

The Design and Implementation of Information Management System for Tutor in ZKNU

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Abstract

With the development of society, parents pay more and more attention to children's education, and more and more people ask for tutoring. In order to facilitate the management of tutoring information, we need to develop a tutoring information management system. The system uses B / S architecture, phpstorm 2020.1 x64 as the development tool, PHP as the programming language, MySQL as the background database, phpstudy to configure the system environment. The system can realize the following functions: students release their own needs for tutors, mutual appointment between students and tutors, administrator's addition, deletion and modification of system information. Using this system can provide a communication platform for teachers and parents, realize two-way choice, save their time and energy, and achieve a win-win situation between teachers and parents.

Keywords

Tutor information management system; PHP technology; Mysql Database; b/s structure.

1. Introduction

With the development of computer science and technology, every industry have been affected to varying degrees, now more and more parents began to children's academic performance value, that will rise to the need for a tutor, tutor and through the Internet to find information more convenient, so we need a unified management tutor information platform, Therefore, it is necessary to develop a private tutor information management system, which can save people's time, find satisfactory private tutors on the platform, and upload children's information, so that private tutors can find students suitable for their majors, to achieve a win-win situation!

1.1. Background and significance of the project

In the 21st century, network technology is booming and has been gradually applied to all aspects of life. People have gradually become accustomed to using the Internet to obtain information. With the continuous development of various technical optimization, many problems of the past have a solution, such as the management of information, the management way is mostly by manual record manner to the preservation of information, but with the development of science and technology, information management way also will have new progress, computer science and technology is becoming more and more advanced, Many enterprises have begun to use the computer to carry out the system management, compared with the traditional model, through the system to manage the information clearly has more advantages, first of all calculating speed faster, faster retrieval speed and a greater storage capacity, high security, high confidentiality, low cost, but also can reduce the burden of people, can make people's work efficiency to a new height. And this subject is a family education information management system, the development of education is extremely rapidly, all sorts

of demand also emerged, and tutor's lack of a unified information management platform, thus developing a tutor information management system can provide students with information, information can also offer tutoring students, achieve win-win effect.

1.2. Related Technologies

1.2.1. PHP technology

The PHP language is a language embedded in HTML. It is very similar in style to C and is widely used. A large proportion of web sites on the Internet are written in PHP. PHP is one of the most widely used languages in the world because of its unique syntax, which allows it to perform better, load pages faster, and support multiple databases and operating systems.

1.2.2. B/S structure

Browser/Server (B/S structure) is a kind of network structure mode after the rise of the WEB. WEB Browser is the most important application software of the client. This pattern unifies the client, centralizes the core part of the system function realization to the server, and simplifies the development, maintenance and use of the system. Just install a browser, such as Netscape Navigator or Internet Explorer, on the client, and SQL Server, Oracle, MYSQL, and other databases on the Server. The browser interacts with the database through the Web Server.

1.2.3. MYSQL database

MySQL is a relational database management system developed by MySQL AB in Sweden and a product of Oracle. MySQL is one of the most popular Relational Database Management systems and one of the best RDBMS (Relational Database Management System) applications for WEB applications.

1.2.4. Introduction to HTML

HTML, short for Hypertext Markup Language, is a markup language. It includes a set of tags. Through these tags, the document format on the network can be unified and the scattered Internet resources can be connected into a logical whole. Hypertext is a way of organizing information by linking text, graphics, and other information media. These interlinked information media may be in the same text, other files, or files on a computer located geographically far apart. This way of organizing information connects information resources distributed in different locations in a random way, providing convenience for people to find and retrieve information.

2. System analysis

2.1. Requirement Analysis

Through investigation and research, right now many of the existence of the problem is that when the tutor, but it is hard to find a source of students, and students want to find a tutor is not easy to find a suitable tutor, this is because the information resources integration and problems, and teacher zhou family education information management system is near for weeks teacher tutor and students provides a platform of communication, Both tutors and students can upload their needs to the system, so that two-way selection can be carried out between students and tutors, so that students can find more suitable tutors and tutors can find more suitable students. The main goal of tutor information management system is to realize the management of online tutor information. Its main function has the student publishes own to the tutor's demand, the student and the tutor's mutual appointment, the administrator manages to the system information. The front desk displays the information of tutors and students' needs. Teachers and students can modify their personal information after registration and login.

