Zhuhai College of Jilin University

Graduation thesis

Design and implementation of psychological counselling room based on WeChat applet

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Design and implementation of a psychological consultation room based on WeChat applets

Abstract

With the continuous development of technology, WeChat applets have penetrated into our daily lives. As an emerging form of application, WeChat applets have brought us a lot of convenience while also bringing certain impacts to society and individuals. This paper will focus on the current mental health issues common in society, using WeChat applets to design and develop a psychological counselling room system.

The WeChat applet is an application that can be used without the need to download and install it. In order to provide a convenient and efficient online consultation platform for counsellors, it can help them to solve the problems they encounter in their work, thus enhancing the efficiency and effectiveness of the consultation. The WeChat applet for psychological counselling rooms makes use of the technical framework of the WeChat public platform to design an applet for counsellors, who can use it by simply installing the relevant applet on their own mobile phones. With the help of the WeChat public platform, counsellors can conduct psychological counselling at any time and any place, thus improving the efficiency and effectiveness of psychological counselling.

In this paper, based on a comprehensive analysis of relevant literature at home and abroad, and combined with our preliminary work, we have used modular design ideas to build a psychological counselling room system based on WeChat applets. Based on the needs of this study, the user contains three main roles, namely the visitor, the counsellor and the administrator. Users can use their mobile phones and perform online counselling services, counsellors can use their mobile phones to provide counselling to them, and administrators can manage and maintain them through their computers.

The system has been designed using the MVC framework for the user interaction interface. We have applied the MVC framework to the counselling room system, using it to divide the system into three main parts: the user, the counsellor and the data. The system is efficient, convenient and secure, and can provide a higher quality of service to users on the web.

Key words： java; springboot; microsoft program; psychological counselling room

CONTENTS

1 Introduction

1.1 Background and significance of the study

We are in a fast-developing information age, and the existence of the Internet, as the most important part of our lives, is undoubtedly the most basic need of our time. With the network, people can communicate with the world more conveniently and quickly, so as to achieve the efficiency of social functioning.

Nowadays, there are also more requirements for the platform. Student management work in colleges and universities is one of the important work of colleges and universities, with the development of mobile Internet technology, how to introduce student work in colleges and universities into the mobile Internet technology has become an important issue for the majority of college and university student workers to think about, and the applet is an emerging mobile Internet application technology in recent years, which is popular among users because of its free installation, simple entrance, and good user experience, through the college and university student work management WeChat applet design and implementation, it is proved that the design is simple and reasonable, and through the use of the applet, it is proved that the applet improves the enthusiasm of students to participate in the work of students in colleges and universities, and improves the efficiency of student work management personnel [3].

There are functions of Home, Psychology Forum, Psychology Articles, Psychology Qualification, Psychology Test, My (Personal Information, Collection, Appointment Information, Appointment Cancellation, Complaint Information). The system allows users to use their mental health condition to ask questions to the counsellor, who can reply and interact with them.

1.2 A study on the current status of psychological counselling room related microsoft apps

There is a wealth of foreign research on microsoft applet-based psychological counselling room systems, which has been presented in a number of literatures. Among them, the United States, Canada and the United Kingdom are the three countries that first started the research.

The United States is one of the first countries in the world to conduct relevant research, and its psychological counselling room system was invented by Dr Purdue, a professor of psychology at Stanford University, in 1996. As early as 2004, Dr Purdue published a paper on ‘virtual

counselling rooms' and became the first academic to conduct research on the counselling room system based on WeChat apps. Canada is also a relatively early development of psychology, as early as the 1980s there have been related research. Dr Bernard Dell and Dr Matthew Richards, renowned Canadian psychologists, collaborated to publish a paper on virtual counselling rooms in 1983. The United Kingdom is also a country that has conducted relevant research at an early stage, and its psychological counselling room system was published by Dr. Charles S. Hayes, a professor of psychology at the University of London, and Dr. Bernard Dell, who published a paper on virtual psychological counselling rooms in 2005.

In recent years, China has also made some progress in the field of psychological counselling room systems, the most representative of which is the 'mental health education network' proposed by Professor Wang Suli of the Department of Psychology of Peking University. Before that, the research on psychological counselling room systems in China mainly focused on the analysis of individual and group counselling effects, and on the 'mental health education network'. The research on 'mental health education network' is still blank.

1.3 The main research content of the subject

The aim of this project is to build a psychological counselling service platform for the public by using modern network information technology to provide psychological counselling services to the public. Therefore, how to research, design and implement this platform by using relevant technologies to provide users with rich, high-quality and reliable psychological counselling services is the focus of this project.

The main research contents are specified as follows: firstly, select a topic, choose a topic to be accomplished, and explore the research progress and background of the topic. After we have determined what kind of a system we want to design, the next step is to determine the specific implementation plan and the technology to be used. In this study, the use of JAVA technology was established after a series of data search and refinement. After establishing the technology to be used, we need to design the system functionality in terms of administrator-user-consultant roles. The database of the system is interactive, the user can log in to his account at any time to use the functions and make an appointment for counselling according to his needs, while the administrator can get all the data of the user through the backend and can verify the changes according to the user's needs. After determining the various functional modules of the system, then proceed to the design of the program and interface, after the design, and then test the program to determine the completeness of the program, in the testing process, the operation of the software should be based on the user's needs to carry out. to find out the defects in the

program, and then these defects are analysed and dealt with on the network, and when no defects are found, the system can be uploaded to the official operating platform.

1.4 Organisation of thesis chapters

The main chapters of this thesis are organised as follows:

Chapter 1: Introduction. This chapter mainly gives a detailed introduction to the background and significance of the topic of the research and design of the psychological counselling room based on WeChat applets, the survey of the relevant status quo, the main research content of the topic, and the overall content arrangement of the thesis.

Chapter 2: Some key technologies in the psychological counselling service system based on WeChat applet are discussed. This chapter will focus on the main key technologies used in the design, implementation, deployment and testing of the WeChat applet-based psychological counselling room.

Chapter 3: System analysis of WeChat applet-based psychological counselling room. In this chapter, we will focus on analysing and describing the demand analysis, feasibility analysis, and implementation effect analysis of the WeChat applet-based psychological counselling room. In addition, there are some specific operational instructions.

Chapter 4: The specific design of the psychological counselling room based on WeChat applets. This chapter will elaborate on the design of each component of the system in detail, based on the previous chapter on each requirement.

Chapter 5: Specific implementation and testing of the system. In this chapter, we will elaborate on the detailed implementation of the various modules of the system and various performance tests in the actual operating environment.

Chapter 6: Summary and Outlook. This chapter introduces the whole process of using WeChat apps to establish a psychological counselling room, summarizes the design as well as the implementation process, including the achievements and deficiencies, and points out the future improvements that can be made and the direction of subsequent research according to the current status of the topic.

