

Recruitment Management System Design and Deployment-Based on PHP Analysis

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ABSTRACT: *This article aims to create a three-level architecture based on PHP to implement a company's recruitment management system. This architecture will be combined with the new features in the existing recruitment work, considering their understanding of the recruitment process and the recruitment system they have designed and implemented. This article will analyze the benefits and drawbacks of PHP language, discuss the system design and implementation method based on analysing the advantages and disadvantages of the three-level architecture of PHP and various driver model research. Based on this analysis, choose the most appropriate design drive method for the design of a recruitment management system. Based on the features of the existing recruitment company, the system will be designed to implement company recruitment management. The actual recruitment work, divided into four parts, will be discussed in this article. The realization and function of these four modules, and their realization and function, will help standardize and systematize the recruitment process. In this article, we will discuss how the four modules of the Access control system are realized and how they work, and how the following modules are realized and function to standardize and standardize the recruitment process and significantly reduce staff recruitment workload, improve the efficiency of the transfer of recruitment, shorten the hiring process, and reduce recruitment management work costs.*

Subject Categories and Descriptors: D.2.2[Design Tools and Techniques] Systematic design; D.2.11[Software Architectures] Open-source software

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1. Introduction

The rapid growth and popularity of the internet and personal computers have led to an increase in the number of online job seekers, and many city labour markets and company human resources departments have also adopted online recruitment and have established their human resource databases. These changes have brought about major changes to the traditional work of managing and informing the job market and have also created new requirements for job recruitment work. Network-based job recruitment work has become an essential means of advertisement. PHP is an open-source software with many clear advantages in developing the WEB page. It is highly secure, cross-platform, supports many databases, is fast in implementation, and has many other advantages. 3L Layer Architecture Development Mode In the development and design of the program, the system is divided into three layers: the presentation layer, the business logic layer, and the data access layer. Through layer development, the function between the different levels is clear. Strong independent development between different levels is beneficial to the system development, maintenance deployment and expansion. This paper provides the theory and the easy part of designing and implementing the company's

recruitment system. Based on the recruitment process in the company, design and implement a recruitment system that meets the company's internal recruitment needs, meets the company's recruiting process, and allows the full implementation of office automation. Create a large network of intermediary platforms and school forums to expand audience and influence. Collect information about recruiters based on these platforms. Start screening, written tests, interviews and admissions. Track and analyze candidates, including the role of admissions officers, and work on where in six months, a year, and so on. Build talent analysis, analyze the data, and provide data references and recommendations for future recruitment.

2. Background of PHP

2.1. PHP is a Kind of Open-source Software Features [4]

PHP is an open-source software with many clear benefits in developing WEB pages [4]. High security: PHP is open-source software, i.e., the PHP core architecture and source code are open to the public, and programmers, through the appropriate software compiling tools, can see all of the source file content. Flexibility and safety: Due to the high utilization rate of the Apache server software at the moment, most of the PHP software or websites are being developed using the Apache service. Crossplatform support: PHP supports almost all the operating system platforms (win32 or UNIX, Linux, macintoshes, FreeBSD/os2, etc.) and supports the Apache service, IIS, various Web servers and popular ones. Wide Database Support: PHP can be built into a function connected to many databases and can manipulate a wide range of mainstream and non-mainstream databases. When combined with Apache, PHP's flexibility and safety gain consumers' trust.

(Performance: PHP code has high efficiency and low data utilization, making it faster to execute. Ease of learning: PHP code is written in the same way as HTML; the elements on the page are composed of HTML, the program code is embedded in it, and the JavaScript script language is used to perform interactive operations, making it easy to learn and learn quickly as long as the base is HTML code. Cost-effectiveness: Enterprise application systems based on PHP are free to use the related tools and the deployment environment, saving the enterprise many unnecessary costs.

In summary, PHP is an easy-to-use, small-to-medium-sized application system with many development tools, fast development cycles, and highly portable. Embedded Zend acceleration engines also support it, providing stable and fast performance. Additionally, PHP supports the object-oriented approach to software development, such as creating classes or class libraries, partially closing public libraries, and using them for development. Object-oriented ideas in PHP application development will have a major impact on the application architecture design.[6-8].

