The Application of ASP.NET to Realize the Integration of Personal Financial Management and Financial Awareness in College Students under the Background of Shared Economy

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Abstract
In current society, along with the network economy and sharing economy appeared, a large part of college students lack financial awareness with overuse consumption. Even in college campus usury, college students have no ability to repay, resulting in some of the tragedy. According to the above phenomena, this paper proposes a shared economic mode which is based on computer to calculate a set of College Students' personal financial management system design, so it can improve the college students and even social young people's financial awareness. Most of the financial management system on the market is used to enterprise or the specific needs of users, for ordinary users of the personal financial management software extremely rare. In order to meet the needs of ordinary users, it is necessary for develop this software. In this paper, the personal financial management system based on ASP.NET, SQL Server 2012 as a database tool to Visual Studio 2012 interface design, system design and development. The system uses the life cycle method, that is called "top to down" which helps to complete the development of the system needs analysis, the main function of the system needs to achieve the financial management of the system, standardization, automation.

Key words: Shared economy, Personal financial management system, ASP.NET, Visual Studio

1. INTRODUCTION

In the era of sharing economy, due to the digitization and networking of economic activities, there are many new media spaces, such as virtual market, shared services, shared bicycles. Many of the traditional business modes will disappear, which is replaced by electronic payments, electronic and electronic purchase orders. Business activity will be mainly in the form of e-commerce on the Internet, the purchase and sale of more convenient. The urgent need for financial management of college students need to adapt to the based Internet business transactions (Li, Yongfeng, 2015). Today's society is moving towards the development of digital information technology, and the application of computer technology helps to make our lives more convenient and efficient, it is said that each of us can not live without the help of the computer. More and more personal application software has become an important assistant, but also subtly changing our lives. Many software developers began to develop the financial management system (Blake R J., 2013). Personal financial management is also systematic, electronic development. But now the market of personal financial management software is very little and not perfect, in real life, often to the financial revenues and expenditures of the personal management, the purpose of this paper is on the electronic financial management using the computer, and it also can make our financial management more convenient and reasonable, so as to improve our quality of life and quality (Harrington, 2017; Riach R J., 2016).

Financial management is a long-term planning of their own life, college students into the community will gradually face marriage, children’s education and other issues, which are closely linked with financial investment. Through the questionnaire survey of College Students' personal financial situation, the project group found that financial management did not really integrate into college students. In our daily life, many of us lack the sense of financial management. How much money we have, where our money exists, where we spend our money, the value is not worth for these problems (PANCAR N., 2014). This is often the case is not enough money to spend. The so-called new, scientific financial management is very important for us. Now the rapid development of society, the importance of personal financial management is increasingly prominent. Finance refers to their wealth management so as to improve the efficiency (Wang, Chin-Wei, 2016). Finance also can be broadly understood as the use of external funds to their wealth (Mapoma, M., 2017). The university period is used to learn investment and financial management, but also an important stage for college students helps to form a correct consumption concept and habits.

Chinese personal finance business since the mid 1990s began to develop is still in the emerging stage, but the market prospect is very broad. First of all, since the reform and opening up, China is the world's fastest growing GDP countries, which has reached an average annual growth of 10.14%, and China is also 3 times of the world's annual economic growth rate (Kannadhasan, M., 2016). According to the statistics of the National
Bureau of statistics released in 2005 to 2009, China's GDP good momentum of development sustained growth of national wealth and Chinese huge personal financial assets provides the material basis for the development of personal financial business. At the same time, the individual becomes a great financial demand by providing a potential for the personal financial market. According to the latest survey of the zero survey team showed that in the regular savings, stocks attract residents. In Beijing, Shanghai and Guangzhou, 78.5% of the residents have chosen a variety of investment and financial management tools to manage funds, only 21.5% of the residents did not choose any financial instruments. And nearly 40% of investors currently used into at least two kinds of investment tools, combined to financial instruments. The combination of Shanghai city and Beijing city has more than 40% individual investors which will at least to the risks and benefits of two kinds of investment tools. Since 2004, some commercial banks began to operate RMB business, the higher income of bank credit and relative time deposits enhance the rapid development of RMB financing. However, with the rapid development of business, there are also a few banks use financial planning or product disguised high interest rate of the situation. Some banks also attract customers by promising high returns or safety practices, some commercial banks fall into the blind and disorderly competition (Miller, M. T., 2016; Lappas, 2017). The University's basic knowledge in programming master and practice process in the network, ASP.NET, C# and other new knowledge, the development of a personal financial management system helps to achieve the basic functions of the work. At the same time to reduce the pressure of personal financial management, so that the specialized financial management enhance the attitude of life and quality of life.