2 The main technical architecture of the psychological counselling system based on WeChat applet

2.1 WeChat Developer Tools

WeChat applet is a new open ability, developers can quickly develop a small program, small program can be easily accessed and spread in WeChat, at the same time, has an excellent experience, although it is a small program, but it is more flexible than any existing APP, more readily available organisational form, without having to download and install can be used, the user only need to scan or search to be able to open the application! Access to services. [22]

Model selection: is an important issue, which involves factors such as technology, capital, market demand and competition. When selecting a model, several factors need to be considered, such as price, performance and reliability. In addition, market demand and competition need to be considered to determine the most suitable model for you. At the same time, it is also necessary to consider the development trend of technology to ensure that the equipment can maintain a leading position in the future. In short, a number of factors need to be considered when choosing a model to ensure that the device will remain competitive and sustainable in the future, and is generally adapted to the smartphones that people use on a daily basis.

Preview Interface: The preview interface allows the user to have a quick overview of what they are looking at so they can get their work done more quickly, but this interface tries to be laid out in a way that needs to be written by ourselves, and once it is written, we need to compile it and use it to refresh the view interface.

Console: The console is a platform for debugging, the console can print out information.

Upload code: The code needs to be uploaded to the server, which is Tencent's, and then reviewed by Tencent's server, which is the way to go. When uploading, you can fill in your version number and information such as comments.

Resource file: the breakpoint debugging function is usually in the resource file, you can use the function on the project file.

Show Remote Debugging: It is useful for users to have joint debugging between mobile and PC development tools.

Local data storage: information stored locally is displayed.

View Debugging: Markup components are displayed in an easy-to-debug parent-child hierarchy.

2.2 Introduction to the applet framework and catalogue structure

The applet developers divide the framework system of applets into two levels: the view level and the logical level. The central purpose of WeChat applet development is to provide a more convenient and effective method for users. In order to allow developers to concentrate more on the logic and data, the applet provides a logical framework about these two layers and shows the data transfer and event system in between. In order to keep the data in sync with the attempts to keep in sync, a bound response system is made, and the view layer is updated with the data changes in the logic layer. In addition to this, the applet framework provides developers with a set of basic components that have a style and style unique to the WeChat team and logic unique to Tencent's WeChat Development Department. Developers can flexibly use these basic components to develop the desired WeChat applet!

2.3 JAVA

We use the security model of CORBA technology to be able to protect the data of applications on the network. It also provides a full range of support for enterprise JavaBeans (EJB), Javaservlet API, Springboot (database server pages), and XML technologies, which are the basics to give us a full range of support.

Object-Oriented: This is a very important development in the JAVA programming language. The core thing is to convert everything into objects and program them in a certain way. When you program, you write your code with data into every object. The advent of this method increases the safety and reliability of the programme, and it makes it easier to think logically and use operations in programming and design.

Cross-platform: One of the main features of the Java language that has made it popular with everyone is its cross-platform feature that makes it easy to program in Java. You can write a programme in Java and put it somewhere else so that you don't have to modify it.

Rubbish collection mechanism: Used to free up memory space occupied by objects that are not useful when the programme is not in operation. The most annoying thing about C++ is that it does not free up the memory space it occupies during the programming process in a timely manner, resulting in more and more memory space being occupied as the programming time lengthens. Some expert programmers, when writing code, will set a memory address on the stack at the beginning, and then release it when not in use, but some newcomers or rookies, often in many cases the memory address thing, how to forget the method? Of course, forget to delete it! What kind of consequences will this cause? It can cause unstable results and even crash the

programme. For this reason, many C++ experts often set the value of the removed pointer to null when writing programs, and before removing the pointer, make sure that its value is null or null.

2.4 MySQL Database

Database is an indispensable component in the development of this system.MySQL is capable of storing data between multiple tables with great flexibility and also speeds up the system.
Database access is the most common one and MySQL is used in this SQL so there is high compatibility. 'MySQL has a small size, full functionality, and free features, in addition to the emergence of the web development structure. Make it become a computer, software engineering and other professions to undertake PHPWeb development, and data systems principles of a professional course, and plays an important role, but as a newly emerged course, its related aspects of teaching resources and research content, etc., is not very full, and in the classroom teaching, the students of some teaching difficulties will be confusing problems, which in turn makes their interest by the blow, will also affect the learning of database application design later, based on this point, this paper in the process of research, combined with the development and use of the web, the teaching difficulties in MySQL, in-depth analysis, and put forward relevant measures to solve the problem, to build a set of the best teaching practice method.' [23] Mysql has two installation methods, one is binary, one is no installation and the other is WEB system. When the Mysql database is installed, it is only necessary to start the service process to allow the corresponding machine and library to connect.

2.5 Introduction to Springboot Framework

The Spring Framework is an open source application framework based on the Java platform that provides a container to control reverse functionality. Although not limited to a programming model per se, the Spring Framework has gained popularity and is considered complementary to or an alternative to the Enterprise JavaBean (EJB) model because of its widespread use in Java applications. For development, the framework provides a superb number of solutions, such as the use of control reversal and cutter-oriented programming, a management of the lifecycle framework, as well as access to data management. Provide a large number of excellent Web framework to facilitate the development , etc. Spring Framework comes with control inversion (IOC) function , the purpose is to facilitate the maintenance and testing of the project , the use of JAVA reflection mechanism to achieve the unified configuration and management of JAVA objects .
The Spring Framework uses containers that can be configured through special Java annotations

in XML documents or classes to manage the object's lifecycle, which developers can access through dependency queries or dependency injection. In the Spring framework, a design idea based on AOP (Agent Order Programmable, AOP) is proposed and an implementation method is given.The focus of the AOP architecture is to solve the problem of inter-module correlation.Spring's AOP framework only provides some basic AOP functionality, which is not comparable to AspectJ. AspectJ, but in the integration with AspectJ, has been able to solve these problems well. With the support of SpringAOP technology, transaction management and remote access, etc. can be done under the Spring framework.Spring's transaction management framework gives the Java platform an abstract mechanism that allows for local transactions, global transactions, nested transactions, and maintenance points, and it can be run in almost any environment on the Java platform.Spring integrates the different transaction templates , through the transaction templates , XML or Java annotations to achieve the configuration of the transaction , while the transaction framework integrates messaging and caching capabilities.Spring's data access framework for developers to solve the problems associated with the database . The system not only can be provided in a variety of commonly used data access frameworks (such as: JDBC, iBATS/MyBATIs, Hibernate, java Data Object (JDO), ApacheOJB, ApaCheCayne, etc.), but also in conjunction with Spring's transaction management, which provides a flexible and abstract way of accessing data. Spring Framework initially did not want to build their own Web MVC framework , its developers in the development , the existing StrutsWeb framework in the presentation layer and the request processing layer , the request processing layer and the model between the separation is not sufficient .

SpringBoot is a framework used to simplify Spring development, used to carry out rapid Spring application development, the use of ‘convention over configuration’ principle, in the use of SpringBoot only choose the appropriate framework or component, SpringBoot can generate an enterprise-class Spring application project[1]. SpringBoot can generate an enterprise-level Spring application project[2].

