

“ENJOYING” STUDY–CONSTRUCTION OF SECOND-HAND TRADING PLATFORM FOR COLLEGE STUDENTS

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Abstract

Campus platform software is becoming more and more popular on campuses around the world. This paper provides a comprehensive evaluation and analysis of the creation and implementation of campus platform software. The platform provides students with second-hand trading services, including buying books, daily necessities and other resources at better prices. It also offers users a platform for part-time work, volunteering and entrepreneurship. The analysis of this study provides valuable insights for college students to utilize and create campus platform software.

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1. Introduction

With the COVID-19 outbreak and lockdown measures imposed globally, the need for campus platform software has become increasingly urgent. The School Platform software is a user-friendly application designed to meet the specific needs of college students. Applied to full-time study and life, it is hoped that the introduction of part-time academic platform software can provide students with a wide range of benefits, including book trading, daily necessities trading, part-time work, and voluntary service.

This paper will be divided into the following parts: demand analysis, feasibility analysis, platform composition, system design, program development, system testing, and user feedback.

2. Demand Analysis

The results of the survey on whether college students are willing to sell idle items show that 83.37% are willing to sell them, and the results of the survey on whether college students can accept second-hand items show that 92.19% can accept second-hand items. College education model is different from the model of middle school education, students have more autonomy in the choice of life and study, and can choose new and old textbooks independently. Second-hand books are more cost-effective than new books, so college students are more inclined to buy second-hand books.

It is necessary for the campus platform software to exist, whose main goal is to provide students with second-hand trading, part-time work, volunteering, and self-employment exchange circles. Among them, the second-hand trading function is essential, because many students need to buy and sell second-hand items during the school, which can provide them with a more economical and convenient way to shop. In addition,

part-time and volunteer functions can be very useful, as some students need to work off-campus to earn extra income or gain relevant experience. Finally, the self-employment exchange circle provides a platform for students to start businesses, communicate and share.

3. Feasibility Analysis

Through the research and analysis of other second-hand software, combined with the second-hand transaction needs of college students, the functional module is designed. Carry out the following feasibility analysis at the same time [2]:

3.1. Market feasibility

The second-hand transactions of college students are frequent, and the group is constantly increasing and updating.

3.2. Operational feasibility

College students generally have a mobile phone, and the emergence of 5G network makes online trading convenient, time-saving and fast.

3.3. Economic feasibility

There are many channels for obtaining second-hand resources on campus, and the second-hand sale price is relatively low.

3.4. Management feasibility

Both sides of the transaction are independent traders, almost the same school personnel, high transaction security, reduce transaction disputes, and facilitate the transaction management of commodities [3].

4. Platform Composition

Based on the above needs, our system should have the following main functions: user registration, commodity browsing, commodity purchasing, commodity publishing, order generation/processing, payment methods, goods distribution, part-time and volunteer service browsing and publishing, self-employment exchange circle, and administrator management.

4.1. User registration

You can bind the school and student number to the user's own needs to query the school partner. Query management: commodity query, information query, transaction progress query and other functions.

You can switch between the merchant mode and the customer mode at will, and you can either publish or buy goods. This function is mainly to facilitate students' daily second-hand goods trading, more similar to salted fish, around.

4.2. Product browsing

Commodity browsing is the main interface of the system and the main way for users to select commodities. Through this module, users can browse the published product information and choose the goods they need. The user can click the link of a product, which will enter the list page of the basic information of the product. On this page, the product entry contains the name of the product, the degree of old and new, the name of the product, the price, etc. In addition, the system needs to provide a search function. For example, the name of the product, the degree of old and new, the distance range of the item, the price range, the brand and other information, filter out the list of goods that the user is interested in, for the user to choose.

4.3. Commodity selection

Goods ordering is the main link of the transaction, the user selected satisfactory goods, and the seller through the system to provide contact information for consultation, bargaining, if and the seller reached a purchase intention, you can add the goods to the shopping cart.

4.4. Product release

When publishing goods, users can provide photos of goods, old and new degree, price, detailed description, and other information for buyers' reference.

4.5. Order generation/processing

When the goods in the shopping cart are settled together, the goods are classified according to the seller and sub-order is generated. In the sub-order, the user needs to determine the name, quantity and price of the goods, and determine the delivery mechanism and payment method of the goods, and finally submit the order to the seller user, who can handle the order according to the situation after receiving the order [4].

