Hand Me Down Clothing Documentation

1 - Informative part

1.1 - Team

1.2.2 Need

The purpose of this section is to establish the fundamental needs that motivate the Hand Me Down project, expressed independently of any system-to-be. These needs are grounded in the resale domain and must reflect the concerns of students and families who participate in secondhand exchanges. The articulation of these needs will guide the subsequent development of domain descriptions, requirements, software architecture, and testing activities.

Stakeholders in this domain shall be understood as students and families seeking opportunities for affordable, accessible, and trustworthy secondhand exchanges. Their needs are not for a platform itself, but for solutions to the problems they encounter when attempting to exchange goods in local communities.

The following distinct needs are identified:

- Students and families must have affordable access to secondhand goods that support daily life, education, and well-being.
- Stakeholders must be able to rely on transparent information about the condition and history of pre-owned items.
- Exchanges shall be conducted in a manner that establishes trust, fairness, and safety between participants.
- Opportunities for accessibility and inclusivity must be available so that all families and students, regardless of economic background, will participate in the resale domain without barriers.
- Developers shall have clear requirements, descriptions, and architecture to build upon, since no structured system currently exists to organize this resale context.

These needs form the foundation for further project work. They are deliberately expressed at the domain level, independently of any particular solution, to ensure that subsequent design and implementation activities will remain aligned with the stakeholders underlying motivations. ==== **1.3.1 Scope & Span**

Scope

The Hand Me Down project will operate in the broad domain of online resale marketplaces. It will address the general problem of enabling individuals and communities to exchange secondhand goods in a structured, reliable, and sustainable manner. The scope will cover activities in domain

engineering, requirements engineering, and software architecture to ensure a well-founded solution.

The project will emphasize the following areas: * Domain:: Resale of pre-owned items across categories such as clothing and accesories. * Requirements:: Identifying user needs related to affordability, sustainability, accessibility, and usability. * Architecture:: Defining a framework that supports secure and scalable interactions between sellers and buyers. * Project Activities:: Documentation, validation, and design processes that must accompany implementation.

Span

The span narrows the focus of the Hand Me Down project to **specific concerns and audiences** within the general resale domain. The platform must primarily serve individuals and families who wish to exchange items affordably, students and young adults seeking budget-friendly goods, and community members interested in sustainable consumption.

The span includes the following project-specific aspects: * User Interaction:: Individuals must be able to list, browse, and search for secondhand items. * Categorization:: Items will be organized into categories that facilitate discovery. * Transaction Support:: The system must provide structured means for negotiation, offers. * Trust and Transparency:: Item conditions and relevant metadata must be clearly described to support informed decisions. ==== **1.3.2 Synopsis**

This Synopsis provides overview of the Hand Me Down project from the perspective of students and families engaged in secondhand exchanges. It articulates the domain, affordability, accessibility, trust, safety and states that stakeholders must be able to discover, evaluate, and exchange pre-owned goods with transparent information about item condition and history. The project shall be conducted through structured domain acquisition to produce a domain description, a requirements prescription that specifies goals, constraints, and quality attributes with traceability to stakeholder needs and a software architecture that evaluates alternatives and justifies decisions, prototyping where necessary to mitigate risk. Component design and iterative implementation will realize prioritized capabilities while preserving traceability. Verification and validation shall include a test plan that covers functional fitness, usability, and trust/safety concerns, supported by versioned documentation, change control, risk tracking, and metrics. ==== **1.5 Derived Goals**

In addition to the primary goals (needs, scope, and core functionality), the project shall pursue secondary outcomes that respond to the realities of Mayagüez and the UPRM community. These outcomes are substantially different from core system behavior and emphasize long-term social, educational, and community benefits for students and families.

- Promote sustainability literacy and circular practices in Mayagüez:: The project shall normalize reuse, repair, and responsible disposal behaviors among students and families through donation and resale norms. **Broader impact:** item lifecycles will be extended and textile waste pressure will be reduced without prescribing any specific technical solution.
- Strengthen community engagement and mutual aid through UPRM-led outreach:: The project will cultivate equitable sharing practices (donation, fair resale) centered on UPRM as the primary touchpoint. **Broader impact:** social capital will increase and households will respond more effectively to clothing and accessory needs across semesters and seasons.
- Raise awareness of affordability and access constraints faced by local households:: The project

shall make visible how structured sharing reduces acquisition cost and effort for students and families. **Broader impact:** schools and neighborhood groups will make more informed choices about drives, sizing priorities, and targeted outreach.

These derived goals will guide outreach, education, and validation activities alongside the primary objectives, and shall not be construed as mandates for any specific platform or implementation approach.

2 - Descriptive part

2.1 - Domain description

2.1.2 - Terminology

The following terminology consolidates entities, events, functions, and behaviors in the domain. Each entry specifies the type of concept it represents and the phase in which it is introduced (domain, requirements, design, implementation). This approach avoids circular definitions and ensures alignment with both domain knowledge and system concerns.

Term	Concept Type	Phase Introduced	Definition / Notes
Donator	Entity	Domain	A person who provides clothing items for donation.
Collector	Entity	Domain	A person who purchases or claims a clothing piece. A person who will potentially purchase or claim a clothing piece.
Piece	Entity	Domain	An individual clothing item, defined independently of the system.
Listing	Representation	Design	A published representation of a Piece in the platform.
Donation	Event	Domain	Instantaneous occurrence when a Donator has just made a clothing item available.
Collection	Event	Domain	Instantaneous occurrence when a Collector has just taken possession of a Piece.
Condition Rating	Attribute / Function	Domain	A measure (e.g., scale 1-10) of quality for a Piece.
Review	Artifact	Domain	Annotation (usually written text) associated with a transaction that complements a rating.
Locale	Entity	Domain	Physical location or organization where donations are deposited or distributed.
Type	Attribute	Domain	Category of clothing (dress, pants, shirt, etc.).

Term	Concept Type	Phase Introduced	Definition / Notes
rate(Piece, ConditionRating) → ConditionRating	Function	Design	Updates the condition rating of a Piece using the new rating value; no pre-existing rating is required.
donate(Piece, Donator, Locale) → Donation	Event Function	Design	Function that triggers the event of donation: "A Piece has just been donated by a Donator at a Locale."
donate(Piece, Donator, Collector) → Donation	Event Function	Design	Function that triggers the event of donation: "A Piece has just been donated by a Donator to a Collector."
collect(Piece, Collector) → Collection	Event Function	Design	Triggers the event: "A Piece has just been collected by a Collector."

3 - Analytic part

3.1 - Concept analysis