3 System analysis of a psychological counselling room based on WeChat applets

System analysis is to look at a problem from a systemic point of view, to grasp the structure and function of the problem as a whole, and to obtain an effective solution as a result. It helps people to understand the complex system, analyse the internal relationship of the problem, and optimize the solution of the problem. The method can effectively identify problems in the system and discover potential risks, so as to formulate improvement programmes. At the same time, by analysing various data, it is possible to better understand the changes that have occurred in the system and the impact they have had, so that the information obtained can be better used to make improvements.

3.1 Demand Analysis

All projects have to be researched and analysed before they are made, including the analysis of the system requirements. Can not ignore the market research, according to the reality of the situation to determine the needs of users. So that we can know more about what they want, what the user wants, and the whole system will have a better positioning. In this part, we will launch the system's function, performance, business, data and other comparative analysis of the summary, which can better understand the system's performance and reliability, so as to develop a more effective optimisation programme.

3.1.1 Availability of requirements

Availability of requirements means analysing and exploring the conditions under which a mature system can be achieved. The so-called ‘accessibility’ means that a meeting is held to compare the actual situation with the heights that can be reached by a mature system, to see if it is in line with our overall planning and requirements. Only until the system has been developed and implemented can requirements be made. If you do not have a good performance, your development will fail. Is it possible to develop a system that can meet the above requirements, the following are the actual requirements of the psychological counselling room system in the Microsoft app.

3.1.2 The need for a psychological counselling room based on WeChat applets

In order to understand what they should achieve and what they should include in the management work, the design for the psychological counselling room system in WeChat applets needs to meet the following requirements: to be able to carry out the management of the psychological counselling room system information in WeChat applets on the Internet, as well as to promote and improve it. Consultation methods are becoming more diversified and consultation management is becoming more standardised; it provides a free channel to ensure real-time and efficient information exchange.

3.2 Feasibility Analysis

Feasibility analysis refers to the analysis and demonstration of the technical and economic feasibility of a construction project or production project. It is an important part of project decision-making, an important basis for deciding whether a project can be established, and one of the bases for investment decision-making.

3.2.1 Economic Viability

The development of our counselling room applet is based on the development of WeChat applet. The development platform of WeChat applet has its own thing, we don't need to spend money on external interface or other software. But there have been some problems that were difficult to solve by myself, but through the help I have sought from teachers and classmates, the problems have been solved. So for ordinary college students like us, developing a simple counselling room applet is perfectly fine without facing any financial problems. As well as, due to the fact that all kinds of computer technology is very mature nowadays, including JAVA, so, even more will not face any financial problems.

3.2.2 Operational viability

The feasibility of operation specifically refers to whether our small programme is feasible after the design is completed. We can ask the user's experience by consulting the user, the questionnaire. For the results of the questionnaire, the administrator can flexibly adjust the data information in the background, and this operation provides great convenience to the user. In terms of system operation, the operation and management of each functional module can be

carried out without any specialised staff, which has good operability. At the same time, the system also adopts human-computer interaction, that is, the user only needs to know how to use a computer to carry out simple operations.

3.3 Performance Analysis

In the era of computer network, the traditional way of working has been difficult to adapt to the development of modern society, not only the work efficiency is low, but also need to consume a lot of manpower and material resources, and time-consuming and costly. In this paper, we introduce a kind of WeChat applet for psychological counselling room based on network technology.

What is our psychological counselling room applet? It is an independent system. We used a database, the most popular database on the market, the relational database MySQL, which can store and develop data. We found that the management of the applet appeared to be inefficient and under-managed, so this system uses the database to implement a user-role functional module. This is exactly the opposite of the traditional type of information management model that we mentioned earlier, and it can increase the efficiency of work.

3.4 System Operation Process

3.4.1 User Login Process

The login module ensures secure authentication of users logging into the system and prevents system problems caused by misuse by users of different levels [4]. If a user wants to log in, first of all we have to click on the system interface, click on the home page is our login window. We need to enter the user information submitted during registration in the login window, after a quick comparison in the background database to confirm, when the information is correct, you can login. If the information is incorrect, then the system will prompt you to ‘Login Failed’, it will automatically return to the initial steps to confirm again. As shown in Figure 3-1.

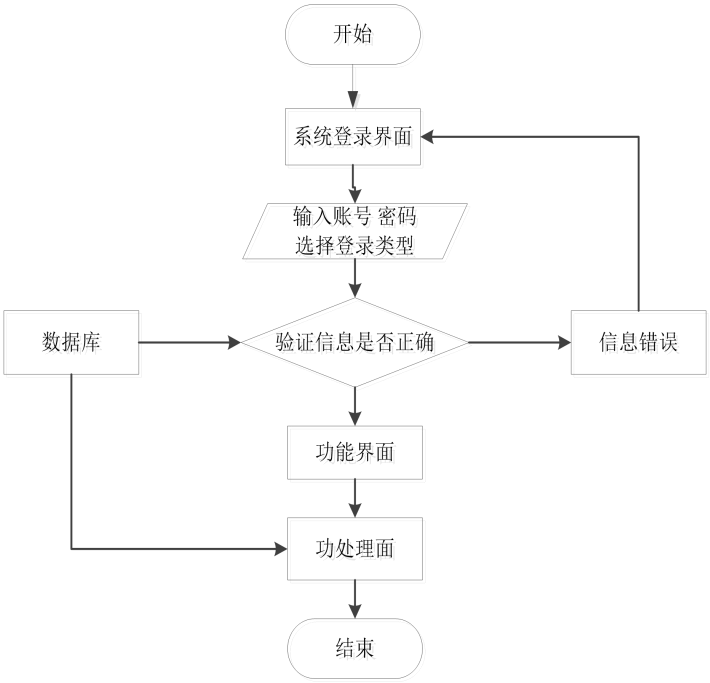

Figure 3-1 Login Operation Flowchart

3.4.2 Information Adding Process

In the system, users need to have the power to change their user information whenever they want. So when a user wants to add information, he/she enters the data and the database is automatically updated in the background. After that, the database will query whether the data is legal or not, if it is legal, it will be written to the database, if it is not legal, it will jump back to the first step. As shown in Figure 3-2.

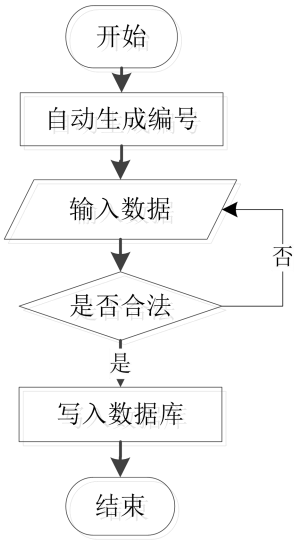

Figure 3-2 Information Adding Flowchart

3.4.3 Information Deletion Process

Whether it is an administrator or a user or a consultant, they are all disconnected system operator interfaces. Then the content of the information will be handled differently. When using the system, the user should first make one thing clear, the information in the database is deleted can not be recovered. Therefore, when users are deleting information, they must look carefully before deleting, in order to prevent deletion errors. In order to prevent deletion errors, we also set up a dialogue box whether to delete, the user selects the confirmation before the database will be deleted and updated. As shown in Figure 3-3.

