Design and Application of Intelligent Shared Leasing Platform based on Spring Boot and Vue

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Abstract: *This paper expounds the design and application of an intelligent shared leasing platform based on SpringBoot + Vue, and introduces the design background, system technology and application of the platform in detail. The platform uses IDEA and WS as the back-end and front-end development platforms respectively. It is developed in the front-end and back-end separation mode. In the development process, Java is used as the back-end development language, HTML, CSS, JavaScript and Vue.js as the front-end development technology; MySQL is used as the project database; The interface UI mainly uses the Element-UI framework. The platform is mainly applied to online clothing rental business.*

Keywords: spring boot, vue, lease

1. Introduction

Sharing economy has been widely accepted and applied by the public, and it has penetrated into every corner of our life. China's sharing economy has covered many fields of life such as education and travel. China has also developed rapidly in the field of sharing economy. In a long time, the field of sharing economy will continue to expand and integrate across borders, start-ups will grow rapidly, competition will be formed in key fields, and policy guidance will be clearer. Sharing economy has the characteristics of network economy. China's huge population means that sharing economy can obtain enough user nodes to realize network economy. At present, China's sharing economy is booming. In addition to leading in scale, a number of world leading new technologies have also been born. China's sharing economy has surpassed most countries in the world in terms of innovation and development speed. With the accelerated transformation of China's economic structure and the optimization and adjustment of its industrial structure, the development space of the sharing economy will be further expanded. China's sharing economy model will also provide a reference sample for other countries, and there is still a wide space for the development of China's sharing economy in the future.

However, after analyzing the business logic of various sharing and leasing platforms on the market at present, we find that there are still various problems in the popularization of sharing and leasing platforms at present, which lead to the fact that China's sharing economy has a large market but does not develop as fast as expected. The main reasons are as follows: 1) when using the information asymmetry of Internet technology and letting a large number of idle resources flood into the platform to provide services, the quality of services cannot be guaranteed, As a result, the experience of consumers is generally poor. Therefore, when developing the shared rental platform, it is first necessary to consider adding the review function of business administrator, and providing rapid feedback functions such as evaluation and complaint for consumers, so as to ensure the service quality of the check-in merchants; 2) At present, the existing shared rental platforms in China

are basically based on the main category of products as the main means of profit. For example, Mobike can be rented, and Energy Monster only has the charge bank business. This leads to users needing to use different apps under different needs, and the transactions of various apps are not interconnected, resulting in users needing to recharge a certain amount in each app, resulting in great changes in users, This hinders the development of China's sharing economy. Therefore, we need a new third-party shared leasing platform similar to Taobao. Our system does not provide leasing services, but selects excellent merchants to enter the platform, integrates domestic shared resources, provides better services for users, and creates more valuable profit points for merchants who provide shared services. Based on the above analysis, we believe that the current market of sharing economy needs a BTOC form of sharing and leasing platform that integrates shared resources, provides service quality assurance for customers, and provides a unified platform for businesses.

2. Overall framework route of the platform

The intelligent sharing and leasing platform based on SpringBoot + Vue adopts the development method of separating the front end from the back end and the project management method of scrum. The back end is developed using java language. It mainly uses SpringBoot, SpringMVC and Mybatis as the back-end development framework to build Mapper, Service and Controller respectively, so as to reduce the coupling degree between the functional modules of the system and achieve the system design goal of "high cohesion and low coupling"[1].The front-end framework mainly uses some framework. Vue.js as the development framework[2] . Element-UI as the interface framework[3].This platform mainly uses MySQL as the basic database.

3. Platform interface

The intelligent shared leasing platform mainly includes login interface, main interface, shopping cart interface, commodity details interface, favorites interface and other main interfaces. The interface design mainly adopts the

combination of HTML, JS and Java, the data interaction adopts Ajax to load data asynchronously, and JS is used to deal with the logical relationship between pages.

4. Target customers and demands

4.1 Target customers

1) Consumer:
First and second tier minority culture lovers; third, fourth and fifth tier urban minority culture lovers; personnel of schools and other institutions who need performance clothes; college students who need formal clothes, tuxedos and other clothes

2) Business
Clothing rental merchants around the school; clothing merchants in the field of well-known brands and minority culture; individual sellers.

