UX/UI Challenge

3D Model Viewer - UI/UX Design Challenge

> Figma & AI use is strongly recommended

Goal

Design mockups/wireframes for a web-based 3D model viewer interface that allows users to upload, visualize, and analyze 3D models. Focus on creating an intuitive, professional UI that clearly presents all required features.

Design Freedom

> You have COMPLETE CREATIVE FREEDOM for:

- Visual design and aesthetics

- Color schemes and themes

- Layout (sidebar, toolbar, floating panels, etc.)

- Typography and iconography

- Spacing, sizing, and proportions

- Animations and transitions

> The only requirement: All mandatory features must be clearly visible.
> You can use Figma for this part

What You Need to Design

All 6 mandatory features + 1 optional feature of your choice

Mandatory Features

Model Upload & Info

Design an interface for:

- **File upload button** (supports `.glb` , `.gltf` , `.obj` , `.fbx`)

- **Loading progress indicator** (0-100%)

- **Model statistics panel** showing:

  - Vertex count

  - Triangle count

  - Number of meshes

  - Number of materials

  - Model dimensions (W × H × D)

Performance Analysis

Design a simple performance dashboard showing:

- **Overall performance score** (0-100 scale)

- **Color-coded status:**

  - 🟢 Green (≥80): Good

  - 🟡 Yellow (55-79): Moderate

  - 🔴 Red (<55): Poor

- **3 Key metrics:**

  - File size (e.g., "2.5 MB")

  - Texture memory (e.g., "8 MB")

  - Triangle count (e.g., "15,000")

- **1-2 optimization tips** (e.g., "Reduce texture resolution to improve performance")

Render Modes

Design a render mode selector with 5 modes:

- **Default PBR** (full materials and lighting)

- **Wireframe** (mesh structure)

- **Normals** (color-coded normals)

- **UV Checker** (checkered pattern for UV mapping)

- **Unlit** (flat shading, no lighting)

Requirements:

- Clear mode switcher (buttons/dropdown/tabs)

- Visual indication of active mode

- Instant switching between modes

Lighting Controls

Design controls for a two-light setup:

Main Light

- Intensity slider

- Color picker

- Reset button

Ambient Light

- Intensity slider

- Color picker

- Reset button

Requirements:

- All controls update in real-time

Camera Controls

Design camera controls with:

Camera Preset Buttons

- **Front View** (0°, 0°)

- **Side View** (90°, 0°)

- **Top View** (0°, 90°)

- **3/4 View** (perspective angle)

Interactive Controls (show in your design)

- **Mouse:** Left-drag to rotate, right-drag to pan, scroll to zoom

- **Touch:** One-finger rotate, two-finger pan, pinch to zoom

Requirements:

- Auto-fit model on load

3D Viewport

Design the main 3D rendering area:

- Large canvas for displaying the 3D model

- **Optional toggles for:**

    - Grid helper (ground plane)

    - Axes helper (X/Y/Z orientation)

- Responsive design (adapts to window size)

- Clean, professional appearance

Optional Features (Choose 1)

1. Screenshot/Export

- Capture viewport as image (PNG/JPEG)

- Transparent background option

2. HDRI Environment Lighting

- HDR environment map presets

- Background visibility toggle

3. Dark/Light Theme Toggle

- Switch between dark and light UI themes

4. Post-Processing Effects

- Bloom, ambient occlusion, or depth of field

- Toggle effects on/off

5. Metadata Display

- Show model author, creation date, software used

Evaluation Criteria

User Experience (40%)

- Intuitive layout

- Clear information hierarchy

- Ease of use

Functionality (30%)

- All 6 mandatory features clearly designed

- 1 optional feature included

Visual Design (30%)

- Aesthetic quality

- Consistency

- Creativity

> Good luck with your design challenge!