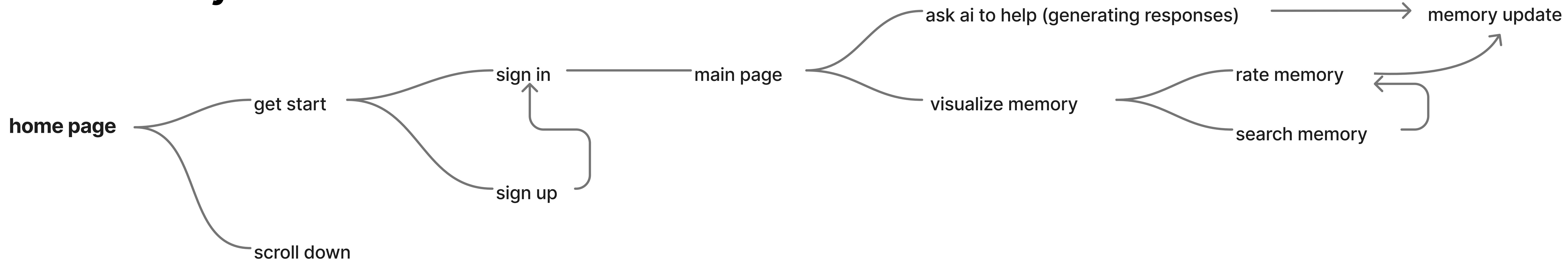



AI / Tool Usage Disclosure:

This lo-fi wireframe was designed and built on the Figma platform. The “Memory Visualization Page (Beta)” incorporates Figma Make’s default model as a starting point, with additional manual adjustments and refinements made by the designer.

This is our system flow



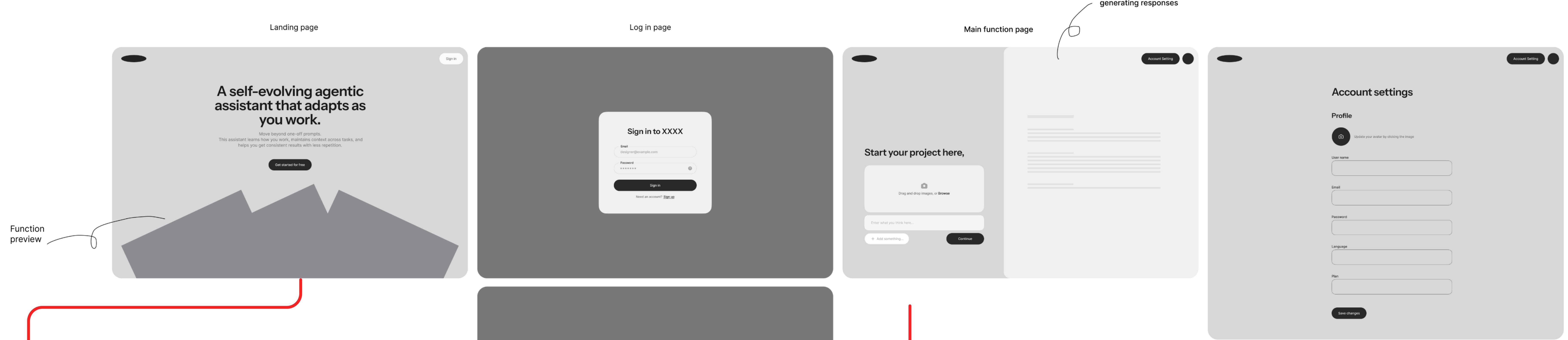
This is an overview of our screenflow wireframes



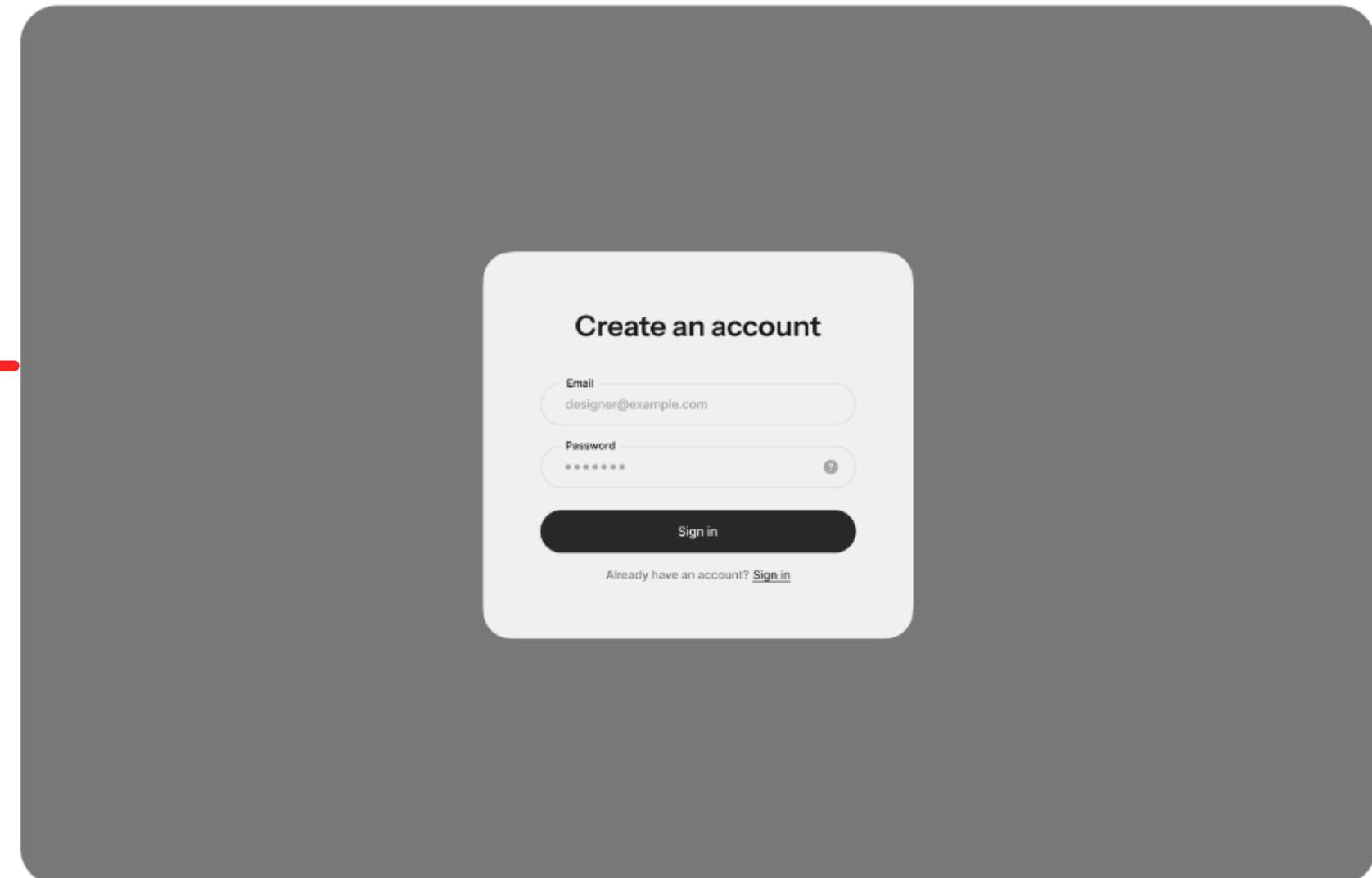
You can ignore the small text next to the image; we will provide a more detailed description later.

Iteration & Versioning

V1

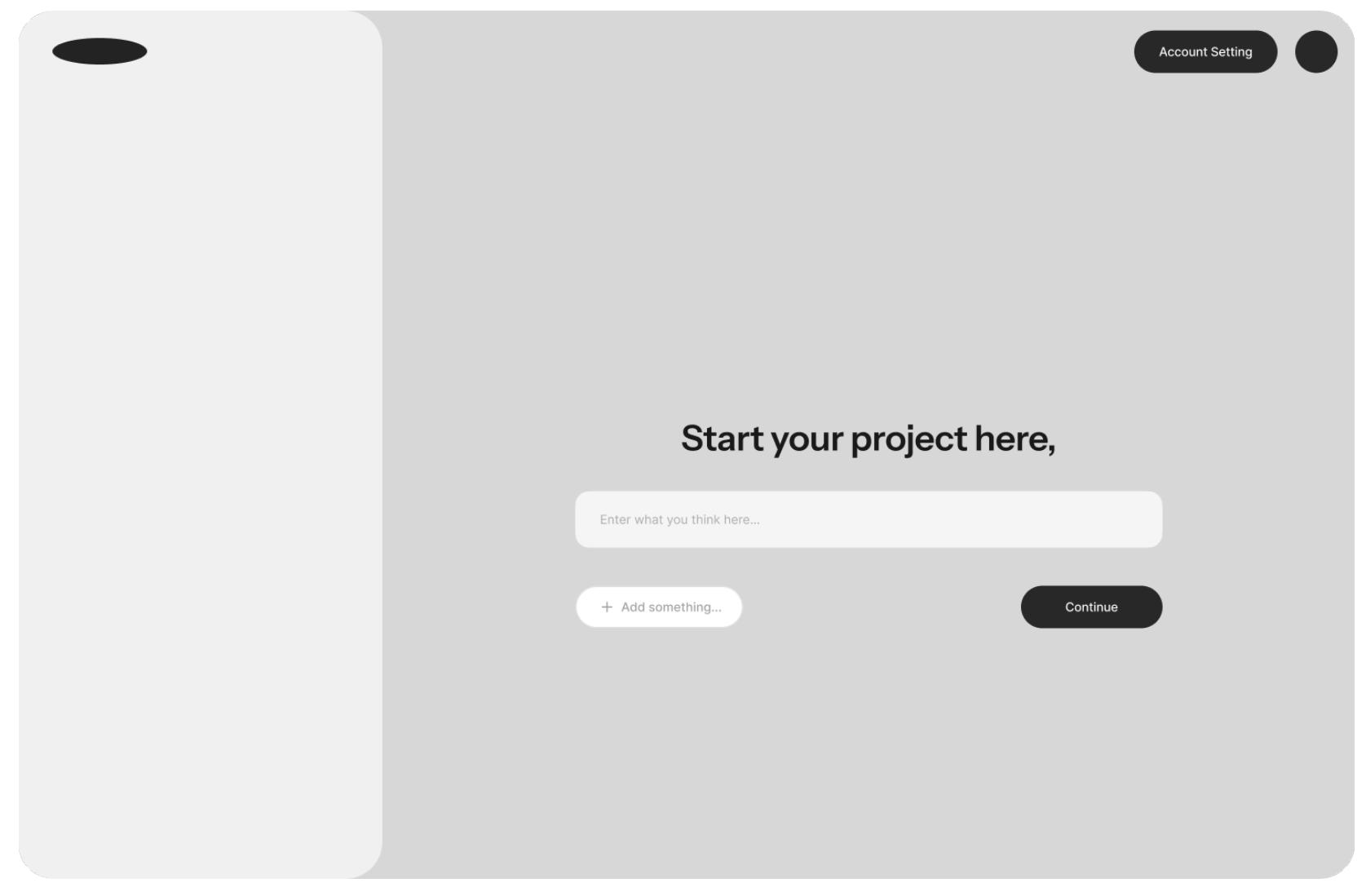


Here we've added a scrolling page design. Because we initially show our three key features, this allows users who haven't yet made a decision to explore our algorithm further and gives us a better chance to retain them.