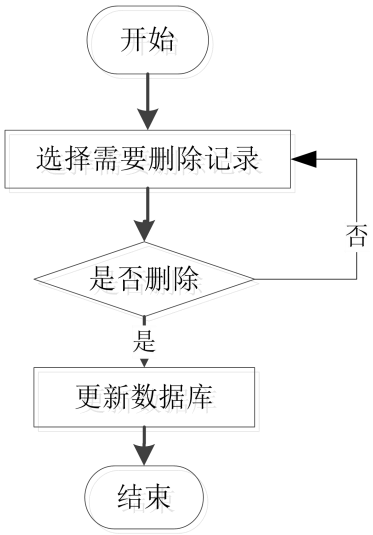

Figure 3-3 Information Deletion Flowchart

4 System design and implementation of psychological counselling room based on WeChat applet

4.1 System Architecture Design

Psychological counselling room WeChat app, using the mobile phone people use as a base, can achieve the functions of home page, rotating image, announcement information, resource management (psychological articles, article classification, psychological test) communication management (forum list, forum classification) system users (administrator, system users, counsellors) module management (psychological counselling, appointment information, appointment cancellation, complaint information). According to the functions and requirements

that can be achieved by the system, it is built as in Figure 4-1.

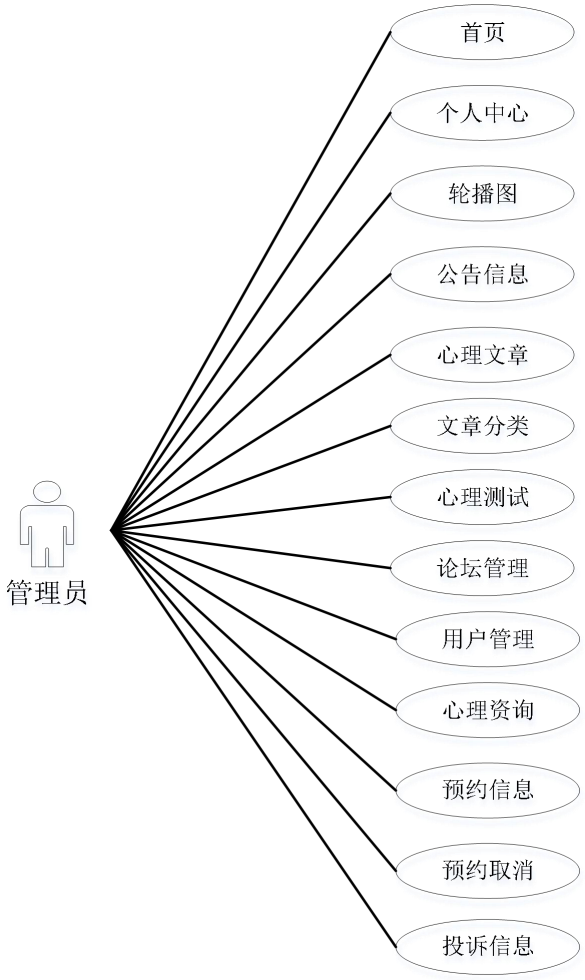

Figure 4-1 Administrator Functional Module Diagram

4.2 Development Process Design

4.2.1 Specific design and implementation of the platform access layer

In order to develop a psychological counselling room based on WeChat applets, it is necessary to analyse the database and system management modules for requirements, planning and analysis, each step should follow a strict linear order, and the results produced by each step should be technically tested. After the completion of each step, you can test its correctness, so that the next step does not appear to drag the phenomenon, to achieve the purpose of ensuring that the system after the completion of the intended function, can be carried out smoothly.

Through the successful development of the psychological counselling room applet, it can be seen that the method described above is effective and can simplify the system to a large extent. As

shown in Figure 4-2.

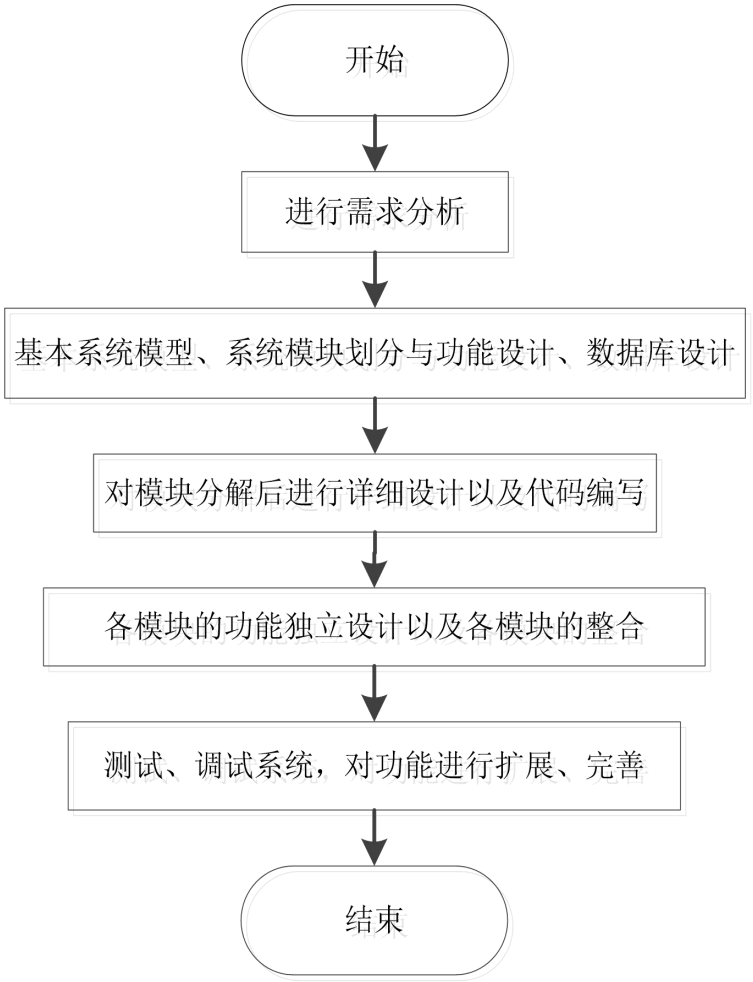

Figure 4-2 Development Process Design Diagram

4.2.2 Database Design

In information system, database is the most basic and core part. Whether the design of database is reasonable or not will be directly related to the success of enterprise information construction. Building a data base form starts with deciding the association between entities and entities. Create a data table based on association.

4.2.3 Entity E-R diagrams

In the whole process of programming, the establishment of database is a very critical step, and the key to solve this problem lies in how to determine the number of databases and how to establish the corresponding structural equations. The display system uses Mysql to manage the database, which makes the data more stable and secure.

Conceptual modelling is a method of abstracting and modelling information in the real world. It is a powerful tool for database design. An E-R diagram is used to represent a real database conceptual model. Based on this, a system model based on E-- R relationships is proposed.MySQL database belongs to a highly secure database and is famous for its self--protection capabilities. Next, let's take a look at the E--R diagram of a database entity, as shown in Figure 4-4.

