Understanding the Editing Ecosystem

Methodology - We studied the problem statement and vlaidated if the problem needs to be solved by both market sizing and user needs, we then analyzed competitors to note that automation is lacking everywhere (ai features might exist but their is a lack of connversational integration).
We then studied our user personas in detail and based on their pain points mapped out 2 solutions.

Redefined problem statement

We need to create an app and solve for conversational AI, so that creators can easily edit their images through AI-assisted features. This will solve the pain point of having complex workflows and will increase the customer satisfaction.

But why solve this?

- There is clear demand for easier image editing: globally, smartphone and photo-editing apps remain very popular. Roughly **4 in 10 smartphone users** regularly use camera or photo-editing apps. Statista
- Among people who share images online, a high share engage in editing before posting: in a survey, **68% of adults admitted they will not share images without editing them first**. ePHOTOzine+1
- Traditional complex tools pose a barrier: according to a market analysis of photo-editing software, **59% of users** report software complexity as a challenge. Global Growth Insights+1
- On the "creator" side: the Adobe "Future of Creativity" study estimates that as of 2022, there were ~**303 million creators globally** (i.e. individuals who post creative content regularly online). Adobe Newsroom
- Further, in a 2025 global survey of 16,000 content creators, Adobe found that **86% of creators are already using generative-AI for creative tasks**, and among them, common uses include editing, upscaling and enhancement (55%) and generating assets (52%). Adobe Newsroom+1

Let's think in the future! Guesstimate for 2030 & Impact if 80% adoption

- Starting from ~303 million global creators (2022 baseline), assume continued growth of "creator population." If we conservatively assume a modest growth rate of, say, 10% per year (through 2030 → ~8 years), that yields a rough global creator population in **2030 of around ~650 million**.
- If 80% of those adopt/use our AI-assisted image-editing features, that's **~520 million users** globally, a **very large** addressable user base.
- Even if adoption or growth is lower, the potential is still significant because a large fraction of social-media users already do some editing but struggle with complex tools, so there's huge demand for simpler, conversational-AI driven editing flows.

Why solving this matters?

- Reduces friction and learning-curve for millions of aspiring creators / casual users who find existing advanced tools too complex.
- Converts "huge demand" (people who want to edit but can't/don't) which boosts image-editing penetration
- For creators enables faster editing and production cycles, which is critical given the volume/frequency needs for social-media content.
- For business: tapping into a large and growing global "creator economy" and mobile-photo-editing market that is projected to grow, with increasing adoption of AI-powered tools.

Let's look at the competitors

We analyzed the top 3 photo editing apps which focus purely on photo editing to derive insights, let's look at what we found

Category	Adobe Photoshop (Mobile)	PicsArt	Snapseed	AI Automated?
Basic Adjustments	Filters/Looks, Light/Color Adjustments, Clarity, Sharpen, Reduce Colors	Adjustments, Curves	Tune Image, Details, White Balance, Curves	Mostly No (manual sliders)
Crop & Transform	Crop, Rotate/Flip, Resize, Perspective	Crop, Flip/Rotate, Resize, Perspective	Crop, Rotate, Perspective, Expand	No (except Snapseed Expand = AI)
Retouching	Heal, Smooth Skin, Face Editing, Makeup, Red Eye	Retouch	Portrait, Head Pose	Yes (skin/face retouch = AI)
Selection & Masking	Background Removal, Select Subject, Masks	Selection, Cutout, Mask	Selective, Brush	Yes for BG removal & auto-selection
AI Tools	Generative Fill, Enhance, Auto Color	AI Replace, AI Enhance, Magic Remove, AI Try-On	—	Yes (fully AI-driven)
Object/Background	Background Replace, Overlays	Magic Remove, BG Remove	Healing	Yes for BG remove & object removal
Effects	Themes, Filters, Overlays	Effects, Lens Flare	Vintage, Drama, Grainy Film, Noir	Mostly No (preset filters)
Creative Tools	Text, Stickers, Draw, Borders	Stickers, Frames, Callouts	Text, Frames, Double Exposure	No
Presets	Filters/Looks	Effects	Portrait, Smooth, Pop, Faded Glow	No

Based on this table, it's very clear that all these apps basically have the same kind of features. Yes, there are AI features here and there, but everything is scattered. Users still have to manually find tools, move sliders, open different menus, and do everything step-by-step.

So the main point from this competitive analysis is that automation is completely missing. There might be features, but there is no smooth way to actually use them. And there is no conversational part anywhere. This increases user friction and decreases user satisfaction because even if users know something is possible, they don't know *how* to do it fast (verified through point 3 in 'But why solve this?').

User personas

1. Photographer

Pain Point 1: Photographers usually click their photos and want it to get edited very fast.

Pain Point 2: These edits take a lot of time as these edits are very complex and usually their core skill is clicking a photograph, not editing. So it's very tough for them to edit.

2. Designer

Pain Point 1: Designers want to focus more on concepts but end up wasting a lot of time in actually designing these concepts.

Pain Point 2: Designers are often pushed to create as many posts as possible, increasing a lot of stress on them.

3. Illustrator

Pain Point 1: The pain point is same that they want to spend a lot more time in concept but they spend a lot more time in creating those concepts.

Pain Point 2: Same pain point will be the second pain point for illustrators.

