

MuYU

Requirements analysis specification

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1 Introduction

1.1 Background

software brand: MuYu (The Second-hand Trading WeChat Mini Program)

With the improvement of people's living standard and the change of consumption concept, second-hand trading market has gradually become an important channel for people to deal with idle goods and buy cost-effective goods. As an important part of the campus second-hand trading market, it has great potential for development. In order to meet the needs of campus students for second-hand goods trading and improve the convenience, security and diversity of trading, our team is committed to developing a campus-oriented second-hand goods trading wechat mini program. The Second-hand Trading WeChat Mini Program aims to provide users with a convenient platform for buying and selling used items. The program will be developed using the Vue.js and Django frameworks and integrated as a WeChat Mini Program.

1.2 Purpose

This document defines the requirements and functionalities of the Second-hand Trading WeChat Mini Program. Including the project's purpose, background, product features, functions, etc., focusing on the solution of the project and the way to achieve the goal.

1.3 Scope

The program is aimed at a large number of college students who demand for dealing with idle items and buying more targeted materials with a proper and satisfied price.

1.4 Definitions, Acronyms, and Abbreviations

WeChat: A popular messaging and social media platform in China.

Vue.js: A JavaScript framework for building user interfaces.

Django: A high-level Python web framework.

1.5 References

WeChat Mini Program Development Documentation

Vue.js Documentation

Django Documentation

2 Overall Description

2.1 Product Overview

The Second-hand Trading WeChat Mini Program allows users to create listings for used items they want to sell, and other users can browse and purchase those items. The program provides features such as user registration, product listing, search, messaging, secure payment integration, rating, and feedback system, as well as an admin dashboard for managing listings and users.

2.2 User Characteristics and Roles

Registered Users: Individuals who create an account and use the program to buy or sell items.

Admin Users: System administrators responsible for managing listings, user accounts, and resolving disputes.

2.3 Operating Environment

The program will operate on WeChat's Mini Program platform, accessible through the WeChat mobile application. It will require internet connectivity, a compatible device, and the WeChat application installed.

2.4 Constraints and Assumptions

The development team will adhere to the guidelines and limitations set by the WeChat Mini Program platform.

The program assumes users have basic knowledge of operating a smartphone and navigating WeChat.

3 Requirements

3.1 Functional Requirements

3.1.1 User Registration and Authentication

Users should be able to create a new account using their email or phone number. Users should be able to log in and log out securely.

3.1.2 Product Listing and Search

Registered users can create new listings for items they want to sell, including details, price, and images.

Users can search for specific items based on category, keywords, or location.

3.1.3 Messaging and Communication

The program shall provide an in-app messaging system for users to communicate with each other regarding product inquiries, negotiations, and transactions.

3.1.4 Secure Payment Integration

Users shall be able to securely make payments for purchased items using popular payment gateways.

3.1.5 Rating and Feedback System

Users can rate and leave feedback for sellers to assess their trustworthiness and reliability.

3.1.6 Admin Dashboard

An admin dashboard shall be developed for managing user accounts, listing moderation, resolving disputes, and obtaining analytics.

3.2 Non-functional Requirements

3.2.1 Performance Requirements

The program should handle and process high volumes of concurrent user requests efficiently.

Response times for search, messaging, and critical operations should be minimal.

3.2.2 Security Requirements

User authentication and authorization should be implemented securely. User data, including personal information and transaction details, should be encrypted and stored securely. Proper input validation and sanitization should be applied to prevent security vulnerabilities. Through real-name authentication, sesame credit and other authentication methods, the platform can ensure that the identities of both parties to the transaction are real and reliable, and ensure the security of users' personal information and transaction funds. At the same time, the platform also provides online payment, logistics and other services, so that users can be more assured to buy second-hand goods.

3.2.3 Usability Requirements

The user interface should be intuitive and user-friendly, with clear navigation and visually appealing design.

The program should support multiple languages, allowing users to switch between languages easily.

3.2.4 Compatibility Requirements

The program should be compatible with popular mobile devices and web browsers. It should conform to WeChat's Mini Program standards for compatibility and functionality.

3.2.5 Maintenance Requirements

The codebase should be modular, well-documented, and maintainable, allowing for future enhancements and bug fixes.

4 Acceptance verification criteria

4.1 Input-Output Formats

User Registration and Authentication:

Input: User's email or phone number and password during registration. User's credentials during login.

Output: Successful registration/login response with a unique user token or session ID.

Product Listing and Search:

Input: Item details such as title, description, price, images, category, and location during the listing creation. Search queries including category, keywords, or location.

Output: List of relevant items matching the search criteria and details of a specific item when requested.

Messaging and Communication:

Input: Sender and receiver IDs, message content, and other relevant parameters.

Output: Message history and notifications for the sender and receiver, with timestamps and message content.

Secure Payment Integration:

Input: Item ID, payment gateway selection, payment details (e.g., credit card information or e-wallet credentials).

Output: Confirmation of successful payment or error message in case of payment failure.

Rating and Feedback System:

Input: User ID of the seller, rating (e.g., star rating), and feedback comments.

Output: Confirmation of successful rating submission or error message in case of failure.

Admin Dashboard:

Input: Admin user credentials, user or listing ID for management actions (e.g., user moderation, dispute resolution).

Output: Successful update/management confirmation or error message in case of failure.

4.2 Interface Acceptance Criteria

User Registration and Authentication:

Acceptance Criteria:

Users should be able to successfully register with a valid email or phone number.

Users should be able to securely log in and log out of the application.

The authentication process should be secure and protect user credentials.

Product Listing and Search:

Acceptance Criteria:

Registered users should be able to create new listings with accurate details and images.

Users should be able to search for specific items based on category, keywords, or location.

The search functionality should return relevant and accurate results.

Messaging and Communication:

Acceptance Criteria:

Users should be able to exchange messages securely within the application.

Messages should be delivered promptly and displayed accurately.

Users should receive notifications for new messages and inquiries.

Secure Payment Integration:

Acceptance Criteria:

Users should be able to securely make payments using popular payment gateways.

Payment transactions should be processed smoothly and reliably.

Users should receive confirmation of successful payments and receipts.

Rating and Feedback System:

Acceptance Criteria:

Users should be able to rate sellers and provide feedback on their experiences.

Ratings and feedback should be accurately recorded and displayed.

Users should have the ability to view and filter ratings and feedback.

Admin Dashboard:

Acceptance Criteria:

Admin users should be able to manage user accounts and listings effectively.

Disputes and reported listings should be resolved promptly.

Analytics and reporting features should provide relevant insights for decision-making.