HCI CS272: Assignment #1 Report

Name: Hamna Qamar

Reg#: 2024198

Instructor: Israr Ahmad

Part 1: Interface Design Analysis

1. Activity List

The design of Lookup was centered around four core user activities. First is Discovery, where the user arrives at the "nook" and gets a broad sense of the 100-word collection. Once a specific goal is formed, the user moves to Filtering, actively typing to sift through the data. To ensure flexibility, Clearance allows the user to reset their journey instantly. Finally, Validation occurs as the user glances at the status pill to confirm the system has accurately processed their request.

2. The Donald Norman Model in Practice

To create a seamless user experience, I applied Donald Norman’s principles to bridge the gaps between what a user wants to do and how the system responds.

At the start of the interaction, the user’s Goal is simple: locate a specific word within a large dataset without feeling overwhelmed. To facilitate the Execution phase, I focused on clear Signifiers and Affordances. I placed a magnifying glass icon within the search bar to signify its purpose immediately. To make the interface feel "alive," I designed the word list items as soft cards; their subtle "lift" when hovered provides a clear affordance that they are interactive elements. The Mapping here is direct and natural, as the user types, the grid physically shrinks, creating a one-to-one relationship between their keystrokes and the interface's behavior.

The Evaluation phase is where the "cozy" nature of the app truly shines. Instead of leaving the user to wonder if the search worked, the "Counter Pill" provides instant Feedback, updating the count in real-time. If a search yields no results, the system undergoes a State Change that is informative rather than jarring. By replacing the list with a "Wind" icon and a friendly message, I’ve addressed the "Gulf of Evaluation," ensuring the user understands exactly why the screen is empty and feels encouraged to try a different search term.

3. Evolution of Design: The "Why"

In my initial Draft Sketch, the design followed a rigid, single-column layout common in technical databases. However, for the Final Polished Version, I made a significant usability shift by moving to a two-column responsive grid.

Why this change? Standard lists often create a "wall of text" that increases cognitive load. By utilizing more empty space and a grid format, I transformed the interface into a curated "collection." This change allows the user’s eyes to scan the words more naturally and makes the experience feel less like a chore and more like an exploration. This evolution directly supports the HCI goal of making tools that are not only functional but pleasurable to use.

3. Evolution of Design (Draft vs. Final)

Feature	Draft Sketch (Initial Idea)	Final Polished Version (Implemented)
Layout	Single vertical list.	Two-column responsive grid.
Typography	Standard System Font.	Quicksand (Rounded, Cozy).
Color Palette	Grayscale / Basic Blue.	Soft Teal & Organic Greens.
Feedback	Plain text count.	Dynamic "Counter Pill" & Empty State Illustration.

Key Usability Improvement:

I changed the layout from a single-column list to a two-column grid. This utilizes white space more effectively, reduces the need for excessive vertical scrolling, and makes the interface feel more like a 'collection' than a 'database,' which aligns with the cozy aesthetic and improves the user's visual scanning speed."

Part 2: Implementation Details

1. The Technical Foundation

While the interface looks soft and organic, it is built on a sturdy, modern technical stack. I used HTML5 with a focus on semantic structure, using tags like `<header>` and `<main>`, to ensure the app is accessible and easy for screen readers to navigate.

The "cozy" feel was achieved through CSS3, specifically leveraging CSS Grid to create the airy, two-column layout. I added custom Transitions so that when a user interacts with a word, it doesn't just change, it "breathes" with a soft lift animation. To keep the app fast and responsive, the logic is handled by a JavaScript `.filter()` function. This looks through a local collection of 100 words instantly, ensuring the user never has to wait for a page to reload.