2. THE RELEVANT KNOWLEDGE

2.1 The Sharing Economy

Shared economy refers to the use of idle resources or individuals pay for the transfer resources to use the right to others, and the use of shared resources share the rest of others to create value (Kulkarni, A., 2015). The term of sharing economic firstly proposed by Texas State University sociology professor Marcos Felson and a professor of sociology at University of Illinois Joan Spence who published a paper in 1978. The phenomenon of shared economy has been popular in recent years, and its main feature is based market platform created by third parties that it includes an information technology. The third party can be a commercial institution, organization or government. Individuals with these platforms which can exchange of idle goods and share their knowledge and experience, is an innovative project to raise funds.

Through the public network platform, people take the form of a personal terminal access to enterprise data. Employees can not only access to the internal data, but also they can access to the computer, telephone, network platform all connected, so that it is more convenient. Intelligent terminal is portable easy to use, the performance is more and more powerful, so we can use these devices to handle the work which will become more apparent. For example, housing rental network travelers and homeowners hire available cooperation bridge, the user can release through the Internet or mobile phone application, search for vacation rental information and complete the online booking procedures (Merino, 2017; Saini D., 2016). Figure 1 gives the difference between traditional economy and sharing economy model.

![Traditional Economy VS Sharing Economy Model](image)

Figure 1. Traditional Economy VS Sharing Economy Model

2.2 The Current Situation of College Students' Personal Financial Management
A large number of people think that money is in the process of money, those who are rich and some patents, only the rich need financial management. For ordinary college students as we are concerned, there is no money at all, it does not need money. In fact, this is a big mistake that financial management is only rich people who can do. Financial management is the wealth of our life, whether they are rich or poor, they need to carry out financial management. Now that college students are a special social group and large, they also needs to learn some of the financial knowledge, their financial behavior and ideas in a certain extent reflects the tendency of his life state and value. College financial management mainly is by the income and expenditure of the two aspects. Economic consumptions through reasonable planning expenditure also need to increase their income through the reasonable planning and reasonable investment. For a large part of us, college is the first time in our lives to come into contact with and solve problems in personal finance. We are growing among college students, society of consumption and wealth (Slater, Dan., 2013). We can not only learn how to use the money, also we can study many aspects of the cultivation of education knowledge and ability, and it is related to the students' all-round development and healthy growth (Mayiah, 2016). Visible, financial education is the sooner the better, which is not dispensable. It is very important for college students to educate and manage financial affairs. Therefore, our college students not only have to establish a correct outlook on life, world outlook and values, but also have to establish their own financial management concept and enhance their sense of financial management.

- Consumer attitudes need to be improved
  In the concept of consumption, the performance of college students is not mature consumer psychology. Now many college students are out of the face needs, they have to ask the students to eat, like some of the newer electronic products blindly follow the trend to replace. On the other hand, the negative impact on the traditional concept of thrift is mainly caused by the negative hedonism consumption concept in the society. For such a consumer concept, college students should remain sober, the students' income basically comes from their parents, and there is no financial independence and stable source of income. Now the cost of living continues to improve the right concept of consumption, for students to embark on the community in the future, the cause of the opening and the establishment of the family is very necessary (Aserey, N., 2015). College students should develop a good habit to compete with others, so in the process of consumption they should pay attention to everything from reality.

- Lack of financial knowledge and practice
  In terms of financial knowledge, now we can hear the financial management of college students, it will be linked with investment instruments such as stocks, bonds, funds. However, there are some technical terms and specific operations which involved in the confusion, such as how to invest in securities business department account opening, trading. For some schools such as securities trading, international finance, financial markets and other financial courses, the students answer many questions, but they have to focus on practical financial activities, these alone is not enough (Wang, C. W., 2016). In fact, college students' financial management is the first class of financial management.

- Lack of good financial planning
  Quite a few college students do not have a good habit of saving, when the end of the month, students often find their own spending which has exceeded its plans. There is no prior good planning, some students who use the Internet platform online shop and e-commerce practice, want to use their spare time to earn living expenses and other practices (Pan Y., 2016). We should be cautious, and the online shop is a kind of financial management. The education investment is the real investment for the students to improve their own knowledge and cultivate their character.

### 2.3 ASP.NET Brief Introductions

Microsoft Corp is based on the .NET 4 framework of a new generation of network programming language, is also one of the latest web technology. ASP.NET is a part of Microsoft.net, as a strategic product, not only it is the Active Server Page (ASP) for the next version; it also provides a unified Web development model, which includes a variety of services required developers to build enterprise class Web applications. The syntax of ASP.NET is largely compatible with ASP, and it also provides a new programming structure that can generate scalable and better stability applications (Redondo, 2017). You can add ASP.NET functionality in existing ASP applications to enhance the functionality of ASP applications at any time.