2.2. Module Analysis

Personal module, the user through registration login into the front page of the system, first fill in their own personal information, and then can view the teacher database, student database information, can be found through the condition query to meet their requirements of the teacher, appointment operation. Teacher module, after the teacher login, also can view the student database, the teacher database information, classification query suitable for their own students to make an appointment operation, or process the reservation request of students. Administrator module, the administrator can control the system, has the largest authority, can operate the information in the system.

3. Database design

3.1. Database Design

To develop a system, the essential step is the design of database, the database can be used will affect the system, so to pursue the maximum efficiency to achieve the link between the data, this can not only speed up the development of the system, also can increase the speed of data storage for the database, greatly improve the user experience, save time and energy.

3.2. Database Entities

In the early stage of system development, we have carried out the demand analysis of the tutor information management system, so we get the following entity information: administrator information entity, student information entity, teacher information entity, reservation information entity. The attributes of the administrator entity include: user name, password, name and so on; The attributes of the student information entity include student ID, subject, name, grade, area and so on. The attributes of teacher information entity include teacher ID, subject, name, educational background, area and so on. The implementation of reservation information entity map includes teacher ID, student ID, time, status, etc.

3.3. Database table design

This system uses a total of 8 data tables, now the following several main data tables are introduced.

Tutor information table stores the information of registered teachers. Teachers need to improve their own data after successful registration, and this table is used to store these data, see table1.

Table 1: Administrator information table

Field	Data type	Length	Empty	Primary key
id	bigint	20	No	Yes
username	varchar	255	Yes	No
pwd	varchar	255	Yes	No
Type	varchar	255	Yes	No
xingming	varchar	255	Yes	No
Img	varchar	255	Yes	No

The administrator information table is mainly used to store the administrator information, including the number, user name, password and other data, see table2.

Table 2: Subjects information table

Field	Data type	Length	Empty	Primary key
id	bigint	20	No	Yes
Title	varchar	255	Yes	No
addtime	timestamp	255	Yes	No

The student information table is similar to the tutor information table. It is used to store the student information, and the tutor needs published by the students are also stored in the table, see table3..

Table 3: User information table

Field	Data type	Length	Empty	Primary key
id	int	11	No	Yes
Account	varchar	255	Yes	No
Nickname	varchar	255	Yes	No
Password	varchar	255	Yes	No
quyuID	varchar	255	Yes	No
Address	varchar	255	Yes	No
nianjiID	varchar	255	Yes	No
xueke	varchar	255	Yes	No
Anpai	varchar	255	Yes	No
baochou	varchar	255	Yes	No
age	varchar	255	Yes	No
addtime	timestamp		Yes	No
Sex	varchar	255	Yes	No
yaoqiu	varchar	255	Yes	No
yuyue	varchar	255	Yes	No
tel	varchar	255	Yes	No

There are teacher ID, student ID, appointment status, creation time and other information in the reservation information table, which are used for the reservation operation between the teacher and the student. When the student or the teacher makes the reservation operation, a record will be inserted in the table, see table4.

Table 4: Reservation information table

Field	Data type	Length	Empty	Primary key
id	int	4	No	Yes
studentID	int	4	Yes	No
teacherID	Int	4	Yes	No
Type	varchar	255	Yes	No
Zhuangtai	varchar	255	Yes	No

addtime	timestamp	255	Yes	No
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4. Design and implementation of main function modules of the system

4.1. User Login and Registration

First, users can enter the front page without login to view the information of teachers and students. But you can't change anything, and you have to register to use the platform. The user to open the system, will see the login option, then have to enter the correct user name and password, otherwise will pop-up prompts "you have login failed, please check your username and password" this is because the system will check for all registered user login information, the information is correct before operation can be directly into the corresponding function,. Click "User registration" to choose to register as a tutor or a student. After successful registration, you can log in. When you enter the user center, you can upload your profile picture and modify and improve your own information. The registration of a tutor is basically the same as the registration of a student, except that the submitted data is inserted into different tables. In order to reduce the redundancy of code, I write all operations related to the database in func_db.php, and define adding, deleting, changing and checking as custom functions. The registration process is as follows: When registration page, after receipt of the post form submitted to retrieve the same user name exists in the database, if there is a return hint user name already exists, if there is no the same user name, will receive the data call func_db. In PHP db_add function the user data is inserted into the corresponding table, then the user can log in. Login process: All login functions are written in function.php. After the user logs in, a session record is left. If no session record exists, the system prompts "Please log in". Logout clears the session value. Users who want to log in need to re-enter the user name and password.

