Construction of Marketing Network Teaching Platform Under the Background of Internet + Education

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Abstract. In order to solve the problems of single teaching mode and disjointed production and education of marketing major in colleges and universities in China, this paper takes marketing network teaching as the research object, and designs a set of marketing network teaching platform by combining network information, database management, computer application and other technologies. This system takes the computer as the development hardware, chooses Visual Studio 2021 as the bottom development tool of the system construction, uses C# to write the system language, uses ASP.NET as the development platform, applies SQL Sercer to realize data support, and selects IIS as the server to enhance the adaptability and stability of the whole system. In the function of course recommendation and student works recommendation, the system provides Pearson correlation coefficient algorithm and formula, which improves the rigor and availability of the system. The system has constructed the "online + offline" talent training mode, fully exerting the influence of online teaching in higher education, and contributing to the training of marketing talents with solid knowledge and excellent skills.

Keywords: Internet + education · Marketing · ASP.NET · B/S architecture · computer application

1 Introduction

In recent years, as the largest developing economy, China's position in the international situation has improved significantly. China's market economy presents new characteristics and development trend, which puts forward higher requirements for marketing talents. Marketing major in colleges and universities is an important channel to cultivate talents for long-term economic development, and college education also pays more and more attention to the research and reform of marketing major courses. However, there are still many problems in current marketing education and teaching. First of all, marketing is an interdisciplinary specialty, and the content knowledge involved is complex and profound. Secondly, the teaching comparative resources of business management in higher vocational colleges are scarce. At present, most of the marketing majors in colleges and universities take book knowledge as the main way, and there is little study of all kinds of real-time information. It leads to the lag of students' learning knowledge

and hinders their development. In addition, due to the single assessment mode, the final exam is mostly used as the sole criterion for judging the learning results, and the lack of practical opportunities and criteria for judging the practical results leads to the students' weak comprehensive ability [1].

Based on the above problems, the author of this paper has designed a set of marketing network teaching platform with the help of network information, database management, computer application and other technologies, combined with years of front-line teaching experience. The platform combines the dual advantages of online teaching and offline practice, and builds an all-round learning environment before, during and after class.

2   Key Technologies

2.1   C#

C# is an open-source, cross-platform, object-oriented programming language. C# program consists of one or more files, each file contains zero or more namespaces, and one namespace contains classes, structures, interfaces, enumerations, delegates and other namespaces [2].

2.2   Asp.Net

ASP.NET is a kind of Web development platform, which provides an overall programming framework for the subsequent development of the platform, is the infrastructure used for development, and also provides various required services for web programs [3].

2.3   Development Environment

In order to improve the expansibility and portability of the system, the computer is used as the development hardware and Windows 10.0 is used as the development operating system. B/S architecture is adopted as the overall development framework of online teaching system, and the system language is written in C#. With the help of ASP.NET as the development platform, the two-way communication between browser and server is set by HTTP command to ensure the system operation. Then choose Visual Studio 2021 as the bottom development tool for system construction. After all the functional modules of the system are designed and implemented, a simulation test will be conducted. After the test is correct, all system files will be packaged and released, and deployed in IIS server. After the IP address is set, it can be used by all platform users [4].

3   Functional Implementation

3.1   Courses and Resources

All types of resources in the "courses and resources" module are uploaded by teachers and users. Students can choose courses according to their own learning interests, so as to solve the problem of tension during offline classes and broaden students' knowledge. The system will also make intelligent recommendation according to the user's

```
// leave time 70mintes, ||have 00:17:34,leave 00:52:26||
    //
        time = (now.getTime() - start.getTime()) / 1000;
        time = Math.floor( time);//Remove the decimal places and keep
    the whole numbers
    //
    //00:00:00, that is, the remaining time should be greater than or
    equal to examTime.
        //
            if(time>=examTime*60)
        {
    alert("It's time for the exam. !! ")
    get Aunwsers2();
}
```

