

Research Article

An Efficient Design Method of News System

Lili Wang^{1*}, CaiZhi Wang²¹School of Computer & Information Technology, Northeast Petroleum University, Daqing, China, 163311² Party Committee Propaganda Department, Northeast Petroleum University, Daqing, China, 163311

*Corresponding author

Lili Wang

Email: lily@nepu.edu.cn

Abstract: Using development method of dynamic and static B/S structure, this paper designed and implemented an static news system based on dynamic generation technology. The system overcomes the shortcomings of traditional dynamic website, such as low access efficiency, poor security, poor concurrency and so on. At the same time, it also inherits fast real-time update, large concurrent traffic, normative published content, convenient interaction and other advantages.

Keywords: Dynamic Turn Static Technology; B/S Structure; News System; ASP.NET.

INTRODUCTION

News system is the quickest and most economic way of releasing and transmitting information. At present, commonly news website is divided into static website and dynamic website [1]. Static website has high security, fast browsing speed and not easy to be attacked; But it also has tedious development, heavy workload and lower maintenance. Dynamic website has strong interactivity, strong commonality and easy to maintain; but it also has lower security, if concurrent access exceeds the server affordability, it can cause a system crash [2-3]. This paper adopts the technology of dynamically generate static page to develop static news

release system. The system not only has the advantages of static web, such as high security and fast browsing speed, but also has the advantages of dynamic web, such as easy to maintain and strong interactivity. Furthermore, it make user browse completely static, which greatly reduce the server pressure.

DYNAMIC AND STATIC B/S STRUCTURE FRAMEWORK

Dynamic and static B/S structure is mainly composed of data processing subsystem, page generation subsystem and page management subsystem. The framework is shown in Fig.1 [4].

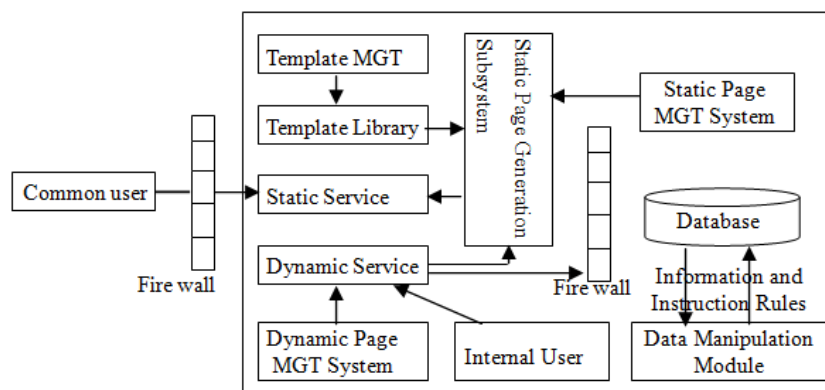


Fig. 1: Dynamic and static B/S structure frame

Data processing subsystem consists of database, template management module, template library and data manipulation module. It is responsible for managing page templates, dynamic information data and instruction rules. Page template is a document used to describe page style and define page structure, it separate

the style from page content to reduce the workload. Dynamic information data is maintained and updated by the editorial staff. Instruction rule identifies the relationship between page information and templates.

Page generation subsystem is the core part of whole system. It obtained information data from the data processing subsystem, and generated the static HTML pages based on particular template.

Page management subsystem mainly realizes the CRUD functions of static pages. It will make the corresponding change to the database, and generate the new related static pages through page generation subsystem [5].

FUNCTION DESIGN AND MAIN TECHNOLOGY OF THE SYSTEM

Function module design

The system is designed for news release management in enterprises and institutions. According to the business need of news management, system function design mainly includes administrator login module, news management module, user management module, personal information management module, etc. System function module is as shown in Fig.2.

Administrator login module: it includes administrator login and login information check. It is responsible for verifying the legality of administrator account and password, and according to possess rights

to return navigation information with corresponding module.

News information management module: news is divided into text news, photo news and video news. The news operation includes add news, browse and edit new, audit news, release news, etc. Only administrator with corresponding permissions can do the different operation of different categories news.

User management module: includes user management, authority distribution, role management, news category management and other functions. User management is divided into primary administrators, secondary administrator and super administrator. Authority distribution operation mainly includes distribution and CRUD functions of role group authority. Role management have the CRUD functions of role information. News category management have the CRUD functions of news category.

Personal information management module: the module is only available for administrator users, its mainly function is to modify the login password and other basic information.

