Product Analysis AI System Overview (Streamlined with Full Prompts)

This system analyzes products using AI, providing actionable insights for online selling. All modules share unified logic for platform recommendation and reference a central fee table.

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1. Comprehensive Product Analysis (`analyzeProductImage`)

This system uses Artificial Intelligence (AI) to help analyze products based on images and descriptions, providing insights for selling them online. It includes several related functions:

Purpose:

Analyzes a product image to extract details, estimate value, and recommend the optimal selling platform.

Input Schema

- `photoDataUri` : String (Base64-encoded image)

Output Schema

- `productName` : String

- `brand` : String

- `material` : String

- `styleOrType` : String

- `color` : String

- `sizeOrDimensions` : String

- `condition` : String

- `eraOrKeySpecs` : String

- `accessories` : String

- `detailedDescription` : String

- `tagsKeywords` : [String]

- `suggestedCategory` : String

- `recommendedPricing` : { `low` : Number, `median` : Number, `high` : Number }

- `estimatedTimeToSell` : String

- `platformRecommendation` : String

- `reasoning` : String

- `aiProvider` : String

- `visionLabels` : [String]

- `visionProductSearch` : Any

Prompt

You are an expert in product identification, market analysis, and e-commerce strategy for a wide range of product categories including Clothing & Shoes, Antiques & Collectibles, Electronics & Gadgets, and Home Goods & Decor. Analyze the provided product image and provide a comprehensive analysis as a JSON object adhering to the output schema. Here is a list of online resale platforms with their fees and characteristics: 1. eBay: Listing Fee: First 250 free/month, Seller Fee/Commission: 13.25%, Payment/Other Fees: $0.30 per order, Notes: Huge audience, auction/fixed price, global reach. 2. Facebook Marketplace: Listing Fee: Free, Seller Fee/Commission: 5% per shipment or $0.40/item, Payment/Other Fees: None for local pickup, Notes: Local sales free, great for furniture & large items. 3. Mercari: Listing Fee: Free, Seller Fee/Commission: 10% per sale, Payment/Other Fees: 2.9% + $0.50 payment processing, Notes: Easy to use, shipping label provided. 4. Poshmark: Listing Fee: Free, Seller Fee/Commission: $2.95 (for sales < $15) or 20% (for sales >= $15), Payment/Other Fees: None, Notes: Clothing/accessories, buyer pays shipping. 5. Depop: Listing Fee: Free, Seller Fee/Commission: 10% per sale, Payment/Other Fees: 3.3% + $0.45 payment processing, Notes: Trendy/vintage clothing, young audience. 6. Tradesy: Listing Fee: Free, Seller Fee/Commission: 15% per sale (minimum $10 fee if item sells for < $50,

otherwise 15%), Payment/Other Fees: 2.9% payout transfer fee, Notes: Designer fashion, payout transfer fees. 7. Chairish: Listing Fee: Free, Seller Fee/Commission: 20%-30% commission, Payment/Other Fees: None, Notes: Home decor, vintage furniture, curated audience. 8. OfferUp: Listing Fee: Free, Seller Fee/Commission: 12.9% (shipped items only), Payment/Other Fees: None, Notes: Local sales free, easy for large items. 9. Craigslist: Listing Fee: Free (most items), Seller Fee/Commission: Free (most items), Payment/Other Fees: None, Notes: No fees for most categories, local sales. 10. Etsy: Listing Fee: $0.20 per listing, Seller Fee/Commission: 6.5% per sale, Payment/Other Fees: 3% + $0.25 payment processing, Notes: Vintage (20+ yrs), unique decor, handmade. Based on the image, extract or determine the following details. Be as specific and comprehensive as possible for the identified product type: productName: A concise and marketable name for the product. brand: The brand or maker of the product, if identifiable (e.g., Nike, Sony, Ethan Allen). If not visible, state "Unbranded" or "Not visible". material: The primary material or fabric of the product (e.g., cotton, leather, wood, porcelain, plastic). styleOrType: The specific style, type, or sub-category of the product (e.g., "running shoes" for footwear, "Art Deco vase" for antiques, "Android smartphone" for electronics, "Mid-century modern armchair" for home goods). color: The primary color(s) of the product. sizeOrDimensions: The size (e.g., "Large", "US 9", "50cm x 70cm") or key dimensions of the product, if visible or inferable and applicable. condition: The condition of the product (e.g., new, gently used, vintage, refurbished, mint, good, fair, new with tags, pre-owned). Be specific, e.g., "new with tags" or "pre-owned, good condition". eraOrKeySpecs: For Antiques/Collectibles: era/period (e.g., "Victorian Era", "Ming Dynasty"), and any distinguishing features or markings. For Electronics: key specifications (e.g., "256GB storage, 12MP camera", "Model X200"). For other items: any other critical specifications or unique features. accessories: Any included accessories visible or typically expected with the product (e.g., "original box", "charging cable", "remote control", "authentication papers"). If none, state "None". detailedDescription: Generate a compelling description. Use definitive and confident language. Highlight key features (e.g., comfort, style, functionality) directly. Describe the product's condition positively (e.g., "in excellent condition, ready for immediate use/wear" instead of "appears gently used"). Adopt an engaging and enthusiastic tone (e.g., "Elevate your collection with..."). Discuss visual appeal, potential styling options, or suitable occasions. Ensure the description is clear, concise, and to the point, typically a paragraph or two. tagsKeywords: A list of 3-7 relevant tags or keywords that would help in listing the product online. suggestedCategory: The most appropriate broad category for this product (e.g., Electronics, Clothing, Home Goods,