2. Crafting the Experience

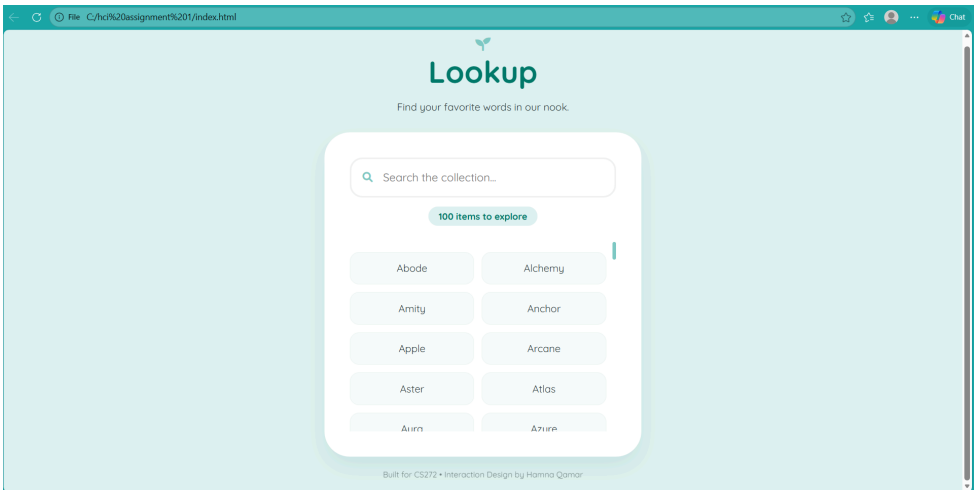
Every functional choice was made to respect the user's time and comfort.

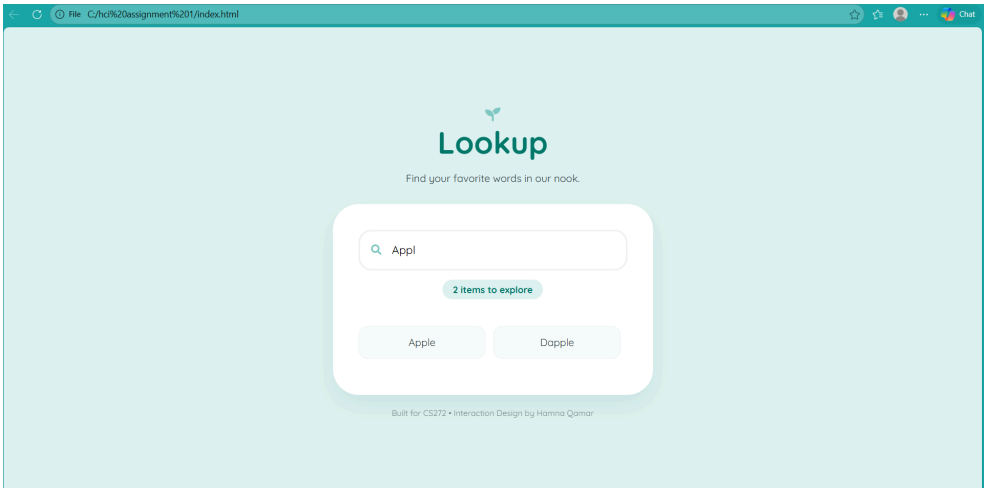
A Compact Universe: To prevent the page from becoming an endless scroll, I created a Scrollable Area with a custom-styled, thin scrollbar. This keeps the core search tools always in view while allowing the word collection to feel vast but contained.

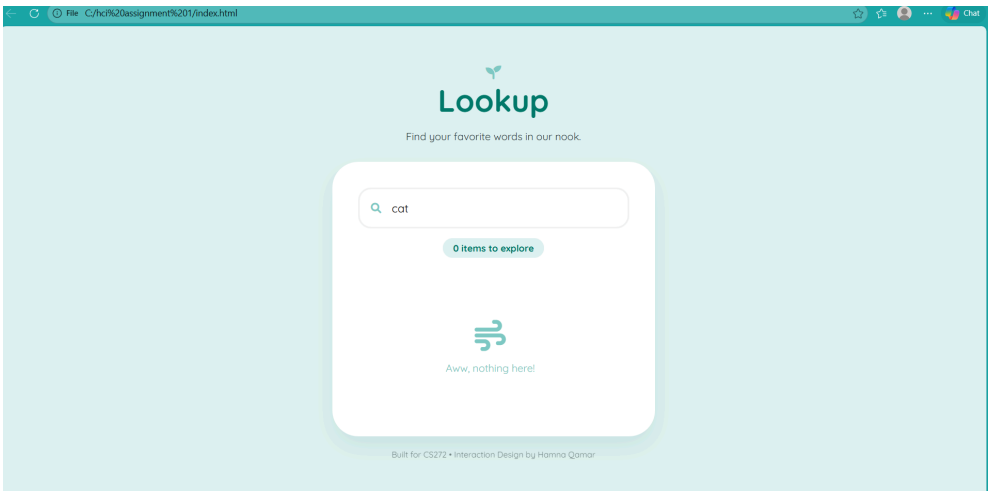
Conversational Filtering: The search isn't a "submit and wait" process. Through Live Filtering, the interface talks back to the user on every single keystroke. This real-time response reduces the "Gulf of Evaluation" because the user sees the system working as they type.

