

Go Wish PROJECT DOCUMENT – 22-10-2025

AI-Assisted Image Preset Builder (E-Commerce SaaS Platform)

1. PROJECT OVERVIEW

The **AI-Assisted Image Preset Builder** is a SaaS-based platform designed for **image and video prompt template creation, management, and monetization**.

- **Admin/Employee users** can upload images or videos, automatically detects attributes generate structured presets (Environment,Subject, Lighting & Mood, Color Tone,Camera & Composition,Style & Medium,Additional Elements ex if Subject Pose, action, and expression,Clothing, accessories, or texture details,Relative size, scale, and position in frame, and publish them as e-commerce templates.
- **End users** can browse, purchase, and apply these templates to their own uploaded images, then download or share the generated outputs.

The platform integrates **AI-driven analysis, category-based library management, and e-commerce monetization** under a single cloud-based architecture.

2. SYSTEM COMPONENTS

Component	Description
Admin / Employee Panel	Upload and manage image presets, AI analysis, edit attributes, and publish templates.
AI Analysis Engine	Automatically detects attributes from uploaded images and generates structured JSON + human-readable prompt templates.
Preset Library	Centralized database of all published presets with thumbnails, metadata,
End User Platform (E-Commerce)	Public interface where users can browse templates, purchase them, and apply their own images.

Payment Gateway

Processes secure transactions (Razorpay/Stripe).

Role & Access System

Controls permissions for Admin, Employee, and End User.



3. ARCHITECTURE OVERVIEW

Architecture Layers:

1. Frontend (Web App)

- Stack: React / Next.js (for Admin, Employee, and User panels)
- Responsive and modular interface
- Dynamic dropdowns, previews, and category sorting

2. Backend (API & Logic Layer)

- Stack: Node.js / Express.js
- RESTful APIs + WebSocket for live updates
- Integrations: AI API (OpenAI GPT-4o / Gemini Vision), Payment Gateway

3. Database

- MongoDB or PostgreSQL
- Stores users, presets, categories, and order data

4. Storage Layer

- AWS S3 or Firebase Storage or Others
- For user uploads, thumbnails, and generated images

5. AI Engine

- Handles image analysis and prompt generation
- Returns structured attributes in JSON + regular text formats



4. ADMIN / EMPLOYEE PANEL

4.1 Core Features

Feature	Description
Upload Image / Video	Upload to AI for content analysis
AI Auto-Analysis	Detects attributes like Pose, Lighting, Camera Angle, Mood, etc.
Dynamic Dropdowns	Each detected field can be edited manually
Draft / Publish	Drafts are temporary; publishing finalizes templates
Auto JSON Sync	When attributes are modified, JSON auto-updates
Category Management	Manage Master Category → Sub Category → Tag → Item Price
Thumbnail Generation	Thumbnails auto-created during publishing
Preset Library	Stores all active/inactive presets
Version Control	Revisions create v1, v2, etc.
Role Permissions	Admin full access, Employee limited (with approval system)

4.2 Category Structure

Level	Example	Description
Master Category	Person	Core subject
Sub Category	Birthday	Event or theme
Tag	Boy, Girl	Sub-identifier
Price Item	Basic, Modern, Classic	Visual styles with pricing

Example Path:

[Person] → [Birthday] → [Boy] → [Portraits] → [Basic] Price: \$1.00

4.3 AI Analysis JSON Example

```
{
  "analysis_source": "gpt-4o",
  "image_id": "img_1023",
  "generated_on": "2025-10-28T09:00:00Z",
  "categories": {
    "environment": {
      "detected": "Bamboo forest at dawn",
      "alternatives": ["Mountain valley", "Japanese garden", "Foggy woodland"]
    },
    "subject": {
      "detected": "Samurai warrior",
      "alternatives": ["Ronin", "Armored knight", "Martial artist"]
    },
    "pose": {
      "detected": "Standing confidently, one hand on sword hilt",
      "alternatives": ["Walking forward", "Kneeling", "Drawing sword"]
    },
    "lighting": {
      "detected": "Soft dawn light filtering through mist",
      "alternatives": ["Golden hour sunlight", "Studio key light", "Moonlight"]
    },
    "camera_angle": {
      "detected": "Low angle 50mm cinematic framing",
      "alternatives": ["Eye-level close-up", "High angle", "Wide shot"]
    },
    "color_mood": {
      "detected": "Warm golden tones with misty highlights",
      "alternatives": ["Cool blue twilight", "Neutral daylight", "High-contrast cinematic"]
    },
    "style": {
      "detected": "Cinematic photorealistic 8K",
      "alternatives": ["Stylized illustration", "Concept art", "3D render"]
    }
  }
}
```

```
}
```