ASP.NET is a compiled .NET based environment that can be used with any .NET compatible language (including Visual Basic.NET, C#, and Jscript.net) to create applications. In addition, any ASP.NET application can use the entire .NET Framework. Developers can easily obtain the benefits of these technologies, including the hosting of the common language runtime environment, type safety, inheritance. ASP.NET can seamlessly work with the WYSIWYG HTML editor and other programming tools (including Microsoft Visual Studio.NET). This not only makes Web development more convenient, but also can provide these tools must provide all the advantages, so developers can be used to drag and drop server controls to the Web page GUI and fully integrated debugging support. Three layer structure of ASP.NET 2.0 is given as figure 2.
The system data is stored in the database. We can learn from the SQL syntax directly manipulate the database data, but the system page must also provide an interface to connect to the database and execute the SQL command. The mechanism that helps us connect to the database and execute the SQL command in .NET is ADO.NET. In the web system development, data operation occupies a large amount of work to develop including the following aspects. The data stored in the file and XML data, which is the most common operation of the data stored in a database. ADO.NET provides ADO.NET technology, which is a set of data access services for .NET programmers open class. ADO.NET provides access to relational data, XML, and an integral part of the .NET Framework. ADO.NET supports a variety of development needs, including the creation of applications, tools, language and Internet browser front-end database client.

ADO.NET component is the separation of data access and data processing. It is accomplished by two main components, the .NET data provider (data provider) and the Dataset. Figure 3 illustrates the concepts of data access and data processing.

![Figure 3. ADO.NET component structure](image)

Figure 3 is a component of the structure of ADO.NET, but can clearly see its internal composition, also can see the general data access in two ways: one is the direct access by the Data Reader object, the other is to access through the Data Set and Data Adapter. A core element of the ADO.NET architecture is NET. It is a component of the data provider, specifically for data processing and fast forward only, including Connection, Command, Data Reader components and Data Adapter objects. Objects of data providers are shown in table 1.

<table>
<thead>
<tr>
<th>objects</th>
<th>describe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>Provides a connection to a data source</td>
</tr>
<tr>
<td>Commander</td>
<td>Database commands used to return data, modify data, run stored procedures, and send or retrieve parameter information</td>
</tr>
<tr>
<td>DataReader</td>
<td>Providing high performance data streams from a data source</td>
</tr>
<tr>
<td>DataAdapter</td>
<td>Provides a bridge to connect DataSet objects and data sources, using the Command object to execute the SQL command in the database, in order to load data into DataSet, and change the data in the DataSet with the data source</td>
</tr>
</tbody>
</table>
3. DEVELOPMENT PURPOSE AND SYSTEM CONSTRUCTION

3.1 The System Goals and Objectives

Corporate financial management is very important, the personal finance also occupy the same or even higher status. The day is out of the way, have to budget carefully. Therefore, it is necessary to design a simple personal financial management system to manage the daily expenditure, borrowing and lending. Personal financial management system helps to solve the problem, and the purpose of the design of this software is described by the following.

- The computer records personal daily financial expenditure, borrowing, lending, income and other related information, which can save a lot of manpower and material resources, the system can reduce unnecessary expenses, such as paper and pencil.
- The system generates financial statistics related information, accurate statistics of the relevant financial information.

Personal financial management includes income, expenditure, statistics, budget and other aspects. Students through the questionnaire survey information on financial management have no concept of personal financial management strictly, and the other part is only running account in the form of spending on wages, do statistics, data relatively chaotic, which is not easy to statistics, aimed at young people, design a scientific accounting, financial statistics, budget software to meet the needs of personal finance (Kayalvizhi, M., 2016; Xiao, D. M., 2014). This system provides user information management, expenditure records, borrowing and lending statistics, account inquiries, budget management and other functions.

3.2 The Data Flow Analysis

The data flow chart is a tool to describe the data flow of the system. It abstracts the data independently. The data flow diagram to draw a personal financial management system through the analysis of the business process, the specific system data flows determine the external entity specific module and function division system of personal financial management. The main module includes funds management module, receive module, branch lending management module and purchase management module. The user management and system management is the premise of other modules, through the analysis of drawing out the following data flow chart of the personal financial management system. The top data flow diagram of personal financial management system is shown in figure 4.


data flow diagram of personal financial management system

3.3 Overall System Design

The main work flow of personal financial management system is used to input the relevant record information. The overall design of this section is to explain what the personal financial management system is used to do, how to achieve its related functions. The physical model of the system is used to describe how the personal financial management system to achieve the functions. The main contents of the system design phase include: structural design, database design. The system is divided into fund management, revenue and expenditure management, reception management, purchasing management, financial statistics, system management and user management. Figure 5 is its general function structure chart.
According to the function of personal financial management system, the personal financial management system is divided into 7 main modules.

