

Database Schema for Donation Items

Existing Platforms

Amazon

Key Features

- Vast product catalog with strong categorization and filtering options (type, brand, size, condition, etc.)
- Integrated payment and delivery system with buyer protection
- Review system (buyers reviewing sellers and products)
- Strong recommendation engine (suggested items based on browsing history)

Areas for Improvement

- Focuses mainly on new products, making it less intuitive for second-hand/donation-based items
- High fees for sellers, which may not align with donation/low-cost goals
- Sustainability/donation aspects are not emphasized

Etsy

Key Features

- Supports handmade, vintage, and unique items (closer to second-hand/donation model)
- Seller profiles with reviews and ratings
- Good categorization (tags, type, size, etc.)
- Search filters allow for style- and preference-based discovery

Areas for Improvement

- Focuses more on selling rather than donation (everything has a price tag)
- Discovery can still be cluttered if tags aren't used well
- No standardized way to indicate **condition** of items (important for second-hand clothes)

Shein

Key Features

- Very low-cost clothing options with easy browsing by category, size, and style
- Strong focus on images to influence buyer decisions
- Personalization/recommendations based on user preferences

Areas for Improvement

- Not a second-hand/donation platform at all—emphasizes fast fashion, which goes against sustainability
- No system for user-to-user selling/donating, only brand-to-consumer
- No transparency about condition or quality (everything is assumed "new")

Poshmark

Key Features

- Marketplace dedicated to second-hand clothes
- Easy listing with pictures, condition, brand, and size
- Reviews and ratings between buyers and sellers

Areas for Improvement

- Strong emphasis on social media-style interactions (not always aligned with donation-only goals)
- Seller fees may discourage casual donators

ThredUp

Key Features

- Online thrift/donation model focused on second-hand clothing
- Strong categorization by brand, size, style, and condition
- Sustainability message aligned with reuse and recycling of clothing
- Streamlined donation/selling process (clean-out kits for users)

Areas for Improvement

- Limited user-to-user interaction (platform acts as middleman)
- Not always transparent about item rejection or pricing strategy
- Focused more on resale than pure donation

Proposed Schemas

Clothing Pieces → Piece

Attribute	Type	Description	Example
ID	String	Unique identifier for each clothing piece	1, 93, 203, 47
Name	String	Descriptive name of the clothing item	Summer T-shirt
Category	Enum	Category of the clothing item	SHIRT, DRESS, JACKET
Color	String	Primary color of the item	red, blue, black
Brand	String	Manufacturer or label associated with the item	Nike, Levi's, H&M
Gender	Enum	Intended gender fit of the clothing	FEMALE, MALE, UNISEX
Size	Enum	Physical size of the item	SMALL, MEDIUM, LARGE
Price	Number	Monetary value assigned to the item (in \$)	10, 2, 20
Condition	Enum	Overall state of wear or quality	NEW, LIKE_NEW, USED, WORN, OLD
Reason	String	Explanation given by the donator/seller	No longer fits, Style change
Images	List<String>	Photos uploaded to represent the item	["img1.png", "img2.jpg"]
User ID	String	Reference to the seller/donator owning the piece	847, 31, 9, 25

Donators/Sellers → Seller

Attribute	Type	Description	Example
ID	String	Unique identifier for each seller	N/A
Name	String	Full name of the seller	John Doe
Phone	String	Seller`s phone number	555-123-4567
Email	String	Seller`s email address	seller@mail.com
Password	String	Authentication credential for login	password
Pieces	List<Piece>	Collection of pieces owned by this seller	[Piece1, Piece2]

Attribute	Type	Description	Example
Reviews	List<Review>	Collection of reviews received by this seller	[Review1]

Buyer

Attribute	Type	Description	Example
ID	String	Unique identifier for each buyer	N/A
Name	String	Full name of the buyer	Jane Smith
Phone	String	Buyer`s phone number	555-987-6543
Email	String	Buyer`s email address	buyer@mail.com
Password	String	Authentication credential for login	N/A
Reviews	List<Review>	Reviews written by this buyer	[Review2]

Review

Attribute	Type	Description	Example
ID	String	Unique identifier for each review	N/A
BuyerID	String	Reference to the buyer who wrote the review	Buyer123
SellerID	String	Reference to the seller being reviewed	Seller456
Rating	Number	Numerical score given in the review	2/5, 5/5, 0/5
Content	String	Textual explanation accompanying the rating	"Fast shipping, good condition"

Donation Locale → Locale

Attribute	Type	Description	Example
ID	String	Unique identifier for each locale	N/A
Address	String	Exact address for each locale	259 Av. Alfonso Valdés Cobián, Mayagüez, 00680
Coordinates	String	Exact coordinates for each locale	18.2097489° N 67.141826° W
Name	String	Name of the locale or company hosting the service	Donate Clothes Inc.
Description	String	Description of the locale and the service	Donation bin

Schemas` Justifications

Piece

- ID → uniquely identifies each clothing piece in the database, regardless of backend technology
- Name → provides a clear, human-readable description of the clothing item
- Category → classifies the item into a defined category (e.g., SHIRT, DRESS) for easier filtering and browsing
- Color → helps buyers make aesthetic or style-based decisions
- Brand → informs buyers about the manufacturer or label, which can influence quality perception and price
- Gender → specifies the intended gender fit (FEMALE, MALE, UNISEX) to improve search and personalization
- Size → allows buyers to find pieces that fit properly and avoid mismatches
- Price → indicates the monetary value in USD; important for decision-making even in low-cost donation contexts
- Condition → reflects the state of wear, helping buyers assess quality and trust the listing
- Reason → provides the donor's or seller's explanation, adding credibility and transparency
- Images → visually represent the item to ensure trust and attractiveness of listings
- User ID → links the clothing item to its respective seller or donor for ownership tracking

Seller

- ID → for database categorization regardless of the technology used
- Name → to identify the user
- Phone number → to contact the user
- Email → for authentication
- Password → for authentication
- Pieces Owned → to enable buyers to do business with the same seller and allow for modification of listings
- Reviews Received → to enable buyers to do business with the seller based on past behavior

Buyer

- ID → for database categorization regardless of the technology used
- Name → to identify the user
- Phone number → to contact the user
- Email → for authentication

- Password → for authentication
- Reviews given → to help other buyers decide on whether this buyer is trustworthy and/or reliable for reviewing

Review

- ID → for database categorization regardless of the technology used
- BuyerID → to identify the reviewer for future reference
- SellerID → to identify the reviewee for future reference
- Rating → to provide a numerical comparison system
- Content → to provide the context for the rating given

Locale

- ID → for database categorization regardless of the technology used
- Address → to help donators navigate to the locale traditionally
- Coordinates → to enable donators to use navigation software to the locale
- Name → to provide context as to what company hosts the service
- Description → to provide details about types of items received, destination, etc.