USER INTERFACE DESIGN

EXPERIEMENT - 2

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

Introduction:

Chunking is a cognitive strategy that involves breaking information into smaller, meaningful units. This experiment uses a game-based UI to analyze how chunking improves short-term memory recall by presenting visual elements within a limited time.

FRAME 1: INSTRUCTION PAGE

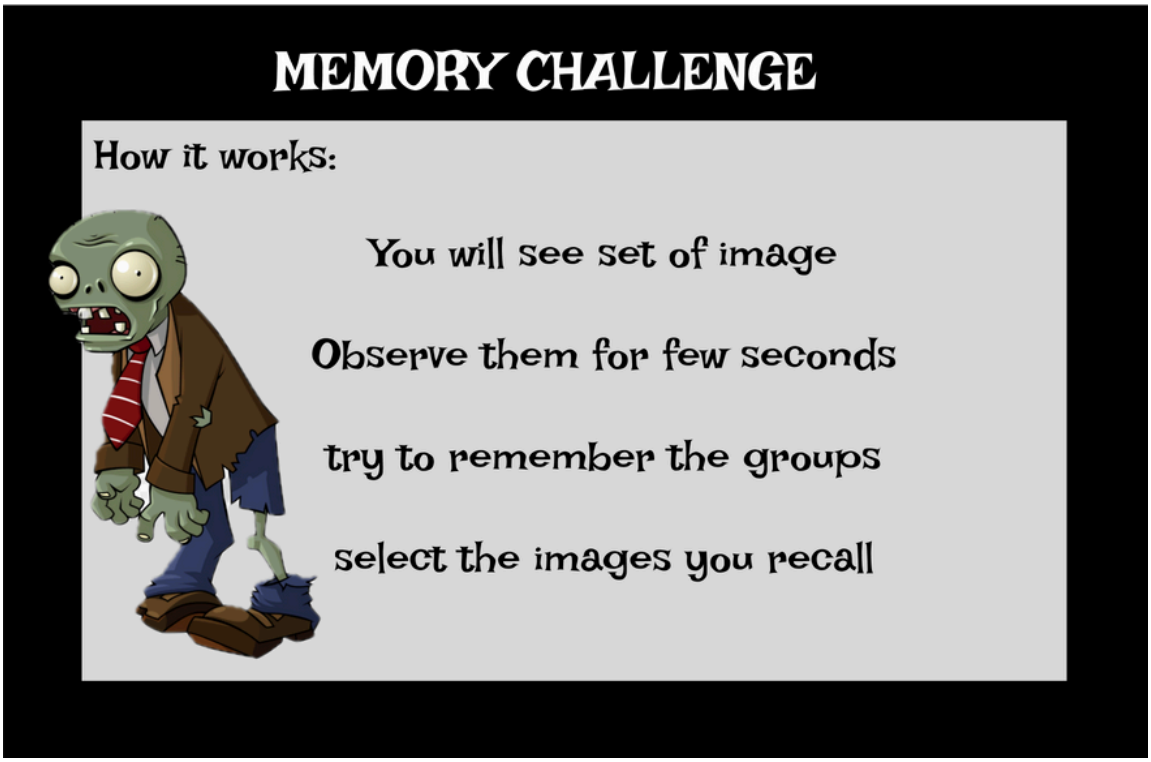
Chunking Analysis

The instruction page effectively applies chunking by presenting information in a structured and organized manner.

1. **Clear Sequential Steps**
   Instructions are divided into numbered steps, making them easy to understand and follow.
2. **Logical Grouping**
   - Observation Phase – explains what users will see.
   - Memorization Phase – encourages focusing on remembering items.
   - Recall Phase – explains how users should recall items.
   - Performance Metric – accuracy is emphasized over speed.
3. **Visual Hierarchy**
   A bold title, proper spacing, and a highlighted START button guide the user clearly.

4. **Time Awareness**
   Users are informed that they have only 5 seconds, preparing them to focus.

5. **Simplicity**
   Short sentences and minimal text reduce cognitive load.



FRAME 2: CHUNKING PHASE

Analysis of Chunking Phase Screen

Purpose:

This is thememory encoding stage where users observe icons and mentally group them.