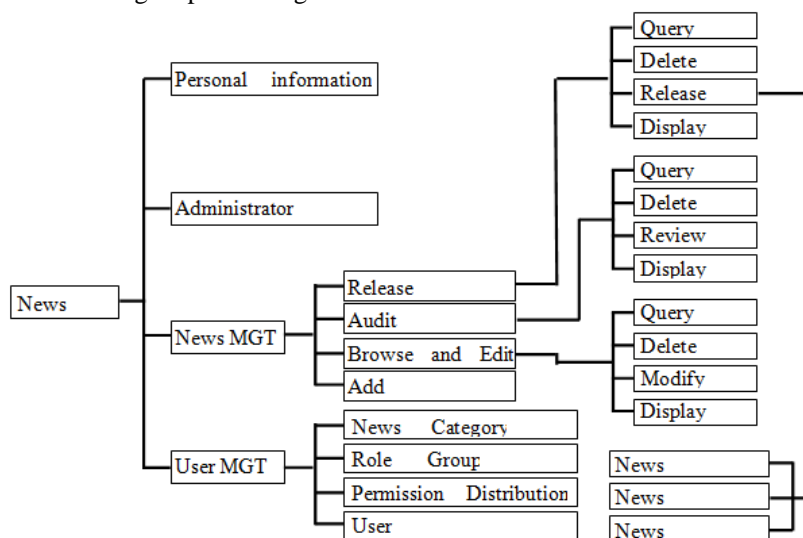


Fig. 2: News system function module chart

Dynamic turn static technology realization

Template technology

Template is a static page framework file without containing essential information. In template, you should use special mark to identify the position in which you want to display the substance information. For example, you can use the "{title}" logo to identify the place where display the title information, use the "{ content }" logo to identify the place where display the text area, and so on. The template source code can save in the background database. When generating static pages, we firstly call the corresponding static template from the database, then use the news information saved in database to replace the corresponding logo of static

template, finally generate a static html page only containing HTML, JS, CSS and other running script. By using the template technology, we can ensure a relatively uniform for information page [6].

Using .net internal function

Each .aspx file inherit System.Web.Ui.Page class, the Render method of this class can convert the .aspx file into HTML code, and display the content to the user. We can use the Server attribute of Page to obtain HttpServerUtility instances, and call the Execute(String path, TextWriter writer) to execute the processing program of specified virtual path in the context of the current request. TextWriter captures the output of

executive program; path is the URL path of executive program; writer captures the TextWriter of output. The content of writer is converted into byte [] array type,

The main implementation code:

```
public void transHtml(string path, string outpath)
{
    System.Web.UI.Page page = new Page();
    StringWriter writer = new StringWriter();
    page.Server.Execute(path, writer);
    FileStream fs = File.Create(page.Server.MapPath("/") + "\\" + outpath);
    byte[] bt = System.Text.Encoding.Default.GetBytes(writer.ToString());
    fs.Write(bt, 0, bt.Length);
    fs.Close();
}
```

Static pagination technology

Using pagination to display all headline of one type of news in the database, first to set up a array named newtitle, it's size equal to the value of paging. The 1 ~ N headlines are saved in the first array, the N+1 ~ 2N headlines are saved in the second array, and so on, until all news records are saved in the array. Call the

Static pagination technology code:

```
public static void creat_static_list(int kind)
{
    int pageNum = 15;
    int maxnum = ds.Tables[0].Rows.Count;
    int yu = maxnum % pageNum;
    string[] newList = new string[pages1];
    for (int i = 0; i < pages1; i++)
        for (int o = i * pageNum; o < i * pageNum + pageNum; o++)
            {
                newList[i] = newList[i] + ds.Tables[0].Rows[o]["newsTitle"].ToString()+
                    ds.Tables[0].Rows[o]["upDateTime"].ToString();
            }
    StreamReader sr = new StreamReader(temp, code);
    string str = sr.ReadToEnd();
    for (int i = 0; i < pages1; i++)
        {
            str = str.Replace("$NewList", newList[i].ToString());
            str = str.Replace("$pages", ctr[i].ToString());
            StreamWriter.Write(listStr);
        }
}
```

CONCLUSION

This news system adopts dynamic turn static technology, dynamic and static B/S structure, C# as development language and SQL Server 2008 as the backstage database. It has the advantages of static web and dynamic web, such as high security and fast browsing speed of static web, easy to maintain and strong interactivity of dynamic web. At the same, it overcomes the disadvantages of static web and dynamic web, such as tedious development and heavy workload

and is written into the specified html file, then we can get the html static page which is associated with dynamic file in path.

template of each page mode, and name templet.html. Cycle array, the name of generated static pages are NewList0.html, NewList1.html, ..., NewList(n-1).html. The content of newtitle[0] is replaced with Newlist0.html, and so on. Every news page add the relative path of the hyperlinks in homepage, next page, previous page and last page.

of static web, lower security, large concurrent access and slower server response speed of dynamic web.

REFERENCES

1. Liushanshan; The design and implementation of news release system. China Computer & Communication, 2012; 4: 81-82
2. Renshuqin, Huangxiaojuan; Brief introduction to the news release system. Computer Development & Applications, 2011; 7: 71-72
3. Wuxuegang; The design of campus news release

- system based on net. Software Guide, 2011; 3: 136-138
4. Renjianhua, Daihaibin; The design and implementation of news release system based on ASP. Inner Mongolia Science Technology & Econom., 2011; 3: 51-53
 5. Yangjian, Shansiqing; Implementation of access control based on role using ASP. NET Technology. Computer Technology and Development, 2007; 5: 234-237.
 6. Fanyanying, Zhangzimin; A news release system based on ASP. NET-two-Layer Architecture and SQL Server Database. Computer Knowledge and Technology, 2011; 28: 6793-6794.