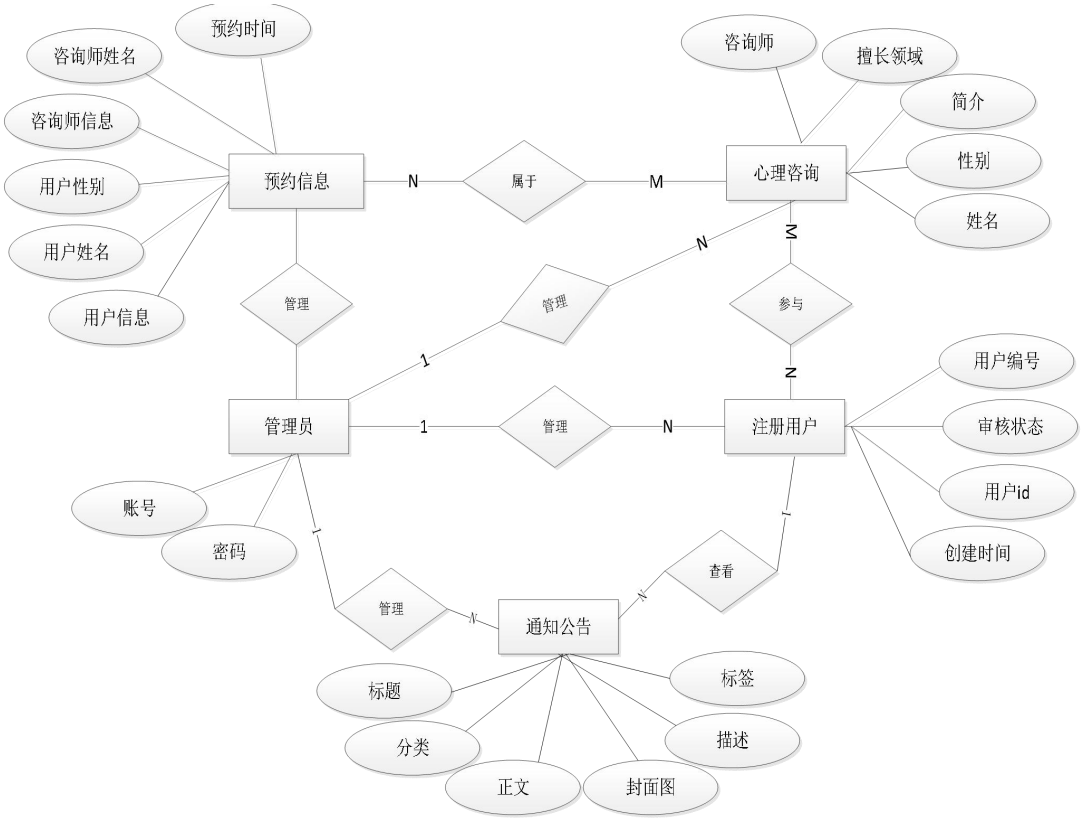

Figure 4-4 System ER diagram

The functions shown in the above figure basically meet the needs of the applet designed by the institute, and extend more functions with a more complete functional network. As shown in Figure 4-5.

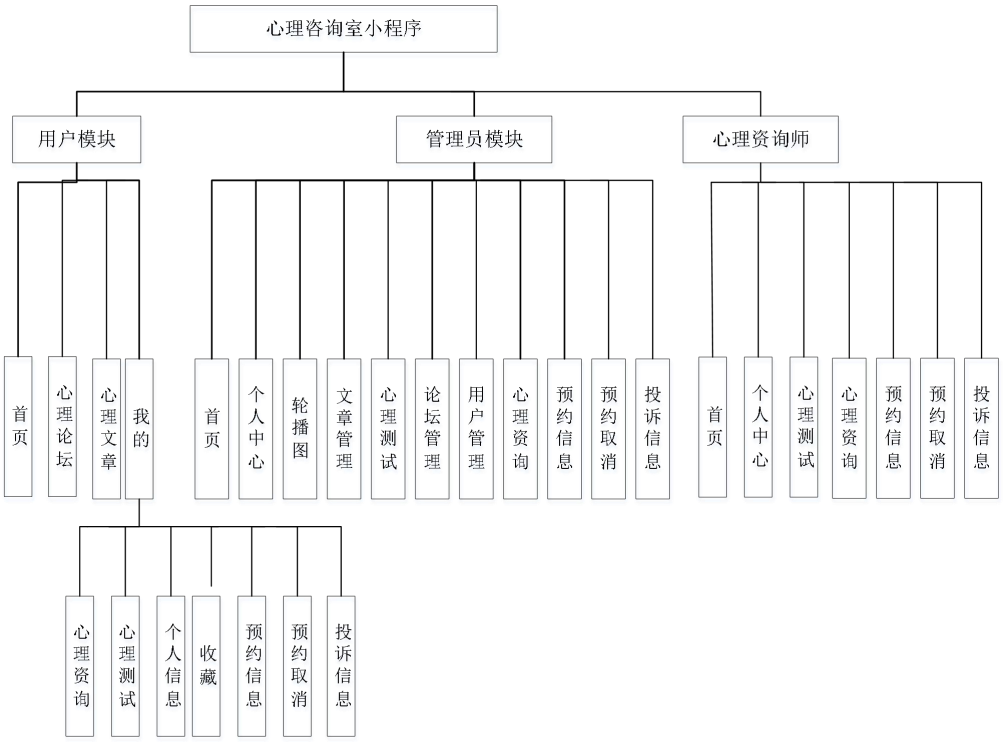

Figure 4-5 System Functional Structure Diagram

4.2.4 Data Sheet

A database conceptual model was developed based on the characteristics of the database application. However, the system only requires a comprehensive consideration of the psychological counselling room system in the WeChat app with a more defined structure. The appointment information table is shown in Table 4-1:：

Table 4-1 Reservation Information Table

No.	Name	Type	length	decimal fraction	Allowed Null	primary key	instructions
1	appointment_information_id	int	10	0	N	Y	预约信息 ID
2	user_information	int	10	0	Y	N	用户信息
3	user_name	varchar	64	0	Y	N	用户姓名
4	user_gender	varchar	64	0	Y	N	用户性别
5	user_age	varchar	64	0	Y	N	用户年龄
6	consultant_information	int	10	0	Y	N	咨询师信息
7	name_of_consultant	varchar	64	0	Y	N	咨询师姓名
8	time_of_appointment	datetime	19	0	Y	N	预约时间
9	recommend	int	10	0	N	N	智能推荐
10	create_time	datetime	19	0	N	N	创建时间

11	update_time	timestamp	19	0	N	N	更新时间

The article information sheet is shown in Table 4-2:

Table 4-2 Article Information Table

NO.	Name	Type	length	decimal fraction	Allowed Null	primary key	default	instructions
1	article_id	medium int	8	0	N	Y		文章 id：[0,8388607]
2	title	varchar	125	0	N	Y		标题：[0,125]用于文章和 html 的 title 标签中
3	type	varchar	64	0	N	N	0	文章分类：[0,1000]用来搜索指定类型的文章
4	hits	int	10	0	N	N	0	点击数：[0,1000000000]访问这篇文章的人次
5	praise_len	int	10	0	N	N	0	点赞数
6	create_time	timestamp	19	0	N	N	CURRENT_TIMESTAMP	创建时间：
7	update_time	timestamp	19	0	N	N	CURRENT_TIMESTAMP	更新时间：
8	source	varchar	255	0	Y	N		来源：[0,255]文章的出处
9	url	varchar	255	0	Y	N		来源地址：[0,255]用于跳转到发布该文章的网站
10	tag	varchar	255	0	Y	N		标签：[0,255]用于标注文章所属相关内容，多个标签用空格隔开
11	content	longtext	2147483647	0	Y	N		正文：文章的主体内容

12	img	varchar	255	0	Y	N		封面图
13	description	text	65535	0	Y	N		文章描述

The article classification table is shown in Table 4-3

Table 4-3 Classification of articles

NO.	Name	Type	length	decimal fraction	Allowed Null	primary key	default	instructions
1	type_id	smallint	5	0	N	Y		分类 ID：[0,10000]
2	display	smallint	5	0	N	N	100	显示顺序：[0,1000]决定分类显示的先后顺序
3	name	varchar	16	0	N	N		分类名称：[2,16]
4	father_id	smallint	5	0	N	N	0	上级分类 ID：[0,32767]

续上表

5	description	varchar	255	0	Y	N		描述：[0,255]描述该分类的作用
6	icon	text	65535	0	Y	N		分类图标：
7	url	varchar	255	0	Y	N		外链地址：[0,255]如果该分类是跳转到其他网站的情况下，就在该 URL 上设置
8	create_time	timestamp	19	0	N	N	CURRENT_TIMESTAMP	创建时间：
9	update_time	timestamp	19	0	N	N	CURRENT_TIMESTAMP	更新时间：

5 System realisation

This chapter will focus on the specific deployment process of the psychological counselling room system based on WeChat applets, and test the system's various functions in specific hardware and software environments, and finally analyse the test results.

5.1 User front-end functionality template (front-end)

In the login screen of the system, users can log in by entering their user name and password that they registered with. As shown in Figure 5-1.

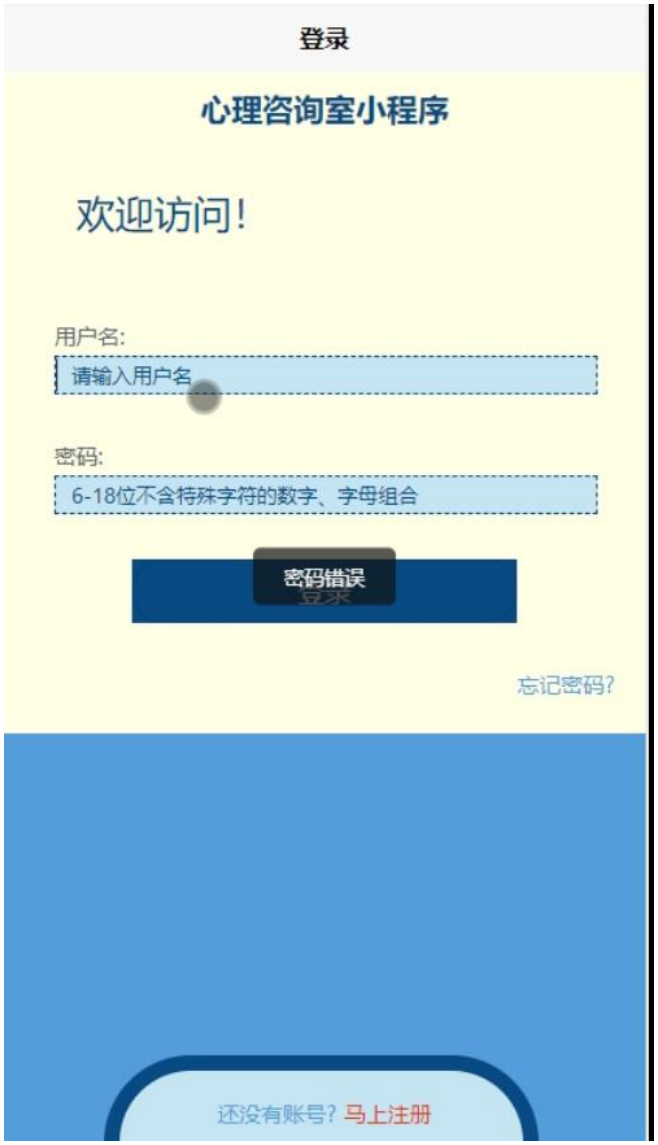

Figure 5-1 Login Interface Diagram

Registration: Fill in the necessary information for user registration, select Submit after completing the input to register successfully, as shown in Figure 5-2.

Figure 5-2 Registration Interface Diagram

Home: You can view and operate Home, Psychology Forum, Psychology Articles, Psychology Inquiries, Psychology Tests, My (Personal Information, Favorites, Appointment Information, Appointment Cancellation, Complaint Information) and other functional modules. As shown in Figure 5-3.

Figure 5-3 System Home Page Interface Diagram

Mental Forum: you can view, information title, information content, pictures, number of likes, number of views and other information, you can publish forum content as needed. As shown in Figure 5-4.

Figure 5-4 Mental Forum Interface Diagram

Appointment information: Users can click on the appointment page when they want to make an appointment, select the counsellor they want to choose, as well as the time and date of the appointment, and submit it after the selection is finished.