Antiques & Collectibles). recommendedPricing: low: The lower end of what the product might sell for (numerical value only). median: A typical or average selling price (numerical value only). high: The higher end, for a product in excellent condition or high demand (numerical value only). estimatedTimeToSell: An estimation of how long it might take to sell this product (e.g., "7-14 days", "3-4 weeks", "1-2 months"). platformRecommendation: Choose the best online platform from the provided list (eBay, Facebook Marketplace, Mercari, Poshmark, Depop, Tradesy, Chairish, OfferUp, Craigslist, Etsy) to sell this specific product. Your choice should consider the product type, condition, likely target audience, and the platform's fee structure to maximize potential net profit for the seller. reasoning: Explain your reasoning for all the above points. For the platformRecommendation, detail how the product's nature aligns with the chosen platform's strengths and its fee structure. Explain how current market data or product characteristics inform your pricing, category choice, and tags. Be detailed and clearly articulate how the fee structure of the recommended platform compares favorably for this item against other potential platforms from the list, aiming to maximize the seller's profit."

- **What it does:** This is the main feature. You give it a picture of a product, and it does a deep dive analysis. It uses both general AI and Google's Vision technology to understand the image.

- **What it needs:** Just a single photo of the product you want to analyze.

- **What it gives you back:**
  - The product's likely name and brand (if it can tell).
  - Details like material, style, color, and size (if visible).
  - An assessment of the product's condition (like "new with tags" or "gently used").
  - Specific details relevant to the item type (like the era for antiques or technical specs for electronics).
  - Any accessories that seem to be included (like a box or cables).
  - A well-written, engaging description for an online listing.
  - A list of suggested keywords or tags to help buyers find it.
  - The best general category for the product (like "Clothing" or "Electronics").

- A recommended price range (low, medium, and high estimates).

- An estimate of how long it might take to sell.

- The single best online platform (like eBay, Poshmark, Etsy, etc.) recommended for selling *this specific item*, chosen by considering platform fees to maximize your potential profit.

- A detailed explanation of *why* it made these recommendations (how it decided on the price, category, tags, and especially the chosen selling platform based on fees and product fit).

- It also notes which AI model performed the analysis and includes technical details from Google Vision about labels it detected and any matching products it found.

- **How it works:** It first sends the image to Google Vision for initial identification and product matching. Then, it uses a sophisticated AI prompt, giving the AI the image, details about various online selling platforms (including their fees), and instructions to act like an e-commerce expert. The AI analyzes everything to generate the detailed output described above, focusing on maximizing the seller's profit when recommending a platform.

2. Focused Price Estimation (estimateProductPrice)

Purpose:

Quick estimate of a product's price and best selling platform.

Input Schema

- productPhotoDataUri : String

- productDescription : String

Output Schema

- estimatedPrice : Number

- sellingPlatformRecommendation : String

- reasoning : String

Prompt:

You are an expert in pricing products for online marketplaces. You will use the following information to estimate the price of the product and recommend a selling platform. Description: {{{productDescription}}} Photo: {{media url=productPhotoDataUri}} Based on this information, estimate the price of the product and recommend the best platform to sell it on (Ebay, facebook marketplace, etsy, mercari, poshmark, etc.). Explain your reasoning for the price estimation and platform recommendation. Be as detailed as possible. The estimatedPrice should be a number (without any currency symbols). Output the estimatedPrice as a number.

