T-2HAND

Vision (Small Project)

Version <1.2>

Revision History

| **Date** | **Version** | **Description** | **Author** |
| --- | --- | --- | --- |
| 03/11/2024 | 1.0 | Basic requirements of product | Trần Đan Huy |
| 05/11/2024 | 1.1 | Modified non-functional requirements | Ôn Gia Bảo |
| 13/11/2024 | 1.2 | Add product features for admin | Trần Đan Huy |
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# Introduction

The purpose of this document is to collect, analyze, and define high-level needs and features of the T-2hands web application. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how the T-2hands web application fulfills these needs are detailed in the use-case and supplementary specifications.

# Positioning

## Problem Statement

| The problem of | buying items affordably and reducing waste |
| --- | --- |
| affects | individuals looking to declutter or purchase affordable second-hand goods |
| the impact of which is | avoiding situations where usable items are discarded as waste, while buyers face high costs for new items |
| a successful solution would be | to provide a platform where items are reused and given value, reduces waste and makes affordable goods accessible to buyers |

## Product Position Statement

| For | individuals looking to declutter and those seeking affordable items |
| --- | --- |
| Who | want to sell or buy second-hand goods |
| The (product name) | is T-2Hand |
| That | allows sellers to list used items conveniently and buyers to find affordable options easily |
| Unlike | traditional retail stores or other resale sites |
| Our product | prioritizes sustainability and offers a curated, safe marketplace where goods are pre-reviewed, quality-checked, and accessible at fair prices |

# User Descriptions

## User Profiles

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Admin** | **Customer** | **Seller** |
| Avatar | A professional, organized individual who enjoys managing online platforms and interacting with technology. | A savvy shopper who enjoys finding quality second-hand deals to save money. | A practical, budget-conscious individual who wants to declutter or earn extra income by selling used items |
| Perspective | Ensures the platform is safe, user-friendly, and compliant with quality standards and regulations. | Sees second-hand purchases as a way to save money and make eco-friendly choices. | Finds value in reusing and reselling items rather than discarding them; appreciates the income from selling unused products. |
| Role/Responsibilities | Manage user accounts, approve seller accounts, and review product listings.  Monitor complaints and reported items, responding to support requests to maintain platform integrity.  Track statistics and transactions for system insights. | Search for and purchase second-hand items that meet their needs.  Provide feedback on sellers to inform other buyers. | Upload and manage listings of second-hand items.  Engage with potential buyers through messaging to answer questions and finalize sales.  Maintain a positive rating through good service and product quality. |
| Skills | Proficient with computer systems, website management, and digital communication. Familiar with online community standards. | Comfortable with online shopping and familiar with e-commerce platforms. | Basic computer skills, with experience using social media or online marketplaces |
| Experience | Has experience managing content on websites or online platforms.  Has a good understanding of customer service and dispute resolution | Has experience with online marketplaces and is familiar with how to search, filter, and purchase items. | Has experience selling or listing items on other platforms (such as Facebook Marketplace or Craigslist). |
| Frequency of Use | Daily, to stay updated on new users, products, and transactions. | Moderate to high; browses listings regularly for deals and makes purchases occasionally | Moderate; logs in as needed to manage listings or respond to buyer inquiries. |
| Demographics | Typically adults (age 30–50), any gender, often with a background in technology or administration. | Adults aged 18 and above, any gender, often price-conscious and environmentally aware | Typically 20–45 years old, any gender, culturally diverse. Values thriftiness and sustainability. |
| Cultural Background and Interests | Values community safety and professionalism, motivated to foster a positive user experience. | Interested in affordable, eco-friendly shopping options, motivated by thrift and sustainability. | Conscious of sustainability and frugality, interested in making extra money from unused possessions. |
| Habits | Frequently checks the platform for updates and notifications, prioritizes user satisfaction | Tends to browse for specific items and uses filters to refine search results; reads reviews before purchasing | Tends to list items with detailed descriptions and checks messages for buyer inquiries |
| Expectations | A reliable dashboard for overseeing platform activities.  Easy-to-navigate tools for handling complaints, reviewing products, and managing support requests. | An easy-to-navigate search and filter system.  Accurate product descriptions, transparent seller ratings, and a reliable transaction process. | User-friendly product listing process, with easy uploading and editing options.  Notifications for buyer interest and real-time messaging capabilities. |
| Constraints | Time-limited, works within company policies, and often under legal guidelines. | May be limited by budget and time to make purchases; may have specific item preferences | May have limited time to manage listings and respond to buyers, possibly constrained by inventory or item availability |
| Additional Attributes | Maintains an impartial stance in user disputes, ensuring fair and unbiased resolutions | Often influenced by reviews and ratings, values transparency and reliability in product descriptions and seller interactions | Motivated to maintain a good reputation, values transparency in product descriptions. |