4.2. Functions of the System Front Home Page

When users log in to the website, they will come to the main interface of the system. The main interface mainly includes teacher library, student library, home page, user registration and other content. The interface is shown in the figure. The whole interface is composed of top header.php, left left.php and bottom footer.php introduced by the main body index.php. The front home page is a place to display the information of teachers and students. You don't need to log in to view the teacher library and student library, but you can't make reservations. During login, the teacher and the student log in through the same login interface. The value is set to determine whether the student or the teacher is logged in. If the value is 0, the login information is verified according to the information in the student information table; if the value is 1, the login is verified according to the information in the teacher information table. After login, you can enter the personal center to view personal information, personal data and modify and improve it. If you want to make an appointment with an instructor, you need to check the instructor's details. The instructor information page will show whether the instructor can make an appointment. After clicking the appointment, the instructor will receive the application in the personal center and decide whether to agree or not.

4.3. Category query and reservation function

Users can view the information of tutors through the teacher library and query the tutors that meet their requirements according to the conditions. The query function is completed by calling the custom function db_get_all in func_db.php. After finding the tutors that meet the requirements, click "View details" to view the specific information of the teacher and whether the appointment can be made. If you can make an appointment, you can process other people's appointment requests or apply for appointment through the appointment management in the

user center after clicking the appointment, and you can also view your own existing appointment and delete your own completed appointment. Similarly, teachers can search the student library to find suitable students and make an appointment. The realization of the appointment function is completed by associating the id of the student who makes the appointment with the teacher. After the student makes the appointment with the teacher, a data will be inserted into the appointment table in the database, including the student ID, the teacher ID and the type and status of the appointment.

4.4. Users Can modify Information and Upload Profile pictures

When a user logs in successfully, he/she will jump to the page of data change, where he/she can modify and improve his/her personal information and upload an avatar. First, the system will obtain user information based on the user ID by using the `db_get_row` function in `func_db.php`. JPG, JPEG, GIF, and PNG files are supported. If the file type is not in the preceding format, the image cannot be uploaded. After the image is uploaded, the image is saved to the database, and the thumbnail of the image is displayed on the page. When you click "submit", the function "db_mdf" in `func_db.php` is called to change the database information and the message "Modified successfully" is displayed. In order to standardize the code, I put the administrator code in the ADMIN folder, to achieve the separation of the front and back, simple to understand.

4.5. Managing the Main Page

After the administrator logs in to the system background using the account and password, the server information, including the server version, Mysql version, and port, is displayed on the background home page. Preview sites can go directly to the foreground.

4.6. System Management

Administrators can add, modify, and delete information about subjects, teaching areas, grades, degrees, and grades by using the functions `db_mdf` and `db_add` in `func_db.php`, and delete information by using the `db_del` function.

4.7. User Management

The principle of user management and system management is the same, first get the user information in the database, and then it can be modified and deleted. Administrators can delete any faculty and students and modify their accounts, while users cannot delete operations, only their own information can be modified. The modification is still done by calling the `db_mdf` function, or by deleting or calling a method in `del.php`.

5. System test

To judge whether a system can be used, we must go through the system test, system test is the security of the system, can help developers find the defects of the system, to achieve the purpose of improving the system, through the system test can also improve user experience, reduce some risk coefficient. Therefore, this step must be taken before the system is released.

6. Conclusion

So far, the development of tutor information management system has come to the end. The system adopts B/S structure, uses PHP language as the programming language, and MySQL as the background database. Starting from the analysis of the needs of the system, it realizes the release of students' needs for tutors and the appointment between teachers and students. The classification of the students and faculty query query function, the administrator management tutor information function, faculty, students change their password and upload avatar, and other functions, realize the user's demand, but this system still exists many shortcomings, the

function of many previously thought no implementation because of own ability is insufficient, and there is much need to optimization, For example, the front interface and the background interface are not beautiful enough, which need to be improved in the later stage of the system.

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