

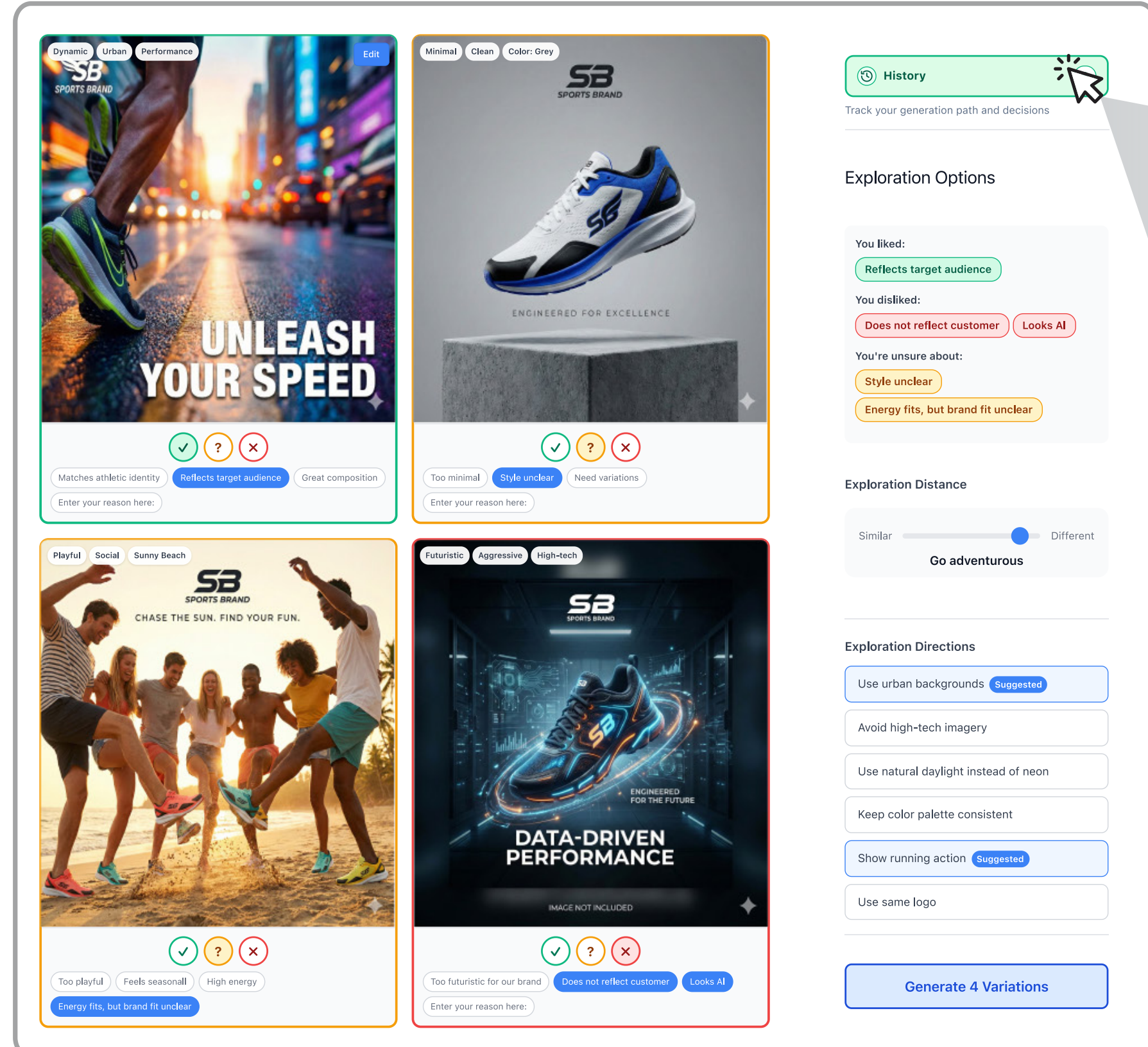
Workflow for helping small business owners articulate, explore, and refine AI generated branded content