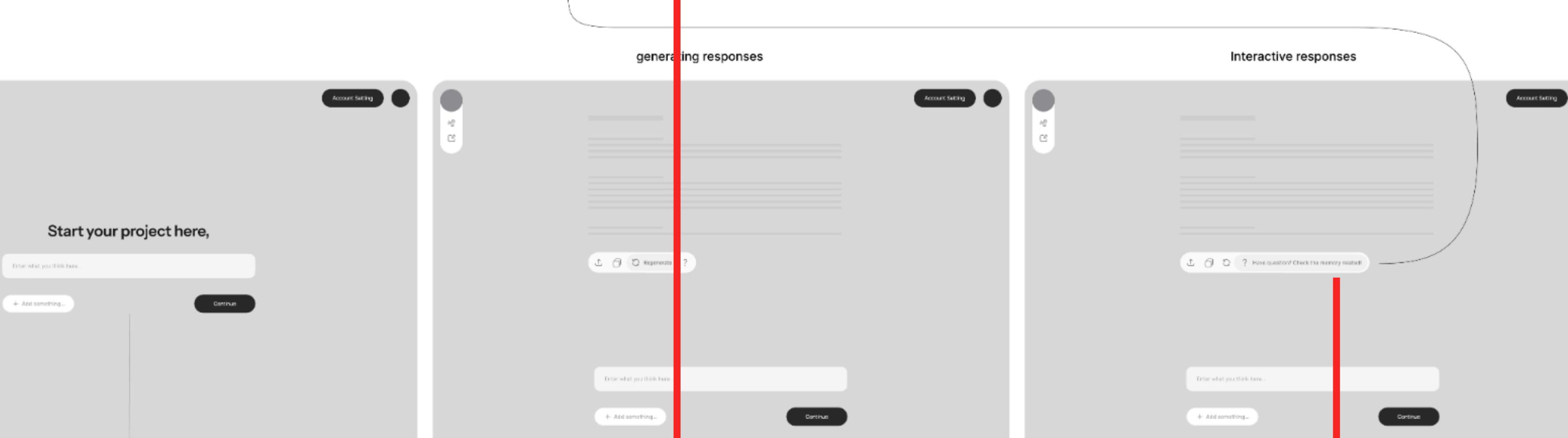
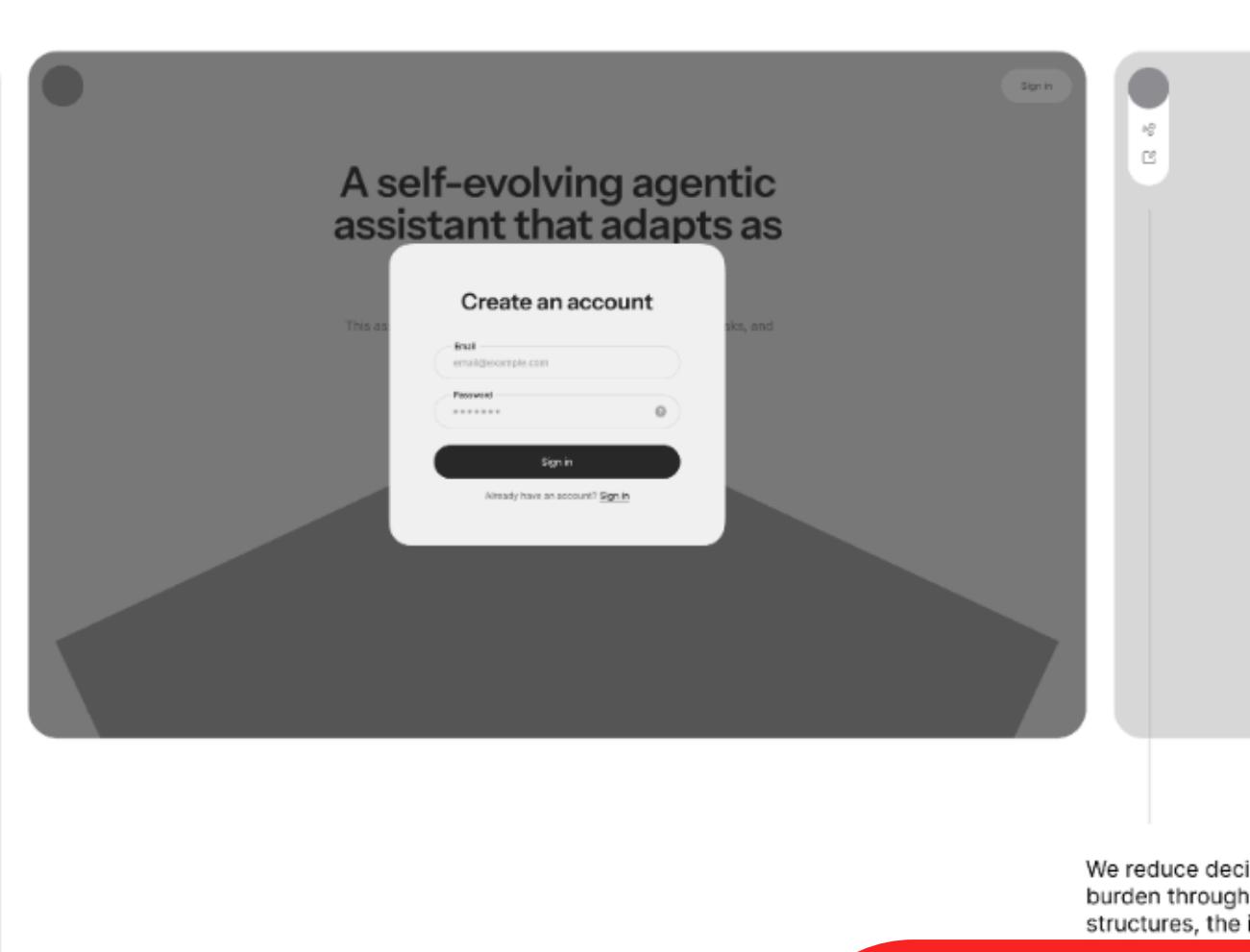
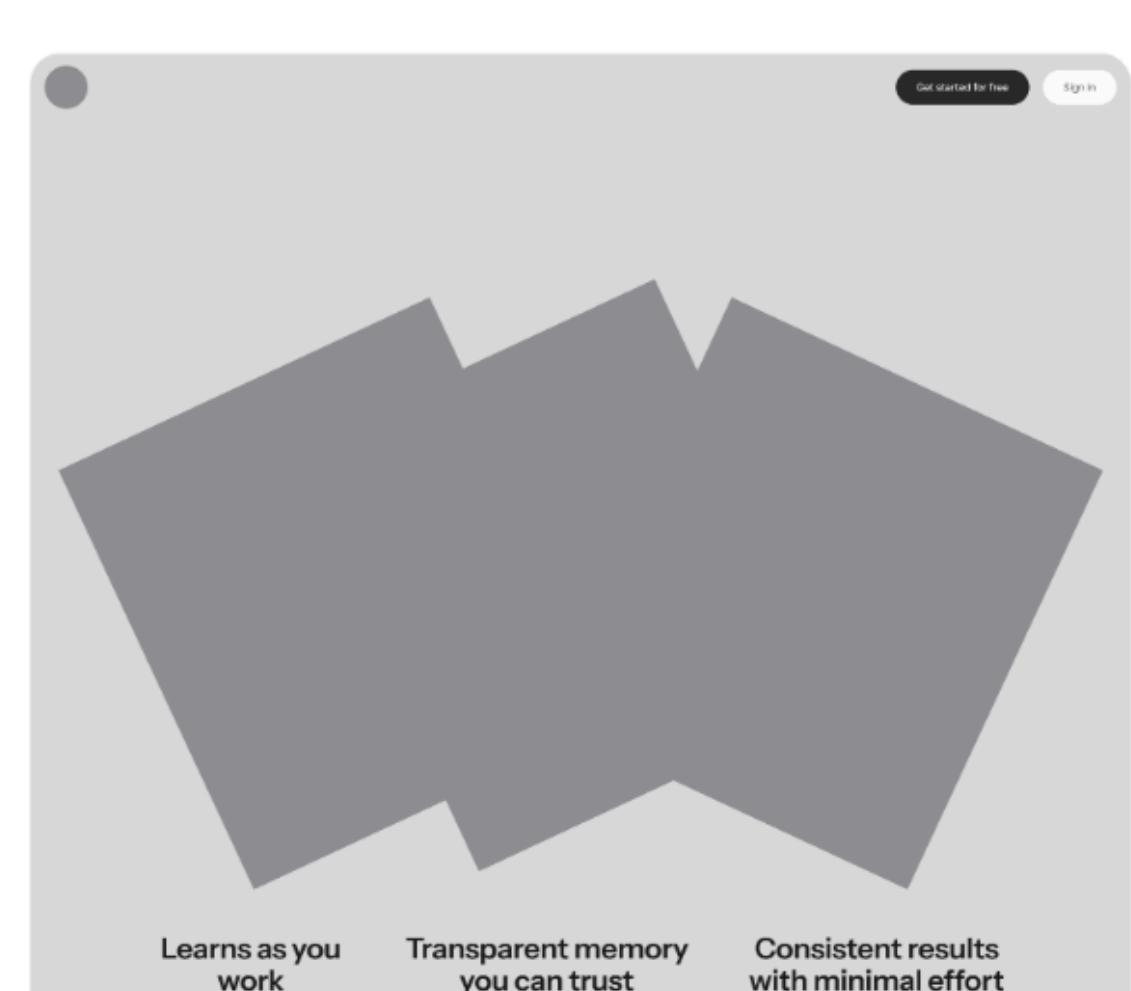
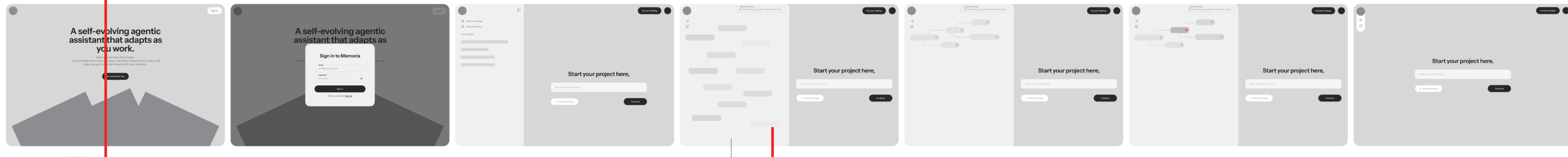
From V1 to V1.5, we apply principles from Cognitive Load Theory and Gestalt psychology by reducing visual complexity and clearly grouping core actions. Because the right panel may confuse the user at the very beginning, makes them to guess what is used for. By minimizing choices (Hick's Law) and emphasizing a single, visible entry point (Norman; Nielsen), the interface guides users toward action with lower cognitive and decision-making effort.

V1.5 Main page



From V1 to V1.5, based on feedback from our group's C comments, we explored a more interactive interface. One key suggestion was to adopt an interaction style similar to collaborative documents, where users can leave comments or feedback on AI-generated content. In response, we introduced new interaction elements in the V2 interface that allow users to adjust AI responses. By clicking the "?" icon, users can manage AI memory when they are dissatisfied, or choose to regenerate a reply using the refresh button.

V2



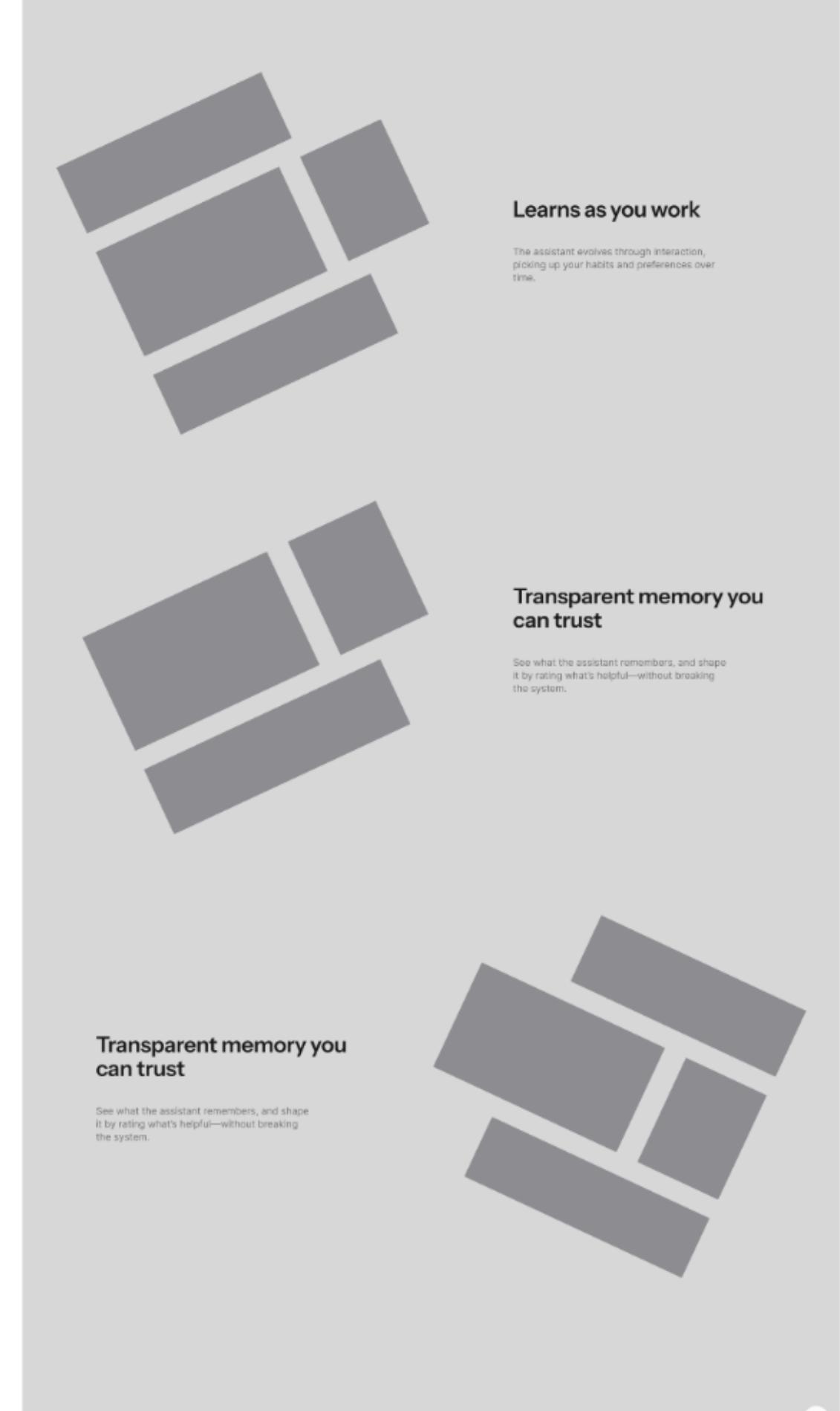
We reduce decision-making by consolidating visual structures, the interface now offers a single positive signal (red heart) and other fewer choices. This also follows Jakob Nielsen's Usability Heuristic of Error Prevention, the principle of simplicity and minimalist design.

Even when the sidebar is hidden, we intentionally avoid making the conversation area too wide. Human horizontal reading has a natural tendency to move from left to right. A wider screen can cause unnecessary side-to-eye movement, leading to eye strain and fatigue.

For this reason, we chose a maximum reading width that our team both agreed felt comfortable. The text column is compact enough to read naturally without having to shift their head from side to side.

Rate Memory

After discussing with the algorithm people, we introduced more flexibility in user feedback. Instead of limiting users to a single positive signal (give a red heart), we now allow both thumbs-up and thumbs-down ratings, enabling users to provide explicit positive and negative feedback to the algorithm.

