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DELIVERING QUALITY SCIENCE TO THE WORLD

Design and Implementation of Community Management System for a University

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Abstract: The design of the community system based on B/S model can improve the quality of the student community activity and remedy the shortcomings of the existing management methods. The system includes community management, system management, member management and data management using software engineering method and ASP.NET technology and SQL Server database. That is proved to meet the basic of the system functional requirements.
Keywords: VS2010; Data Base; Community Management; Data Management.

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1. INTRODUCTION

There are very important and effective ways to carry out quality education in the activities of College Students [1][2]. They play an important role in building campus culture, guiding students to adapt to society, humanized management of students, and improving students' comprehensive quality[3]. With the Rapid development of community activities, it is an urgent problem for colleges and universities to adopt advanced management methods to effectively manage community activities.

Now, there are many kinds and numbers of student associations in Colleges and universities. How to manage effectively is urgent problem to be solved in the community activity [4]. Generally, there are two solutions, one is the management software from company, such as Focus, School Tool Project, Centre, and the other is self-developing of campus community management software [5]. This paper designs community management system based on web which is implemented by using NET web technology [6]. The system not only provides the functions of online community acceptance，real－time news announcement and dynamic management of community achievements，but also realizes online competition and network voting． This system effectively implements paperless management of community，optimizes network community management，and improves working efficiency of community.

2. REQUIREMENT ANALYSIS

The information technology is an important foundation for the reform management of student community activity. Community management platform is the demand of wisdom campus and an effective way of student activity management in Higher Vocational Colleges. Through the investigations of all parts, the demand of community management platform is defined. This platform is applied to resource collection, edition and storage of community information by the various ways.

The platform is divided into membership, data, community, activities, and announcement information management modules. According to the demanding of community management, the platform is divided into foreground presentation interface and background management platforms.

The users in this platform are divided into five types, club members, visitors, community administrator, system administrator and teacher. Each role has different operation, which is assigned from the system user in order to ensure the safety of the system.

3. DESIGNMENT

3.1 module design

According to the analysis of the platform demand, the platform is divided into foreground platform and background platform. Foreground interface includes homepage, website announcement, social association profile, news information, activity overview, rules and regulations, release comments, comments list management. The websites provide for three types of users, club members, visitors and community administrator. Club members can use it to know activities, apply for activities materials and obtain news and announcements. It is convenient for visitors to take part in the community activities. It also as a propagator role, make ordinary students to know more about the community, and enroll community. Background management platform includes member and activity management. This interface provide for community administrator, which can add, edit, update and delete club members and community activities. Administrator background is divided into add administrator, modify password, administrator information table, user list, add community, community list management and news management. According to the demands of the site analysis and the design of this system module structure, the diagram is shown in Fig.1.

