USER INTERFACE DESIGN

EX No: 2 **240701463**

Design a UI where users recall visual elements (icons/text). Evaluate the effect of chunking on user memory.

Aim

To design and evaluate a user interface that demonstrates how **chunking** of visual information improves short-term memory recall.

Objective

- To understand the concept of chunking in Human–Computer Interaction.
- To design UI screens for memory recall using Figma.
- To analyse how grouped (chunked) information improves recall accuracy.

Tools Used

- Figma (UI Design & Prototyping)
- Desktop/Laptop

Theory

Chunking is a cognitive strategy where individual pieces of information are grouped into meaningful units. According to cognitive psychology, chunking reduces cognitive load and enhances short-term memory retention. In HCI, chunking is widely used in interface design to improve usability and recall.

Experimental Design

The experiment consists of **five UI screens**:

1. Home Screen (Instruction Page)
2. Chunking Phase
3. Recall Phase

4. Result Screen
5. Thank You Screen

Each screen is designed and linked using Figma prototyping features.

A. Home Screen (Instruction Page)

Description

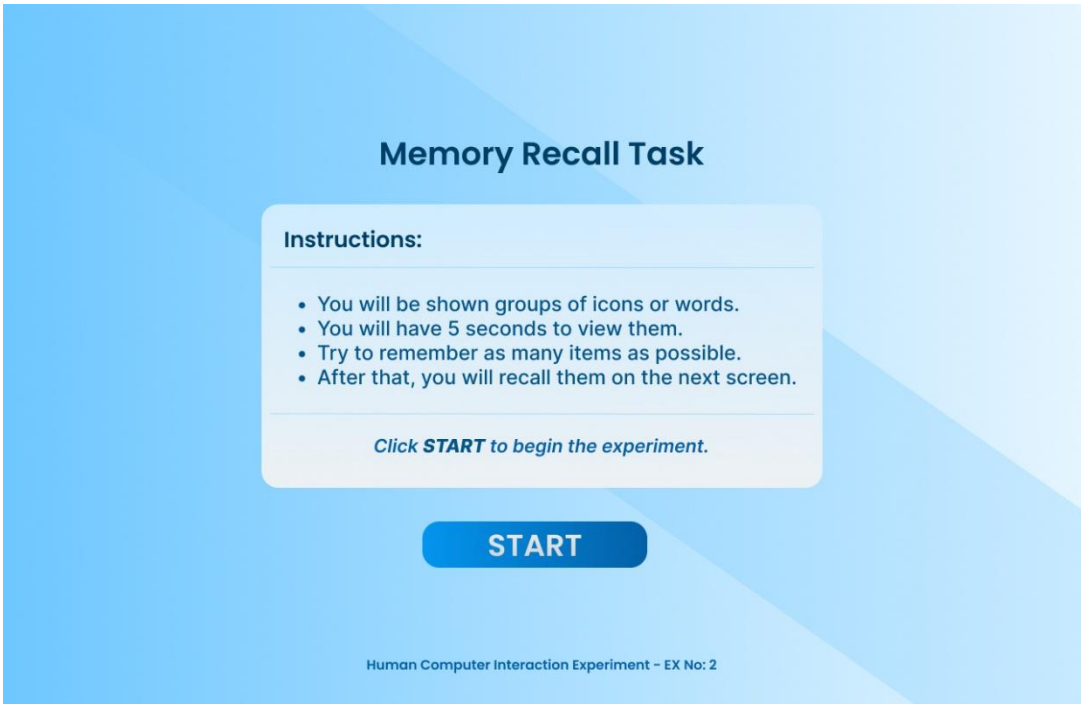
This screen introduces the experiment and provides instructions to the user.

Contents:

- Title: *Memory Recall Task*
- Instructions explaining the task
- START button to begin the experiment

User Instructions Displayed

- Users will be shown groups of icons or words
- Viewing time is limited to 5 seconds
- Users must recall items in the next screen



(Home Screen – Instruction Page)

B. Chunking Phase

Description

In this phase, items are displayed in **groups (chunks)** to help users remember them easily.