Visceral Comfort: Following Norman’s concept of Visceral Design, I prioritized the immediate emotional impact. By using generous 40px rounded corners and a teal-to-white gradient, the interface avoids the sharp, "cold" edges of traditional software. The result is a digital environment that feels less like a tool and more like a helpful companion.

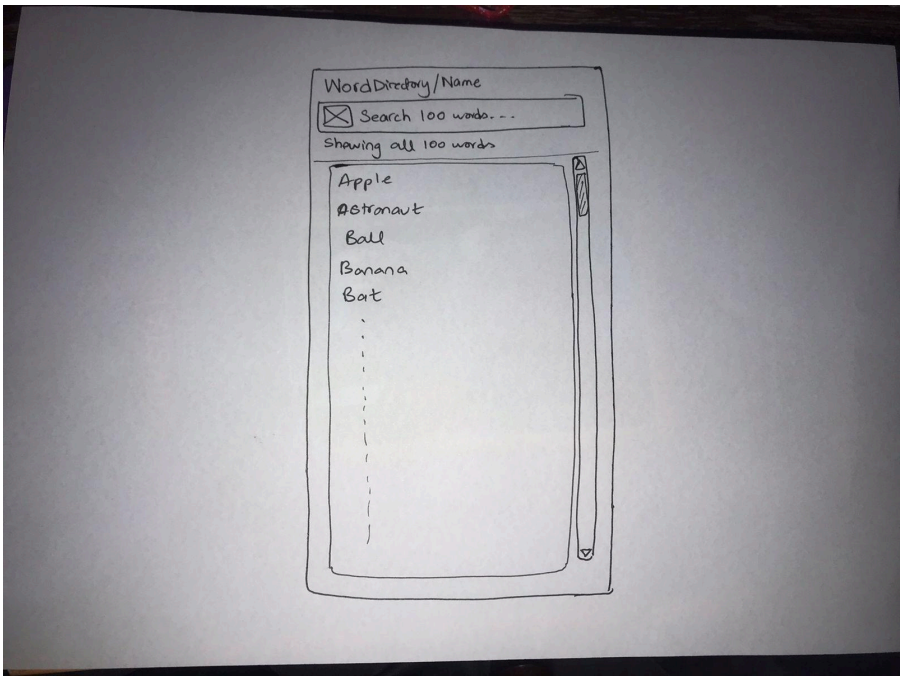
Final Design



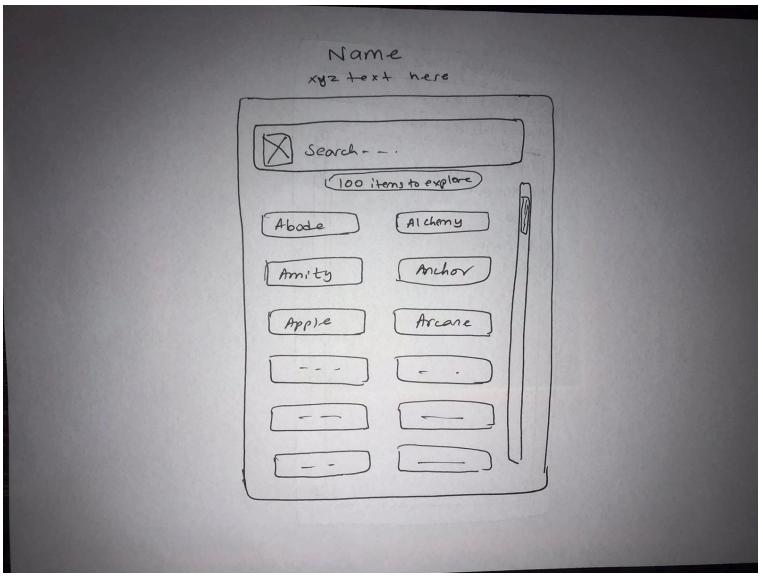




Initial Sketch



Refined sketch



Design according to initial idea