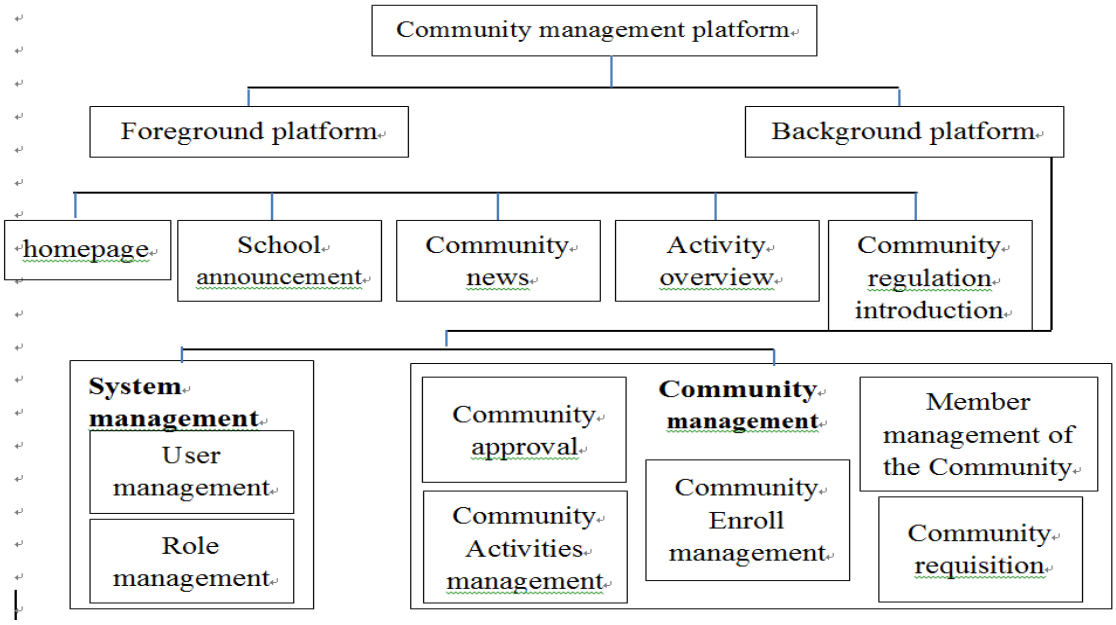

Fig.1 module structure of community management system

3.2 Database design

According to the data requirement of the system, the database system is designed, which includes seven tables: administrator table, user table, news table, community table, activity table, article review table, member audit table. The specific database design ER diagram is shown in the fig.2.

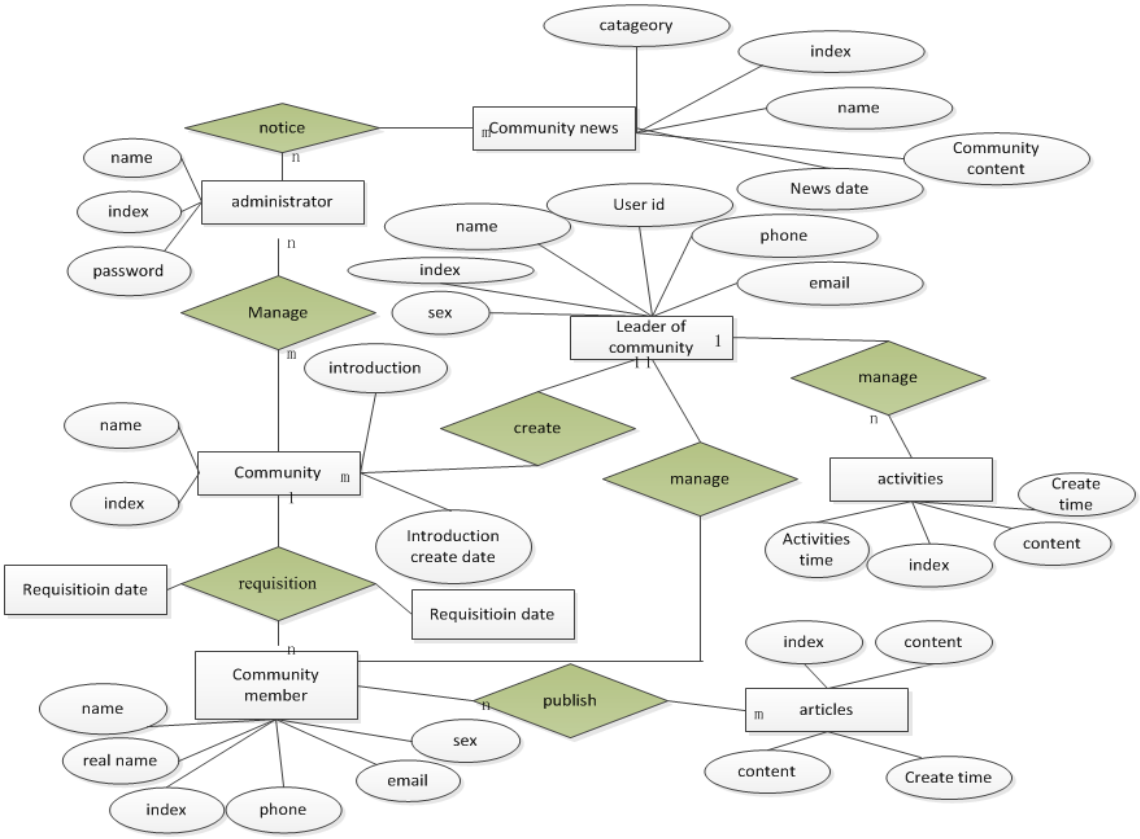

Fig.2 Database entity relationship diagram

4. IMPLEMENTATION

The community management platform is implemented by three-tier framework (Application Data Presentation) and based on the ASP.NET technology [7] in VS2012 environment which uses C# language. The development framework in the platform is shown as Fig.3.