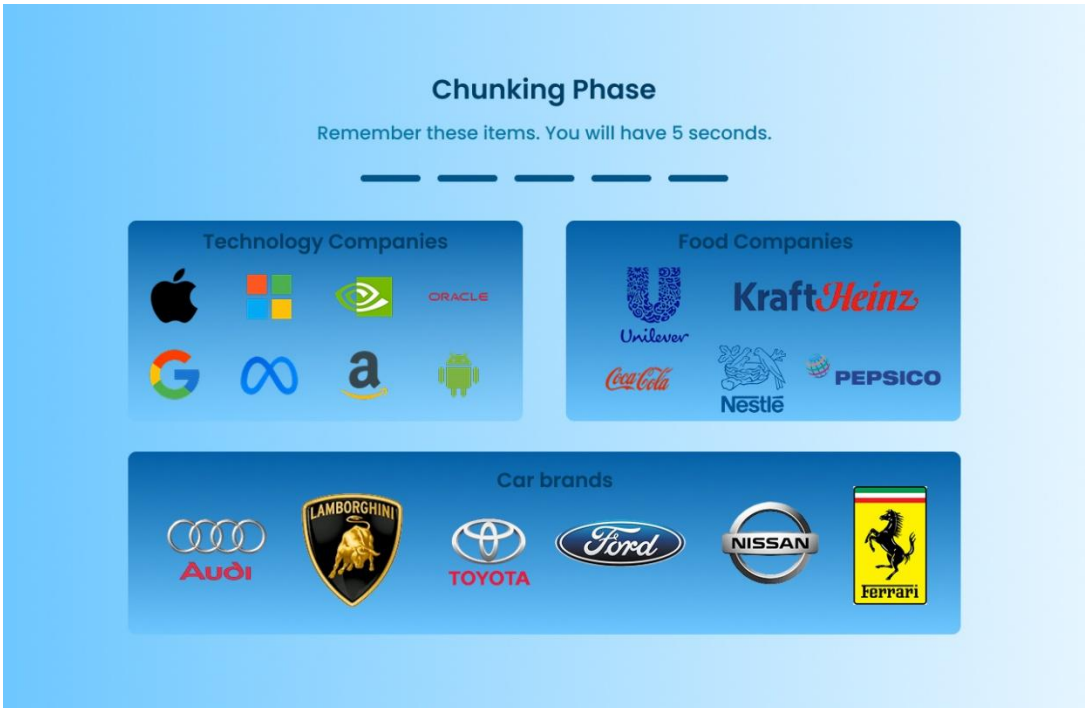
Chunk Categories Used

- Technology Companies
- Food Companies
- Car Brands

Each category contains multiple related logos grouped inside a container.

Key Design Features

- Grouping similar items together
- Clear visual separation between chunks
- 5-second viewing time (simulated using prototype delay)



(Chunking Phase – Grouped Icons)