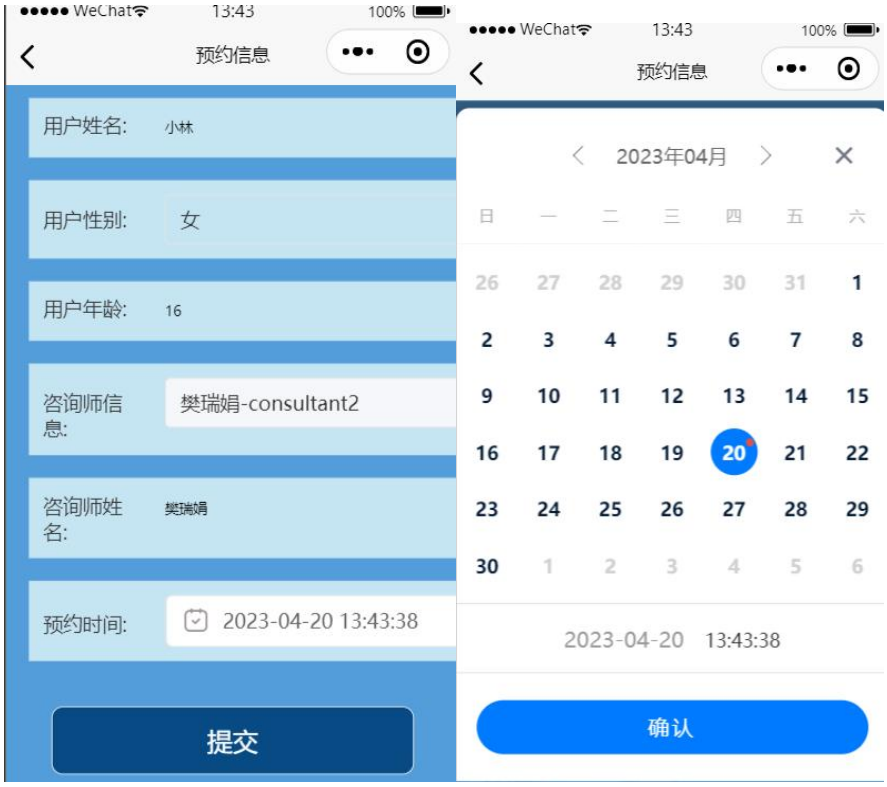

Figure 5-5 Appointment Information Screen Map

My: In the ‘My’ page, you can view the appointment information (to make an appointment), appointment cancellation and complaint information, and you can also view your basic information and favourites. As shown in Figure 5-6.

Figure 5-6 My Interface Diagram

Counselling Information: Users can view the counsellors who have been enrolled in the Counselling page and learn about their areas of expertise, specialties, detailed information, and the number of likes and clicks. As shown in Figure 5-7.

Figure 5-7 Consultant Interface Diagram

Psychological Test List: In the Psychological Test List you can take the test according to your own situation. As shown in Figure 5-8.

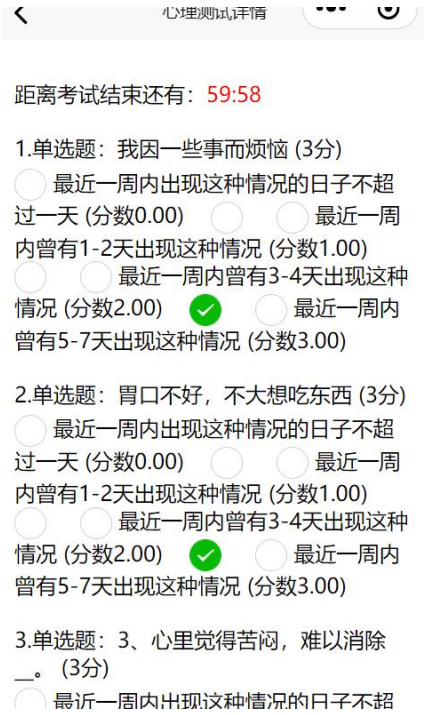

Figure 5-8 Psychological Test List Interface Diagram

5.2 Administrator function module (back-end)

Administrator Login: The administrator also has his/her own account and password, and after logging in, the administrator can view the background management information. As shown in Figure 5-9.

Figure 5-9 Administrator Login Interface Screen

On the function page, the administrator has another power. You can see the rotating chart, home page, announcement information, resource management (psychological articles, article classification, psychological test), communication management (forum list, forum classification), system users (administrator, system user, qualifier), module management (psychological qualification, appointment information, appointment cancellation, complaint information) which are not visible to the user, and carry out the corresponding operations, as shown in Figure 5-10.

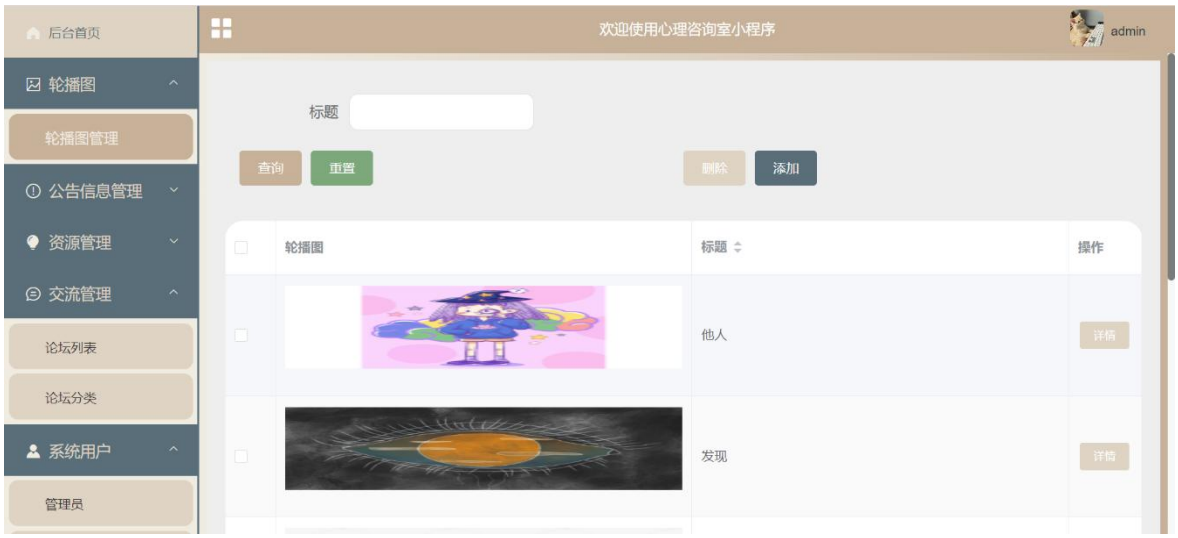

Figure 5-10 Administrator Function Interface Diagram

User Management: In the User Management page, the administrator can also see the user's user name, nickname, gender, age, creation time, deletion time, and operate on the data information, as shown in Figure 5-11.

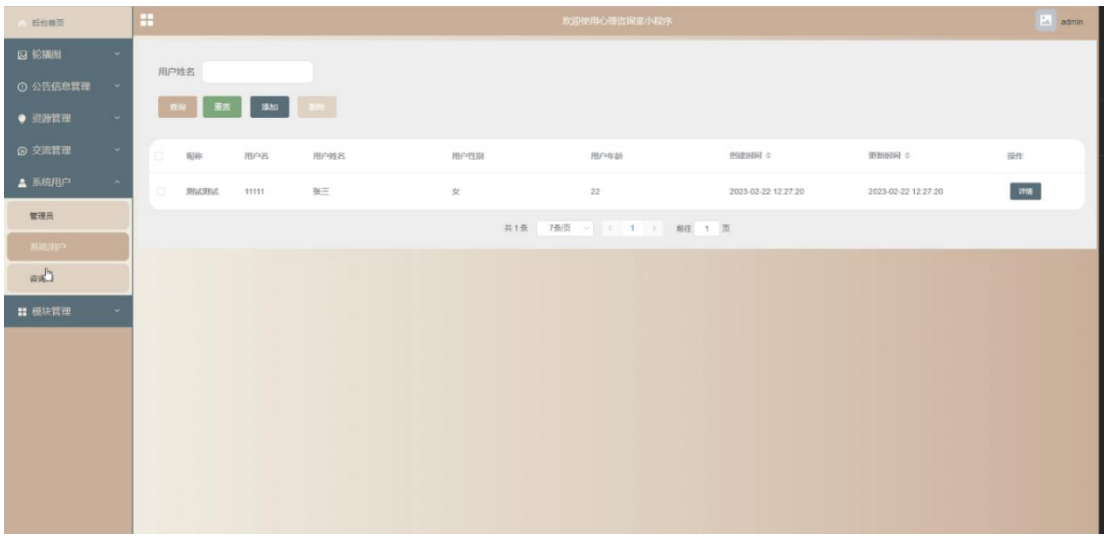

Figure 5-11 User Management Interface Diagram

Counselling: On the Counselling page, you can view counsellor information, counsellor's name, counsellor's gender, professional discipline, area of expertise, counsellor's profile, counsellor's photo, etc., and you can perform change or delete operations when necessary, as shown in Figure 5-12.