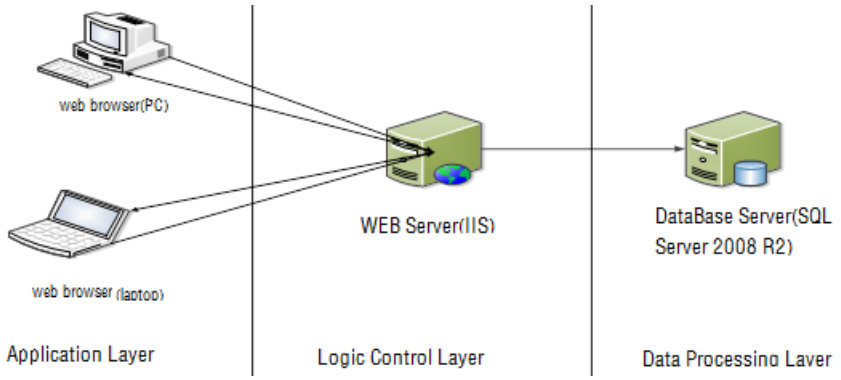

Fig.3 Development framework

In the development, Three-tier architecture is often used [8][9], including application layer, logic control layer, data processing layer. Three layers are relatively independent and interrelated. First, the application layer is to propose a service request to the Web server on the network. The server authenticates its identity, and uses HTTP protocol to send the required home page to the client. The client accepts the home page file, and displays it on the Web browser. Secondly, the control logic layer accepts the user's data request and executes the corresponding program to process logic relationship of the business, and transfer data request to the database server. The database server will wait for the results of data processing and submit to the Web server. The Web server returns result to

the client. Third, the data processing layer, which is to accept the Web server request database operations, achieves the database query, modification, update and deletion operation, the results of the operation back to the Web server.

This platform has clearly used a three-tier architecture [10] from the beginning, layering is quite clear, BLL layer, DAL layer and Model layer. The sharing code is used in the App_Code custom file folder, and the sharing data is stored APP_Data custom file folder. The file architecture in the platform resolution is showed as Fig.4.

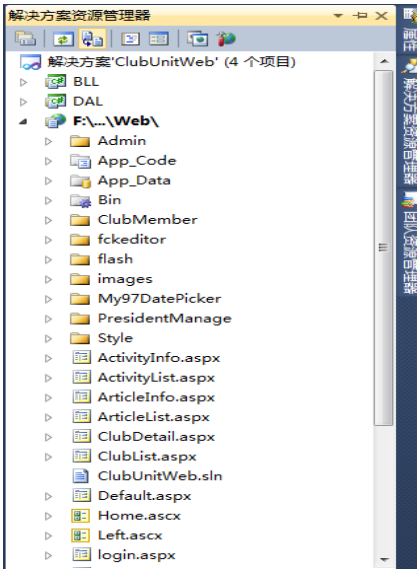

Fig.4 the community management platform resolution

The community management platform is developed in the VS2012 integrated development environment. The database is configured in the web.config configuration file when the link mode is used. The code is as follows:

```
<connectionStrings>
<add name="ConnectionString" connectionString="Data Source=.;Initial Catalog=ST;Integrated Security=True" providerName="System.Data.SqlClient"/>
</connectionStrings>
```

5. CONCLUSION

This paper focuses on the analysis of the requirements of college community management platform, which platform used the ASP.NET technology to design and implement. It is important to improve the management efficiency of community activities, and provide some help for the management of community activities. But the platform still has many imperfections, which need to be further expanded and revised in the future.

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