4.6. Payment method

There are two kinds of payment methods: offline payment and online payment. Offline payment is applicable to cash payment when users directly deal with each other face to face, with high security, but for long-distance transactions between campuses, direct online payment can improve the efficiency of transactions. For online payment, we must first consider the convenience of payment, including account and recharge, transfer functions to be simple and rapid. In addition, the most important thing for online payment is to ensure the security of payment, the security problem of the current Internet is becoming more and more serious, although it is in the campus network, security issues can not be ignored, and it is necessary to avoid or reduce the risk of account theft caused by transactions through the network [2].

4.7. Goods distribution

The two sides agreed to divide into offline delivery of the same campus and express delivery of different campuses. Timeliness and security should be considered in the redistribution process.

4.8. Part-time and volunteer service browsing and publishing

The recruiter publishes recruitment information through the APP, and all job hunting and recruitment information will be screened and reviewed by the APP and published on the platform. For the personal information of job seekers, the APP system will do a good job of confidentiality, named by the account to prevent the disclosure of personal information of part-time workers [6].

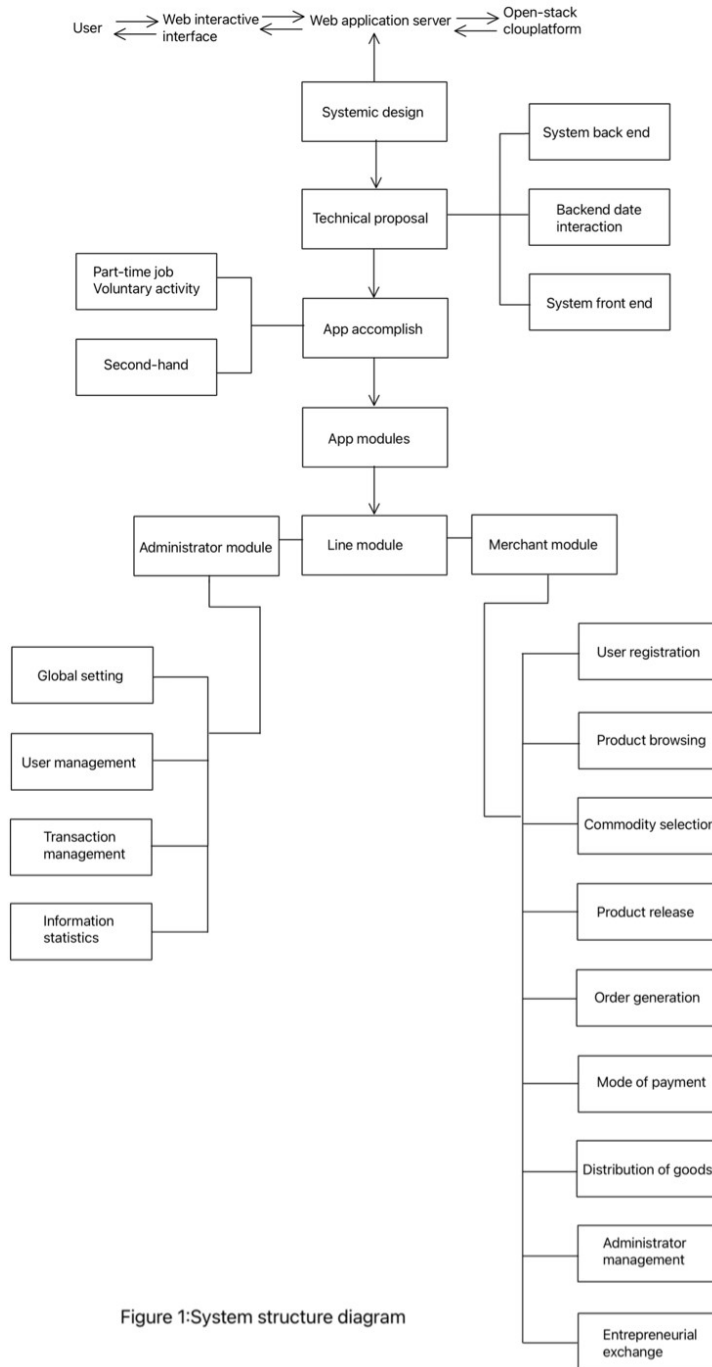


Figure 1: System structure diagram

4.9. Self-employment exchange circle

Let users easily exchange and share a variety of knowledge and experience about entrepreneurship, can post articles and comments.