Figure 5-12 Psychological Counselling Interface Diagram

Appointment information, you can view user information, user name, user age, appointment time, user name, counsellor information, counsellor name, appointment time and other information in the appointment information management page, and you can modify or delete the operation as required, as shown in Figure 5-13.

Figure 5-13 Appointment Information Management Interface Diagram

5.3 Platform testing

In order to ensure the quality of service of the counselling applet, it is important to conduct in-depth testing of the system's individual features after deployment is complete before delivering it with the client.

5.3.1 Purpose of testing the system

Programming cannot be completely bug free, it is a development process and bugs will inevitably occur, but then again we can't keep bugs in the system all the time because bugs can have immeasurable effects. To avoid this, we must test the programme and find them and correct them. The role of this chapter is to find these problems and then improve them, which is important and necessary in the long run, even though it is very labour intensive.

Testing and development of software are the same; they both follow standard software engineering principles and follow management principles. However, in the current situation, China has already had more experience in software testing and has more mature steps and has achieved good results in software testing.

If you want to develop a psychological counselling room system based on WeChat applets, you need to use the various functional modules in the system, and then provide feedback through testing to see if you can safely and perfectly achieve the system's required functions. If we find any problems in it, we have to make modifications for the problems to ensure that we can give users a perfect experience.

5.3.2 Test programme design of the system

Functionality Test: From the user's point of view, for a newly developed software, we don't know its internal structure, so we can regard this software as a ‘black box’, after we blindly typed in a response. This is a black box test, if you type incorrect information during the test, then your system will error out.

Performance testing: The overall state of the software (i.e. performance testing) is a test of the overall state of the software, generally using automated testing means. When the stress test can measure the maximum service level that the system can provide, the load test can measure the degree of the system's response to the load.

Software testing should follow the following principles: shorten the time of software testing as much as possible, and run through the whole process of software development and design. Once

a problem arises, timely measures can greatly shorten the software development cycle and improve the quality of the software; when carrying out various types of tests on the software, the programmes, reports, etc. used in the tests should be properly preserved and properly managed. The main purpose of doing so is to provide convenience for future system maintenance; in the whole process of software testing, attention should be paid to the phenomenon of sub-clustering; as far as possible, in software testing, it is necessary not to make reference to one's own system but to make reference to another party's procedures, so as to ensure that the results of the test are objective and fair; the whole testing programme should follow strictly the specific operating procedures in software testing; and the results of the assessment examination should be comprehensively reviewed to Prevent recurring errors.

5.4 Test results

After a series of rigorous tests, we get the performance of the system and the case is eligible, after research, the system has a certain stability and reliability, and can accurately handle the click action and test the input data, which makes the user experience greatly improved. And the system is compatible with various mainstream browsers, which achieves the desired effect.

6 Summary and Outlook

It took me a long time to gain an in-depth understanding of the system, and I put a great deal of effort into the process to finally complete the design of the system. During this period, I recognised my own shortcomings, gained a certain understanding of the skills required to apply them, and continued to enrich my knowledge base in my future studies, and finally completed this arduous task. In the learning process, I will promptly ask my teachers for advice and answers on the Internet, forums and so on, and with their help, I step by step towards success. Want to do a system, is not an easy thing, not only need to constantly enrich themselves, but also need to dare to face the challenge. There are still some defects in some functions of the system development, which need to be improved continuously and then the designed system will be improved according to the user experience, so that the users can get a better experience of using the system. I am very happy that this is the first time I use my own power to make a complete system, and it is not my last set, in the future, I will try to do better.

For some programming languages, unfamiliarity with vocabularies makes it difficult to develop, but I used proper vocabulary software and this major problem was solved. Since then, I realised the inadequacy of my English. Since then, I have been trying hard to learn English in order to have no worries about my job or my life in the future. The process of the graduation design has left a deep impression on me, from the beginning, when I didn't know much about the development technology, using it step by step and reading a lot of documents and information, I can easily understand that this system is a repetitive implementation, and this system itself is very helpful for online learning. I have benefited a lot from this design, and I have to have my own will to write in order to do something, and to learn to face all the difficulties in life. In my graduation design, I learnt how to apply theory to practical work. Tell me what I have to do, this thing we have to take seriously. Have the courage to face, have confidence to face, I will do better.

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Standing on the balcony of the dormitory, looking out, the hills of the Banyan Garden all became lush and green, and looking down, the sycamores at my feet all put on a new coat. In this moment of vitality, my graduation journey has come to an end.

The psychological counselling room system based on WeChat applet can be successfully implemented, first of all, I would like to thank my parents for their parenting, always unconditionally support me and believe in me on the road of education, without them there would be no me today. It is said that education is a kind of investment, in this investment, this stock of mine has experienced several big drops, but they are still willing to believe in me, to be my strongest backing, but also let me have the courage to overcome the difficulties in learning and life. It is their nurturing that has given me such a warm family atmosphere so that I can embrace the sweet and sour in life.

Secondly, I would like to focus on thanking three teachers. The first one is my supervisor, Professor Cao Zijian. When establishing the topic, Mr Cao Zijian gave me enlightenment and guidance while respecting my wishes, and I slowly learnt what I was suitable for and what I was good at. At a later stage, due to the lack of data, the fit was bad, and I had to trouble Mr Cao Zijian to help me change the topic. Without the help of Mr Cao Zijian, this thesis would not have been completed so smoothly. Once again, I would like to express my deep gratitude to my supervisor, Mr Cao Zijian. The second person is my supervisor in the internship, Mr Luo Yongsheng. Mr Luo Yongsheng would clearly remember the time of submitting the internship materials, and remind me at the same time, which gave me a great convenience and help when I need to take care of the examination, thesis and the internship at the same time. Mr Luo Yongsheng also guided me on my employment, by helping me to check my CV and giving me advice, as well as talking to me one-on-one on the phone about my future development. The third person is Ms Wu Jiaojia, the career guidance teacher of the college. Ms Wu Jiaojia gave me a lot of help in my job search during my pregnancy preparation. She used her time off to hold a one-hour Tencent meeting for me, analysing my CV in depth and giving me direction through screen casting.

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