

# Design and Implementation of Campus Recruitment Website Based On N-tiers Architecture

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**Abstract:** With the development of society and education, more and more college students hope to be able to be independent quickly and reduce family burden as much as possible, so they will look for part-time jobs in school and start to look for their favorite jobs before graduation. However, they all have difficulties in finding jobs. The campus recruitment website designed and implemented based on n-tiers architecture of ASP.NET in this paper can solve this problem, not only provide safe and reliable part-time jobs for college students, but also provide more employment opportunities for college students. Practice has proved that the use of this website has great economic benefits.

## 1. Introduction

At present, many college students are facing difficulties in finding part-time jobs and finding jobs after graduation. On campus, there are few part-time news channels, most of which are introduced by some intermediaries such as QQ, WeChat group, etc., and they also face many risks such as intermediary agencies not paying work costs and being cheated. Traditional on-site job fairs require graduates to know in advance when and where there will be job fairs and spend a lot of time and money on the way. Secondly, it takes a lot of time for enterprises to recruit excellent talents. All kinds of troubles brought by traditional recruitment methods have promoted the development of campus recruitment website. The implementation of campus recruitment website has great convenience for students and enterprises.

The purpose of this paper is to develop a campus recruitment website, which aims to provide a more secure, reliable and convenient way for the majority of college students to apply for jobs and provide an efficient recruitment method for enterprises.

## 2. Demand Analysis

### 2.1 Functional Requirements Analysis

The establishment of campus recruitment network, need to go through demand analysis, can finally determine the website development needs to achieve the function. This website has three roles: administrator, job seeker and enterprise. These three roles have different functional requirements. The specific requirements are as follows:

#### (1) verification function

The verification function is mainly aimed at job seekers, enterprises and administrators need to verify the information when logging into the website, to ensure that the visitors to the website are legitimate users.

The main implementation is to verify the login function. Job seekers, businesses and back office administrators all need to enter the correct user name and password to access the site.

#### (2) operational functions

The operation function is mainly aimed at the three different roles that the campus recruitment network has: administrator, job seeker and enterprise.

Administrator is mainly responsible for the management of all information in the background.

Job seekers can apply for positions, check the latest recruitment information and communicate with enterprises.

Enterprise view all job seekers information, see release recruitment information, communicate with job seekers.

## 2.2 System Operation Requirements

Because this website is a small campus recruitment network, and the use of B/S mode, it is suitable for the use of interactive more frequent occasions, and easy to be accepted by people, users only need a browser can successfully visit the recruitment website, and do not need to install any other software. This also makes the website has a lot of openness, the time and space restrictions on users to access is also getting smaller and smaller; And the website is rendered in a browser, so the operation is simple.

## 3. System Design

### 3.1 Overall Design

After demand analysis, the overall functional structure of campus recruitment network is drawn as shown in the figure1 below.