## User Task and Environment

### **Account Registration**

New users create an account on the platform to buy or sell products. This action can be performed by both buyers and sellers and takes place on the T-2Hand website when connected to the internet. It is performed only once, at the beginning of using the platform. There are certain requirements for this task: users must provide complete and accurate information such as email, phone number, and ensure the password meets security standards. Users will receive a confirmation email upon registration and must activate their account via email before using it.

### **Login**

Users log into their accounts to access system functions. This task is performed by buyers, sellers, and administrators directly on T-2Hand, typically daily when they need to use the platform. Users must enter correct login information (username and password). If they exceed the allowed attempts with incorrect credentials, their account may be temporarily locked for security reasons. There is a "forgot password" option to assist users if they forget their login details.

### **Post New Product**

Sellers upload information about the products they want to sell, and this can only be done in the role of a seller. It is performed directly on the T-2Hand website. Depending on the number of products a seller has, this task may be done weekly or whenever there is a new product. Sellers must provide essential details like product name, description, price, condition, and images. Products must not violate platform policies or community standards, and they may require approval from an administrator before appearing on the platform.

### **Search and View Product Details**

Buyers search and view detailed information about products they are interested in. This task is performed by buyers on the T-2Hand website and is done frequently when they search for and view details about items of interest. The system must respond quickly to search queries and provide filters like price, location, and product type to support effective searching. Buyers can save their favorite products for easy access later.

### **Purchase Product**

The buyer places an order and completes the product purchase transaction, which is done by the buyer on the T-2Hand website. The frequency depends on the user's shopping needs. The system should offer secure payment methods and provide seller contact information to arrange shipping or other transaction details. The system may prompt the buyer to leave a rating and feedback after completing the transaction to enhance the seller's reliability.

### **Rate and Provide Feedback on Product**

The buyer rates the product and provides feedback on their experience with the seller. This task is carried out by the buyer on the T-2Hand website after each successful purchase. Buyers can only rate once per completed transaction to prevent spam or inaccurate reviews. This rating affects the seller's ranking and can be displayed for other buyers to see.

### **Handle Complaints and Report Products**

Administrators handle complaints and verify reports about inappropriate or policy-violating products. This task is performed by administrators on the T-2Hand platform’s admin page. It is done daily or whenever new reports and complaints are received. Fairness and speed are essential in handling these issues to maintain the platform's integrity. Administrators have the authority to remove or block violating products and contact the seller if additional information is needed.

### **Receive Notifications and Messages**

Users receive system notifications or messages from buyers/sellers. This task applies to both buyers and sellers on the T-2Hand website and is triggered upon receiving new notifications. The system should have a real-time notification mechanism so users receive timely updates.

### **Manage Product Listings and Revenue**

Sellers manage posted products and track revenue from transactions. This task is performed by sellers on the T-2Hand website, frequently, especially when there are new products or updates to product information. The system should provide an intuitive interface for sellers to easily manage and update their listings. Sellers can view transaction history and revenue reports to support business management.

## Alternatives and Competition

Other Used Goods Trading Platforms In the used goods trading sector, popular platforms such as Shopee, Facebook Marketplace, Chợ Tốt, eBay, and Lazada play significant roles. These platforms have attracted a large number of users due to their diverse features, user-friendliness, and integrated payment and fast delivery services. However, a major drawback is the lack of effective quality control, leading to the risk of users encountering counterfeit or substandard products. Furthermore, sellers must compete with a vast number of rivals, making it challenging to highlight their products. For instance, Shopee often runs attractive promotional programs, while Facebook Marketplace is advantageous for connecting buyers and sellers in close proximity.

Building a Custom Platform Another option is to build a custom platform. This allows for complete control over the system and the flexibility to tailor features to specific needs. Developing a unique platform ensures alignment with business goals and target customers. However, investing in such a platform requires significant resources in terms of time and finances, as well as a skilled technical team to ensure the system operates reliably and securely. This presents a significant barrier for our group due to limited resources.