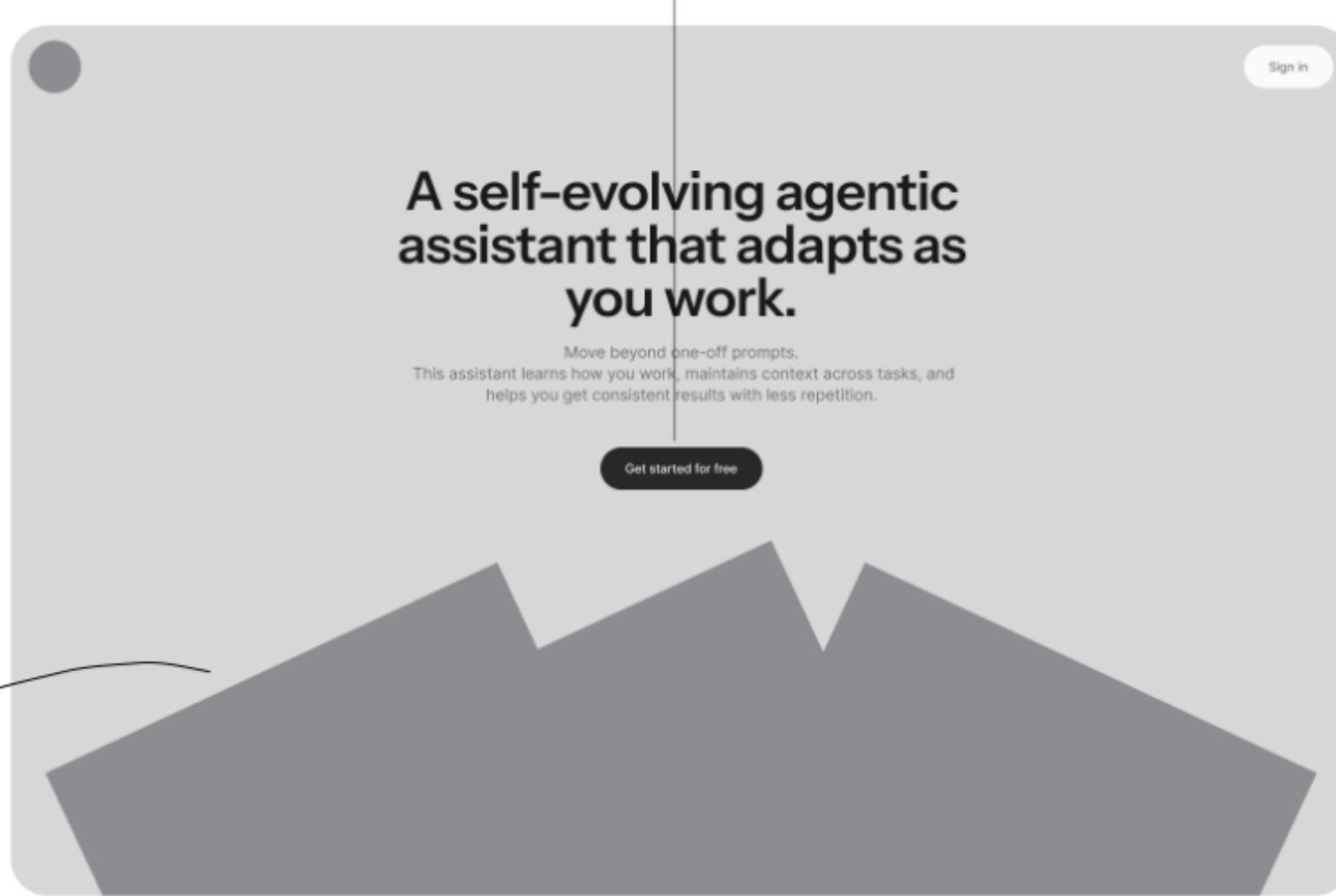
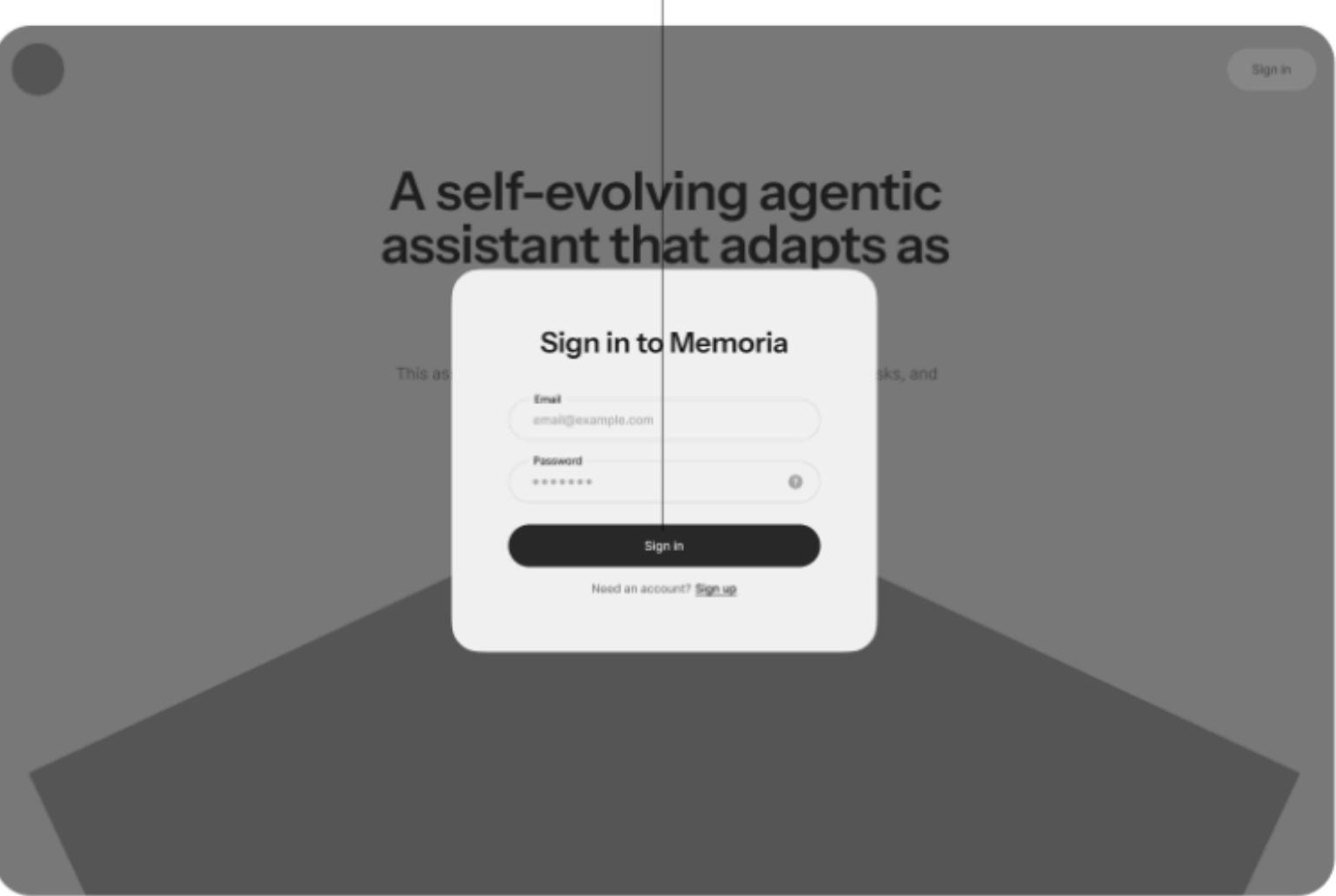
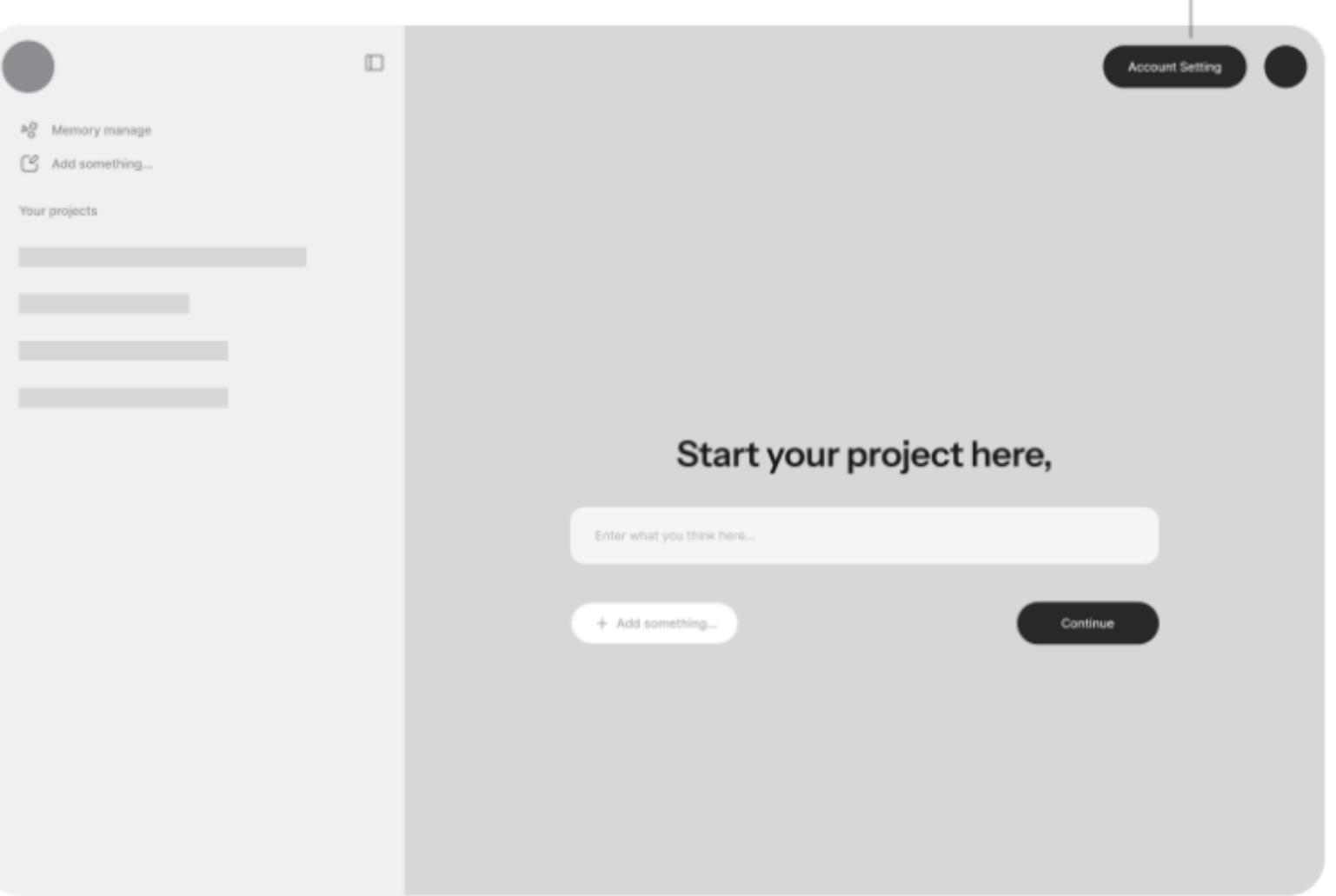
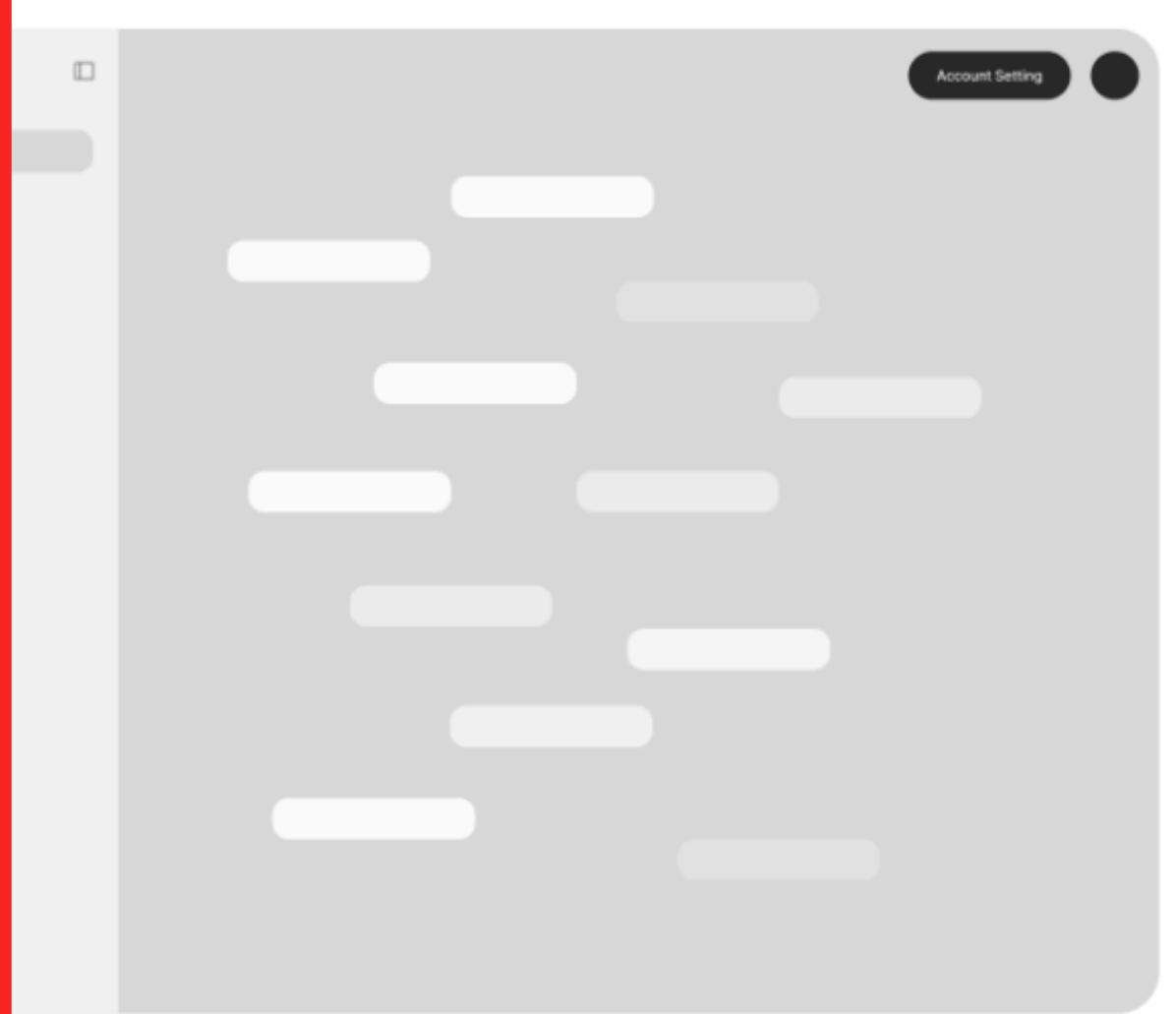
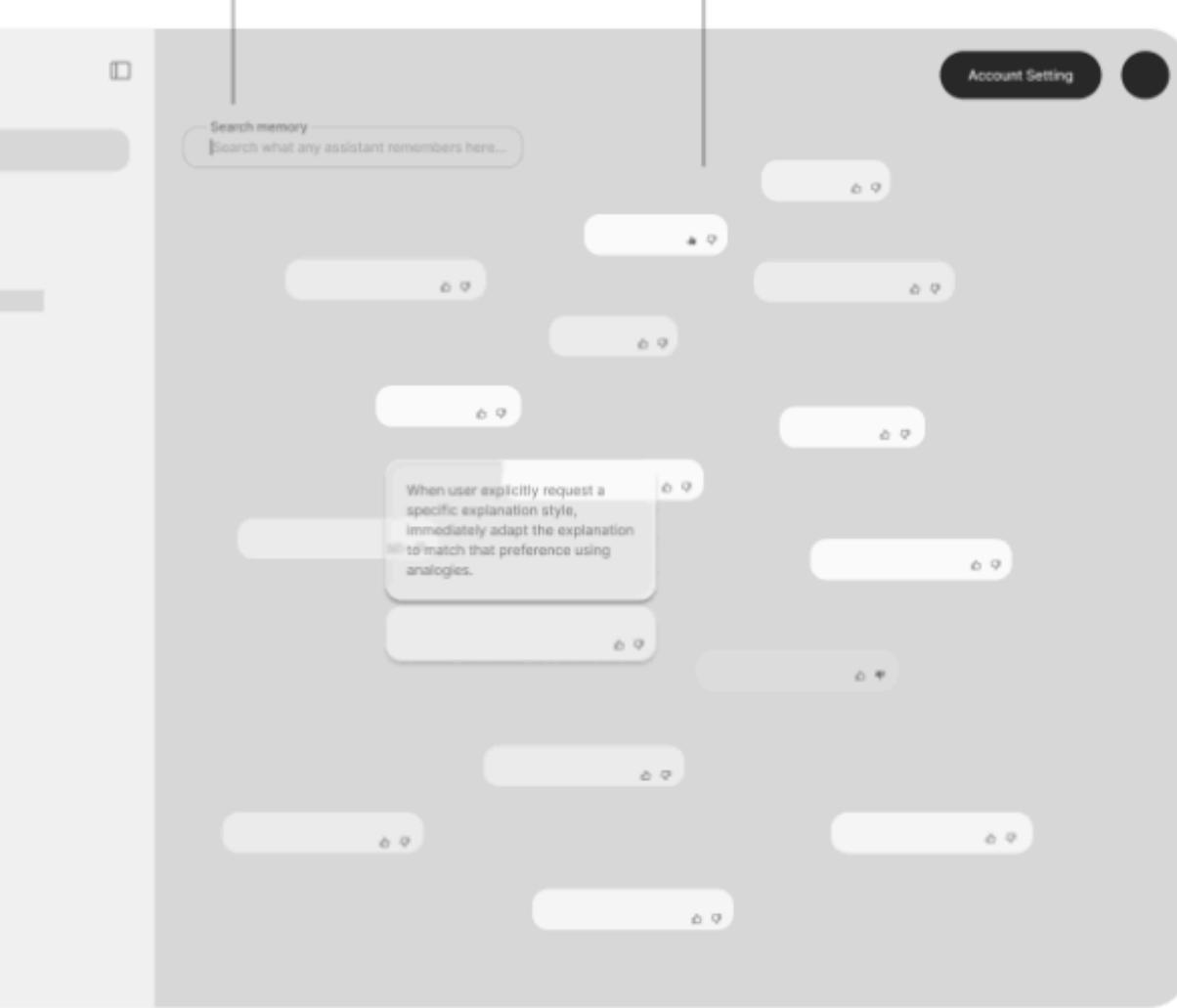