There are currently hundreds of PHP frameworks on the market. Each has its benefits; however, choosing the right PHP framework for a developer can be difficult and requires a good knowledge of the various PHP frameworks. Adam and Andolo created a new PHP Web Application Development Framework based on the MVC Architecture Pattern and Ajax Technology [10]. Suzumura (2011) evaluated PHP as a Web Service Engine in qualitative and quantitative terms and compared it with other Web Service Engines in Java and C [11]. Before advocating for a good security-based architecture, it is important to address the potential vulnerabilities. SQLi, XSS & OSCI vulnerabilities using syntactic and semantic information have been discussed in [12]. Gope (2013) analysed such applications for architectural support of PHP on the server side. The new research concludes that the new PHP Web Application Framework can help users build a dynamic and real-time web application.

3. The Whole System Module Design

System design is the next stage of information development. This stage will take the results of the logic analysis of the previous stage and use the analytical reports from the logic model to design new systems scientifically and rationally. System architecture design involves the design of physical models. The primary objective of this stage is to transform system logic programming, which reflects users' information requirements, into a system that a computer-based system can physically implement and to provide the technical information needed for the next stage of system development. The structured design method is used to implement the system's overall function, enhance each system's indicators, divide the whole system into proper function modules, correctly process the relationship between each module, define the internal structure for each module, and design the module and relation between the system's modules so that the system's function can be achieved. Figure 1 is the overall structure of the system's function module.

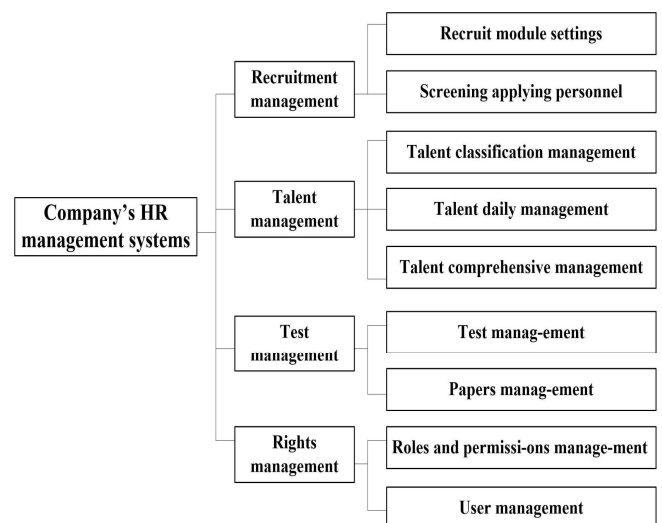


Figure 1. System's Overall Function Module Structure

4. The System Design and Implementation in Detail

4.1. Database connection Configuration

Recruitment Information and Application Database Operations Management is the basis of a company's recruitment management system, and the realization of all other functions is based on it. To configure the database connection in this system, the database creation process is placed in the separate header file, *web.config*, which makes it easy to realize information sharing between the databases. This system's ADO.net technology makes it convenient to operate the operation database in a short statement. For instance, in *Web.Config*, the connection parameters are: DSN: data source UID: user name PWD: user number and password This system also uses MYSQL Database Connection. To use this method, the first thing one needs to do is add the data source (name of [job] to the system's MYSQL control panel, the user name is "JJ", the password is "123456", and the connection parameters are as follows:

Code is as follows:

```
<%  
Set conn = Server.CreateObject("ADODB.Connect
```

```
ion")  
conn.Open "dsn=job;uid=jj;pwd=123"  
%>
```

In other pages of the system if one needs to access the system database, add statements of the head of the page (`--##include file="corm/Web.Config "--->`) then one can use connection object to access the database.

4.2. Login system detailed design and implementation

System validation is required for all business module system management personnel before operation. The login function will differ depending on the landers' counterparts. It will initialize system management pages. It will hide unprivileged operations. It will only display the operational menu items. This system accepts the safe login method. Enter the URL after landing the pop-up login field, fill in the user name and password, click the login button and validate. The system will go to the background management page. The system will display the appropriate error message in case of login authentication failure—key function implementation process code.