4.2 requirements

1) Users who are interested in some clothes but have no money to buy and want to rent
2) Users who don't often wear minority clothes and don't need to buy them
3) Customers who need to rent clothes to attend the event

5. Platform function module

5.1 home module

After entering this platform, the main interface is displayed. Users can jump to other modules through different buttons and buttons. The home page is shown in Figure 1.
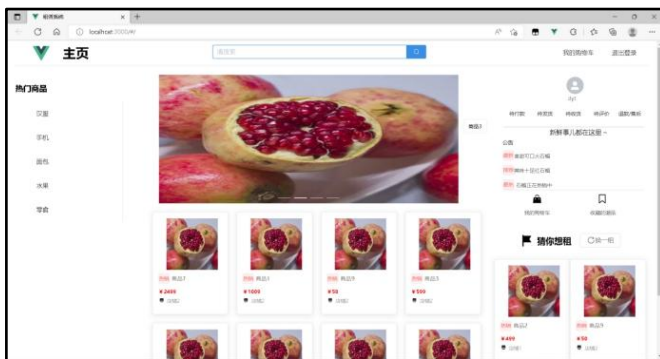

Figure 1. The home page

5.2 login module

After logging in, users can purchase goods, view orders, modify account passwords, and add goods to shopping carts. The following figure 2 shows the login page.

Figure 2: The loginpage

5.3 Shopping Cart module

After entering the main page, click the "shopping cart" icon to enter the page. Users can add their favorite goods to the shopping cart. The shopping cart provides functions such as adding, deleting, moving into favorites, and batch payment and deletion. The following figure 3 shows the shopping cart page.

Figure 3: The shopping cart page

5.4 order management module

After entering the personal center, click "order" to enter this page; Users can view orders in five statuses: to be paid, in transit, to be evaluated, completed and refunded, or delete these orders. The order management page is shown in Figure 4.
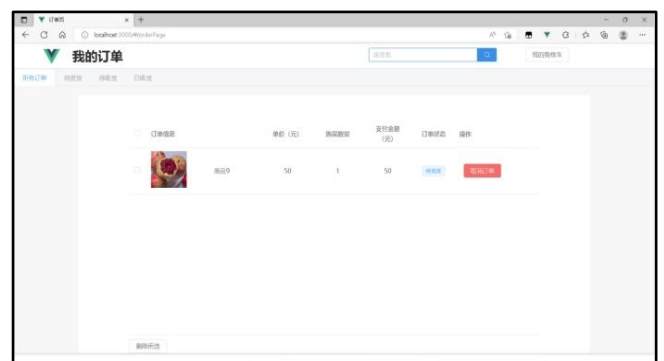

Figure 4. The order management page

6. Conclusion

With the continuous development of the sharing economy, making rational use of idle resources in society and reducing waste of resources have become an urgent problem to be solved. This platform uses information technology to change the way people get clothes that are not commonly used and may only need a few times from the previous purchase to leasing, effectively reducing idle waste of

resources; At the same time, the professional technical means are reasonably used to transfer the originally complex offline transactions to online transactions, providing a good trading platform for both sellers and buyers. In future applications, it can promote the development of China's shared economy, reduce social resource constraints, make contributions to environmental protection.

References

[1] SpringBoot+vue 项目实战. [EB/OL].https://blog.csdn.net/m0_67402774/article/details/125243561,2022-06-22

[2] wanglu1029. Java 研发规约. [EB/OL].https://blog.51cto.com/u_5474212/5337218#_Toc24340,2022-05-27

[3] Springboot+Springmvc+Mybatis（MySQL）+maven 框架搭建.[EB/OL].https://blog.csdn.net/qq_41048799/article/details/109054686,2020-10-13

[4] Spring Boot Reference Documentation .[EB/OL].https://docs.spring.io/spring-boot/docs/2.7.3/reference/htmlsingle/.2012-2022

[5] MyBatis.[EB/OL].https://mybatis.net.cn/

[6] Vue.js.[EB/OL].https://cn.vuejs.org/guide/introduction.html

[7] Layout 布局.[EB/OL].https://element-plus.gitee.io/zh-CN/component/layout.html

[8] MySQL 规范.[EB/OL].https://blog.csdn.net/z69183787/article/details/109705362

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