# 📦 Product Bundles + Intelligent Collection Builder

## ✅ Module Overview

This module enables brands to create intelligent product bundles and SEO-optimized collections automatically based on trends, user intent, seasonal behaviors, and UGC patterns. The system allows manual, assisted, and fully automated bundle/collection generation. It ties directly with campaign performance, search queries, blog topics, and platform-wide insights.

## 🌟 Core Goals

* Increase AOV (Average Order Value) through logical bundling
* Automatically generate category/collection pages based on UGC, blogs, and sales
* Help brands build curated sets without manual curation

## 🧠 Feature Set

### 1. **Product Bundler Engine**

* **Auto Bundle Types:**
  + Frequently Bought Together
  + UGC Mentioned Sets
  + Blog + Product Bundles
  + Seasonal / Occasion-based
* **Smart Pairing Logic:**
  + Uses co-purchase matrix + keyword vector similarity
  + Bundle size, price tier, inventory level considered
* **Bundle Types:**
  + Static (one-time set)
  + Dynamic (auto-adjusts based on rules)
  + Conditional (e.g., “For Oily Skin + Under 1000 BDT”)
* **Display Options:**
  + On PDP (Product Detail Page)
  + On Homepage Modules
  + As Campaign Highlights

### 2. **Collection Builder Engine**

* **Trigger Sources:**
  + Search queries (e.g., “K-beauty anti-aging”)
  + Blog internal links
  + Top UGC clusters (e.g., “summer glow routine”)
  + Festival triggers
* **SEO Optimization:**
  + Title + Meta from trending queries
  + Internal linking from blogs + social posts
  + Smart canonical & tag-based structure
* **Collection Logic:**
  + Rule-based: “All products tagged with ‘hydration’ & in stock”
  + Curated: Drag/drop selection UI
  + AI Suggested: Based on performance + customer journey

### 3. **Brand Panel Features**

* Create Bundle Wizard:
  + Auto mode: Choose goal + price range
  + Manual mode: Add from catalog
  + Assisted mode: Approve AI suggestions
* Collection Dashboard:
  + Create SEO-ready collections in 3 clicks
  + Auto-refresh rules (e.g., every Monday re-check matching products)
  + Preview layout before publishing
* Publishing Controls:
  + Visibility (Public / Campaign-only / Hidden)
  + Placement: Menu, Homepage, Blog Sidebar, Offer Pages

## ⚖️ Technical Details

### Tables

* product\_bundles
* collection\_groups
* bundle\_rules
* auto\_collection\_triggers
* bundle\_performance\_metrics

### Services

* Bundle Suggestion Engine (cron + on-demand)
* Collection Indexer (SEO & sitemap)
* Inventory Sync Hook
* Smart Filter API (for conditional logic)

### Data Sources

* Product tags, sales, inventory
* Blog topics + linking
* Search logs + vector embeddings
* UGC keywords & campaign data

## 📈 Benefits

* Enables passive upselling through smart bundles
* Allows SEO scaling via high-intent collections
* Brands can tap into trends without manual curation
* Future-ready for automation-based merchandising

## 🔒 Permissions

* Brand Admin:
  + Create/Edit bundles & collections
  + Toggle automation per group
* Superadmin:
  + Adjust trigger logic
  + Review collection SEO compliance

## 🔍 AI Support

* Suggest bundle names & descriptions
* Auto-generate SEO meta + schema markup
* Predict CTR based on historical layout performance

✅ Ready for flowchart, UI planning, and Codex-based build prompts. Let me know the next module.