

Special Item Detection - Free Tier Implementation

Summary

Successfully implemented **Special Item Detection** for the Free Tier with proper premium gating. The AI now **ALWAYS** detects special items (Vintage, Collectible, Antique, Luxury, Custom, Art, Rare) regardless of premium status, but only shows full premium features (facts, links, grading) when premium is unlocked.

What Changed

1. AI Prompt Updates (/app/api/listings/[id]/analyze/route.ts)

New Section 11: Special Item Detection (ALWAYS REQUIRED)

- **Always runs** regardless of premium status
- Detects 7 special item categories:
- **Vintage** - Items 20+ years old with nostalgic/historical value
- **Collectible** - Items sought by collectors (trading cards, limited editions, memorabilia)
- **Antique** - Items 100+ years old with historical significance
- **Luxury** - High-end designer items (Rolex, Louis Vuitton, Gucci, Chanel, etc.)
- **Custom** - Custom-made, handcrafted, or one-of-a-kind items
- **Art** - Original artwork, sculptures, fine art pieces
- **Rare** - Limited production, hard to find, discontinued items with collector demand

New JSON Response Fields

```
{
  "isPremiumItem": true,
  "specialClass": "Vintage",
  "specialItemReason": "This 1978 Fender Stratocaster is a vintage collectible guitar from Fender's golden era, sought after by collectors and musicians for its iconic sound and craftsmanship.",
  "premiumFacts": null, // Only populated when premium is unlocked
  "usefulLinks": null // Only populated when premium is unlocked
}
```


Database Updates

- `isPremiumItem` - Boolean flag (saved for all items)
 - `specialClass` - Category of special item (saved for all items)
 - Both fields are **always saved**, regardless of premium status
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2. Smart Notification System

When a **special item is detected** for a **free user** (premium not unlocked):

Notification Created

- **Type:** `INSIGHT` (yellow badge)
- **Action Type:** `special_item_detected`
- **Message Format:**
 [Special Class] Item Detected! [Reason explanation]. Unlock premium features to access detailed insights, collector information, and helpful resources.


Example

 Vintage Item Detected! This 1978 Fender Stratocaster is a vintage collectible guitar from Fender's golden era, sought after by collectors and musicians for its iconic sound and craftsmanship. Unlock premium features to access detailed insights, collector information, and helpful resources.

3. UI Updates (`premium-packs-section.tsx`)

Special Item Banner

When a special item is detected (free tier, premium not unlocked):

- **Eye-catching gradient banner** at the top of the Premium Packs section
- **Animated sparkle icon** to draw attention
- **Clear messaging:**
- “ [Special Class] Item Detected!”
- Explanation that premium features will help them sell faster and for more money

Visual Design

- Gradient: `purple-600 → fuchsia-600 → pink-600`
- White text with animated Sparkles icon
- Prominent placement above premium tabs

How It Works

Free Tier User Flow

1. **User uploads item photo** (e.g., vintage camera, collectible card, luxury watch)
2. **AI analyzes and detects** it's a special item
3. **System saves** `isPremiumItem: true` and `specialClass: "Vintage"`
4. **Notification created** explaining what makes it special
5. **Premium banner shown** with upgrade call-to-action
6. **Premium features remain locked** (no premiumFacts, no usefulLinks)

Premium Tier User Flow

1. **User uploads special item** and enables premium
2. **AI analyzes and detects** it's a special item
3. **System saves** `isPremiumItem: true` and generates full data:
 - `premiumFacts` - Detailed collector information, history, value insights
 - `usefulLinks` - Manuals, repair shops, parts suppliers, forums
4. **Banner shows** “Premium Active” status

5. Full premium data displayed in the UI

Business Logic

Detection is FREE

- Special item detection runs for **all users**
- Classification (Vintage, Collectible, etc.) is **always saved**
- Brief explanation (specialItemReason) is **shown to free users**

Premium Features are GATED

- `premiumFacts` - Only generated when premium is unlocked
 - `usefulLinks` - Only generated when premium is unlocked
 - Full grading/facet data - Only accessible with premium
 - Detailed collector insights - Premium only
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Technical Details

Files Modified

1. `/app/api/listings/[id]/analyze/route.ts`
 - Added Section 11: Special Item Detection (always runs)
 - Moved premium features to Section 12 (only when unlocked)
 - Updated JSON response format with new fields
 - Added database writes for `isPremiumItem` and `specialClass`
 - Added notification creation for free users with special items
2. `/app/listing/[id]/_components/premium-packs-section.tsx`
 - Added `isSpecialItem` and `specialClass` detection
 - Added special item banner with gradient design
 - Animated Sparkles icon for visual appeal
3. `/app/listing/[id]/_components/listing-detail.tsx`
 - Updated TypeScript interface with new fields:
 - `isPremiumItem: boolean`
 - `specialClass: string | null`

Database Schema

Already exists in Prisma schema:

```
isPremiumItem    Boolean @default(false)
specialClass     String? // "Vintage", "Collectible", "Antique", "Luxury",
                  "Custom", "Art"
facets           String? @db.Text // JSON array (premium)
priceUplifts     String? @db.Text // JSON (premium)
```

Testing

- ✓ **Build Status:** Successful
 - ✓ **TypeScript Compilation:** No errors
 - ✓ **Next.js Build:** All routes compiled
 - ✓ **Dev Server:** Running on localhost:3000
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Next Steps (Optional Enhancements)

1. **Add special item badge** to listing card/header
 2. **Track conversion rates** from special item detection to premium upgrades
 3. **A/B test messaging** for highest conversion
 4. **Add “Why Premium?” modal** explaining benefits for special items
 5. **Show success stories** from users who sold special items with premium features
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Summary for User

Your **special item detection** is now fully implemented with proper **free tier gating**:

- ✓ **AI always detects** special items (Vintage, Collectible, Antique, Luxury, Custom, Art, Rare)
- ✓ **Free users see** classification + brief explanation + upgrade prompt
- ✓ **Premium features remain locked** until user upgrades (facts, links, grading)
- ✓ **Eye-catching UI banner** highlights special items and drives conversions

The feature is **production-ready** and will help convert free users to premium when they upload valuable collectibles!