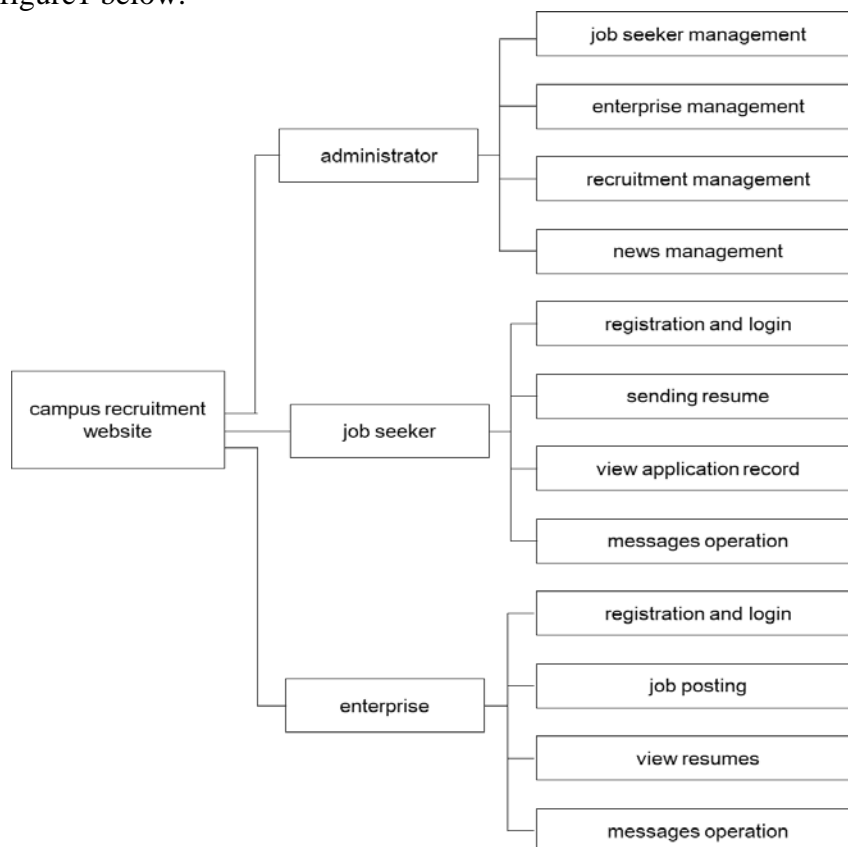


Figure1 The system function structure diagram

### 3.2 Database Design

According to data analysis, the e-r diagram in the conceptual structure design of the database is transformed into the following relational model:

Users(UserId, UserName, Pwd, HeadImg, RealName, Sex, IdCard, Age, Political, Education, Major, Colleges, IsEmployment, Phone, Email, Introduce, RegisteredTime, Experience, GraduationTime, Penetration, Birth, Address)

Enterprise(EnterpriseId, UserName, Pwd, EnterpriseNo, EnterpriseName, Industry, Nature, Sizes, SetUpTime, Moneys, Email, Address, Note, RegisteredTime)

Admin(AdminId, AdminName, Pwd)

Apply(ApplyId, UserId, HireId, ApplyTime, State)

Hire(HireId, Job, JobType, HireCount, Age, Sex, Education, Experience, Treatment, Address,

Note, Conditions, ReleaseTime, CutTime, EnterpriseId, worktype)

Info(InfoId, InfoContent, UserId, EnterpriseId, InfoTime, InfoType)

InfoFollow(InfoFollowId, FollowContent, FollowId, FollowType, InfoId, FollowTime)

WorkType(typeid, worktype)

The system database implementation is the SQL Server series of relational database. As the service core of SQL Server, database engine system can provide safe and reliable data storage and management functions for relational data and structured data. It has the advantages of convenient use, good scalability and high degree of integration of related software[1].

## 4. System Implementation

### 4.1 N-tiers Architecture Design

This website adopts the n-tiers architecture design based on ASP.NET platform[2], which mainly includes 4 parts: DAL (data processing layer), BLL (business logic layer), UI (user interface layer), and Model (entity Model). The first three are what people call three-tiered structures.

(1) user interface layer (UIA) : UI part of the system, responsible for the interaction between users and the whole system. In ASP.NET, this layer includes aspx pages, user controls, server controls, and certain security-related classes and objects[3].

(2) Business Logic Layer (BLL) : the operation of this Layer is mainly targeted at specific problems, and the operation of data Layer can also be understood to process data Business Logic. If the data layer is the building blocks, the logic layer is the building blocks.

(3) Data Access Layers (DAL) : its function is mainly responsible for database Access. The simple answer is to implement Select, Insert, Update, Delete operations on Tables.

(4) entity Model layer (Model): this layer is the mapping of database Tables.

The relationship among the layers is shown in the figure2 below.

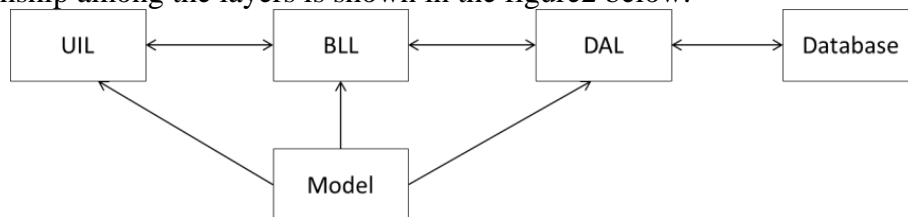


Figure.2. The relationship among the layers

### 4.2 Display Part of the System Code

The basic procedure for job seekers is to submit a job application. A job seeker can apply for multiple positions and check his or her application status. The specific process of applying for a position is shown in the figure3 below.