# Product Features 🡪 functional user requirements

## Functional requirements for user:

### **User Account Management:**

* **User Registration:** Users should be able to create an account using an email address or social media accounts.
* **Login/Logout:** Users should have the ability to log in and out securely.
* **Password Recovery:** Users should be able to reset their passwords via email.

### **4.1.2 Real-time notifications**

Web notification: Users should be able to receive notifications when messages are received, or the status of an order is updated.

## Functional requirements for the user to log in as a seller:

### **Product Browsing**

* **Search Functionality**: Users should be able to search for products by keywords, categories, or filters.
* **Product Categories**: Products should be organized into categories for easy navigation.
* **Product Details:** Users should be able to view detailed information about products, including images, descriptions, prices, and specifications.

### **Customer Support**

* **Contact Information:** Users should be able to find contact details for customer support.
* **Live Chat:** Option for users to chat with support representatives in real-time.
* **FAQs Section:** A section to address common questions and issues.

## Functional requirements for the user to log in as a buyer:

### **4.3.1 Shopping Cart**

* **Add to Cart:** Users should be able to add products to their shopping cart.
* **View Cart:** Users should be able to view the contents of their cart at any time.
* **Update Cart:** Users should be able to change quantities or remove items from their cart.

### **4.3.2 Checkout Process**

* **Secure Checkout**: Users should have a secure checkout process to enter shipping and payment information.
* **Multiple Payment Options:** Support various payment methods (credit/debit cards, PayPal, etc.).
* **Order Summary:** Users should see a summary of their order before finalizing the purchase.

### **4.3.3 Order Management**

* **Order Confirmation:** Users should receive confirmation of their order via email.
* **Order Tracking:** Users should be able to track the status of their orders.
* **Order History:** Users should have access to their past orders and purchase history.

### **4.3.4 Reviews and Ratings**

* **Product Reviews**: Users should be able to leave reviews and ratings for products they’ve purchased.
* **Review Moderation:** Ensure that reviews are monitored for appropriateness and relevance.

## Functional requirements for the user to log in as a admin

### **4.4.1 Admin Account Management:**

* **Sign Up, Sign In, Sign Out**: Admin can sign up, sign in, and sign out of the account.
* **Password Recovery**: Admin can recover the password via email.

### **4.4.2 Seller Management:**

* **Approve Sellers**: Admin approves or rejects sellers.
* **Lock Seller Accounts**: Admin can lock the accounts of sellers who violate the rules.

### **4.4.3 Product Management:**

* **Approve Products**: Admin approves products before they are publicly displayed.
* **Remove Violating Products**: Admin removes products that violate the rules.

### **4.4.4 Reported Product Management:**

* **Monitor Reported Products**: Admin monitors and acts on reported products.

### **4.4.5 Support Request Management:**

* **Handle Support Requests**: Admin resolves support requests from buyers and sellers.

### **4.4.6 Complaint Management:**

* **Handle Complaints**: Admin resolves complaints from buyers.

### **4.4.7 View Total Number of Users:**

* **Total User Accounts**: Admin views the total number of user accounts (buyers, sellers).
* **New Posts Count**: Admin tracks the number of new and previous posts.

### **4.4.8 Create Transaction Statistics Table:**

* **Access Transaction Table**: Admin accesses a detailed transaction statistics table.
* **Filter and Sort Transactions**: Admin filters and sorts transactions by criteria such as date, buyer, or seller.

# Non-Functional Requirements 🡪 non-functional user requirements

## Performance Requirements

* **Page Load Speed:** The website should load within 2 seconds to prevent user drop-off.
* **Response Time:** The response time for actions like clicking "Add to Cart" or "Purchase" should be under 0.5 seconds, clicking “Search” should be under 1 second.
* **Throughput:** The system should handle up to 200 concurrent users without performance degradation.

## Security Requirements

* **Data Encryption**: All sensitive data, like payment information, should be encrypted using TLS encryption.
* **Account verification:** After 30 minutes without acting on the website, users will be sent a request to sign in again to ensure the security for each account.

## Portability Requirements

* **Browser:** The website must function correctly across major browsers such as Chrome, Firefox, Safari and Edge.
* **Device:** The website should work seamlessly across devices, including desktop, tablet, and mobile, with responsive design to adapt to different screen sizes.

## Usability Requirements

* New users can easily get used to navigating the website within 3 minutes.

## Availability Requirements

* The web should have 99.9% uptime annually, with planned maintenance downtime restricted to specific off-peak hours to minimize disruptions.

## Maintainability Requirements:

* Each quarterly system upgrade should not take more than 60 minutes.