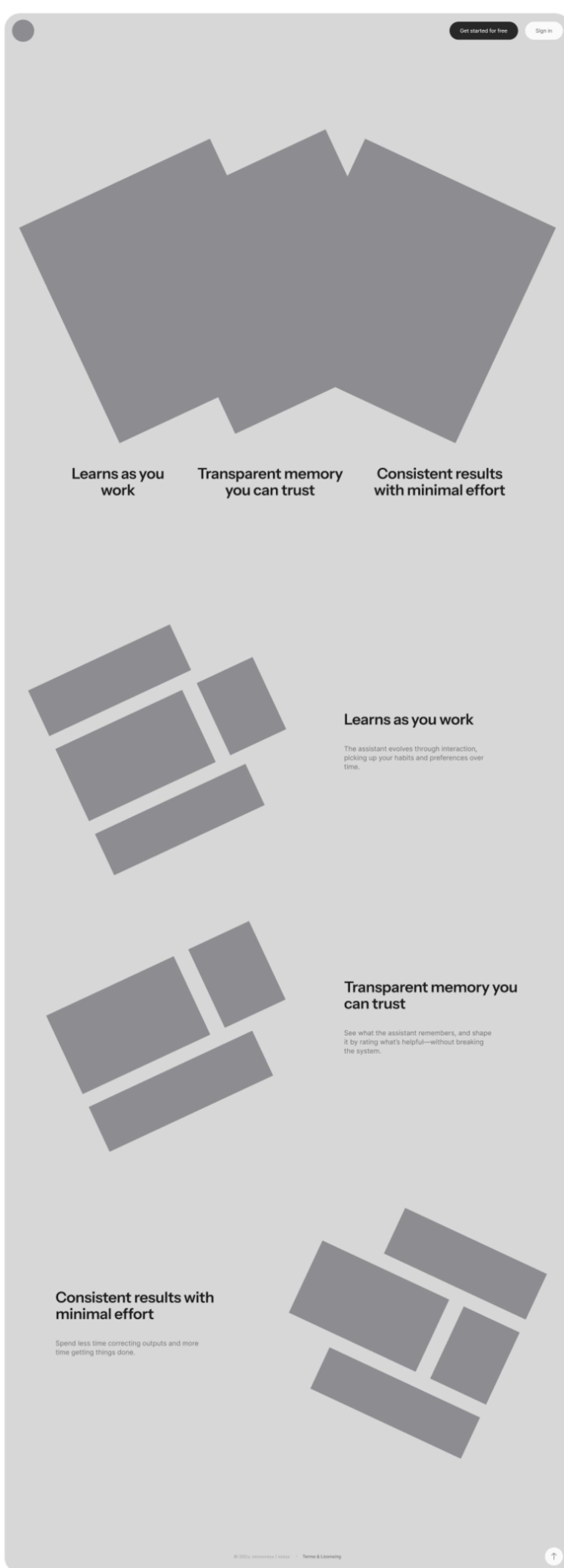
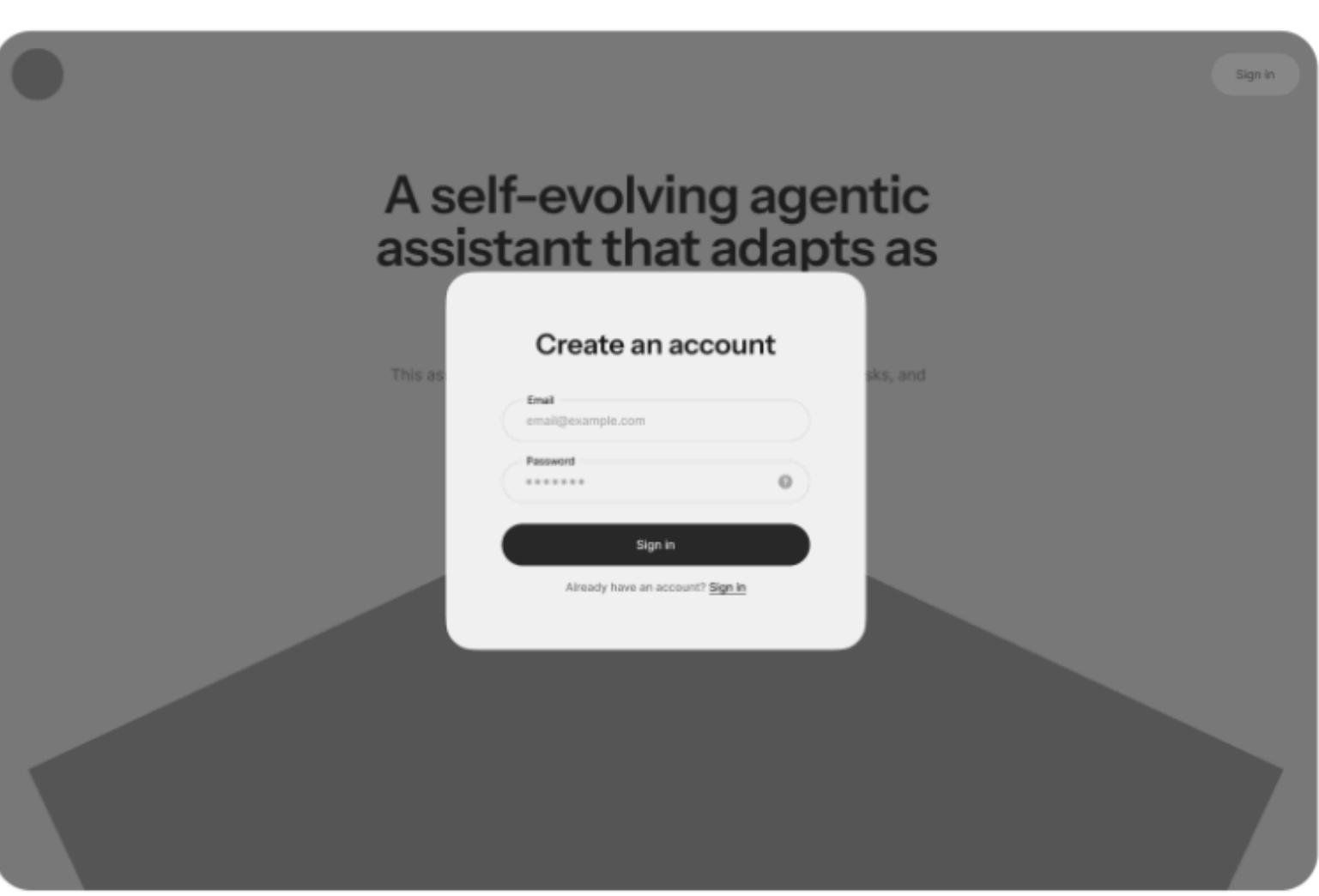
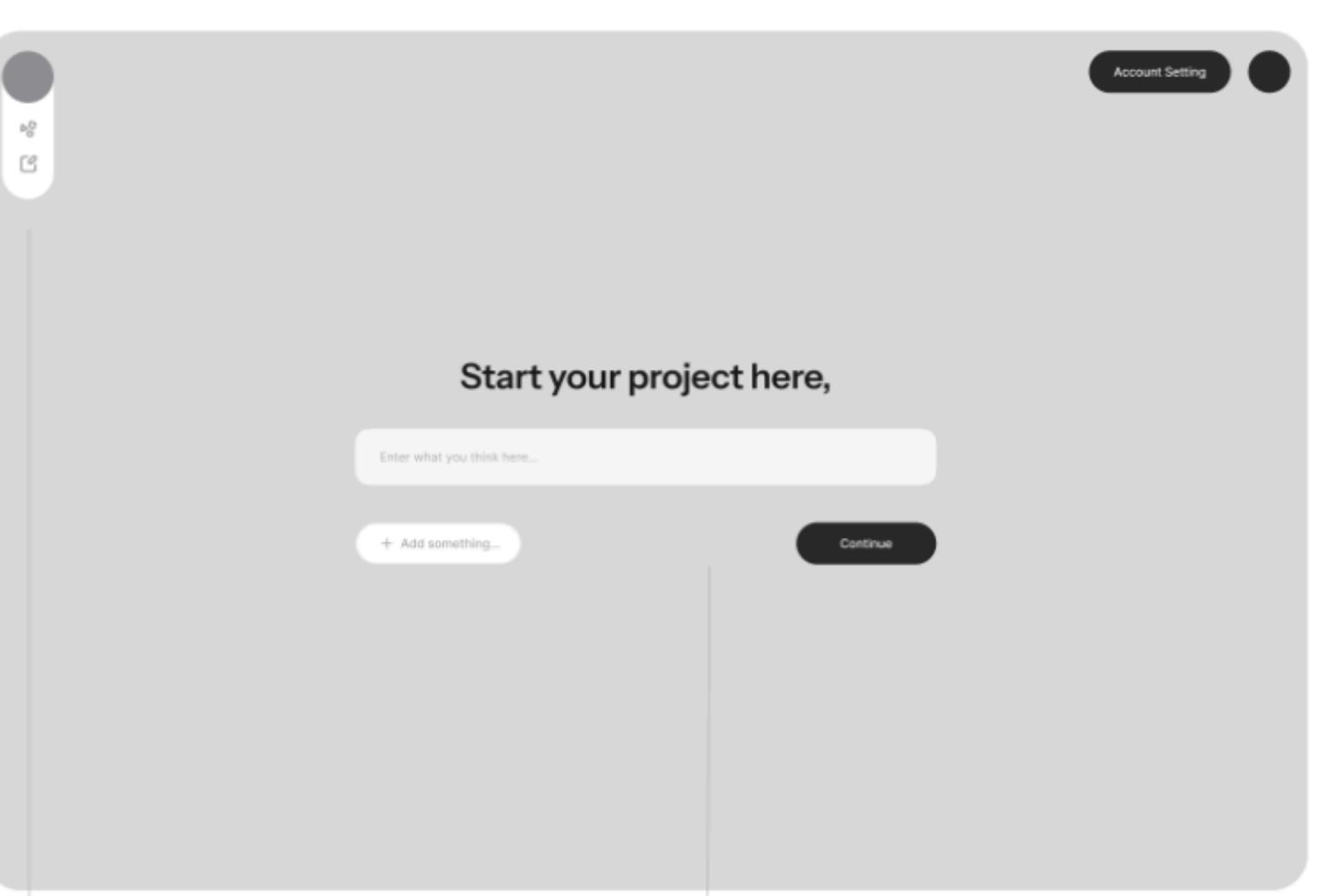
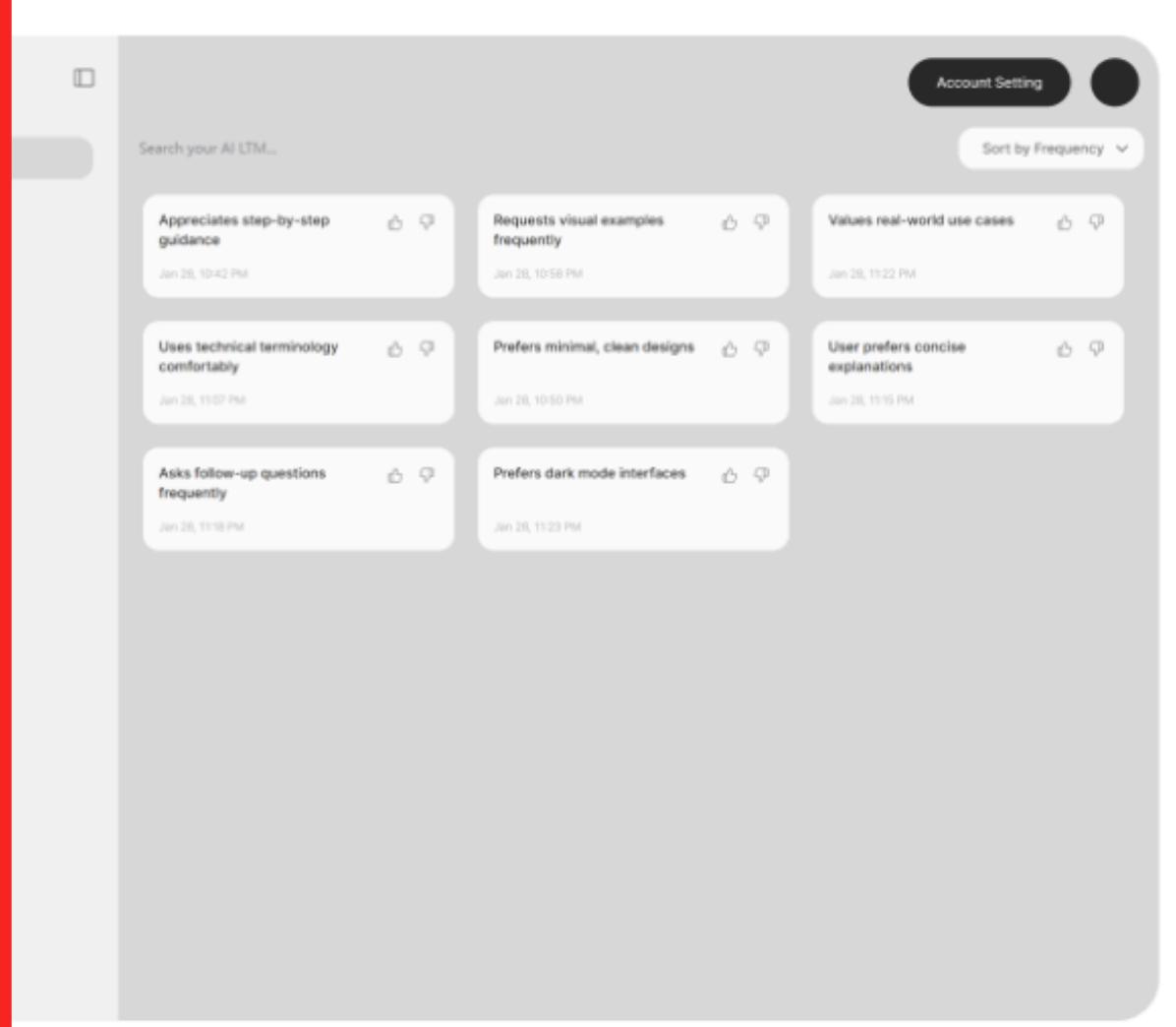
