

# Research and Development of Shared Chess and Card Room Based on Wechat Mini Program

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**Abstract:** Based on the investigation and research on the use of traditional chess and card rooms in the province, this paper proposes to change the phenomenon that the information of offline chess and card rooms is unclear and difficult to reserve by means of technical means and real-time technology. HTML5 technology is adopted as the front page technology, the main logic technology language is Java, and the background database is MySQL. Realized the basic management functions of chess and card room reservation, such as booking a room, friends group, comment. The above functions are reflected in this procedure, this system has an important role for chess and card lovers to achieve information. The use of this system can achieve the purpose of understanding the situation of chess and card room and improving the efficiency of management.

**Keywords:** Java, Wechat mini program, MySQL database, HTML, JAVASCRIPT, System design, Software engineering.

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## 1. Introduction

The market of local characteristic chess platform is mainly rooted in the second-tier and below cities, local characteristic chess platform ushered in capital fever, the industry is heating up rapidly. [1] The traditional chess room is crowded, noisy environment, coupled with vents, air conditioning and other facilities are not perfect, the whole environment will make the user experience feel bad, the customer's privacy can not be protected, personal belongings are easy to lose.

With the tide of Internet development in recent years, it is a huge change, and a new market pattern has gradually formed in the domestic chess industry market. [2] Nowadays, traditional chess rooms are starting to combine with the Internet to create unattended, twenty-four hour self-service chess rooms. Shared chess rooms can be located more freely, inside commercial office buildings and commercial flats, and are unattended, saving labour costs and rent for businesses. The shared chess rooms are mainly private rooms, unlike traditional chess rooms, which are more protective of customer privacy, quiet and private, improving the customer experience and allowing customers to feel at home like a class.

Combined with uni-app, java and other cutting-edge technologies, the WeChat applet with online booking, commenting and grouping functions is created in this context.

### 1.1. Customer requirements

The shared chess and card room mini program provides customers with query store address information, chess and card room type and content information, and the main functions are online reservation of chess and card room, friend teaming, comments, etc. Its purpose is to let customers better understand the configuration of the chess room room and pay the fee through the mini program to book the chess and card room in advance, so that customers can choose to form a team when the number of people is not enough to achieve the number of people in the chess and card rules, customers can comment on the feelings and use of the chess and card room in the comment area, so that other customers can better understand the chess and card room.

### 1.2. Urban development demands

As the country pays more and more attention to the construction of small and medium-sized towns, the entertainment and leisure life of county residents has also attracted more and more attention. Due to the lack of public cultural activities in the county and the attraction of entertainment activities themselves, playing cards has become the first choice for residents' entertainment activities, and the chess and card room occupies a central position in the entertainment and leisure of county residents, and has become the social center of county residents. The prosperity of chess and card rooms provides ideas for the county to carry out public cultural activities in the future: public cultural activities themselves should be attractive, public cultural activities should be convenient for residents to participate, and the public cultural activity venues in the county should strive to become new social centers for residents. [3]

### 1.3. Requirements of the management body of the chess room

The main body of chess and card room management is the management of individual merchants, and it is necessary to issue announcements in real time and modify the relevant content of the chess and card room according to the conditions of its own chess and card room, so that customers can inquire and make appointments in time.

Scan the code to pay, can reduce the cost, directly scan the code, the system will calculate the time and amount to complete the payment.

Unmanned management, realize self-service management of chess and card rooms, reduce the cost of manpower, material and financial resources.

## 2. Research Idea and Research Methodology

### 2.1. Research Idea

The research ideas of this paper are mainly divided into four parts, namely.

1. Through questionnaire surveys, we understand the functional needs of different groups for shared chess and card

rooms.

2. Secondly, learn the knowledge about the front-end and back-end of WeChat Mini Program [4].

3. The third step is to find breakthrough points, new ideas, and new methods.

4. The final step is to combine technology and innovation to develop the software, and then initially test the software features.

## 2.2. Research Methodology

Observation method: observe and compare the operation mode and characteristics of the traditional chess and card room offline, improve its shortcomings, and increase the innovation point.

Survey method: online questionnaire method.

Documentary method: obtain information by reviewing literature, and comprehensively and correctly grasp the development history, research progress and future trend of the problem to be studied.

## 3. Technical Foundation

### 3.1. Functionality and construction

Wechat small program functions can be divided into login registration, reservation room, unlock, comment, team. Users can log in or register through their wechat account in order to access the various functions of the mini program. Users can view the available chess room rooms and make reservations. After a successful reservation, the user can obtain the room password. Users can enter a password to unlock the door when they arrive at the card room. Small program construction uses the framework and components provided by wechat small program to design the front-end interface of small program, including login, appointment, unlocking, entertainment and other pages.