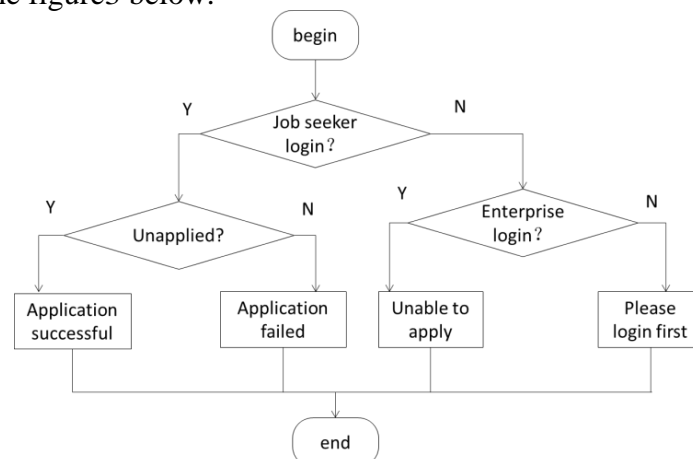


Figure.3. The specific process of applying for a position

The code is as follows:

```

protected void ibtnAdd_Click(object sender, ImageClickEventArgs e)
{
    if (Session["Users"] != null) // Determine whether the user is logged in
    {
        if (ApplyBLL.GetByIdByUserIdAndHireId(users.UserId,
        Convert.ToInt32(Request.QueryString["id"])).ApplyId == 0)
        // Query entities by primary key
        {
            Apply app = new Apply(); app.ApplyTime = DateTime.Now;
            app.HireId = Convert.ToInt32(Request.QueryString["id"]);
            app.State = "none reading"; // The initial state shows no reading
            app.UserId = users.UserId; // Obtain job seeker number
            ApplyBLL.AddApply(app);
            this.Page.ClientScript.RegisterStartupScript(this.GetType(), "",
            "<script>alert('Successful!'); </script>");
            return;
        }
        else {
            this.Page.ClientScript.RegisterStartupScript(this.GetType(), "", "<script>alert(' You have
            applied for the position!') </script>"); return;
        }
        else if (Session["Enterprise"] != null) // If it is enterprise identity login
        {
            this.Page.ClientScript.RegisterStartupScript(this.GetType(), "",
            "<script>alert(' You are not a job seeker and cannot apply! '); </script>"); return;
        }
        else {
            this.Page.ClientScript.RegisterStartupScript(this.GetType(), "",
            "<script>alert(' Please login before applying!') </script>"); return;
        }
    }
}

```

### 4.3 System Interface Implementation

The system realizes the following functions:

The information management module of job seekers and enterprises mainly realizes the management function of the administrator for the basic information of job seekers and enterprises, including viewing and deleting the personal information of all job seekers and enterprises, but the administrator does not have the right to add and modify the information of job seekers or enterprises independently. It also ensures that information about job seekers and businesses is not altered by others.

Job seeker module is to improve the basic personal information of job seekers. The information filled in by users will be directly submitted to the enterprise when the user applies for a job as a resume. Job seekers can check their application status. After Posting the recruitment information, the enterprise can manage the published recruitment information.

Enterprise's main duty is to release recruitment information, at the time of release recruitment information enterprises need to specify the necessary information, including job title, hiring, job description and other important information, fill in the completion of all of the information, the person in charge of the enterprise can choose to release time and deadline, then you just need to click on the release.

## 5. Conclusion

This paper expounds the purpose and significance of studying campus recruitment network, and finally develops a campus recruitment network based on n-tiers architecture through the analysis of user demand, system design and system implementation. The development of the website in Chinese adopts C# language and uses ASP.NET technology with a n-tiers architecture, realizing the functions of administrator, job seeker and enterprise. Practice has proved that this website has great practical value, not only can improve the part-time job security and employment speed of college students, but also enable enterprises to quickly find staff, there is a huge economic benefit.

## References

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