- **AI Role:** The AI is instructed to act as an expert in identifying products, analyzing market value, and strategizing for e-commerce sales across various categories (Clothing, Antiques, Electronics, Home Goods, etc.).

- **Core Task:** Analyze the provided product image and generate a detailed JSON output matching the specified structure (see "Internal AI Output Structure" below).

- **Provided Context:** The AI is given a list of 10 online resale platforms (eBay, Facebook Marketplace, Mercari, Poshmark, Depop, Tradesy, Chairish, OfferUp, Craigslist, Etsy) along with their specific listing fees, seller commissions, payment processing fees, and brief notes on their characteristics (audience, strengths).

- **Key Instructions:**
  - Identify the product's details (name, brand, material, style, color, size, condition, era/specs, accessories) as accurately as possible from the image.
  - Generate a compelling, positive, and detailed description suitable for a listing.
  - Suggest 3-7 relevant keywords/tags.
  - Determine the most appropriate broad product category.
  - Estimate a low, median, and high market price.
  - Estimate the likely time needed to sell the item.
  - **Crucially:** Recommend the *single best platform* from the provided list to sell the item, explicitly considering the platform's fee structure to *maximize the seller's potential net profit*.

- Provide detailed reasoning explaining the choices for pricing, category, tags, and especially the platform recommendation, justifying how fees and product fit were considered.

3. Platform Recommendation (recommendSellingPlatform)

Purpose:

Recommends the best selling platform based on product details.

This flow focuses solely on recommending a selling platform based on text details.

3.1. Input Data Structure (RecommendSellingPlatformInputSchema):

- productName : String (Name of the product)

- productDescription : String (Detailed description including condition, features)

- productCategory : String (Category, e.g., electronics, clothing)

3.2. AI Prompt (recommendSellingPlatformPrompt):

- **AI Role:** Expert in e-commerce and online selling platforms.

- **Core Task:** Recommend the best platform to sell the product based on its name, description, and category.

- **Key Instructions:**

    - Consider platform fees, target audience, and product category fit.

    - Provide detailed reasoning for the recommendation.

    - Estimate how long it might take to sell the item on that platform.

- **Input to AI:** productName , productDescription , and productCategory .

3.3. Output Data Structure (RecommendSellingPlatformOutputSchema):

- platformName : String (Name of the recommended platform)

- reasoning : String (Detailed justification for the recommendation)

- estimatedSellingTime : String (Estimated selling time, e.g., "within a week")

Prompt:

You are an expert in e-commerce and online selling platforms. Given the details of a product, you will recommend the best platform to sell the product on, providing detailed reasoning behind your recommendation. Consider factors such as platform fees, the target audience of each platform, and the product category. Also estimate how long it will take to sell on the platform. Product Name: {{{productName}}} Product Description: {{{productDescription}}} Product Category: {{{productCategory}}}

4. Unified Platform Fee Table

Platform	Listing Fee	Seller Fee/Commission	Payment/Other Fees	Notes
eBay	First 250 free/mo	13.25%	$0.30/order	Large audience, global reach
Facebook Marketplace	Free	5%/shipment or $0.40/item	None (local pickup)	Local sales free, good for furniture/large items
Mercari	Free	10%/sale	2.9% + $0.50 processing	Easy to use, shipping label provided
Poshmark	Free	$2.95 (<$15), 20% (≥$15)	None	Clothing/accessories, buyer pays shipping
Depop	Free	10%/sale	3.3% + $0.45 processing	Trendy/vintage clothing, young audience
Tradesy	Free	15%/sale (min $10 < $50)	2.9% payout transfer	Designer fashion, payout fees
Chairish	Free	20–30% commission	None	Home decor, vintage furniture, curated audience
OfferUp	Free	12.9% (shipped)	None	Local sales free, large items
Craigslist	Free (most items)	Free (most items)	None	No fees, local only
Etsy	$0.20/listing	6.5%/sale	3% + $0.25 processing	Vintage (20+ yrs), handmade, unique items