4.10. Administrator management

Each university has at least one administrator, the administrator of the university of its product recruitment information issued by the school to check, if there are violations of the law must be deleted. The university administrator can grant the administrator status to ordinary users of the university. College administrators can manually add the classification labels of goods. The university administrator can issue and manage the announcement of the university [1].

5. Technology Selection

We will use java technology to create our application and SQL as the database for the application.

5.1. Take advantage of Java

Java code is relatively simple. Compared with other languages, JAVA is relatively concise in terms of syntax and the amount of code, and JAVA has its own garbage collection mechanism, delete the related application of pointers, and increase the exception capture mechanism, we are coding, the complexity of the code has been greatly reduced. The effort to modify the error code is greatly reduced. Therefore, the knowledge reserve required for the development of the system is greatly reduced, which makes the difficulty of creating apps greatly reduced.

5.2. Java technology is relatively mature

The amount of code that can be referenced and referenced on the network is huge, which has huge potential help for us to create apps. It is an object-oriented distributed application with high operation efficiency.

5.3. All resources are free of charge

All relevant Java programs for second-hand platform creation are available for free, including the platform for language creation and other required software. The cost of creation is greatly reduced.

6. Platform Construction

6.1. System analysis

According to the requirements of the system, we need to build a hybrid application development platform of Android development platform + JA-VA development platform + database interconnection. The AN-Droid framework is used as the front end of the application, the MySQL database implements the back-end data storage, and the Bomb back-end cloud framework implements the back-end functions and the interconnection between the application and the database. The development of front-end Android mainly involves the design of UI interface and the construction of various functional ports. The back-end mainly uses Bomb back-end cloud to realize most of the basic functions and realize the interconnection and cross-platform operation of various application platforms. The MySQL database serves as all data storage for functional implementation.

The overall architecture includes four layers: cloud platform layer, Web application server layer, Web interface layer, and user layer. In this paper, the Openstack cloud platform is pre-built, and the campus second-hand commodity trading system conducts data processing on its platform, including recommending commodity module processing, storing commodity module processing, searching commodity module processing, etc. The processing results will be returned to the user by the Web server through API [5].

This system mainly includes APP application front end and background database. The front end of the APP application is mainly used to realize the foreground function. It obtains the user's operation instructions through the front end of the APP, such as account login, data query and modification, and functional interface jump, and then feeds back a back-end Java program to carry out the function and realize various data processing. The front end of the APP application then obtains the immediate operation result and updates the front end interface, and finally presents it to the user.

6.2. Technology selection

The specific technologies involved in each layer of the development framework are as follows:

6.2.1. System back-end

MySQL is used as the underlying database, and SQLAlchemy, a third-party library of Python, is used to interact with the database.

6.2.2. System front end

The pages folder holds all the front-end html pages, and the static folder holds all the css styles, JavaScript code, and image files.

6.2.3. Back-end data interaction and Web server

API is a bridge between front and back end data interaction. The API design of this system uses RESTful architecture style, which abstracts all things on the network into resources, and each resource has a unique resource identifier URI.

7. System Test

After the completion of development, we will conduct system testing to ensure that the system is stable, usable and reliable. The tests include:

7.1. Functional test

Verify the normality of all system functions.

7.2. Compatibility test

Tests the compatibility of the system, including the Android and iOS operating systems of different versions.

7.3. Performance test

Test the performance of the system, including response time, load time, and fluency.

7.4. Security test

Test the security of the system, including the protection of user data and the test to prevent attacks.

8. User Feedback

Once the system is in use, we will start collecting feedback from users. By collecting feedback and any customer support requests, we can better understand user needs to improve our systems and increase user satisfaction.

9. Conclusion

Through the introduction of campus platform software, this paper deeply studies the feasibility of this platform running on campus. The platform mainly includes second-hand trading and part-time volunteer activities of college students, which will be realized by user registration, commodity browsing, commodity purchasing, commodity publishing, order generation, payment methods, goods distribution, administrator management, self-employment exchange and other processes.

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