C. Recall Phase

Description

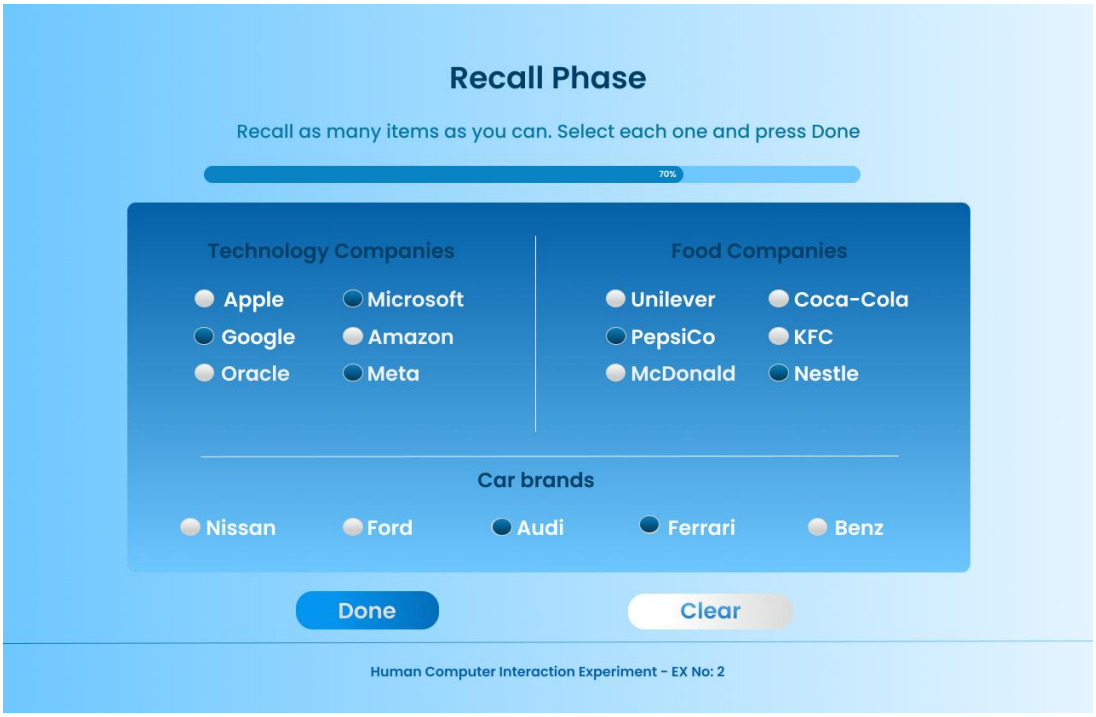
Users recall items they observed in the chunking phase.

Recall Method Used

- Multiple-choice selection using checkboxes

UI Elements

- Categories displayed again
- Selectable options for recall
- Progress bar
- Buttons: **Done** and **Clear**



(Recall Phase – User Selection Screen)

D. Result Screen

Description

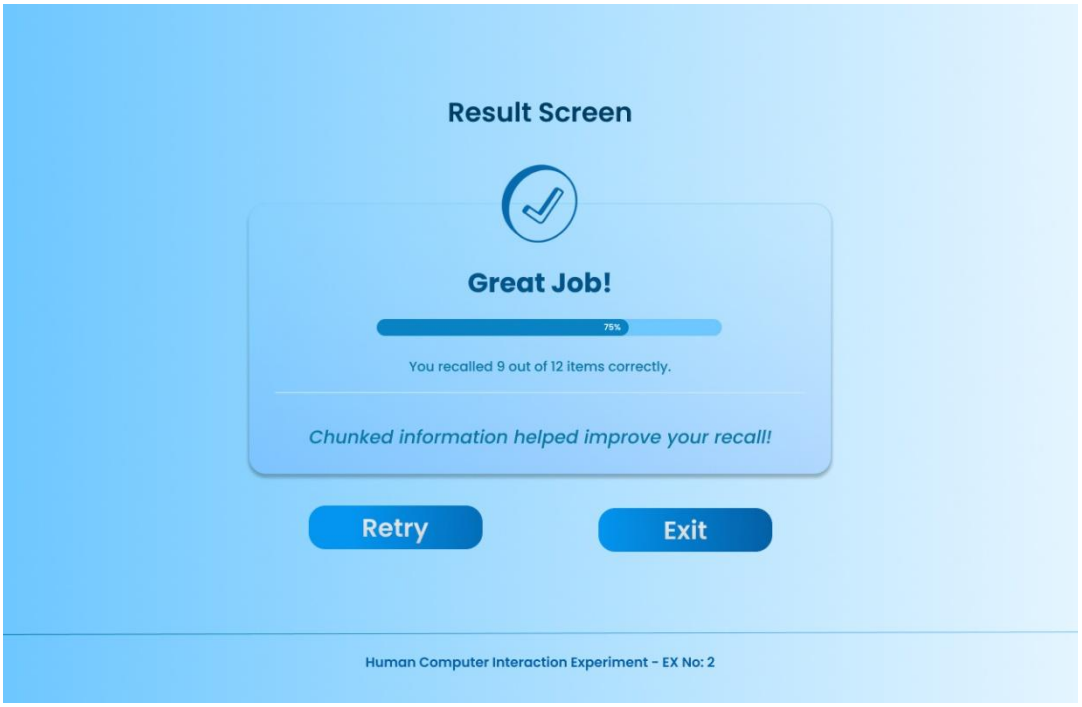
This screen displays the user's recall performance.