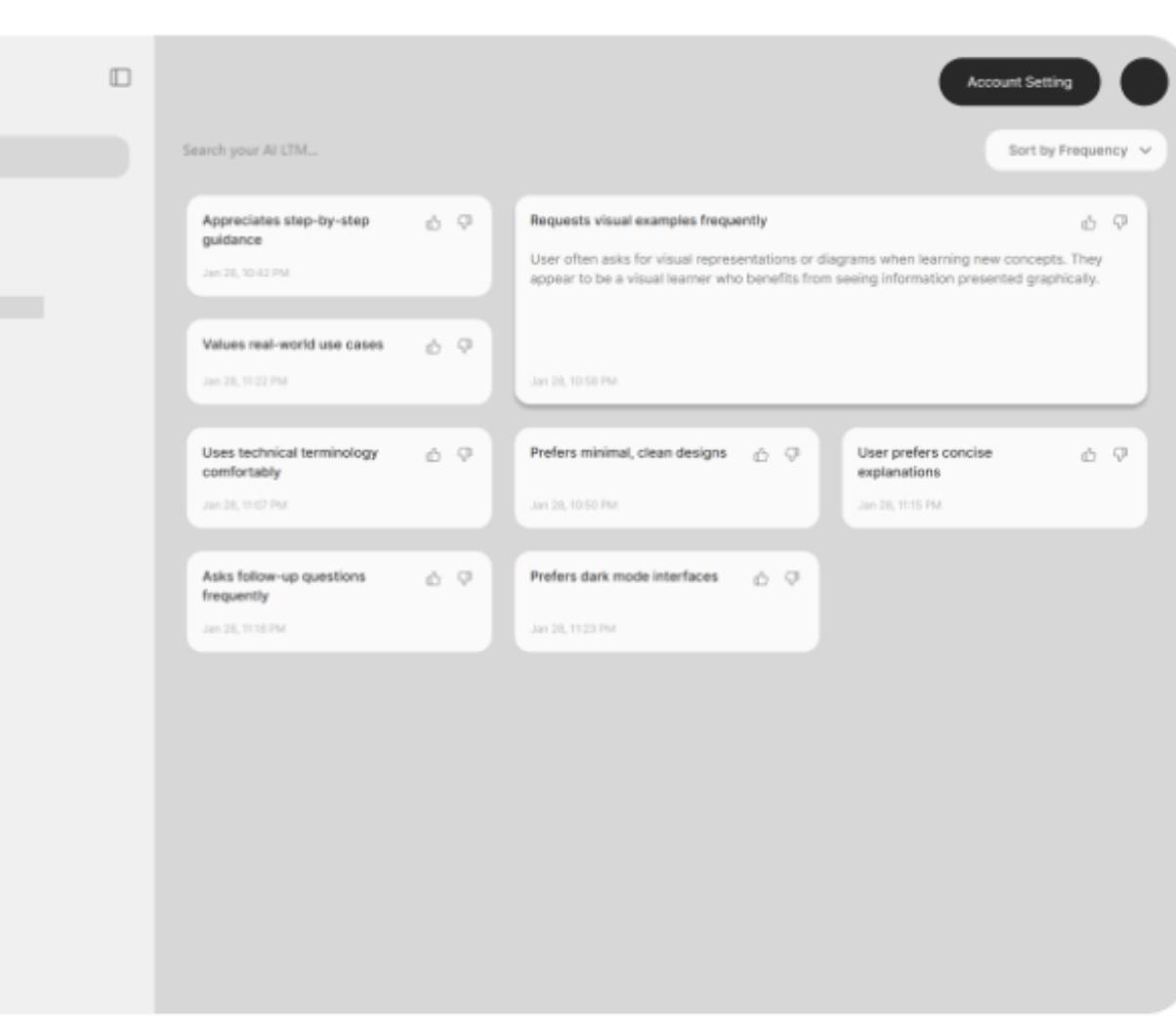
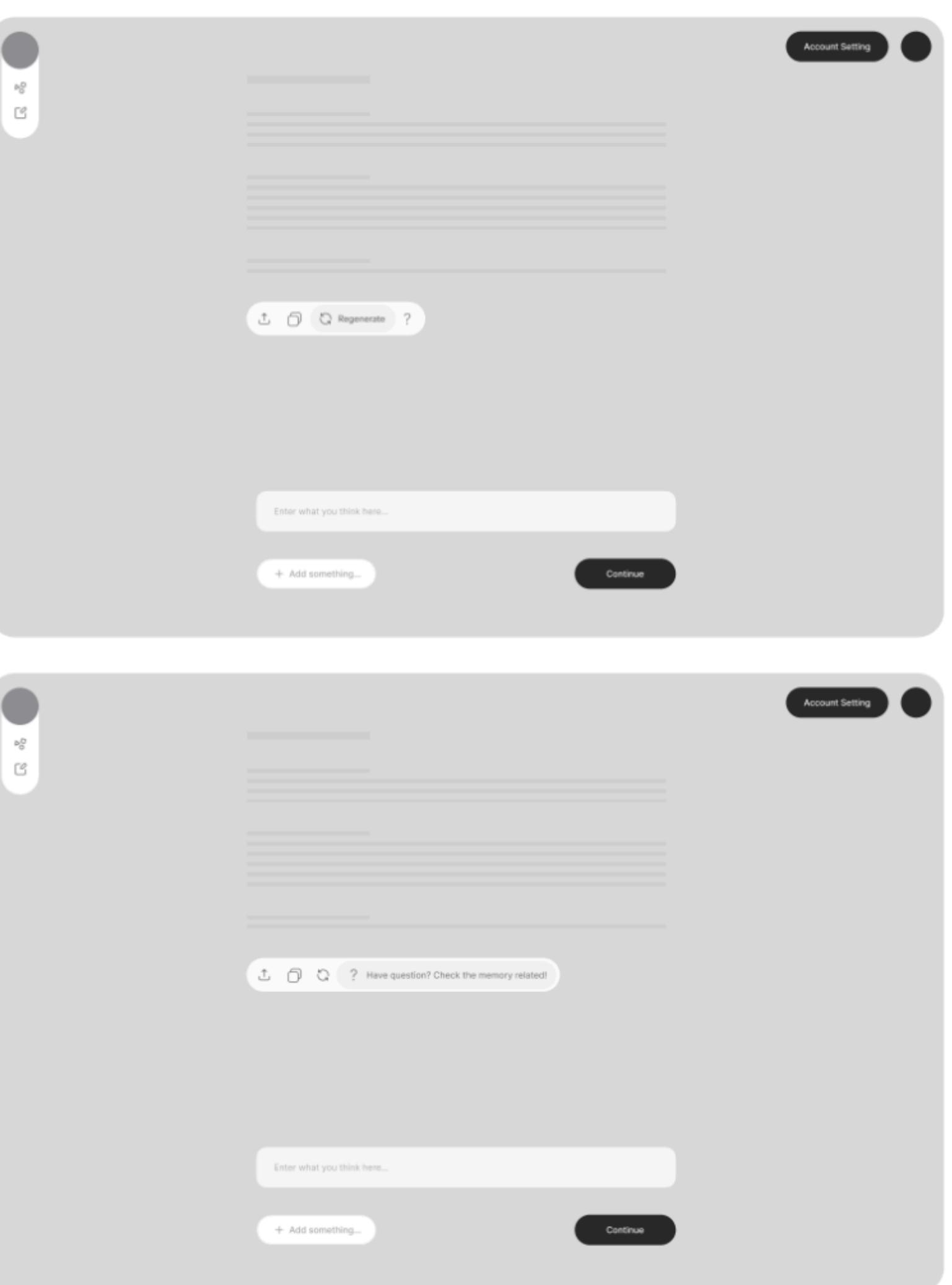
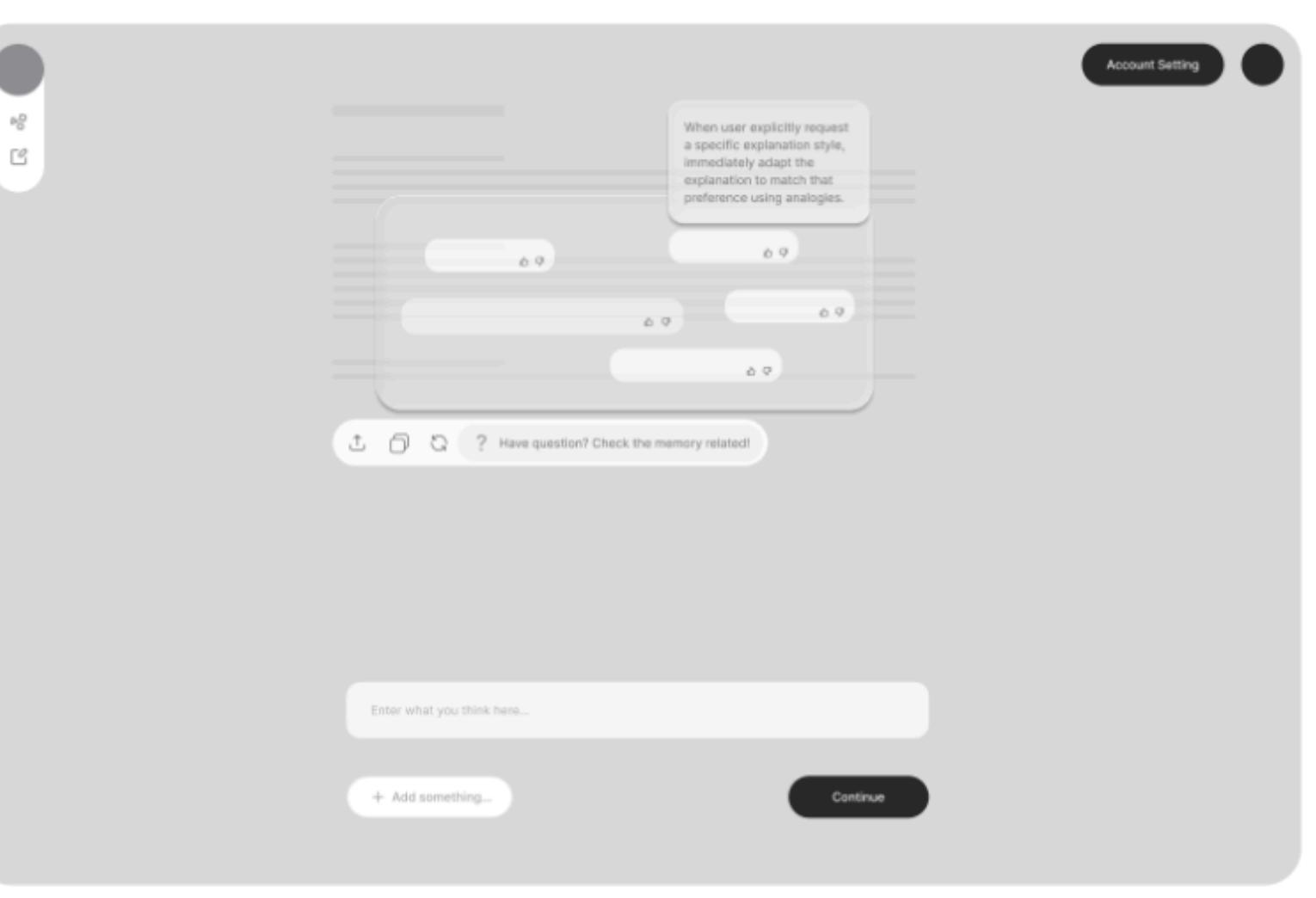
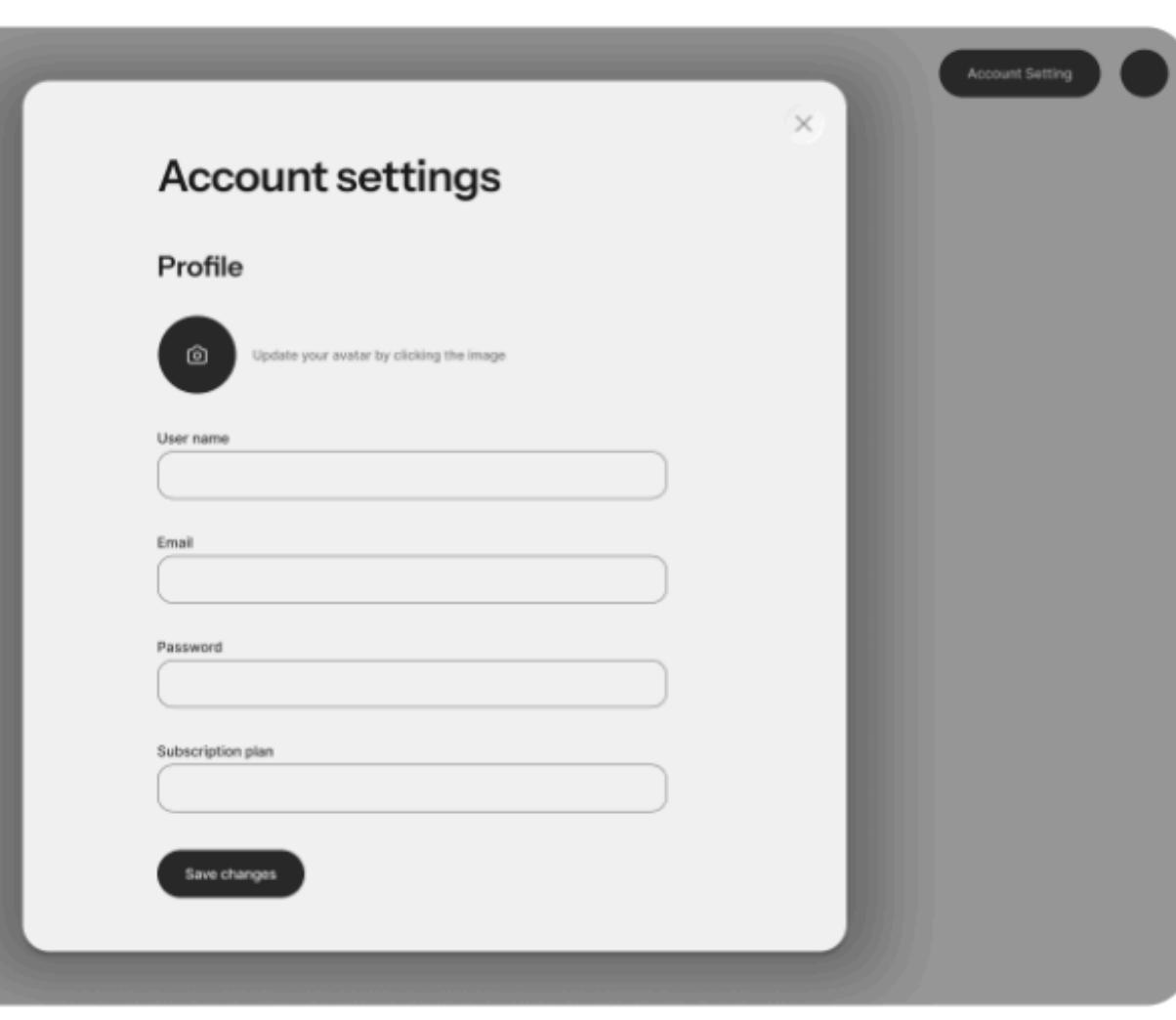
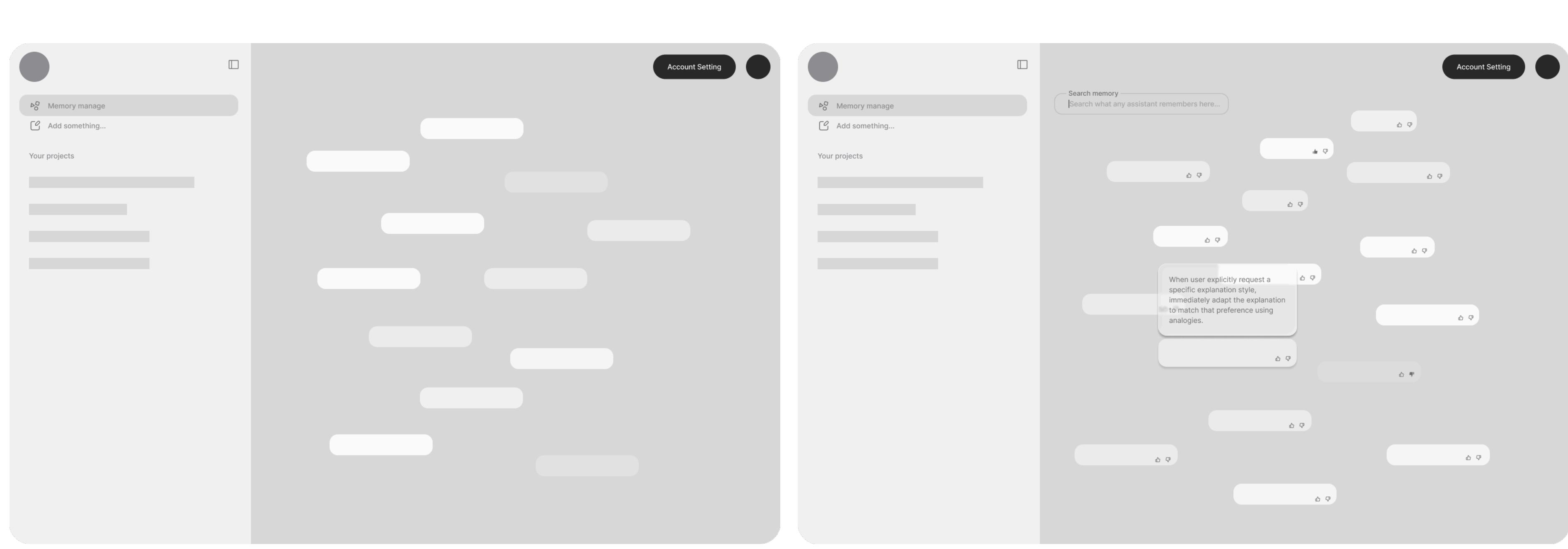