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System Overview

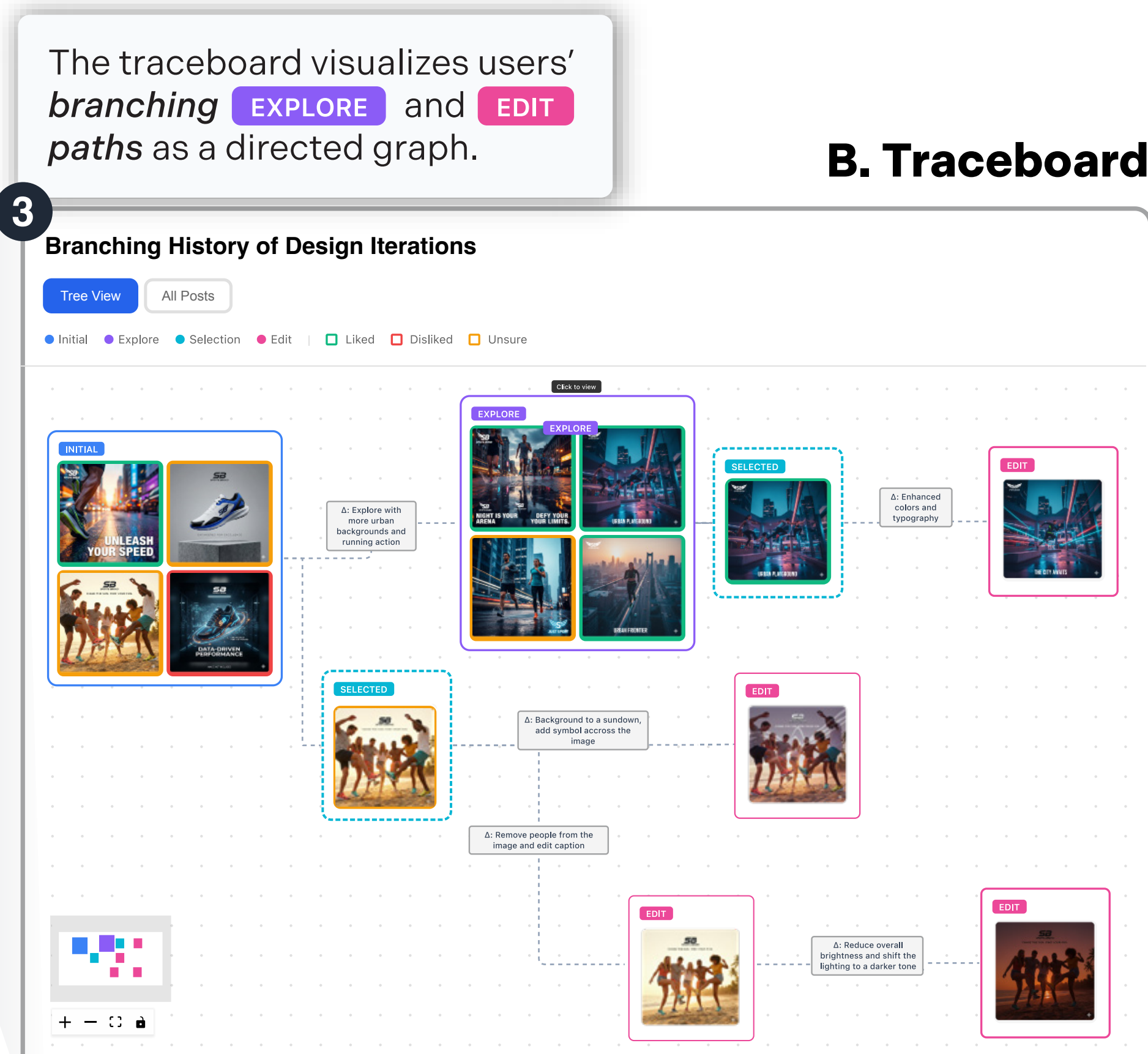
A. Exploration Workspace



1 Four candidate images: users provide *feedback* (like/dislike/unsure) and *rationale* (Looks AI) to express their preferences.

2 Exploration control: users adjust a *novelty slider* and select *exploration directions* to steer the next set of image generations.

B. Traceboard



4 We also provide Δ summaries to help users make sense of the changes between image iterations.

Fig. 1. Overview of our prototype for branded content creation: **(A) a creative exploration workspace**, where users generate, evaluate, and refine branded images, and **(B) a traceboard**, which traces and visualizes the history of image generations and edits. In the exploration workspace, **1** users provide lightweight feedback (like/dislike/unsure along with short rationales) to express preferences towards individual images, and **2** use AI-guided exploration controls (suggested directions and a novelty slider) to steer the next set of image generations. The traceboard **3** visualizes users' branching exploration and edit paths as a directed graph while **4** change summaries (Δ) form the edges of the graph describing what was modified between iterations, helping users make sense of the changes between iterations.

Motivation

Small business owners (SBOs) independently manage their businesses and social media presence without access to professional designers or marketing consultants. Although generative AI tools enable fast image generation from text prompts, aligning outputs with a brand's intended look and feel remains a demanding, iterative creative task with little workflow support.

To understand their challenges, and better understand their workflows, we conducted a survey with 12 SBOs asking about their branding practices, content creation workflows, and generative AI use.

