# The Construction of Online Teaching System for Finance Major in Colleges and Universities Under the Background of Internet+Education

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**Abstract.** With the acceleration of the development of science and technology, the economic development mode tends to be diversified gradually, so the society puts forward higher requirements for financial professionals. In order to meet the social needs and improve the education quality of financial professionals, this paper innovates the training mode of financial professionals in colleges and universities with the help of digital electronic technology, and constructs an online teaching system for financial professionals in colleges and universities. Based on the B/S architecture, the overall development of the system will be improved. The operation of the system will be layered according to the MVC design pattern, and an aspx function page will be set under the function module to expand the detailed functions of the system, so as to realize the planning and deployment of the operation process and business logic simultaneously. Finally, the practical application effect of the platform is evaluated by AHP algorithm model, so as to improve the overall evaluation system of financial specialty in colleges and universities and improve the teaching effectiveness.

**Keywords:** finance major · Online teaching · B/S architecture · MVC mode · AHP algorithm model

## 1 Introduction

With the further changes in the economic situation, China has entered the normalization stage of economic development. In December, 2021, the central bank issued the Financial Technology Development Plan (2022–2025), which proposed to accelerate the digital transformation of financial institutions, and financial technology rose to a new strategic position. [1] Against this background, the social requirements for financial professionals are becoming more and more stringent. As the breeding base of talents, colleges and universities should keep up with the trend of social development to innovate the educational model of financial specialty and cultivate all-round comprehensive financial talents to meet the needs of society. However, at present, there are still some shortcomings in the teaching mode of financial specialty in colleges and universities: first, the teaching content of financial specialty in colleges and universities is not comprehensive enough, and the teaching attaches too much importance to the teaching of theoretical knowledge and

ignores the cultivation of practical operation ability. Secondly, the assessment methods of financial majors in colleges and universities are relatively simple, and most of them are based on examination papers, ignoring practical assessment. [2] Based on the above problems, this paper constructs an online teaching system for college finance majors under the background of Internet+education. With the advantage of digital electronic technology, the system optimizes the research conditions of financial specialty in colleges and universities, innovates the training mechanism of financial talents, and lays the foundation for building a new financial education system.

## 2   Key Technologies

### 2.1   B/S Structure

B/S structure is browser/server structure. In the B/S framework, users express their requirements at the client, and input the corresponding parameters, and then access the server through the network. First, the logic layer solves the user's requirements, then the data requirements are transmitted to the library, and the specific content is executed by the server. Finally, the business logic layer accepts such feedback information, thus generating a web page that meets the user's needs [3].

### 2.2   Development Environment

According to the introduction of the above related technical contents, the configuration and deployment of the development process of online teaching system for financial majors in colleges and universities under the background of Internet+education are completed. [4] In order to improve the function of the online teaching system for financial majors in colleges and universities, its construction will be carried out by using ASP.NET and other related technologies. The bottom development tool is Visual Studio 2019, and the operating system of Windows 10.0 is used as the development basis. Choose IIS 10.0 version in the aspect of web server to improve the operation ability of the server [5].

## 3   Function Realization

### 3.1   Online Learning Module

In order to meet the life and study habits of teachers and students, the system will adopt a mixed teaching mode combining online and offline. The online learning module is divided into two parts: preview before class and online learning. After completing the login operation, teacher users need to put the teaching content into the resource space in advance, and set preview tasks for students to preview independently. The resource delivery code is shown in Fig. 1. Students can learn according to the preview materials uploaded by the teachers, and mark the doubts and difficulties, and then communicate with the teachers in time by using the online communication function. In the offline classroom teaching, the teachers will focus on this part of the content so as to facilitate students' understanding. [6].

```
<title>File upload</title>
  </head>
  <body>
    <form enctype = "multipart/form-data" action= "est.jsp" method= "post">
      name: <input type="text" name="username" /><br>
      document: <input type "file" name ="myfile" /><br/>
      <input type = "submit" value= "submit"/>
</form>
  </body>
</html>
```