### 3.4 Database Design

Database design is based on the analysis of the user’s needs, and which includes the design of a database management system on the database structure and the process of building a database. Personal financial management system database design process is as follows.

- According to the analysis of the needs of users, we can determine the specific content of the information to be stored in the database, to understand the process of database data.
- Conceptual model of database design. The conceptual model is the abstract response of the real world. It represents the relationship between the types of questions and the entities. It is the model of the computer system.
- Logic structure design. The main goal of logic design generates a DBMS data model and database model.

Detailed design is a step in software engineering software development, and it is also a detailed design of each module algorithm and interface. In the structural system design, each module is divided into functional areas, which called functional modules. The division of the functional modules can significantly affect the efficiency of the system and the maintainability and expansibility of the system. The tools of process design can specify the details of the control flow, processing functions and other aspects, so that the description of the design can be translated directly into the program code (Hasan, M., 2013). Here we can select the flow chart to understand and design the specific functions of each module and its processes.

User management module is used to register new users, login, logout and modify the user password.
(1) User login

The user opens the financial management system. The user will first enter the login screen, enter your username and password, click on the login button, if the user and password correctly choose through authentication, we can enter the main interface to the personal financial management system, if the user name or password is incorrect, it will prompt the user name or password is incorrect.

(2) User registration

If the user first login, click the register link into the user interface, click on the right side of the test button and verify whether this user already exists, this prompts user name already exists, there is no prompt username available, the user type your password to confirm the password and click Register.

(3) Change the password

After landing successfully, the system management password changes the password to modify the interface, if the original password is correct, and the new password with the confirmation password click on the change which will be successfully modified password.

4. SYSTEM IMPLEMENTATION AND SYSTEM TESTING

Interface code is written based on ASP.NET, the main task is to design the layout of the interface and the database will be taken out of the data in a specific way to display to the user. Figure 5.1 is the personal financial management system landing and functional navigation interface.

![The personal financial management system landing and functional navigation interface](image)

Figure 7. The personal financial management system landing and functional navigation interface

System testing have completed the system, the hardware, network and other aspects of the assembly and testing. System testing in the development of a very important essential part tested on a real system, which verifies that the software system has been confirmed, whether we can meet the requirements of the various demand functions, function realization process has no bug, and timely solve from the proposed scheme, so as to find the reasons and the location problem.

According to the definition of the system test, we can know that the purpose of the system test finds the errors and defects with the least manpower and time. A good test case is able to find problems that they have not been discovered before. Through the system test to find the error, the causes of the error and the error distribution find the shortcomings of the current system, in order to make up and improve (Yate M., 2016). A test case is a set of test inputs, and expected results for a particular purpose, in order to test a program path or verify that it meets a specific requirement.

<table>
<thead>
<tr>
<th>NO.</th>
<th>Test item</th>
<th>Step</th>
<th>Expected results</th>
<th>Practical results</th>
<th>compare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Land</td>
<td>Enter the correct user name password, click on the login</td>
<td>Successful landing into the main interface</td>
<td>Successful landing into the main interface</td>
<td>accord with</td>
</tr>
<tr>
<td>2</td>
<td>Land</td>
<td>Enter an incorrect user name or password, click on login</td>
<td>Give reasonable hints</td>
<td>User name or password error</td>
<td>accord with</td>
</tr>
<tr>
<td>3</td>
<td>register</td>
<td>Enter an existing user name or a two password entry is inconsistent</td>
<td>Give reasonable hints</td>
<td>Give reasonable hints</td>
<td>accord with</td>
</tr>
<tr>
<td>4</td>
<td>register</td>
<td>Fill in the user name</td>
<td>Registered user</td>
<td>Registered user</td>
<td>accord</td>
</tr>
</tbody>
</table>

Table 2. The main part of the personal financial management system.
5. CONCLUSION

The purpose of this software achieves the basic management of personal finance, through the functional testing of the various functional modules. The basic functions are expected to be achieved. To meet the needs of ordinary personal financial management, the operation interface is more structured; the average user can easily complete the operation of various functions.

The function of the system completes the operation of the data in the database, and the results are displayed on the interface, the system is relatively easy to develop and maintain. But because there is no contact with the ASP.NET, so in the layout of the interface design process rework spent a lot of time. Nevertheless, there are still some deficiencies in the interface layout and art. In the future, we will improve and improve the system in the condition of the condition. Personal financial management system of the financial management system is divided into user management modules which include system management module, payment management module, reception management module and so on. The system can not only achieve accounting, financial management, but also it can remind user query and help the user better personal financial management.

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