Realization and Design of Office Website Based on ThinkPHP Framework

Tao ZHANG*, Lin-tao ZHAO, Yu-wen CAO and Zheng-quan ANG
Beijing Aerospace Control Center, Beijing 10094, China
*Corresponding author

Keywords: PHP, MVC, Website.

Abstract. With the development of business, in order to ensure accomplishment of daily office work and management, we designed an office network information management system by means of efficient IT-based technology. At first, this paper described the importance of building this system, and decided the overall framework and design principle of the website based on the basic functions, then described the PHP program developing method by MVC mode. This system enhanced the IT level and the effect was quite good.

Introduction
This office website system is an IT-based management system to manage the information produced by daily office efficiently. With the further development of our unit’s business, the management missions of personnel information and assets are more and more difficult, in order to ensure the accomplishment of all missions, we designed the office network information management system by means of efficient IT-based technology. The vehicle management, personnel management and assets management are complex and different from procedures, if they are all mainly managed manually, it is hard to ensure the timeliness and accuracy. This website system can provide overall and accurate information to help persons on all kinds of duties accomplishing daily office work on line. After studying office websites of the same type and other units, we confirm the basic functions as below:

1) Project display and data exchange
2) Information maintenance of the website
3) All sorts of office information maintenance and management
4) News maintenance
5) Video and music maintenance
6) Documents maintenance

At the same time, this system should do its best to realize easy installing, easy maintaining, easy operating and stability, security.

Design Principles
Distinct website figure and visual system, fluent and clear website architecture, rich and easy service functions are important to decide whether the website is successful. The design principles of our website are listed as below:

1) Sense of purpose: Meet the purpose of providing overall and accurate information and helping personnel accomplishing daily office work on line.
2) Professionalism: website design with distinct unit’s characteristics.
3) Practicability: clear functional definition, distinct procedures and good operability.
4) Easy operation: the core of interface design is easier operation and interesting inter-operation.
5) Easy maintenance: the system demands constant change and adjustment, and constant update is the source of the website’s life, so it should be easy and convenient for maintenance people to add and edit contents of the website, in order to ensure the normal work and updating information.

357
The overall architecture of the website is shown as below:

![Figure 1. Overall architecture of the website.]

**Software Design**

Based on above design principles, we adopt the website architecture of Windows platform+ ThinkPHP framework+ MySQL database.

PHP, which stands for "PHP: Hypertext Preprocessor" is a widely-used Open Source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. Its syntax draws upon C, Java, and Perl, and is easy to learn. The main goal of the language is to allow web developers to write dynamically generated web pages quickly, but you can do much more with PHP.

Because PHP was originally on POSIX-compliant operating systems, and MySQL is also limited to POSIX-compliant operating systems such as Linux, it has more outstanding cross-platform features than other scripting languages.

The ThinkPHP framework is the domestic well-known very widely used PHP framework, and ThinkPHP is a very charming PHP framework to easily build a website. It's structured in MVC (Module, View, Controller) framework and provides convenient module to access to database and support restful request. With most of the MVC framework, we only need to expand their Controller and View, some of the page is complete. ThinkPHP provides Module, Controller, Action three layer structure to organize the program codes, this framework makes it easier for programmers to maintain and expand the website's functions.

We will take video management for example to introduce how to organize program code with MVC (Module, View, Controller) framework. At first, we should design the data dictionary of website database, for example, table of video is shown as below:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Data type</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>int(11)</td>
<td></td>
</tr>
<tr>
<td>type</td>
<td>varchar(255)</td>
<td>class</td>
</tr>
<tr>
<td>name</td>
<td>varchar(255)</td>
<td>Video title</td>
</tr>
<tr>
<td>size</td>
<td>varchar(255)</td>
<td>size</td>
</tr>
<tr>
<td>img</td>
<td>varchar(255)</td>
<td>image</td>
</tr>
<tr>
<td>intro</td>
<td>text</td>
<td>Video description</td>
</tr>
<tr>
<td>url</td>
<td>text</td>
<td>File path</td>
</tr>
<tr>
<td>num</td>
<td>int(11)</td>
<td>Download number</td>
</tr>
<tr>
<td>format</td>
<td>varchar(255)</td>
<td>format</td>
</tr>
<tr>
<td>createtime</td>
<td>int(11)</td>
<td>Time of creation</td>
</tr>
<tr>
<td>length</td>
<td>varchar(255)</td>
<td>Length of video</td>
</tr>
</tbody>
</table>
The document structure is divided into background management, foreground management and public resource, there are their own Controller and View directories of background and foreground management, and system Models are public. PHP supports many databases, among these databases, MySQL is the most compatible for PHP. ThinkPHP provides many built-in shorthand method to operate MySQL database.

Take foreground for example, at first, we designed the video content view template pages to display, including index pages and detail pages, and the corresponding variables which need to read databases should be set to be template variables. After that we began to design the controllers, the index() method of foreground index page is shown as below:

```php
<?php
    public function index()
    {
        $Video=M("Video"); //instantiate Video object
        $query="select * from Video order by num"; //define SQL statement
        $result=mysql_query($query); //execute SQL statement
        $this->assign('result',$result); //assign the value of template variables
        $this->display(); //specify the template pages
    }
?>
```

After designing the pages to be shown, because the template and controller are made separately, only template pages or controllers being modified cannot influence the other parts, the degree of coupling are degraded most, it’s very convenient for maintenance people to maintain and upgrade the website.

**Summary**

After finishing the website designing, the website has been stably running for a long time, the office network system has changed from a simple bulletin news system to an office information management network platform, and it enhances the IT level of our daily office work.

**References**