V2.5 Separating Memory Review from Chat Interaction

During the Wizard of Oz evaluation, one of our group members pointed out that when users are reviewing stored memories, they do not necessarily need constant access to the chat interface. Based on Jakob Nielsen's Usability Heuristic of Error Prevention, we redesigned the memory management feature as a dedicated full-page view, replacing the chat display. This helps prevent accidental interactions and reduces the likelihood of unintended actions while managing memories.

Interaction logic change

Previously, when users wanted to give feedback on AI-generated responses, clicking the question mark icon would navigate them to a separate memory management page to review and adjust related memories. We revised this flow so that the interface now immediately displays the titles of the top five memories most relevant to the AI response on the current page. Users can provide feedback directly in context, or click on a memory title to view its detailed description.

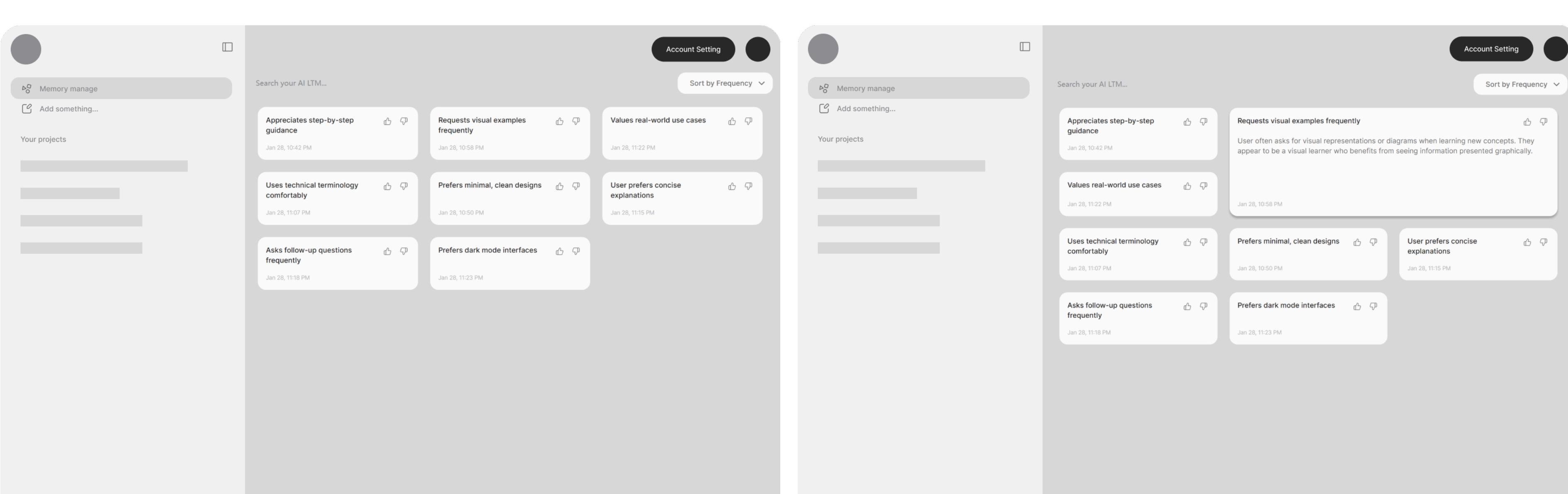
V3**Landing page****Log in page****Main page****Memory visualization page****Rate memory****Landing page (scroll down)****sign up page****Main page (sidebar hidden)****Memory visualization page Beta****Rate memory Beta****Generating responses****Interactive responses****Account setting page****V3.5****Version A**

Here all memories are presented to users as titled bubble items. Frequently used memories are highlighted, like what human brain remembers most strongly, while less frequently used memories gradually fade out, like forgetting.

Users can explore these memories using interactions such as zooming and dragging, similar to navigating a mind map.

Pros: The visualization is intuitive and easy to grasp at a glance.

Cons: As the number of long-term memories increases, the AI's "mind map" may grow large, requiring users to pan around to browse all items. To address this, higher-frequency memories are positioned closer to the center, while less frequently used memories are pushed toward the edges.

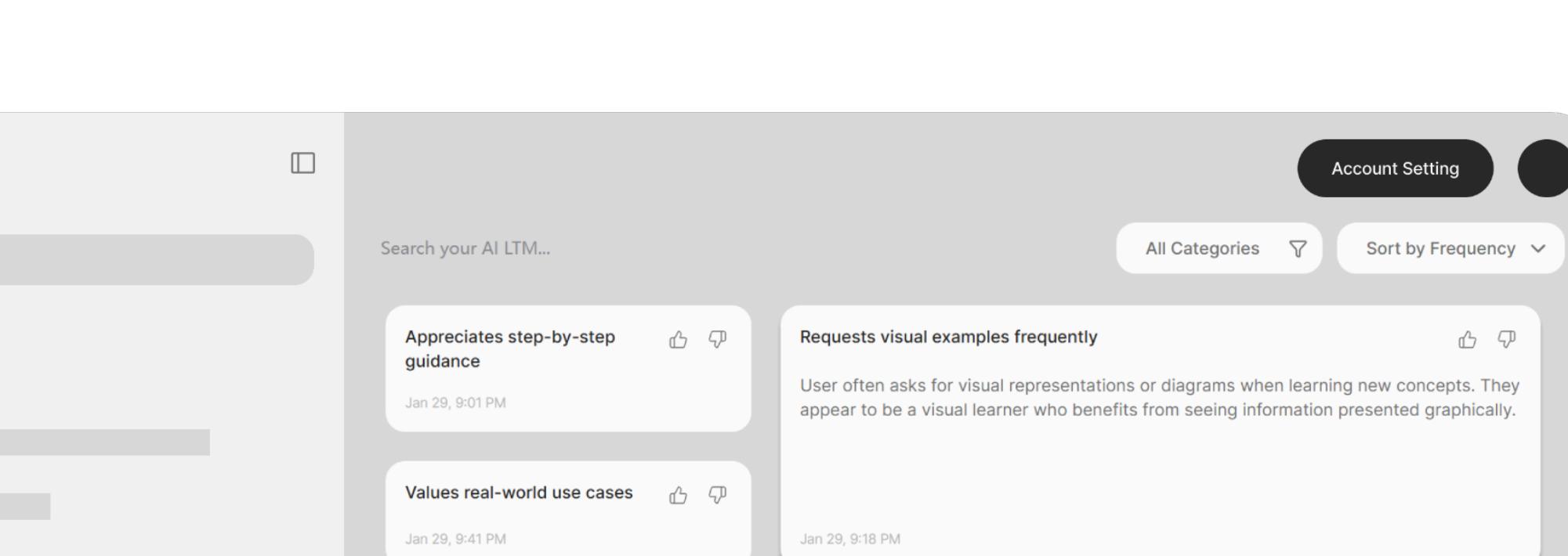
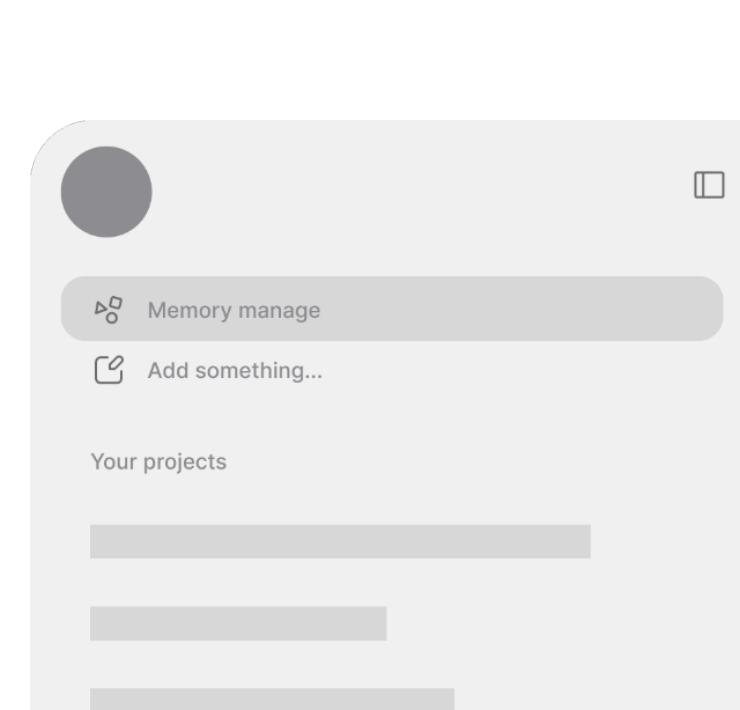
Version B

Another interface design approach is to present memories in a structured, note-like list. By default, items are sorted by usage frequency, the most frequently used memories appearing at the top.

Users can scroll vertically to browse all memory items, and choose the sorting method in the top-right corner, switching to time-based sorting to view recently generated long-term memories.

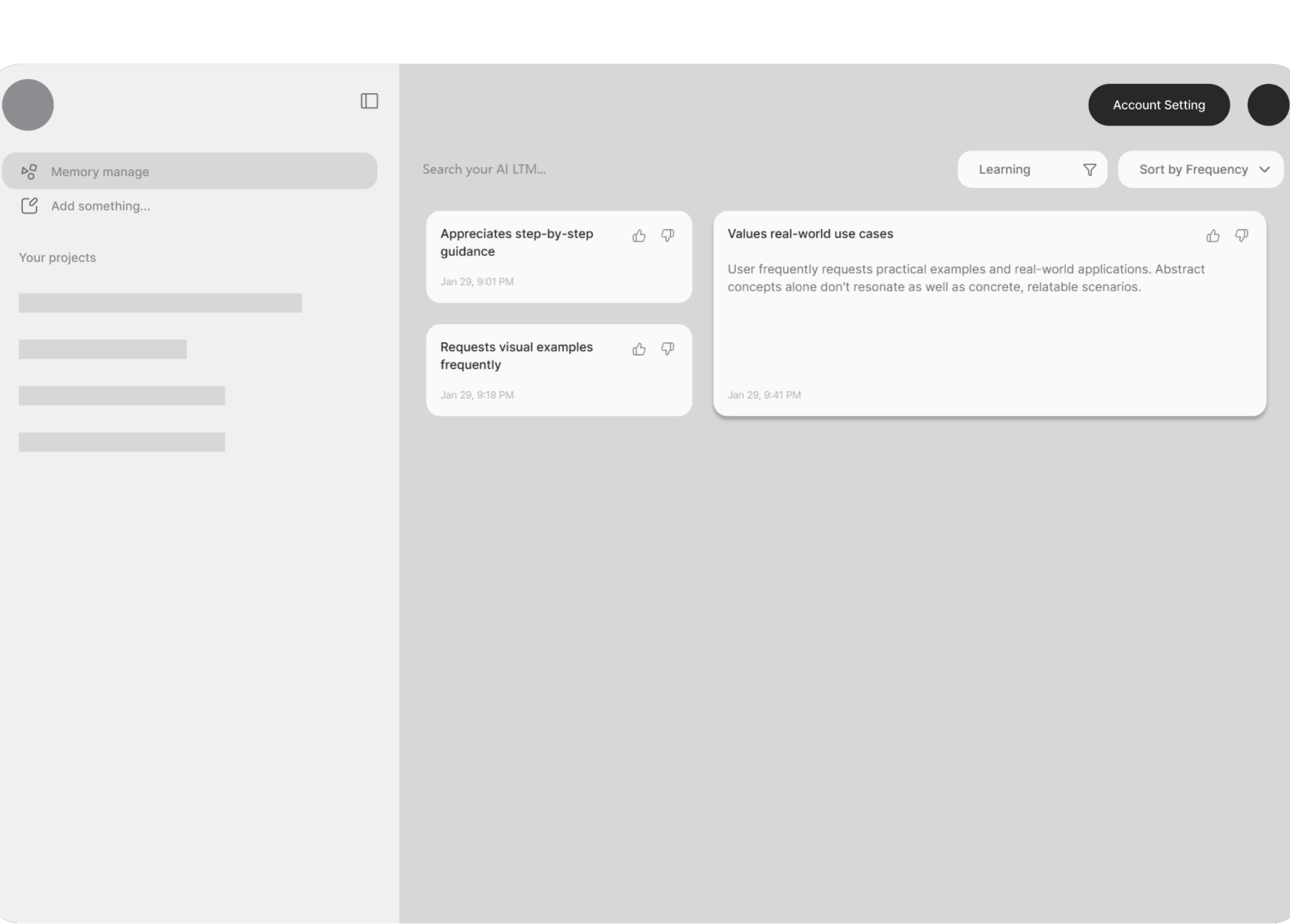
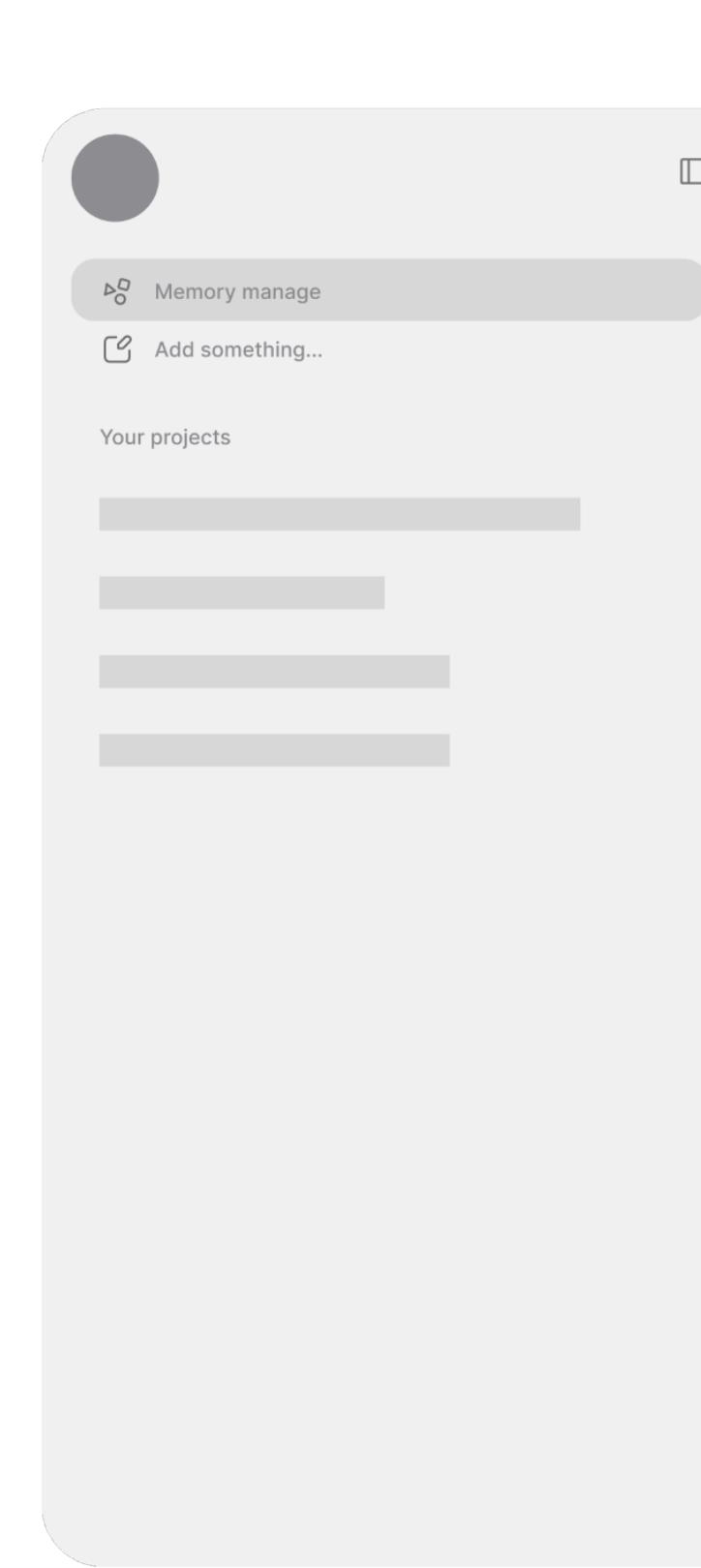
Pros: This approach is highly organized and allows users to freely choose how memories are sorted.

Cons: Compared to a mind map, it may feel less intuitive at a glance. However, it is easier to manage and remains clean even as the number of memories grows. The trade-off is that it may lose some sense of playfulness and uniqueness.