Use java and other back-end programming languages to develop back-end interfaces of small programs, including user login, room reservation, access to room password, unlocking and other functions of the interface. Use MySQL and other relational databases to store small program related data, such as room information, reservation records, etc. Ensure user information security, such as password encryption and data leakage.

### 3.2. Servers

The server is used to store and manage related information data and business data, to provide accurate data support for the operation of the shared chess and card room Mini Program, the Mini Program needs a server to store user information, room information and appointment records and other data, and provide corresponding interfaces for the Mini Program to call. The servers are highly reliable, ensuring that data is not lost or corrupted. Improve reliability by using backup servers, data redundancy, and more. It has high security to ensure that user information will not be leaked or attacked. Use encryption, firewalls, and more to improve security. It has a fast response speed to ensure that the applet can quickly obtain data and complete the operation. Use caching technology and load balancing to improve response speed. Easy maintenance so that developers and administrators can easily manage and maintain the server. Use monitoring tools, log analysis, and other methods to improve maintenance efficiency. Powerful scalability, with the ability to quickly scale server performance and capacity as the number of users

increases.

## 3.3. Client

### 3.3.1. Client-side system architecture

The main service object of the parking mini program is customers who love chess and cards, and through the development of WeChat mini program, it can meet the needs of customers to understand and make reservations in a more convenient way. Car owners can make online reservations for chess and card rooms, comment on chess and card rooms, and pay online through mini programs.

### 3.3.2. Client-side function modules

WeChat Mini Program can provide users with a comprehensive and friendly appointment experience, helping users to make reservations for chess and card rooms and fast payment, including home page, card circle, order and personal center modules.

1. Home: The home page includes viewing business information, announcement information, chess room information, providing team formation function and booking chess and card room function.

2. Card circle: After using the consumption chess and card room, customers can evaluate the environment and use experience of the chess and card room, so that other customers can understand the chess and card room, and other customers can make secondary comments and likes on the comments.

3. Order: The order belongs to order management, that is, all orders are classified into four types of small modules to be consumed, consumed, completed and canceled, and the order information includes the start and end time of the chess and card room, the final charge, and the unlock password.

4. Personal center: The personal center provides a convenient function of WeChat one-click login, in the personal center module, users can change personal information according to personal preferences, can recharge the balance in the balance, and call the merchant for consultation when there is a problem.

## 3.4. Technical routes

Based on the requirement background and practical application scenarios of this project, the technical route of the appropriate system is proposed, and the system is designed based on intelligent hardware. The front-end of the system interacts with the back-end through the WeChat mini program, and users can make an appointment for the chess and card room through the WeChat mini program. After placing an order, the password lock password of the corresponding room will be obtained, and the web background server is written in Java, mainly using Spring Boot, Spring MVC framework, and the database part is developed using MySQL framework.

## 4. Innovative Features

### 4.1. Combination of hardware and software tools

The use of chessboard room management applet, combined with the intelligent hardware of the chess and card room, to achieve an unattended management system, 24 hours without closing.

### 4.2. Efficient and unattended

Save manpower operation and reduce comprehensive operating costs in a straight line.

### 4.3. More diverse environments and styles

The shared chess and card room environment is quieter, more private and undisturbed than the traditional chess and card room; The shared chess and card rooms are all private rooms, which can be more varied in style and attract a wider range of people.

### 4.4. Comprehensive range of functions

Online reservation selection function (the number of people to reserve a private room, the use time, if the number of reservations does not reach the number of people specified in the private room, the system will automatically search for nearby people who make a separate reservation nearby, which can choose the age range, gender, whether you mind smoking, etc.), card chat function, chess and card communication circle function, hourly payment function.

### 4.5. Features

1. Convenience: Intuitively understand the information of the chess and card room.

3. Efficiency: Online reservations can be made in advance

4. Comprehensiveness: more complete and perfect functions.

4. Security: Under normal circumstances, the access control system can only be opened by entering the password or the administrator background control, in addition, an emergency evacuation plan is also prepared.

5. Adequacy: Let customers and businesses give full play to their respective roles.

## 5. Conclusion

With the development of the Internet, people rely more on the use of WeChat mini programs, WeChat Pay and other mobile phone consumption methods, sharing chess and card room is more adapted to people's lifestyle, we design the shared chess and card room will be with the development of the times and people's increasing needs of life and functional modification, we will work harder to improve the function of the shared chess and card room.

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