UI Elements:

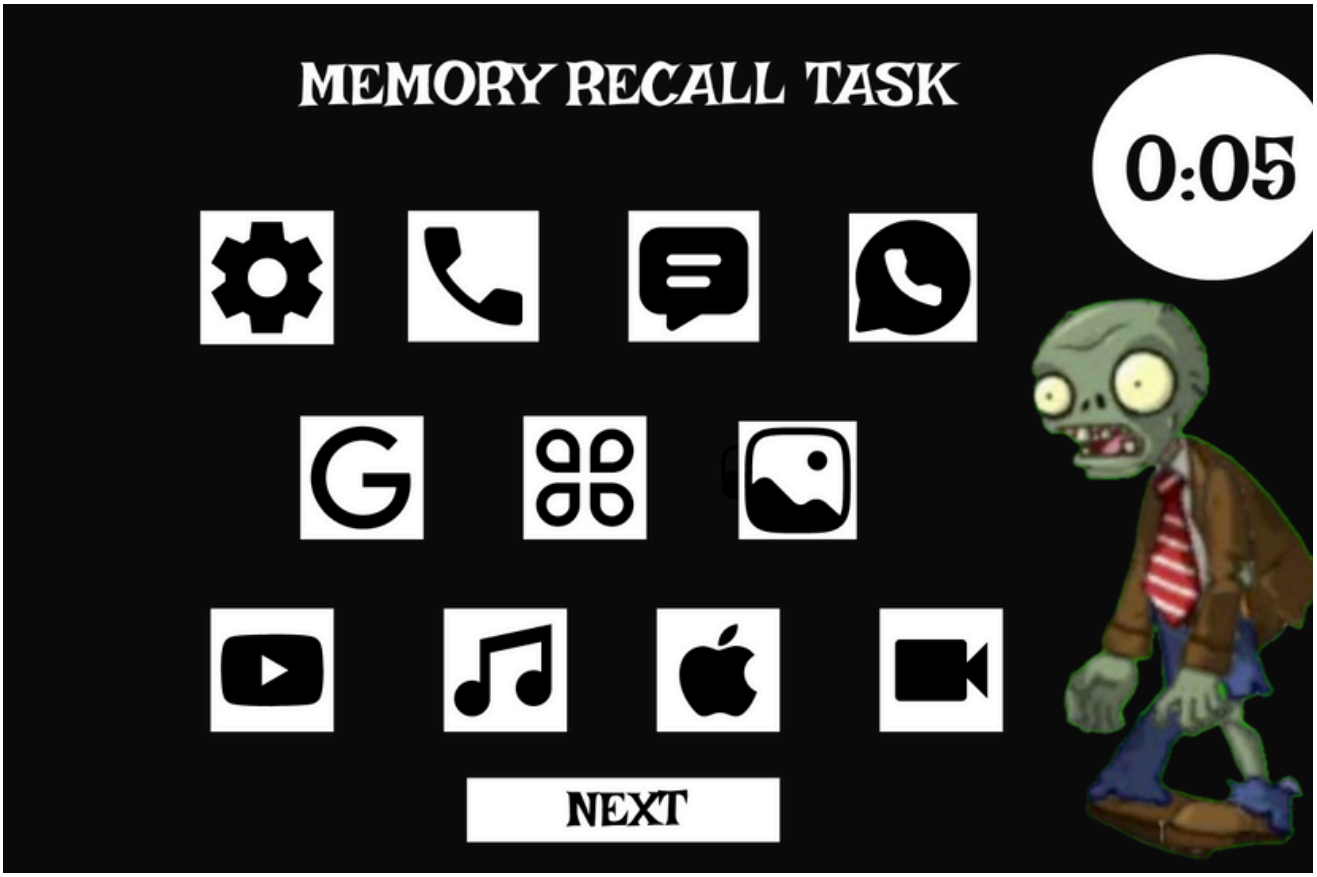
- Countdown Timer (10 seconds) to create urgency.
- Progress bar to visualize remaining time.
- Grid of icons arranged to support grouping by category, color, or similarity.

Working:

Usersquickly scan and form mental chunks before time ends.

Cognitive Benefit:

Chunkingreducesmemory load and improves recall efficiency.



FRAME 3: RECALL PHASE

Analysis of the Recall Phase

1. Purpose

- Tests memory by asking users to recall previously seen icons.
- Measures the effectiveness of chunking.

2. UI Elements

- **Title & Instructions:** Clearlyexplain the task.
- **Multiple Choice Icon Grid:**
  - Contains both correcticons and distractors.
  - Users mustidentify previously seen items.
- **Radio Buttons:**
  - Easy andclear selection method.
- **Submit Button:**
  - Confirmsuser choices.

3. Working Principle

1. Users recall icons from memory.
2. Select remembered icons.
3. Distractors test memory accuracy.
4. Submit leads to result page.

FRAME 4: RESULT PAGE

Analysis of the Result Page

1. Purpose

- Displays recall accuracy.
- Provides feedback and next actions.

2. UI Elements

- **Score Display (e.g., 6/9):**
  - Shows performanceclearly.
- **Action Buttons:**

- **Play again:** Move to next level.
- **Home:** Endthe activity.

3. Working Principle

1. System evaluates selected icons.
2. Calculates score.
3. User chooses next action.

4. Cognitive & UX Benefits

- Immediate feedback improves learning.
- User control enhances experience.
- Gamification reduces stress and increases motivation.