V4**Iteration Trade-offs and Design Decisions**

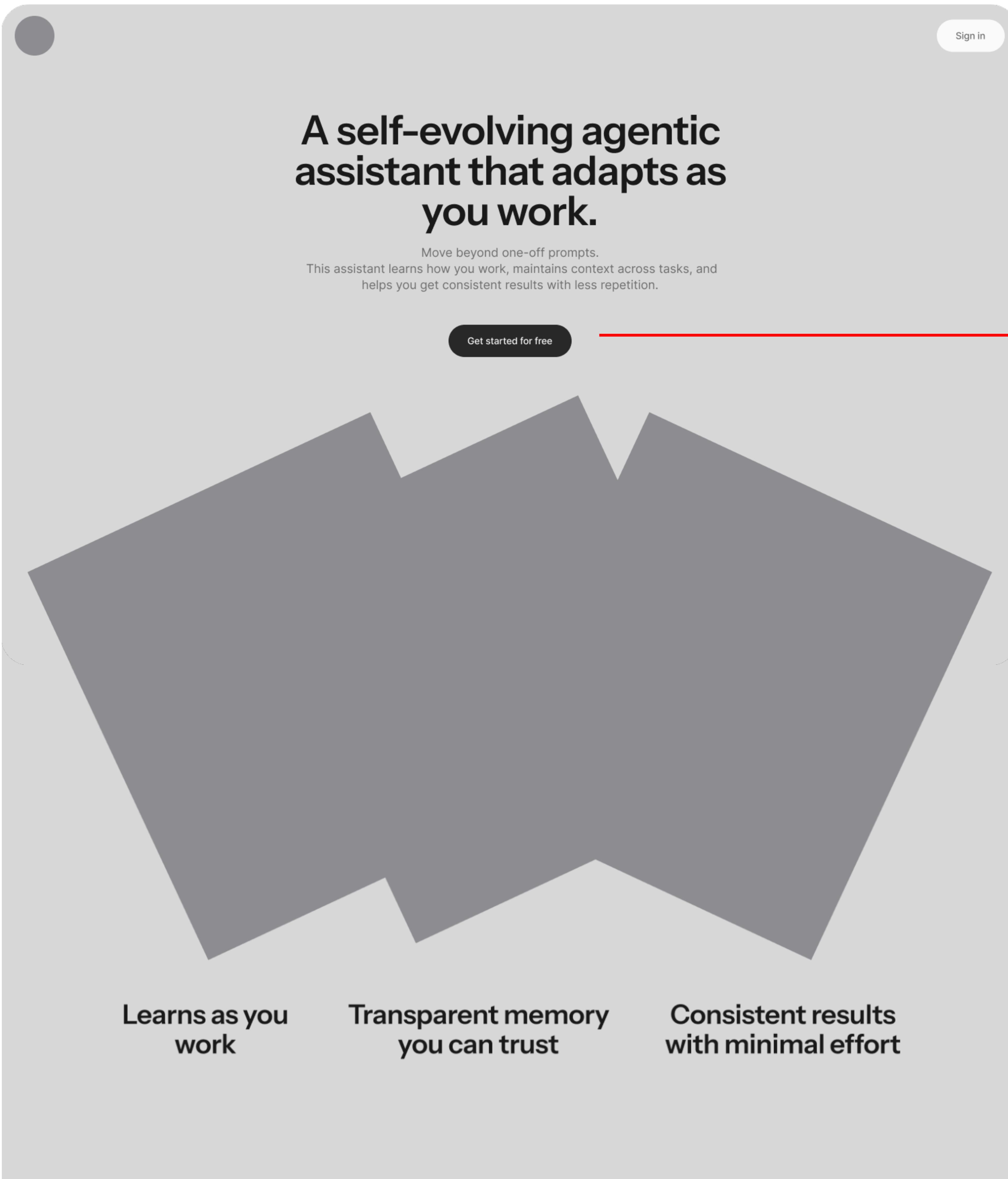
During the iteration process, we discussed the trade-offs between interface simplicity and information overload. Our teammate mentioned that without a clear hierarchy, it risked becoming overwhelming as the amount of content increased. To address this, we explored adding grouping and filtering mechanisms, as well as selectively surfacing only the most relevant items at a given moment.

While a slider-based rating system was proposed to allow more fine-grained feedback, we ultimately decided to retain the thumbs-up and thumbs-down mechanism. This decision was informed by both usability and technical considerations. Binary feedback requires less cognitive effort from users, supports faster interaction, and aligns better with the current algorithmic capabilities. Combined with improved grouping and contextual presentation, the thumbs-up/down system remains effective in guiding memory refinement without adding unnecessary decision burden.

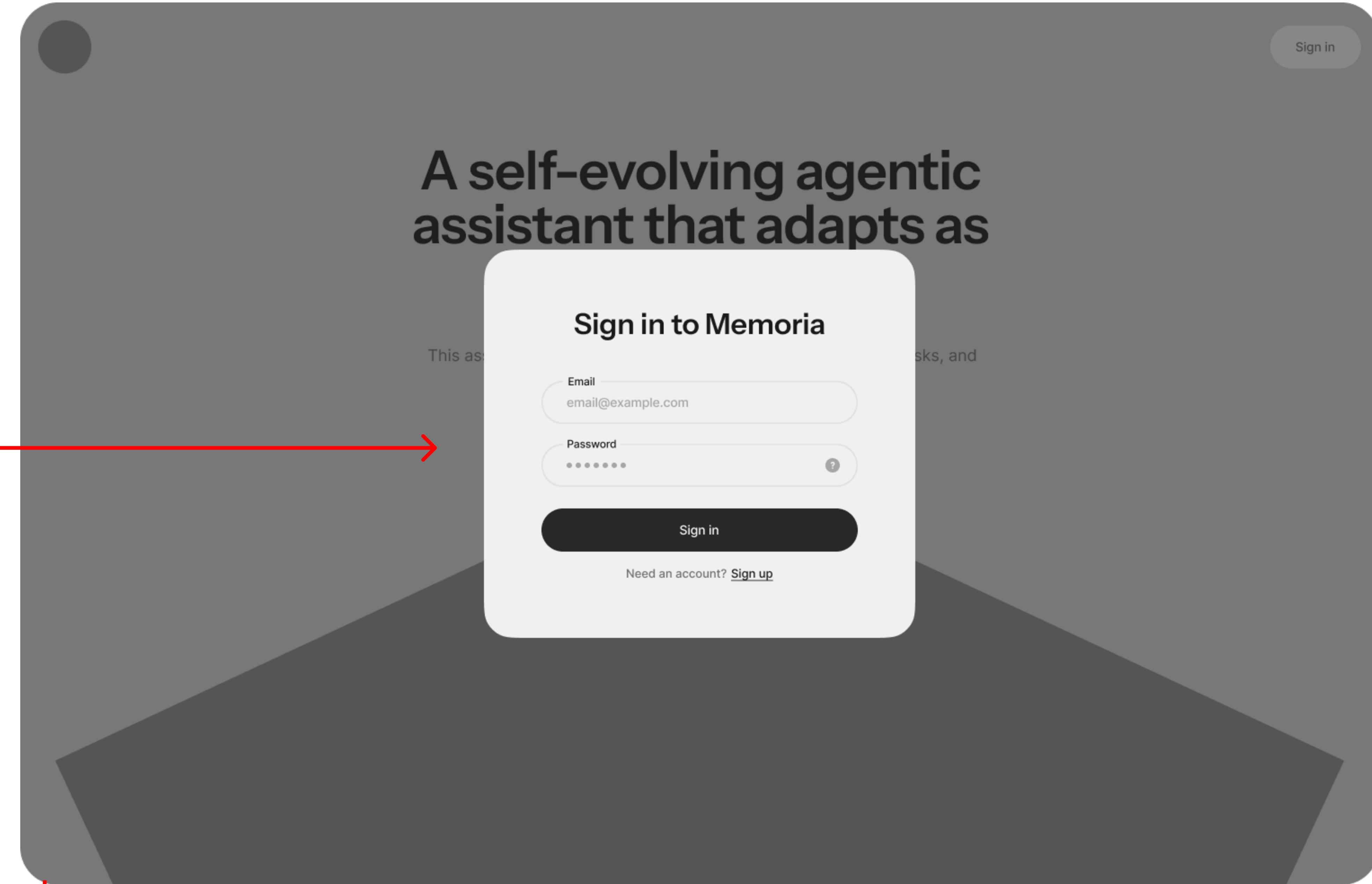
View memory by group**Filter memory by group**

Final Version: pages and design documentation

Landing page



Log in page



Design Rationale

According to Fitts's Law, the time required to move to and select a target depends on the distance to the target and its size. Targets that are closer and larger are faster and easier to click:

Based on this principle, we place the Get Started button at the center of the screen to allow users to begin using our system with minimal effort. The center position has an equal distance to all edges of the screen, and the button is intentionally large, making it highly visible and easy to click. And as you can see, the subsequent dialog remains in the same position. It's not reasonable that we make users first click a button in the center and are then forced to move the cursor to the far right in the next step, this would add unnecessary effort and interaction cost. To avoid this, we minimize the total cost across the two steps by keeping the cursor movement as small as possible and maintaining a consistent spatial layout.

So here, the Get Started button on the first page is placed very close to the Sign In button on the following page, reducing both physical movement and cognitive friction for our user.

Learns as you work

The assistant evolves through interaction, picking up your habits and preferences over time.

Transparent memory you can trust

See what the assistant remembers, and shape it by rating what's helpful—without breaking the system.

Consistent results with minimal effort

Spend less time correcting outputs and more time getting things done.

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Page Purpose

This screen allows existing users to sign in to Memoria while preserving the context of the landing page. Presenting the sign-in flow as a modal helps users feel oriented and secure during authentication.

Key UI Elements

- Email input field
- Password input field with visibility/help icon
- Primary action button: "Sign in"
- Secondary navigation link: "Sign up" for new users
- Modal overlay with dimmed background

Intended User Interactions

- Users enter their email and password to authenticate
- Users can submit credentials by clicking the "Sign in" button
- Users can navigate to the account creation flow via the "Sign up" link
- Users complete sign-in without leaving the current page context

Page Purpose

This screen introduces the core value proposition of the product and helps first-time users understand what the assistant does. It guides users toward starting the onboarding process or signing in.

Key UI Elements

- Headline describing the product vision
- Supporting descriptive text explaining functionality
- Primary call-to-action button: "Get started for free"
- Secondary navigation button: "Sign in"
- Sectioned feature highlights with short titles and descriptions
- Visual placeholders representing product concepts

Intended User Interactions

- Users read the headline and feature descriptions to understand the product
- Users click "Get started for free" to begin account creation or onboarding
- Returning users click "Sign in" to access their account
- Users scroll vertically to explore additional feature explanations

sign up page

Page Purpose

This screen allows users to create an account while maintaining visual context of the main landing page, helping users feel oriented and secure during onboarding.

Key UI Elements

- Email input field
- Password input field with visibility toggle
- Primary action button: "Sign in"
- Secondary navigation link: "Already have an account? Sign in"
- Modal overlay with dimmed background

Intended User Interactions

- Users enter their email and password to create an account
- Users can toggle password visibility
- Users can switch to the sign-in flow if they already have an account
- Users complete onboarding without leaving the current page context

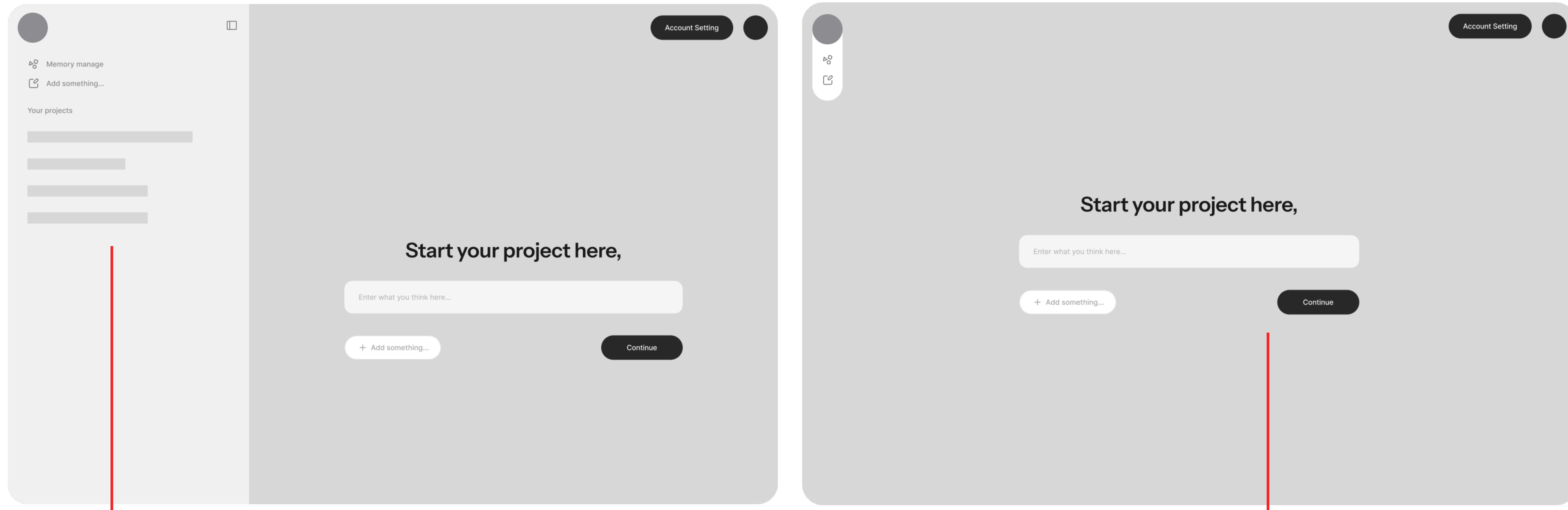
Design Rationale

We added a one-click "Back to Top" button to support efficient navigation on long, scroll-heavy pages. This design follows Jakob Nielsen's Usability Heuristic of Flexibility and Efficiency of Use, allowing users to return to the top with minimal effort. It also helps users quickly access the primary "Get started" button, as we want to remove any unnecessary friction and make it as easy as possible for users to begin using the product.

Design Rationale

Instead of redirecting users to a completely new page, we use a modal overlay on top of the existing interface. This reduces extraneous cognitive load by preserving context and preventing disorientation. Dimming the background clearly communicates that account creation is a focused, temporary task, while keeping users aware of where they are in the system. The centered layout and minimal number of actions guide users toward completion with minimal decision-making effort.

Main page



Design Rationale

We reduce decision-making burden through hierarchical structures, the interface is Beginner-faced and intentionally offer fewer choices.

This also follows Jakob Nielsen's Usability Heuristics, the principle of simplicity and minimalist design.

Design Rationale

The interface centers the primary input field and action buttons to clearly communicate the main task of the page: starting a project. Related elements are visually grouped to support quick understanding, following Gestalt principles. By limiting the number of immediate actions, the design reduces decision complexity and aligns with Hick's Law.

Page Purpose

This page serves as the main entry point for starting a new project. It encourages users to externalize their thoughts and begin interacting with the system with minimal friction.

Key UI Elements

- Central text input field for entering an initial idea or prompt
- Primary action button: "Continue"
- Secondary action button: "Add something..."
- Left-side navigation panel for memory management, adding content, and accessing existing projects
- Account settings button in the top-right corner

Intended User Interactions

- Users type an idea or task into the main input field to start a project
- Users click "Continue" to move forward in the workflow
- Users optionally add additional context using "Add something..."
- Users navigate between projects or memory-related features via the side panel
- Users access account settings when needed

Chat page



Page Purpose

This page supports ongoing interaction with the AI while allowing users to review responses and provide contextual feedback.

Design Rationale

The floating action bar keeps key actions close to the AI response, applying Gestalt principles of proximity to reinforce their relationship without cluttering the interface. Commonly recognized icons are used to support clear affordances, allowing users to immediately understand available actions. The content generation process is made visible to users, aligning with Jakob Nielsen's Usability Heuristic of Visibility of System Status, which emphasizes transparency in how the system operates. At the same time, according to Nielsen's Usability Heuristics, users are given direct control over the AI's behavior: they can inspect related memories, provide feedback, adjust responses, or regenerate outputs as needed.