Information Shown

- Number of items recalled correctly
- Progress indicator
- Feedback message explaining the effect of chunking

Example:

You recalled 9 out of 12 items correctly.



(Result Screen – Performance Feedback)

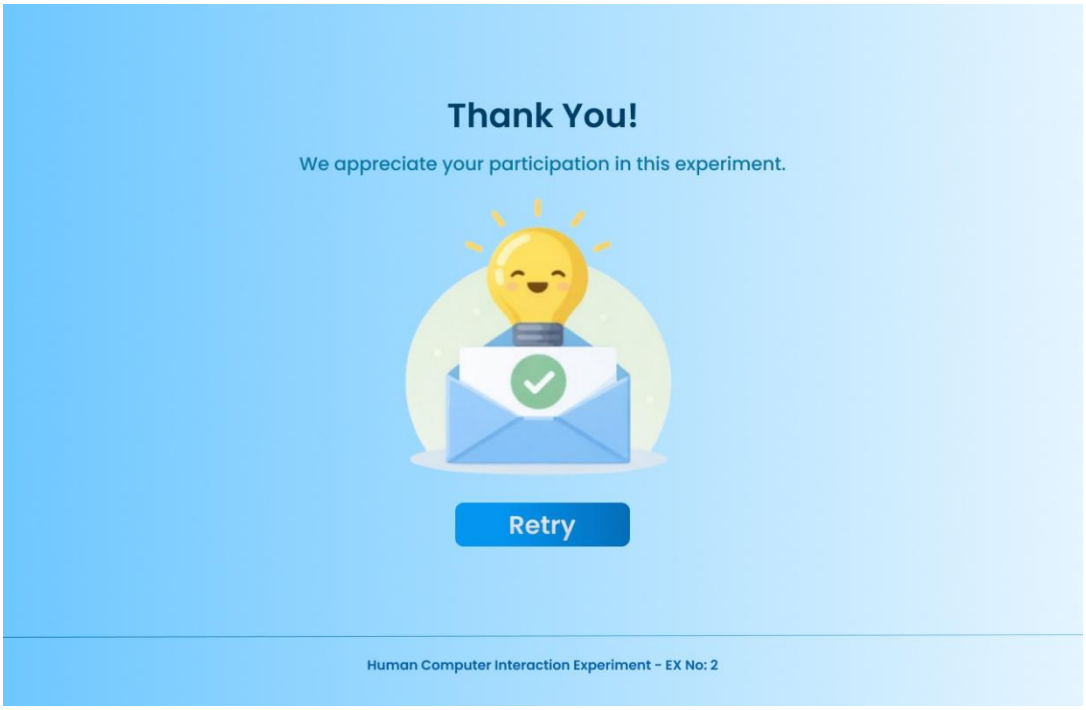
E. Thank You Screen

Description

The final screen thanks the user for participating.

UI Elements

- Appreciation message
- Illustration
- Retry button



(Thank You Screen)

Observation

- Users were able to recall more items when information was chunked.
- Categorized icons improved recognition speed.
- Visual grouping reduced memory overload.

Result

The experiment proves that **chunked information significantly improves memory recall** compared to unstructured information.

Conclusion

Chunking is an effective UI design strategy in Human–Computer Interaction. By grouping related elements, users can process and remember information more efficiently. This experiment demonstrates the practical application of cognitive principles in interface design.

Human Computer Interaction Experiment – EX No: 2