Fig. 1. Implementation code of automatic submission of papers

past browsing records and collections. The recommendation algorithm adopted in this system is mixed algorithm, including collaborative filtering recommendation, similarity recommendation, association rule recommendation, content recommendation, etc. The Pearson correlation coefficient used in this paper is shown in Fig. 1 [5].

$$r = \frac{\sum_{i=1}^{n} (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n} (x_i - \bar{x})^2} \sqrt{\sum_{i=1}^{n} (y_i - \bar{y})^2}} \tag{1}$$

Among them, X and Y are two variables, which are two resources in this paper. The closer the correlation coefficient is to 1 or −1, the stronger the correlation degree is, and the closer the correlation coefficient is to 0, the weaker the correlation degree is.

3.2 Homework and Exams

This module includes the usual "homework" and the periodic "exams". Comprehensive performance at ordinary times comprehensively evaluates students' academic performance, and avoids taking final grade as the only indicator of achievement. In the "Exam" option, students can choose the corresponding question banks of different courses to brush the questions. After answering the questions, they will submit their own papers or the system will automatically roll them up at the set time. The implementation code is shown in Fig. 1 [6].

3.3 Practice and Internship

The "practice and internship" module is divided into two sections: "campus practice" and "social internship". Students can browse the campus practice activities and social practice projects published by teachers, and choose activities to participate according to their personal preferences [7]. The system automatically counts the proportion of activity types released by teachers and the proportion of activity types attended by students. The

a

b
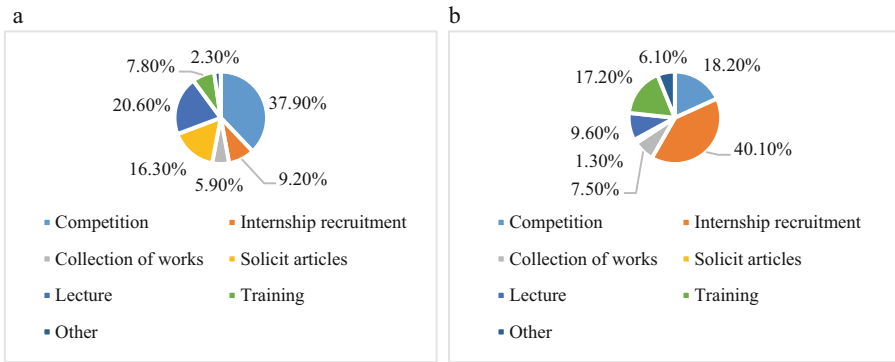
Fig. 2. (a) Proportional diagram of activity types released by teachers (b) Proportional diagram of the types of activities that students participate in

Table 1. Student works database table (part)

No.	Field name	Data type	Whether the primary key	Is it empty
1	Student Name	Varchar(8)	Yes	No
2	Name of work	Varchar(8)	No	No
3	Popularity of work	Nchar(11)	No	No

data can be used as a reference for teachers to adjust the proportion of activities and urge students to participate in activities according to students' needs. The statistical results are shown in Fig. 2 [8].

3.4 Communication and Display

The module of "communication and display" includes two sections: exchange and answer questions, and exhibition of works. In the option of "exchange and answer questions", students, teachers and students can interact with each other and ask questions publicly in the forum [9]. The main purpose of "exhibition of works" is to promote students' enthusiasm for learning and practice by allowing students to show themselves, and to encourage students to have divergent thinking and innovative practice. The database table design of students' works in this paper is shown in Table 1 [10].

4   Conclusion

Under the background of Internet + education, the marketing network teaching platform constructed in this paper integrates marketing and digital electronic technology, innovates the traditional teaching methods, breaks down the barriers of teaching resources, cultivates students' practical ability while imparting book knowledge, and makes students become applied, innovative and comprehensive applied talents. In the follow-up

research, we will further expand the extensibility and applicability of the system, find a more efficient talent training mode, and provide talent support for the development of China's market economy.

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