Key UI Elements

- Main content area displaying the AI-generated response
- Floating action bar beneath the response, including:
 - Share
 - Copy
 - Regenerate response button
 - Contextual help icon ("Have question? Check the memory related!")
- Text input field for continuing the conversation
- Secondary action button: "Add something..."
- Primary action button: "Continue"
- Minimal icon-based side navigation
- Account settings button in the top-right corner

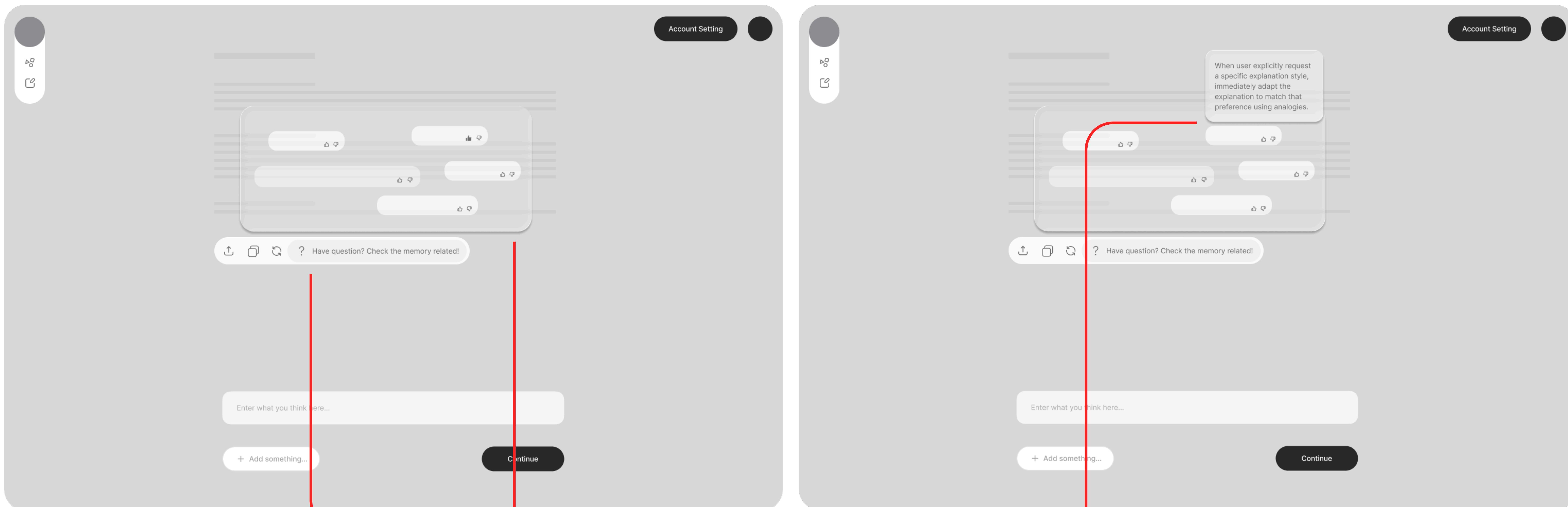
Intended User Interactions

- Users review the AI-generated response in the main content area
- Users hover over the icons to understand their functions before interaction
- Users copy, share, or regenerate the response using the floating action bar
- Users access related memories through the contextual help icon to inspect or give feedback
- Users continue the conversation by entering new input in the text field
- Users optionally add additional context before proceeding

Design Rationale

The reason why we integrated the relate memory feedback function into a icon but not a separate window is because we want to provide the the help only when users explicitly request it, if user think the response is good, they naturally ignore it. The design follows progressive disclosure and helps reduce cognitive overload.

Chat related memory feedback page



Page Purpose

This page is designed as a contextual interaction and feedback interface within a conversational AI system. When users have any doubts or concerns about a response, we want them to have the ability to provide immediate feedback. Therefore, the interface allows users to instantly review and respond to the most relevant memories associated with the current answer, and then submit their feedback.

After the user exits this page, the system is given an opportunity to make a correction, regenerates the response based on the user's input preference.

Key UI Elements

- Related memory feedback window (contextual pop-up) that reveals the memories associated with the current response
- Thumbs up / down icons attached to every title bubble
- Click bubble and pop-up a window with description
- Main content area displaying the AI-generated response
- Floating action bar beneath the response, including:
- Text input field for continuing the conversation
- Secondary action button: "Add something..."
- Primary action button: "Continue"
- Minimal icon-based side navigation
- Account settings button in the top-right corner

Intended User Interactions

- User views which memories influenced the response.
- User can react to the response by thumbs up / down it.
- User accidentally opened the window and doesn't want to make any changes, so they click outside the window area to return to the conversation and continue.
- User wants to check what the title represents, so they click on the title and then view the description in the pop-up window.
- The user is satisfied with the feedback they provided, so they click the outside-window area, and the AI will regenerate a revised response.

Design Rationale

Instead of navigating users to a separate memory management page, related memories are presented inline within the current context. This minimizes the cost of accidental interactions and supports error prevention by allowing users to explore or exit without losing their place or disrupting the conversational flow.

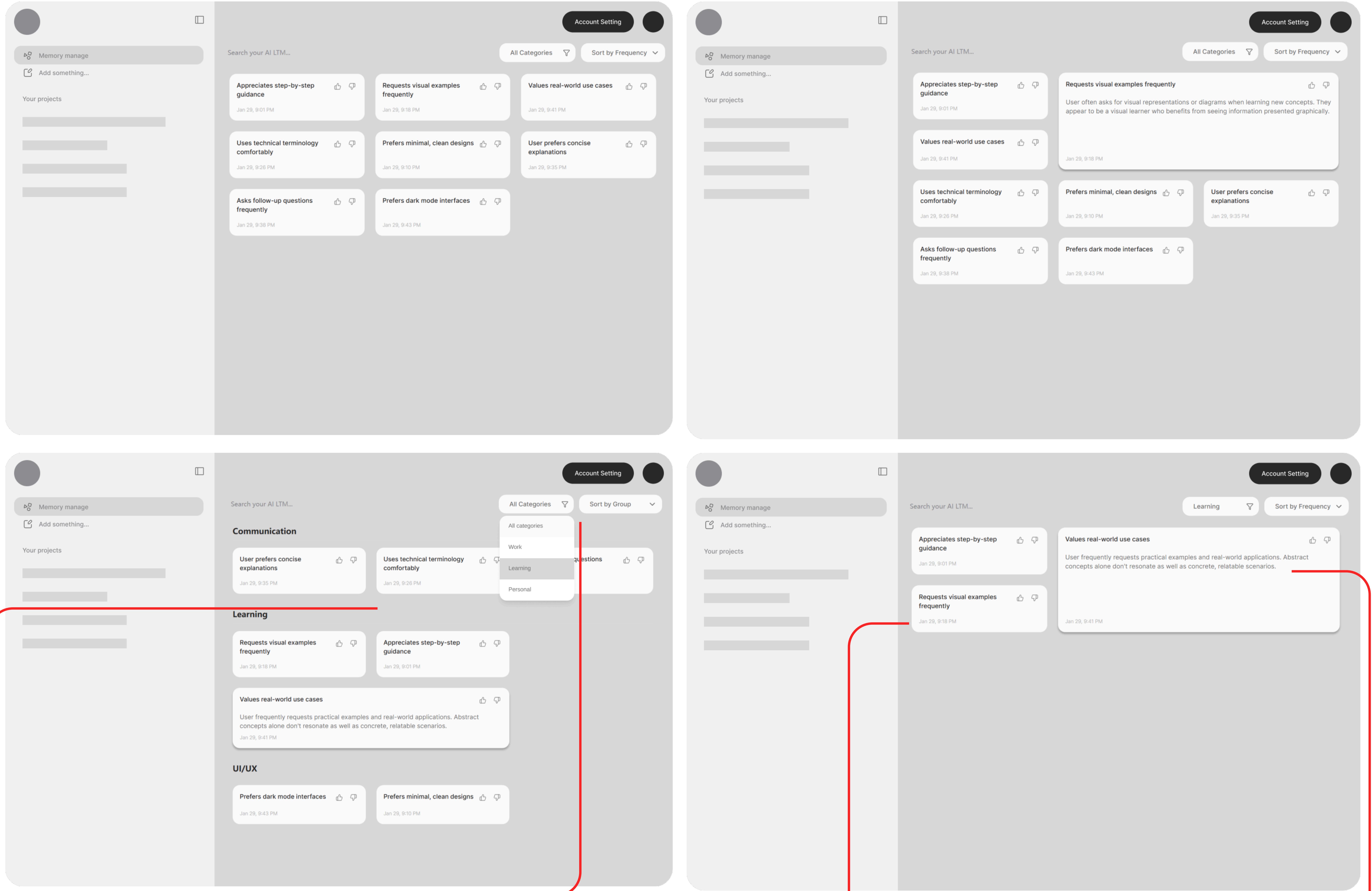
Design Rationale

In the related memory window, we intentionally display only memory titles by default to maintain information simplicity. In most cases, users can determine relevance based on the title alone, and detailed explanations are only needed when the decision is ambiguous. This design follows the principle of progressive disclosure, providing additional information only when users explicitly request it. By limiting initial information, the interface reduces unnecessary cognitive load and supports faster scanning and decision-making, aligning with Cognitive Load Theory and Nielsen's heuristic of aesthetic and minimalist design.

Design Rationale

To make the relationship between the description of the memory and the associated memory title clear, the description is placed directly next to the memory title rather than connected with any arrows or additional visual indicators. This because we apply Gestalt Principles of Proximity, allowing users to naturally perceive the title and description as part of the same information unit without extra cognitive effort.

Memory visualization and feedback page



Page Purpose

This page allows users to review and manage the AI's long-term memories in a structured and scalable way. By supporting grouping, filtering, and sorting, the interface helps users make sense of an increasing number of memories without feeling overwhelmed.

Key UI Elements

- The left-side navigation panel allows users to switch between starting a new conversation ("Add something") and managing or reviewing the system's stored long-term memories ("Memory manage").
- Search bar for querying AI long-term memories
- Filter controls (e.g., "All Categories")
- Sorting options (e.g., "Sort by Frequency" or "Sort by Group")
- Memory cards displaying concise memory titles and timestamps
- Expandable memory cards that reveal detailed descriptions on demand
- Feedback controls (thumbs up / thumbs down) on each memory card
- Account settings button in the top-right corner

Design Rationale

After grouping the memories, we chose not to use lines or boxes to separate different groups of cards. Instead, this design relies on Gestalt Principles of Proximity, where elements placed closer together are perceived as belonging to the same group, so we relied on spacing. Cards that belong to the same group are placed closer together, while different groups are spaced farther apart, so users can naturally tell which cards belong together. All cards also share the same visual style to keep the interface consistent.

Design Rationale

In addition, drawing from Nielsen's heuristic of User Control and Freedom, users have full control over memory entries. They can easily sort and filter memories to manage and review them, and freely provide feedback. This ensures that memory management feels flexible, user-driven, and easy to adjust rather than hidden or automatic.

Intended User Interactions

- Users browse memories by scanning titles grouped by category
- Users filter memories to focus on specific topics or contexts
- Users sort memories to surface the most relevant or frequently used items
- Users expand a memory card to view detailed explanations when needed
- Users provide positive or negative feedback to refine AI behavior
- Users navigate between memory management and other features via the side panel

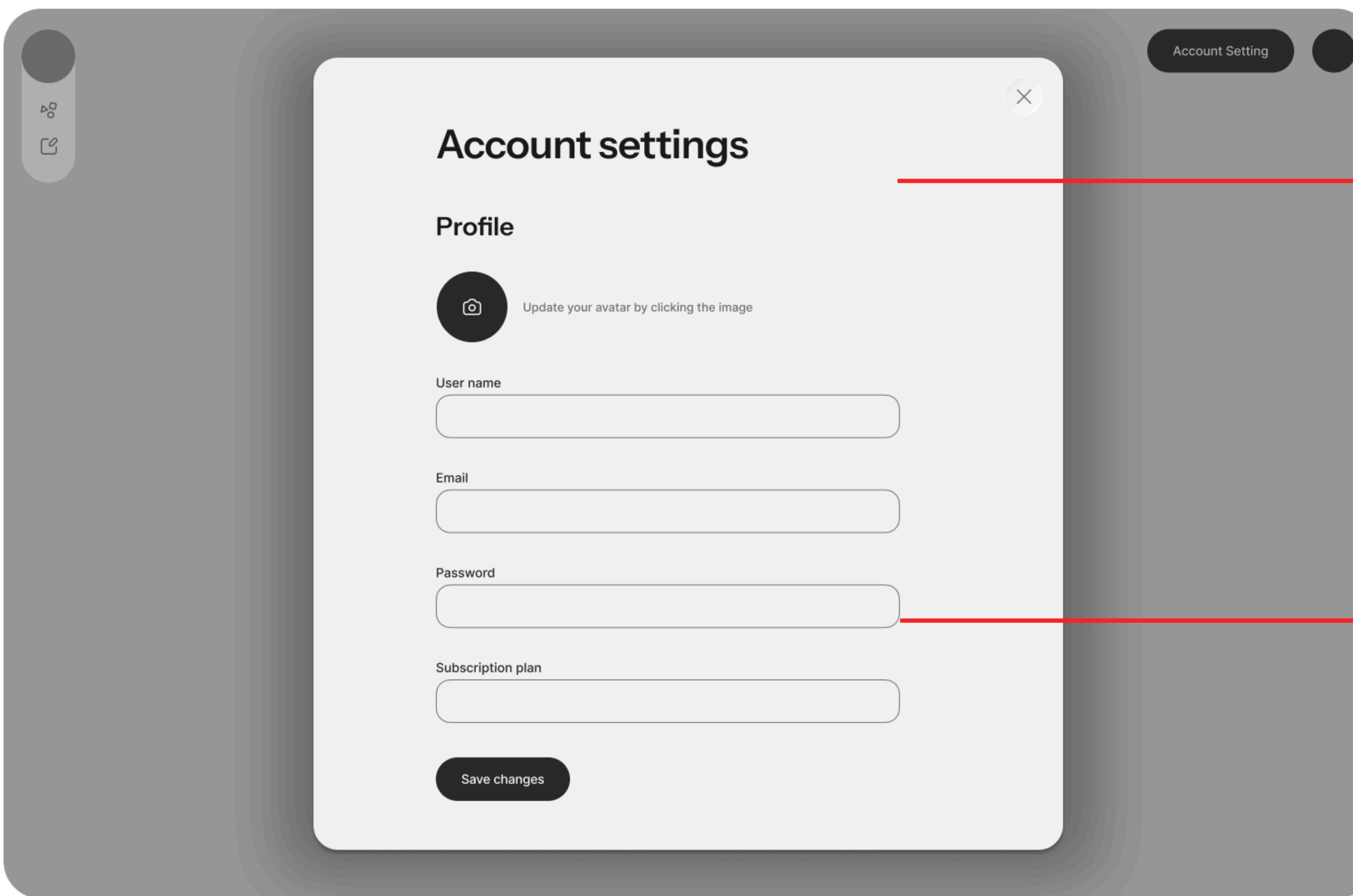
Design Rationale

We also follow Nielsen's Usability Heuristic of "Visibility of System Status" by making sure the memory information is transparent to users. Each memory shows when it was created through a timestamp, and in future hi-fi versions we plan to visualize how frequently a memory is used, such as through card opacity or color cues. This helps users understand how the system works and builds trust in the algorithm.

Design Rationale

Similar to the memory feedback page, we only show detailed memory descriptions when users choose to open them. Most of the time, users can make a quick judgment by reading the titles alone. This helps people scan faster and avoids overwhelming them with unnecessary information.

Account setting page



Page Purpose

This page allows users to view and update their account information, profile details and subscription settings. It is presented as a modal overlay so users can make changes without leaving their current context.

Key UI Elements

- Modal window with dimmed background
- Profile avatar with click-to-update interaction
- Input fields for user name, email, and password
- Subscription plan information field
- Primary action button: "Save changes"
- Close icon to exit the settings modal
- Account settings trigger in the top-right corner of the main interface

Design Rationale

This page follows Nielsen's Usability Heuristics, the User Control and Freedom and Visibility of System Status. By presenting account settings as a modal rather than a separate page, users can adjust personal information without losing their place in the workflow, reducing disruption and navigation cost.

Design Rationale

Form fields are laid out in a clear vertical order to support easy scanning and reduce cognitive load. Familiar input patterns and icons provide clear affordances, making it obvious how to interact with each element. The dimmed background reinforces focus on the current task while maintaining context, helping users feel oriented and in control.

Intended User Interactions

- Users open account settings from anywhere in the application
- Users update their avatar by clicking the profile image
- Users edit personal information such as name, email, or password
- Users review their current subscription plan
- Users save changes or close the modal to return to their previous task