Key code:

```
string userName = this.txtUsername.Text.Trim();  
string userPwd = this.txtPassword.Text.Trim();  
DABBstUserinfo dabUserInfo = new DABBstUserinfo();  
dabUserInfo.UserCode = userName;  
dabUserInfo.Password = FormsAuthentication.HashPasswordForStoringInConfigFile(userPwd, "MDS");  
IList<DABBstUserinfo> dabUserInfoList = BLLSP100100.Login(dabUserInfo);  
// Check the existence of the user  
if (dabUserInfoList.Count > 0)  
{  
    // Login success  
    foreach (DABBstUserinfo dab in dabUserInfoList)  
    {  
        if (dab.UserCode.ToLower() == userName.ToLower())  
        {  
            Session[CMMConstans.SESSION_KEY_USERINFO] = dab;  
  
            // Sending UserID into Application  
            Hashtable ht = (Hashtable)Application["UserID"];  
            if (ht.ContainsKey(Session.SessionID))  
            {  
                ht[Session.SessionID] = dab.UserId;  
                Response.Redirect(@"~/Page/HFMS/BSMG/BSMG0101.aspx?moduleid=BSMG0101");  
            }  
        }  
    }  
    else
```

```

    {
        ClientScript.RegisterStartupScript(typeof(string), "", "alert('System error!');", true);
    }
}
else
{
    // Login failed
    ClientScript.RegisterStartupScript(typeof(string), "", "alert('User name or password entered is incorrect!');", true);
}
}

```

4.3. Detailed design and implementation of recruitment management module

The recruitment management module design is divided into two parts: the recruitment module settings and the selection of the applying talent. The recruitment information structure of the recruitment module is divided into two levels: level 1 for classification, and the secondary is the template option under a specific classification. The data structure design, whether for data business operations or front desk page display, is quite reasonable and shows the results that the level is clear and the user has

a good experience. The module's implementation lies in traversing two-class classifications of the display template options. In this case, two circular list controls will be used. First, the container will display all the classifications in the system, and then a loop will be formed in the classification level circulation list to show category template options. First, the circular list of categories will be traversed. Then all the current users' option selections under the classifications cyclic list will be stored temporarily in the collections, and so on until the end of the category list. The function key codes are:

Key codes:

```

try
{
    // Select list box, get the selected item
    ArrayList list = new ArrayList();

    for (int j = 0; j < rptOption.Items.Count; j++)
    {
        CheckBoxList cklRight = (CheckBoxList)rptOption.Items[j].FindControl("cklOption");
        cklRight.Enabled = true;
        for (int x = 0; x < cklRight.Items.Count; x++)
        {
            if (cklRight.Items[x].Selected)
            {
                list.Add(cklRight.Items[x].Value);
            }
        }
    }
}
catch (CMMException cmmex)
{
    // Business exceptions, picture processing
    SPUtIs.CMMErrorTeardown(cmmex, 1blError, imgError);
}
catch (Exception ex)
{
    // System exceptions, common exception handling
    SPUtIs.ErrorTeardown(Session, Response, ex);
}

```

The goal of talent screening is to make recruiting information available to the candidates so that they can deliver resume applications. The first step in talent screening is to select talent according to the job from a system of many resumes to join the written test. Then, select the right proportion of talent for the written interview. Finally, one can determine the recruiting talent information for the job one needs. In the implementation phase, several pro-

cess links are relatively simple. Select (1 or more) resume lists that need matching operations, and fill in the relevant information of the linked. The CV will be updated based on the user's current operation type per system and then listed at the following time. The system will identify the output based on its state description. The following code is required to enable this function:

Key Codes:

```
protected void btnDelete_Click(object sender, ImageClickEventArgs e)
{
    try
    {
        CMMLog.BeginMethod(MethodBase.GetCurrentMethod());
        int row = ((GridViewRow)((ImageButton)sender).NamingContainer).RowIndex;
        int InfoID = (int)this.gvwBSMG0301.DataKeys[row].Value;

        DABBstRoleinfo bean = new DABBstRoleinfo();
        bean.InfoID = InfoID;

        BLLBSMG0301.DeleteInfo(bean);

        // GridView rebinding
        this.gvwBSMG0301.DataBind();

        CMMLog.EndMethod(MethodBase.GetCurrentMethod());
    }
    catch (CMMException cmmex)
    {
        // Business exceptions, picture processing
        SPUtIs.CMMErrorTeardown(cmmex, lblError, imgError);
    }
    catch (Exception ex)
    {
        // System exceptions, common exception handling
        SPUtIs.ErrorTeardown(Session, Response, ex);
    }
}
```

4.4. Detailed design and implementation of talent management module

The personnel information management (PIM) module design is divided into three main parts: personnel info management, daily info management, and integrated

query. Personnel info management is an essential part of the recruitment system, as it is the main purpose of the system to provide the right talent for the company. Gathering talent information is an important task, and this function module helps manage information about the system

or the talented people within the company. The talent information has many properties, such as basic info, opinion, current position, etc., and many properties under each major point. Hence, the personnel info page information is quite large. Two main sources of talent in our system

are the applicant's resume directly converted into talent info, which requires examination and approval from all related departments, and manual maintenance entry by related personnel. The function implementation key can be found below.

Key Codes:

```
if (e.File.FileName != "")
{
    string path = @"~" + SPConstants.UPLOAD_PICTURE_DIRECTORY;

    // Randomly generated file names
    string folder = DateTime.Now.ToString("yyyyMM");

    // File names are generated according to the date
    string newImgName = DateTime.Now.ToString("yyyyMMddhhmmssffff") + e.File.FileName;
    string savePath = HttpContext.Current.Server.MapPath(path + folder);

    // Gets the absolute path
    if (!Directory.Exists(savePath))
    {
        // Determine if the path exists, if it does not exist, create it
        Directory.CreateDirectory(savePath);
    }
    // Upload pictures
    e.File.SaveAs(savePath + "/" + newImgName); // Save the file
}
```

Talent management is based on basic talent information. If talent information is complete, then talent management is based on the current status of people who do day-to-day management and maintenance. This section is based on the hiring and describes the function.

Step 1: Move to the job list page. The page will show all the human resources information in the system.

Step 2: Add a check box control before each record to make it easier for users to perform bulk operations.

Step 3: Enter the list page.

Step 4: Select the check box before each record to let users operate on the record.

Step 5: After completing the check box, users can click the operation button on the right corner of the list.

Step 6: Move to the corresponding action page. The action page template has information one can fill in, confirm and save. Key code to enable this feature:

Key Codes:

```
// Pop up talent selection box
function ShowUploadPic() {
    var selectInfo = ShowModulePage("../ShowPage/SELECTEDInfo.aspx?selectType=1&rnd=" +
    Math.random(), "500", "300", "talent select");
}
```

```

}
// Receives the returned talents information
function ReceiveParams() {
    // Hide frame information
    HidModulePageQ;

    // Update the page controls values
    document.getElementById("<%=btnRefresh.ClientID %>").click();
}

```

The accumulation of information over the years will continue to grow, so how do users find the talent information when there is such a huge amount of information? This is also an important issue. The system sets up the personnel information query function to make it easier for users to find talent information when there is large information. The implementation process is as follows: The user inputs the query page or selects conditions information first.

The background system page combines conditions information. The user uses conditions information as a parameter in the talent comprehensive query stored process defined in advance. According to the query information conditions, the stored procedure is returned to the page and filled with page list control data. The last list of talent information is shown in the paging display. The function implementation key code is:

Key codes:

```

@PageIndex int,-- What page, the first page is 1;

@PageSize int,-- Page size;

@TotalCount int OUTPUT,-- Total number output parameters;

DECLARE @StartRowNum int;

DECLARE @EndRowNum int;

SET @StartRowNum=(@PageIndex-1)*@PageSize+1;

SET @EndRowNum=@PageIndex*@PageSize;

SELECT

    @TotalCount =COUNT (1)

    FROM  tableName

    WITH Temp AS

    (

        SELECT TOP ( @ PageSize* )@ PageIndex) ID,

        ROW_ NUMBER() OVER (ORDER BY ID DESC) AS RowNum

    FROM tableName

    )

SELECT*

```

```
FROM Temp AS T  
  
INNER JOIN tableName tb ON T.Id=tb.Id  
  
WHERE T.RowNum BETWEEN @StartRowNum AND  
  
@EndRowNum  
  
ORDER BY RowNum
```

4.5. Detailed design and implementation of database management module

There are two main examination management module design areas: information management for test questions and information management for examination papers.