4.4 Published Template Example

```
{  
  "category": "Photography Template",  
  "subject": "Fashion Model",  
  "tags": ["pose", "lighting", "fashion", "editorial"],  
  "json_prompt": { ...AI output JSON... },  
  "regular_prompt": "A confident male model in a denim jacket, standing with one hand in pocket on a  
city street, under soft golden daylight.",  
  "ai_model": "gpt-4o",  
  "Price Basic": 1.00,  
  "status": "active",  
  "thumbnail": "/uploads/templates/fashion_pose.jpg"  
}
```



5. BACKEND LOGIC FLOW

5.1 Process Flow

1. **Upload Image**
2. **AI Analysis (Auto)**
 - Returns JSON attribute set
3. **Dropdown UI Population**
4. **User Adjustments**
 - Updates JSON automatically
5. **Save Draft or Publish**
6. **On Publish:**
 - Generate final JSON + regular prompt

- Generate thumbnail
- Save to Preset Library

5.2 Auto-Sync Rules

If changed	Then update
Lighting	Color Mood, Environment
Model Type	Clothing, Pose
Color Mood	Suggest compatible outfit colors



6. END USER E-COMMERCE PLATFORM

6.1 Core Features

Feature	Description
Login/Signup	Email or social login
Browse Templates	Category-wise filtering and sorting
Template Details	Preview, description, and price
Upload User Image	Apply preset using user-uploaded image
AI Generation	Generates new personalized image using preset
Payment Integration	Pay before generation (Stripe/Razorpay)
Order History	List of previous generated templates
Download/Share	Download generated image or share to social media

6.2 User Workflow

Login/Signup



Browse Templates



Select Template → View Price

- ↓
Upload Own Image
- ↓
Pay Amount
- ↓
AI Generate Image
- ↓
Download / Publish / Share

7. ROLES & PERMISSIONS

Role	Access Level	Permissions
Admin	Full Access	CRUD on presets, categories, prices, publishing, users
Employee	Limited	Upload image, generate preset, save draft, publish (with approval)
Viewer (Optional)	Read Only	Can view templates only
End User	Frontend Only	Purchase, upload, generate, download

8. DATABASE DESIGN (Simplified)

Table / Collection	Key Fields
users	id, name, email, role, password_hash, status
categories	id, parent_id, name, type (master/sub/tag/item)
presets	id, category_id, json_prompt, regular_prompt, thumbnail, ai_model, price, status
orders	id, user_id, preset_id, amount, payment_status, output_url
payments	id, order_id, transaction_id, amount, status
logs	id, user_id, action, timestamp



9. DEVELOPMENT ROADMAP (PHASED)

Phase	Module	Description
1	Auth & Roles	Setup authentication, permissions, and dashboard
2	Category Manager	CRUD for all Master/Sub/Tag/Item categories
3	AI Preset Builder	Image upload, AI analysis, dynamic dropdowns
4	Preset Library	Library listing, edit, toggle, thumbnail management
5	E-Commerce Frontend	Browse templates, view, filter, add to cart, purchase
6	Order System	Manage orders, history, and generation
7	Deployment	AWS S3 integration, scaling, production release



10. FUTURE ENHANCEMENTS

- **AI Re-Analysis Button** → Regenerate preset if major edits occur
 - **Versioning Support** → v1, v2, etc. for preset updates
 - **Multi-AI Comparison** → Compare GPT vs Gemini output
 - **Dependency Configuration JSON** → Admin-defined category dependencies
 - **Collaborative Editing** → Multiple employees edit same preset
 - **Analytics Dashboard** → Usage metrics and sales tracking
-



11. DEVELOPER NOTES

- Maintain consistent JSON schema across all presets.

- Frontend should auto-refresh fields on dependent attribute changes.
- Backend merges dropdown selections into final JSON on publish.
- Regular prompts can be generated via AI text synthesis or template logic.
- Thumbnail preview updates automatically post-publish.
- Support future extensions easily by allowing dynamic addition of new attributes.