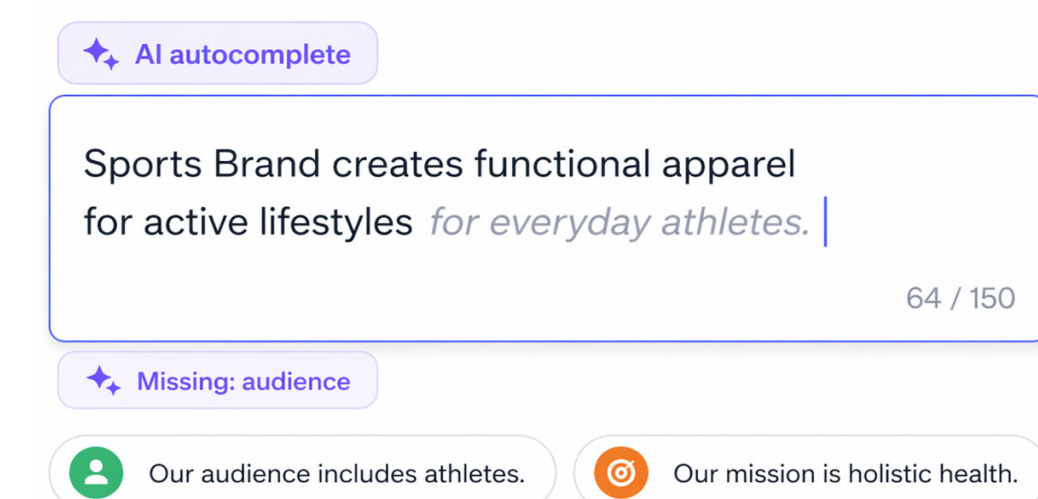
Challenges

- Translating Brand "Feel" into Prompts**
SBOs struggle to translate implicit brand knowledge into effective prompts — their intuitions are experience-based, and articulating them requires effort within already time-constrained workflows.
- Revisiting & Comparing Prior Generations**
Without history tracking, intermediate artifacts are easily lost, making prior directions difficult to revisit or compare across tools and iterations.
- Making Sense of Iterative Changes**
Users cannot easily understand whether each new iteration moves closer to their intended style and tone — small prompt edits can produce large, unexplained shifts in image outputs.

System Implementation

Brand Articulation Scaffolding

AI autocomplete surfaces missing brand information and suggests phrase completions to help SBOs prompt the system during onboarding.



Structured Feedback

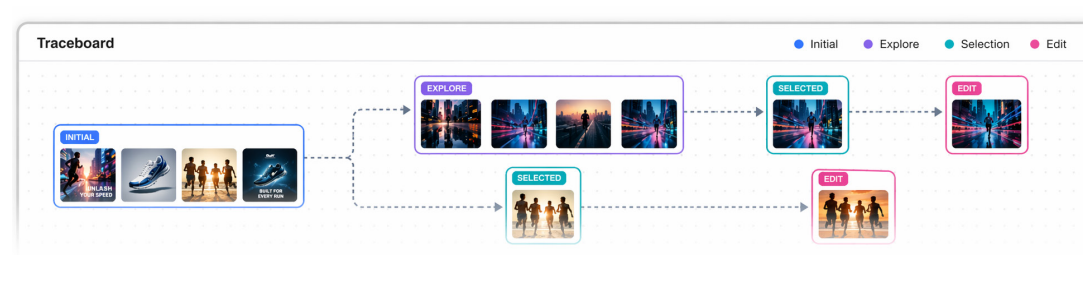
Like / unsure / dislike (like/dislike/unsure) ratings with auto-inferred rationales (Looks AI) translate brand judgments into visual directions for the next generation.

AI-Guided Exploration

Suggested directions (Use urban backgrounds) and a novelty slider let users balance broad exploration with incremental refinement.

Traceboard

A directed graph of all generation and edit actions preserves branching exploration history and lets users revisit or resume any prior state.



Change Summaries

Natural-language descriptions of what changed between iterations (Remove people from the image and edit caption) attach to traceboard edges to help users make sense of what changed.

Preliminary Results

We develop a trace-aware design approach for AI-assisted content creation, demonstrating how interaction traces — capturing feedback, edits, branching alternatives, and change summaries — can serve as creative scaffolds that help SBOs keep track of explorations, make sense of changes, and refine content toward a coherent visual identity.

Key Takeaways

- Interaction traces can serve as creative scaffolds**
Traces of activities in AI systems can help non-expert users understand their own choices and make more informed refinement decisions.
- Articulation scaffolding should adapt to users' existing brand knowledge and expertise**
Systems should offer more structured support to users still exploring their brand identity, and less to those with design expertise or an already well-defined brand. Features should meet each user where they are in the creative process.
- Making iterative change visible is essential to helping users steer their own creative process**
Without explicit summaries of what shifted between the AI generated images, users have a hard time evaluate progress or steer image refinement effectively.

For more information:

