



INTER IIT TECH MEET 14.0

MID PREP



Adobe

Re-Imagining Photoshop - The AI
Editor of 2030

Introduction

Photoshop's core users, photographers, designers, illustrators, marketers, traditionally rely on desktop-class hardware and complex UI's.

By 2030, creators will expect lightweight, mobile-first, AI-assisted workflows operating on limited compute. Editing will become conversational and context-aware: “brighten only the left half of the sky” or “make this product photo look like morning light.”

Your challenge is to imagine and prototype what such an editor could be, one that keeps human control while harnessing small, efficient generative AI models.

About Us

Adobe's Creative Cloud ecosystem powers one of the world's largest creative communities.

In FY 2024 Adobe reported \$21.5 billion total revenue, with its Digital Media segment contributing \$15.86 billion, of which \$12.68 billion came from Creative products such as Photoshop, Illustrator, and Express. Within this portfolio, Adobe Firefly, the company's family of generative AI models, has seen explosive growth crossing 12 billion image generations by late 2024. Firefly-powered Generative fill in Photoshop achieved a 10x faster adoption rate than any prior feature launch, demonstrating global appetite for intent-based editing rather than manual pixel manipulation.

These numbers underscore the size, impact, and future potential of AI-infused creative workflows that combine automation with human judgment.

Problem Statement Description

Design and prototype a lightweight, mobile-first AI image editor for 2030 that demonstrates how creative editing can become faster, more intuitive, and energy-efficient on low-compute devices. Your solution should combine design thinking, market research, and AI engineering across three integrated tracks:

Task 1: Product Design

Create a medium-fidelity mobile wire-frame (phone layout) showing your envisioned editor's interface, navigation, and AI assistance flow. Emphasize speed, clarity, and human-in-the-loop control, how the user sees what the AI did and how they can refine it. Consider next-generation inputs such as gestures, stylus, voice prompts, or context-aware auto-suggestions.

Task 2: Understanding the Editing Ecosystem

Analyze the core tool set of modern image editors (crop, retouch, background removal, relighting, stylization, color balance etc.).

Identify which operations are already automated by AI and which remain manual.

Select two key AI-powered features or editing workflows to implement in the execution phase.

Example feature pairs:

- Object removal + background reconstruction (segmentation + in-painting)
- Lighting adjustment + style transfer (Adapter-based stylization)
- Automatic subject enhancement + color correction (retouching pipeline)

Task 3: Execution

Build the above selected, two AI editing workflows, each corresponding to one of your selected features. Use open-source diffusion backbones ([SDXL Inpainting](#), [Flux 1.1](#), [Kandinsky](#)) or lightweight adapters ([LoRA](#), [quantized weights](#)). You can employ region selection modules (e.g., [SAM](#), Mask R-CNN, matting models) to define editable areas. Ideally, target lightweight inference and demonstrate via Stream-lit / web prototype.

Deliverables

1. Task 1: Product Design

- a. 5–7 screen mock-up (Figma / XD / similar)
- b. Short design rationale (≤ 300 words)

2. Task 2: Understanding the Editing Ecosystem

- a. 2-page brief covering market scan, chosen features, datasets, and expected impact for creator

3. Task 3: Execution

- a. Demo video and/or live link showing both workflows in action.
- b. Source repository with code and documentation. (Private GitHub repository)
- c. README detailing models, datasets, optimizations, and compute profile.

Evaluation Criteria

Dimension	Weight	Description
Design and UX	25%	Quality, usability, and futuristic clarity of mobile UI /UX
Research Depth	15%	Understanding of editing market & rationale for chosen features
Execution	35%	Technical soundness, creativity, and stability of both AI pipelines
Compute Efficiency	10%	Use of lightweight models, quantization, and runtime optimizations
Ethics & Transparency	5%	Disclosure of AI edits, dataset licensing awareness, and authorship clarity
Presentation	10%	Overall clarity, visual design, and professionalism of the final presentation.