Lumos: Mobile-First AI Editor for 2030

1. Market Scan

Mobile editing tools fall into three categories: precision editors that offer full control but demand time and skill, template-driven apps that are fast but creatively rigid, and quick-edit tools that provide simplicity but lack depth. This leaves a clear gap for mobile-first creators who need intelligent, high output, low-effort workflows without switching apps. These needs span casual creators, indie creators, and social/content creators, each requiring speed, flexibility, and higher output without complexity. By **2030**, the opportunity lies in a modular, AI-assisted editor that runs smoothly on mobile, interprets intent, and reduces friction through smart automation.

Feature	**Automation level**	**Usability (Content / Casual / Indie)**	**Key pain points**	**Score (0–10)**
Relighting / Blending / Local lighting adjustments	Partial (auto-tone; basic relighting; advanced relighting emerging)	9 / 6 / 8	Manual masking, inconsistent synthetic lighting, and high compute cost	**9***
Retouching (skin, blemish, clone, portrait refinements)	Partial → Advanced for basic tasks; fine-grain touchup still manual	8 / 7 / 9	Over-processing, loss of natural look, limited selective control, repeated micro-edits	8
Stylization / Style transfer / Filters	Advanced (many one-click options exist)	8 / 9 / 7	Style artifacts, loss of detail, and inconsistent aesthetic control	7
Segmentation / Masking (semantic & instance masks)	Partial → improving rapidly	9 / 5 / 9	Mask holes, transparency issues, and unreliable region detection	**9***
Background removal / Replace / Composite	Advanced (good auto results; edge cases remain)	8 / 8 / 9	Hair edges, transparency issues, shadow mismatches, multi-object complexity	7
Warping / Liquify / Perspective correction	Low (mostly manual controls)	6 / 3 / 7	Hard to control on mobile, prone to distortions, high-precision required	7
Object removal / Move / Inpainting	Partial (works on many scenes; struggles with occlusion)	9 / 8 / 9	Fill inconsistency, messy textures, repeated retries on occlusions	**9***
Colour grading / LUTs / Tone mapping	Partial (presets exist; semantic grading limited)	9 / 5 / 8	Inconsistent tone matching, limited selective grading, preset inflexibility	8
Text→Image & Img→Img editing / Repainting	Advanced (emerging)	7 / 6 / 8	Unpredictable outputs, limited control, high compute cost, style mismatch	6
AI suggestions / Next-step assist & action suggestions	Partial (assistant features exist but inconsistent)	9 / 9 / 9	Irrelevant timing, unclear reasoning, low explainability, trust issues	**10***
Basic adjustments (Exposure, Contrast, WB, Saturation)	Advanced (auto-corrections common)	10 / 10 / 10	Over-correction, lack of contextual awareness, too generic	7

*Core Features selected for final execution.

Table 1: Feature scan: automation, usability, pain points and priority scores.

2. Selected Features

The two major pipelines have been built keeping in mind features that appear in nearly all creator workflows and provide the highest leverage with AI support. These features are ideal for a mobile-first, low-latency editor.

2.1 Pipeline 1: Generative Editing Workflow

Pipeline 1 focuses on helping creators move from idea to visual output with minimal friction. It combines **text-to-image, image-to-image, and local style transfer**. These tools let users generate, transform, and restyle content in a single flow.

Pipeline 1 also introduces our novel touch-first editing controls like **Drag**, **Move and Erase,** designed for creators who prefer direct manipulation over menu-heavy workflows.

Why these features:

- They reduce the biggest bottleneck i.e converting ideas into usable visuals.
- They support natural-language control and quick iteration.
- They run efficiently on-device, keeping latency low.
- **Drag** enables subtle orientation or pose adjustments that previously required complex warping.
- **Magic Quill** adds stylus-driven micro-edits for creators who want finer control.It is a "pick color + draw" workflow that recolors regions/ adds subtle enhancements automatically.

2.2 Pipeline 2: AI-Assisted Corrections

Datasets used: MIT 5k adobe: for "auto fix" feature

Pipeline 2 supports users who want cleaner, more polished results without spending time diagnosing what's wrong in an image.

Why these features:

- Most creators struggle with lighting, framing, and balance and not creativity.
- Intelligent suggestions reduce decision fatigue and improve first try success.
- Automated guidance complements Pipeline 1 without replacing human judgment.

Key features in this workflow include:

- **AI Auto Suggestions**: Detect issues like lighting imbalance or awkward framing and suggests optional fixes.
- **Smart Frame** : Expands the borders or crops the image based on the image's ideal aesthetic appeal
- **2D to 3D Blend & Relighting**, which transforms a 2D image to a 3D model for perspective correction and relighting. It automates processes like warping, segmentation and lighting while still letting the user guide the outcome.

3. Expected Creator Impact

Time intensive tasks like masking, fixing composites, retrying object removal, and switching between apps make editing workflows seem more technical than creative. Our features reduce these repetitive steps while keeping creators fully in control of their vision.

Creators see clear efficiency gains:

- **Masking:** 6–10 steps → 1 tap object selection
- **Colour and Enhancement:** manual masking + brush adjustments/ blending accessories → instant region recolor or accessory placement with natural blending.
- **Composites (Blend):** manual layering + sticker-like cutouts → 2D→3D scene understanding with realistic relighting.
- **Tool overload and UI confusion:** scattered workflows → streamlined editing with AI-guided recommendations and an integrated search bar.