The Design and Implementation of Community Management System based on ASP.NET

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Abstract. With the urbanization of the population and accelerate the pace of social services, Communities have become urban residents basic living unit, Community management Network-based is imperative. using the three-tier architecture implementation framework，through dynamic web pages to interact with the database technology. To achieve a community web site for information management, property management, Online Repair, Charges inquiries and other major functional. The system is interactive, good scalability and strong security features.

Keywords: Information Management System, ASP.NET, network database.

1   Introduction

Community management as a last part of social services, connecting thousands of families, but because of lack of relevant inputs, making the community network of information technology is very weak, usually only with a simple office management software to solve everyday problems, and the system features a single, system closed, there is no network management or only support local network applications [1].

2   Research of system

2.1   System Functional Analysis

Web-based community management and service information platform contains a number of community residents, such as registration, login, information dissemination, document management, information search and other dynamic objects of development, dynamic web pages in the research project at the same time, to our school community property management and resident fees and other application development model for the query, close to achieve a collection of technologies and applications for creating online communities, harmonious community, civilized community to provide technical support [2]. Overall system block diagram shown in Fig.1.
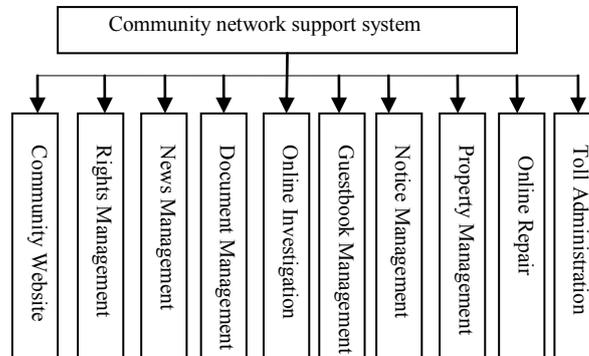
Fig.1. System function block diagram

2.2   System Structure Analysis

System uses a three-tier architecture framework to enable business logic and data separation, so that software has security, maintainability, reconfigurable, fast response. Web layer is responsible for interacting with the user, receiving user input and presents data from the server to the client; logic layer is responsible for receiving Browser request and the request came to pass data layer, while the results are returned to the browser [4]; Manipulation of data through the ADO.NET data layer logic layer provides data services. ASP.NET in a three-layer structure so that the project structure is more clear and more explicit division of labor, is conducive to the maintenance and upgrade later [3].The System pages and forms used ASP.NET technology through a series.aspx page to complete; program code and data binding using the event-driven development approach to achieve; the user interface and the complete separation of program code interface for easy reading and maintenance procedures; Program code is compiled, can greatly reduce server response time.

3   Dynamic web pages interact with the database

3.1   Data Access object

In the system implementation process, the key technology is dynamic web page access to the database. Also, this is the system in the important and difficult to achieve [3]. WEB database using ADO.NET to achieve the operation shown in Fig.2. First, through Connection object to establish connection to the database.Secondly, the use of Command object to execute SQL commands, the command may be executed query data.Third, the use of successive DataReader object to obtain the data obtained Command object or Command object to the data obtained by the DataAdapter object is transferred to the DataTable object in the DataSet object.Finally, the DataReader object or DataTable object as the data source of data, the use of Web controls, and the corresponding data binding technology to display data in a database. In addition, we

can see from Figure 2, the DataAdapter objects can also be without connection object, command object is to establish contacts directly with the database [3].
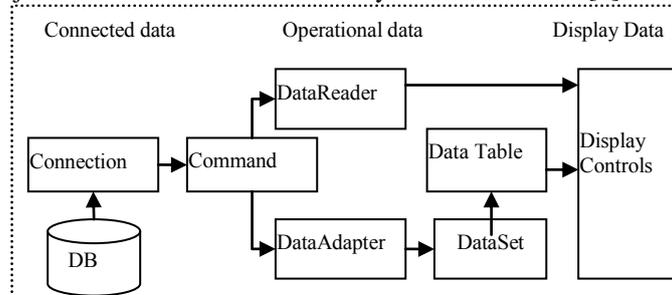

Fig.2. Dynamic web access to the database

3.2   Operation of the database with ADO.NET

For example, the water management module, use SQL Server2005 database relational database. The following fees management and query to achieve the main code.

Implement add, delete and update operations：execSql method used to perform the data table to add, delete and update operations, the method returns a Boolean value to indicate whether the strsql statement executed successfully. This method is called when the need to pass a string type of parameter for the need to execute the SQL statement [4].

```
public static bool execSql (string strsql)
   {
    SqlConnection con = createCon (); //Create the
database connection object
    con.Open ();   //Open database connection
   //Create a SqlCommand object
    SqlCommand com = new SqlCommand (sql, con);
   //Get the value returned by the ExecuteNonQuery
method
     int isEx = com.ExecuteNonQuery ();
     con.Close (); //Close the database connection
     if (isEx> 0) {return true;}
     else {return false;}
    }
```

Returns the column data：Custom getTier method returns the specified column value. Calling this method need to pass a string variable, the variable that need to execute SQL statements. This method returns a string variable, the variable that the query string out of the column value.

```
public static string getTier (string sql)
 {
        SqlConnection con = createCon ();
        con.Open ();
        SqlCommand com = new SqlCommand (sql, con);
```

```
// Create a SqlDataReader object
SqlDataReader sdr = com.ExecuteReader ();
// Read a record
sdr.Read ();
// Get the value of the first column
string tier = sdr [0]. ToString ();
return tier; }
```

Return all the data in the table：Custom getRows method used to return all the data in the table, the method returns a DataTable object.

```
public static DataTable getRows (string sql)
    { DataSet ds; // Create a DataSet object
    SqlConnection con = createCon ();
    con.Open ();
    // Create a SqlDataAdapter object
    SqlDataAdapter sda = new SqlDataAdapter (sql,
con);
    ds = new DataSet (); //Instance of the DataSet
object
    sda.Fill (ds); //Fill the DataSet object
    con.Close ();
    return ds.Tables [0]; }
```

4   Summary

System uses a new programming model and structure, with the design of new technology, security, performance, easy to modify the content for a wide range of advantages, the implementation process of the ADO.NET code key technology with excellent performance and high maintainability, the in the development of an interactive network system has been widely used. Community management services for more information local to enjoy, the database should be further unified planning to compile all the raw data, to find out the internal links and rules to establish the appropriate management model, stratified according to rights management, further expansion improve the system functions and expand the scope of application.

References

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