The basis of the test is also essential for test information management. Currently, the system mainly offers three question topics: multiple-choice and questions and answers. These three categories are the most common in the current implementation of written tests or examination questions. The first step in adding questions is to select the topic. After selecting the topic, the system can display the paper options and the answer element based on the topic. Page elements are different based on different topics. For example, the question answering question will show the title and the answer to the test questions. The choice will show the title, the four optional options, the alternative answer list of the radio, and so on. The second step is to classify the test questions. This field will have a corresponding management module in the system's value. The classification system will be filled based on the classification system added to the database. Finally, fill in basic information related to the topic, classification, title, answer, etc.

The test information management module is mainly used for written tests and internal recruitment assessments. Before the written examination, recruit personnel can generate a paper based on the job category and print it out, saving recruiters time. The challenge lies in the question selection in the examination paper generation process. The current system offers two methods of item selection: one is randomly selecting papers according to the test category system, and the other is manually adding a question by the operator. The difficulty of the second method is slightly greater; after adding a question by the operator, the system will display a page with all the relevant test information lists and then select the desired item. However, the process of selecting the questions runs across the page, and how to get selected test information into the canonical page is essential for this feature.

4.6. Detailed design and implementation of rights management module

The Roles and Permissions management module is split into two main parts: roles and Permissions management

and user management. Roles and permissions management will be essential for the system's overall security. The target system will take the competing airframe's rights, roles and users to realize the function. If the permissions do not match the user, then add the role between them. The user roles are linked with the user and the permissions so that the function's implementation is ensured. Secondly, it has a lot of flexibility and is useful for late extensions of permissions requests.

User management refers to the management of the system operators besides the above basic data such as numbers, names, genders, departments, etc. The most essential data is the role setting. In simple words, this is a permission setting. The system permissions are not directly related to the user but are achieved through a mechanism like a role. Because the roles are associated with permission, and the user is associated with those roles, the user is directly related to those permissions. Due to this mechanism, it is much easier to maintain the user information. While adding or maintaining the user information, we can only select the roles added in advance in the system.

5. Conclusion

The technology used in this system was examined and studied, the pros and cons of different programming languages were discussed, the server and database were discussed, and a thorough analysis of PHP's three-tier architecture was conducted in this paper. Several development models were studied and the pros and cons were compared. Based on these studies, a design study was made based on the systematic characteristics, the systematic framework, the system architectures, the data models, and the permissions model, and a plan was made.

Once the basic research and design work have been completed, implement and validate the system. Additionally, thoroughly validate the steps and recruitment process. Lastly, compare the benefits and drawbacks of the system with the analysis and based on the analysis and recruitment profile, prospect each function within the recruitment system.

As the primary resource of a company's human resources, recruitment directly impacts the quality of staff and the company's development potential. Having an excellent

staff will be essential for the company's growth. A good recruitment system will also play a role in screening the company's staff. In addition to recruitment, there is a need for an effective evaluation system and an incentive mechanism, such as a full play of the employee's supervisor initiative. A wellstructured personnel flow analysis and staff growth plan are also necessary. By understanding the staff flow and employee's needs, it is possible to create a good staff development plan. Not only will this plan help maintain employee loyalty, but it will also help in the company's growth prospects and ensure the staff's loyalty. A well-structured recruitment system, an effective job evaluation system, a sensitive mobility analysis, and a possible employee growth plan will ensure that the company is running smoothly, quickly and efficiently. This will also help improve the enterprises' competitiveness and enhance their development potential. Not only can a well-designed recruitment and HR management system reduce our recruitment costs and improve the efficiency of our recruitment process, but it can also help keep our company running smoothly and keep our business growing.

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