4. Marketer

Pain Point 1: They want to spend a lot more time on marketing strategy, but they end up spending a lot of time on creating these market posters or posts.

Pain Point 2: It is also tough for them to exactly think on what the design sense will be. And they usually need to keep designers in loop.

But what exactly are users trying to edit?

We studied a survey in which we figured out that users edit photos across various apps, but their main editing behaviors include filters, cropping, retouching, color fixes, and object removal. Among all these cases, the majority of users, that is 49%, said they adjust the lighting of their images, making relighting of image an in-demand user behavior.

Source: PetaPixel, 2024 (https://petapixel.com/2024/06/21/one-third-of-18-to-25-year-olds-edit-their-photos-for-social-media)

Pain point to solution mapping

Pain Point	Solution
All of our main personas **struggle with automation**. They know that apps like Adobe Photoshop can do certain edits, but they are not able to do it easily. The workflow is complex, features are scattered, and they spend too much time navigating menus and sliders instead of creating.	**Agentic framework**: Upon receiving a user query, the agent figures out which of the already existing features need to be applied. It does not introduce anything new but it simply eases the workflow, automates the steps, and reduces friction for the user.
We further deepened our study on what exactly users are trying to edit and found that **relighting is one of the main issues**. Relighting is tough in Adobe Photoshop because it requires adjusting multiple parameters like exposure, shadows, highlights, color temperature, and masking, often across **several manual steps.**	**Gesture-Based Relighting Feature**: Users can simply swipe in the direction they want the light to move, and the app automatically adjusts the lighting. This significantly decreases user friction and simplifies what is otherwise a time-consuming and complex process.

The user journeys for these 2 features along with their wireframes would be discussed in the design document, for now let's expand some more on these features.

Pitfalls and mitigations

Pitfall	Mitigation
A certain user query might not be completely solvable by the existing Adobe Photoshop features, hence resulting in a not so good output image.	This will obviously be verified by taking in user feedback as a thumbs down. We can analyze the data on what exactly are the queries that the users are asking which are not in Adobe Photoshop and can integrate these as features later on. This will be the long-term solution. As a short-term solution, we can give the user a prompt that, hey, we cannot implement all the five changes which you mentioned, but we would be able to implement all the three changes which you wanted. And then, based on data which we would have collected, also suggest that users usually do this edit with these three edits so the user is not left confused and ignored and understands that Adobe Photoshop is trying to solve the problem with them.
When the user gives a certain prompt, our model might not understand what area the changes need to be done because of lack in prompt.	Recommend to manually highlight the area to the user.
The gesture relighting might light the photo too much or too less.	Based on user feedback, train our models on an optimal intensity level.

Datasets

Dataset: Nahrawy / VIDIT-Depth-ControlNet (HuggingFace)

The **VIDIT-Depth-ControlNet dataset** is a curated version of the VIDIT illumination dataset, formatted for **depth-conditioned image experiments**. It contains **12,000 samples**, derived from **300 Unreal Engine scenes**, each rendered under **multiple lighting conditions**. The original VIDIT dataset spans **390 scenes × 40 illumination settings (15,600 images)**, combining **5 color temperatures (2500K–6500K)** with **8 discrete light directions (N, NE, E, SE, S, SW, W, NW)**. All images are **1024×1024 resolution**.

In this version, only the **training split** is included, along with **generated captions** and **predicted depth maps**. Captions were automatically generated using **BLIP-2 (Flan-T5-xxl)**, and depth maps were created with **GLPN fine-tuned on NYUv2**.

Dataset size & format:

- **Rows:** 12,000 (single train split)
- **Approx. size:** ~20.1 GB (Parquet)
- **Storage format:** Parquet with **image columns (RGB + depth)** and **structured metadata**

Columns / Fields:

- **scene:** string (~300 unique Unreal Engine scenes)
- **image:** RGB render at **1024×1024 resolution** under specific lighting
- **depth_map:** pixel-aligned depth map representing scene geometry
- **direction:** categorical, 8 values (light direction)
- **temprature:** int32, color temperature in Kelvin (2500–6500K)
- **caption:** descriptive sentence of image content and lighting; ~276 distinct auto-generated captions

> Note: This dataset is specifically required for the gesture-based relighting feature. The agentic feature does not require a dataset, as it only automates existing workflows based on user queries.

Expected Impact for Creators

- **Time saved:** Complex edits (relighting, masks, adjustments) reduced from 30 minutes to 15 seconds, so reduced by **over 99%**
- **Creator earnings:** In the same time, a creator will be able to make 120X more designs (assuming perfect accuracy by 2030 and minimal review time), directly increasing their **earnings 120 times.**

Future roadmap to ensure high user retention

1. The chatbot will start getting trained on user behavior. Using this, it will auto suggest changes to the user in the near future. This will ensure that a specific user will not leave Adobe Photoshop and go to any other company's models just because those models will never be trained on their user behavior, hence ensuring that they get the best user experience from Adobe Photoshop.

2. Analyzing the prompts given by the user and then figuring out which of the use cases are most widely used, we can implement standalone AI features just like our gesture relighting feature. And this way we will have a continuous roadmap of independent AI features, further decreasing user friction, hence ensuring high user satisfaction and high user retention.

END OF REPORT