12. Prompt Summary

Feature	Description
AI-Driven Analysis	Automatically extracts 10–12 attributes from uploaded media
Dynamic Editing	Real-time dropdown updates and JSON sync
Draft & Publish System	Manage template lifecycle
E-Commerce Ready	Paid template generation workflow
Role Control	Admin, Employee, Viewer, End User
Extensible Design	Built for multi-model AI integrations and scaling

13. SUMMARY

SCENE STRUCTURE & PROMPT BREAKDOWN (Plain JSON Format)

The Admin and Employee users can upload images or videos, allowing the AI to automatically analyze the visual scene content and generate structured presets across the following key categories:

1.  **Environment / Setting**
2.  **Subjects / Characters**
3.  **Lighting & Mood**

4. 🎨 Color & Tone
5. 📷 Camera & Composition
6. 📖 Style & Medium
7. 🌊 Additional Elements

These presets include detailed aspects such as **Pose, Lighting, Camera, Mood, and Clothing**. They are generated in two formats:

- **JSON format** (for backend storage and automation)
- **Regular Prompt format** (for human-readable AI prompt templates).

Users can dynamically adjust dropdown selections, save drafts, and publish finalized templates as **e-commerce-ready presets** for end-user access.

Scene Structure & Breakdown

This module provides a comprehensive understanding of what's included in a scene for AI image generation or visual composition.

1. Environment / Setting

Defines where the scene takes place — the overall world or context.

- Indoor / Outdoor
- Nature (forest, beach, desert, mountain)
- Urban (street, city skyline, market)
- Sci-fi / Fantasy (space station, magical forest)
- Studio / Abstract / Digital backdrop

2. Subjects / Characters

Identifies who or what is the main focus of the image.

- People (single portrait, group, couple)
- Animals (pets, wildlife, mythical creatures)
- Objects (products, tools, vehicles)
- Architecture or landmarks
- Abstract forms or patterns

Each subject may include:

- Pose, action, and expression
- Clothing, accessories, or texture details
- Relative size, scale, and position in frame

3. Lighting & Mood

Defines the atmosphere and emotional tone of the scene.

- **Type:** natural light, soft light, studio light, rim light, neon glow
- **Direction:** top, side, back, under
- **Mood:** cinematic, dramatic, warm, cold, cozy, mysterious
- **Time of day:** sunrise, noon, sunset, night

4. Color & Tone

Sets the overall visual palette.

- Dominant colors (blue/orange, monochrome, pastel)
- Contrast and saturation

- Ambient tones and highlights

5. Camera & Composition

Determines how the scene is framed and perceived.

- Angle: close-up, medium shot, wide, aerial, isometric
- Perspective: eye-level, top-down, worm's-eye
- Depth of field (blur background, focus subject)
- Rule of thirds, symmetry, leading lines

6. Style & Medium

Defines the artistic treatment or rendering method.

- Realistic / Photorealistic
- Cinematic / HDR / 8K
- Illustration / Painting / Anime / 3D render / Concept art
- Vintage / Cyberpunk / Fantasy / Minimal

7. Additional Elements

Enhances realism and storytelling depth.

- Weather (rain, fog, snow, dust, sunlight rays)
 - Particles, sparks, reflections, smoke
 - Background activity (crowd, vehicles, animals)
 - Props or environmental objects
 - Textures and materials
-

Example Prompt Breakdown

Prompt Example:

A cinematic portrait of a samurai standing in a bamboo forest at dawn, misty atmosphere, soft sunlight filtering through trees, detailed armor with golden reflections, captured with shallow depth of field, 8K ultra realistic.

Scene Includes:

- **Environment:** Bamboo forest
- **Subject:** Samurai
- **Lighting:** Dawn, soft sunlight
- **Mood:** Calm, mystical
- **Composition:** Portrait, shallow depth
- **Style:** Cinematic, photorealistic

Scene AI Analysis JSON Example:

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  "analysis_source": "gpt-4o",  
  
  "image_id": "img_1023",  
  
  "generated_on": "2025-10-28T09:00:00Z",  
  
  "categories": {  
  
    "environment": {  
  
      "detected": "Bamboo forest at dawn",  
  
      "alternatives": ["Mountain valley", "Japanese garden", "Foggy woodland"]  
    },  
  
    "subject": {  
  
      "detected": "Samurai warrior",
```

```
    "alternatives": ["Ronin", "Armored knight", "Martial artist"]
  },
  "pose": {
    "detected": "Standing confidently, one hand on sword hilt",
    "alternatives": ["Walking forward", "Kneeling", "Drawing sword"]
  },
  "lighting": {
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  "camera_angle": {
    "detected": "Low angle 50mm cinematic framing",
    "alternatives": ["Eye-level close-up", "High angle", "Wide shot"]
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