**Fig. 1.** Resource delivery code

In the online learning module, student users can make self-learning plans according to their own abilities and combine multiple courses for comprehensive learning. After the system automatically records students' browsing records, it will recommend relevant courses for students according to their preferences, such as: Finance and Western Economics for students majoring in financial management; Recommend Monetary Finance and Business Finance English for students majoring in financial management. [7] thus expanding students' knowledge reserves and enriching students' knowledge level. Thereby expanding students' knowledge reserve and enriching students' knowledge level. In the process of learning, students can get in touch with the teacher in time through the online communication function provided by the system to solve the problem efficiently. The online communication code is shown in Fig. 2.

```
  </div>
  <asp:UpdatePanel      ID="UpdatePanel2"      runat="server"      UpdateMode=
"Conditional">
    <ContentTemplate>
        <asp:TextBox      ID="TextBox2"      runat="server"      Height="105px"
Width="485px"
      TextMode="MultiLine" BackColor="#CCFFFF" BorderColor="#FFFFCC"
          ></asp: TextBox>
        <br/>
      <asp:Button  ID="Button  l"  runat="server"  onclick="Button  l_Click2"
Text="send"
          Width="90px" Height= "24px" />
    <asp:Button  ID="Button2"  runat= "server"  Height="25px"  Text="chatting
records> >"
          Width="99px" onclick= "Button2_ Click" />
      <asp:Label      ID="Label5"      runat="server"      BackColor      ="#FFFFCC"
ForeColor="#FF3300"
              Text=" Note: You can use return to send messages"> </asp:Label>
      <br />
    </ContentTemplate>
  </asp:UpdatePanel>
```

**Fig. 2.** Online communication code

## 3.2 Practice Evaluation Module

Through the investigation on the practical needs of the sophomores and juniors majoring in finance in our university, it is found that some students still lack the opportunity to practice, and a small number of students do not realize the significance of practice. The survey results are shown in Fig. 1. [8] (Table 1).

According to the survey results, this major has a high demand for practice. Therefore, the system has a special practice section. In this section, teachers and users will regularly publish offline practical activities to the practice center, such as investment banking training, financial institution center learning, financial consultant experience, etc., and students can make their own choices. [9].

The system divides the practice into three stages: training, practice and graduation, and the student users in different stages need to upload the practice results on time. The system sets the evaluation object of practice as O and its factor set $P = \{p_1, p_2, ...p_m\}$, evaluation grade set $I = \{i_1, i_2, ...i_m\}$.. All the factors in P are evaluated by fuzzy method according to the grade index in I, and the evaluation matrix (1) is obtained. Among them, $Q_j$ indicates the degree of membership of the $P_j$ with respect to the $I_j$. $I_j$ set to $A = \{a_1, a_2, ...a_n\}$ satisfied $\sum_{r=1}^{n} a_r = 1$, after can get $\overline{B} = A \cdot Q = (\overline{b}_1, \overline{b}_2, ..., \overline{b}_m)$, finally, the evaluation grade of the practice object O can be determined, and the results are shown in Table 2, which will be included in the comprehensive evaluation at the end of the period [10].

$$Q = \begin{bmatrix} q_{11} & q_{12} & \cdots & q_{1m} \\ q_{21} & q_{22} & \cdots & q_{2m} \\ q_{31} & q_{32} & \cdots & q_{3m} \\ q_{n1} & q_{n2} & \cdots & q_{nm} \end{bmatrix} \tag{1}$$

**Table 1.** Survey on Practical Demand of Finance Majors in Sophomore and Junior Years (%)

| Major | Very need | Need | Not care | Have no use for |
|---|---|---|---|---|
| Finance | 55.32 | 37.23 | 6.39 | 1.06 |
| Investment Principles | 57.23 | 35.39 | 7.33 | 0.05 |
| Financial Management | 52.37 | 39.66 | 6.46 | 1.51 |

**Table 2.** Evaluation results of students' practical effects

| Target layer | The standard layer | Weighted value | Grade | The final score |
|---|---|---|---|---|
| Practical effect score | training | $q_{11} = 0.063$ | 0.923 | 0.485 |
| | practice | $q_{21} = 0.137$ | 0.981 | |
| | complete a course | $q_{31} = 0.191$ | 1.034 | |
| ... | ... | ... | ... | ... |

## 4  Conclusion

With the increasingly close interweaving of internet technology and finance, the demand for financial professionals in the market is gradually increasing, and the requirements are constantly improving. In this paper, the online teaching system of financial specialty in colleges and universities under the background of Internet+education combines the Internet with the teaching of financial specialty with the help of digital electronic technology, thus improving the teaching system of financial specialty, enriching students' practical ways, and providing a new exploration way for the follow-up research of financial specialty education mode.

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