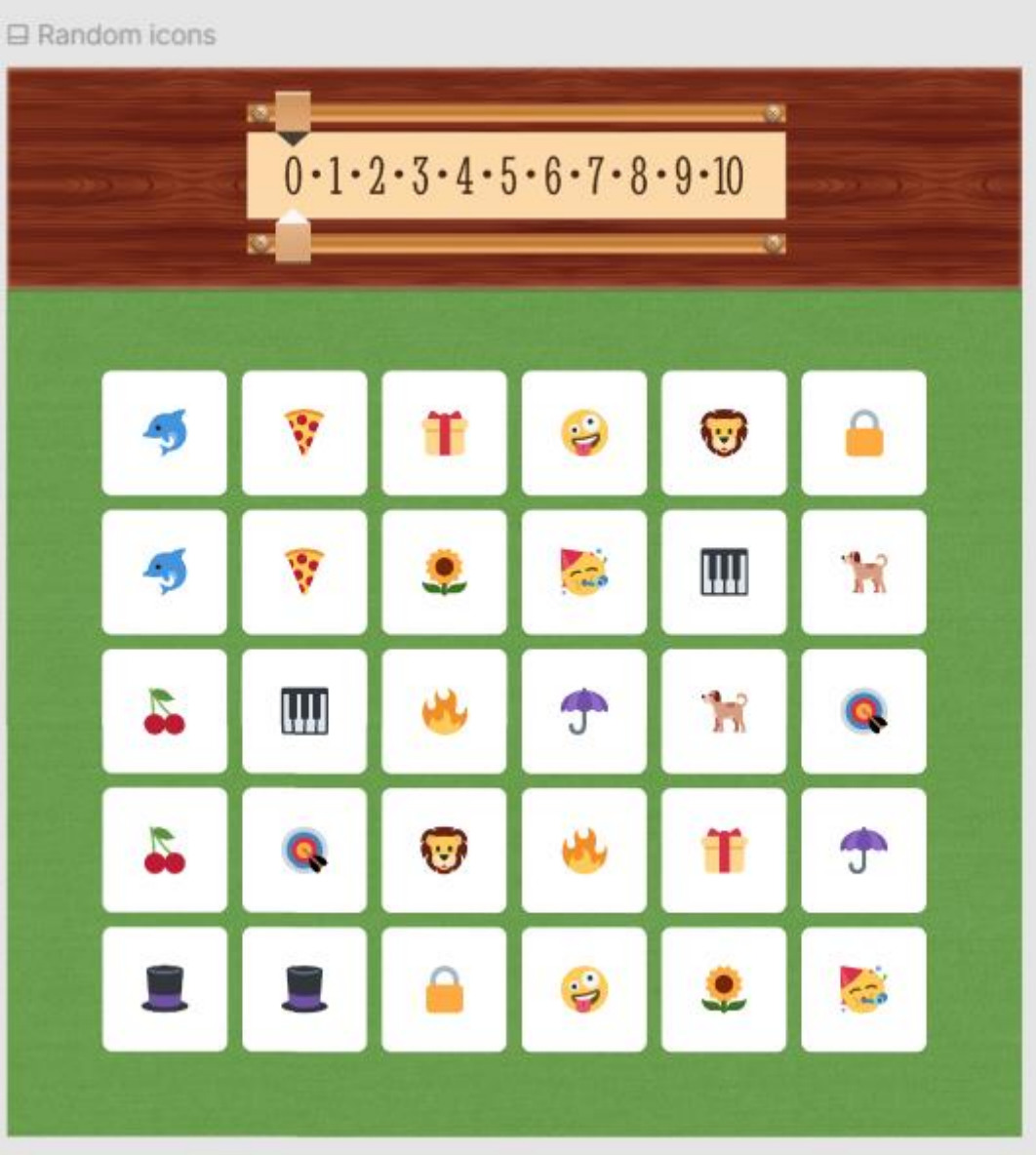

FRAME 4:

RESULT PAGE:

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.
- A **wooden scoreboard** with the user's score **(4/5)** in bold, showing correct answers out of total attempts.

🟡 **Action Buttons (Right Side)**

1. **"CONTINUE"** – Proceeds to the next level or stage.
2. **"RESTART"** – Allows the user to retake the memory recall test.
3. **"EXIT"** – Ends the task and exits the game.

🐝 **Animated Bee Character (Bottom Left)**

- The bee character adds a **playful, gamified** element.
- Holds a **blank sign**, possibly for dynamic messages or additional instructions.

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3. How This Phase Works

1. The game evaluates the user's selections from the **Recall Phase**.
2. It calculates the **accuracy score (4/5 in this case)** and displays it on a **wooden board**.
3. Users **review their performance** and choose their next action:
    - **Continue** if they want to proceed.
    - **Restart** if they want to improve their recall.
    - **Exit** if they want to stop playing.

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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/T1Z8aRAjj0ivYSrE3nEYqK/Memory-Game-%E2%80%93-Interactive-Components-demo--Community-?node-id=28-1304&t=k44d6ri2tAtW208X-1