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Joomla Component Development for Content Management System based Job Portal Website

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ABSTRACT: Different kinds of websites have different purposes depending on who the intended audiences are. Some websites are geared towards selling products and other websites are geared towards providing practical information, while others are merely for entertainment. World prefers dynamicity in their work. The world is becoming dynamic there is a much scope for website and web applications and also there is no reinventing the things in building web applications. So the developers can reuse the available frameworks and plugins. Joomla component management system provides reusable framework and the salient features are: multilingual, well supported easy updates, integrated help systems, media manager, banner management, contact management.

KEYWORDS: Content management system, Application Tracking System, Job Portal, Joomla, MVC Architecture

I. INTRODUCTION

Job seeking is very tedious and it usually involves different ways to look for jobs such as personal contacts, direct telephone calls to employers, job agency office, scanning through online job listings, references etc. Before the internet, jobseekers were used to spend lots of their time in searching for job openings. Today, jobseekers use online forum for searching jobs which are very convenient and save a lot of time.

Online forum for searching jobs uses Application Tracking System (ATS) which helps recruiter to fetch the available job data. The current ATS exposes the REST API's through which the project components authenticates & access data from the ATS and the jobs data is displayed on the Content Management System (CMS) website in the job portal section. Candidates can apply for a job from the portal. The component updates the job application information to the ATS using the REST API's exposed by the ATS. The project will address the client request for those who are hosting jobs on their website on creating job portal and candidates can apply for job from the portal. Candidates can check for other openings and they can apply for jobs and can view their applied job status.

This project has an ATS system which contains most of the jobs around the world. After purchasing the ATS, they will provide us list of API's that will help us to fetch the data and also help us to post the new jobs to the ATS. The project component will act as intermediate between CMS website and ATS system.

II. RELATED WORK

According to our client's requirements the recruiters are spending more time in calling each candidate and confirming about the job and scheduling for the interview for each candidate in different company for different post and for different package. The recruiters should call the candidates till they respond. It will again consume more time and they have reached each and every candidate. There are chances they may also lose some of the candidate; meanwhile some other recruiters call those candidates. It will degrade the performance of the company [1].

So, they are planning for developing a dynamic website (Job Portal) to post their jobs. Through this Job Portal website the applicants can apply for their desired jobs. It will reduce the recruiters work and increase the total number of recruitments. So that they can confirm more candidates and schedule more and more interviews [2].

Joomla components helps us to do the dynamic website, the components can be reusable. Each component will be having its own functionality. By using Joomla, 'n' number of components can be developed for this website. The components can be integrated with Plugin, Modules, Pages, and Menus for better usage of the Job Portal website [3].

III. PROPOSED METHODOLOGY

A. Basic MVC Architecture

MVC Architecture is designed by using 3 parts like Model, View, and Controller.

- i. Model: Model contains data which is stored in the API(ATS) the data should not be visible for the end users. The end users will not be having an idea about this API. The API will act as a database for our website.
- ii. View: View contains views which act as pages in background and each view will be having its own functionality. We can show the data in desired format using HTML, CSS and can access the data using PHP in “default.php” page in each view [7].
- iii. Controller: Each controller will create instance of JControllerLegacy. It will act as entry point to the Joomla site [8].

B. Joomla Component Development

When Joomla component is started to process a request from a user, such as a GET for a particular page, or a POST containing data form, one of the first things that Joomla does is to analyse the URL to determine which component will be responsible for processing the request, and handles the control over to that component. If the component has been designed according to the MVC pattern, it will pass control to the controller. The controller is responsible for analysing the request and determining which model(s) will be needed to satisfy the request, and which view should be used to return the results back to the user.

The model encapsulates the data used by the component. In most cases this data will come from a database, either the Joomla database, or some external database, but it is also possible for the model to obtain data from other sources, such as via a web services API running on another server. The model is also responsible for updating the database where appropriate. The purpose of the model is to isolate the controller and view from the details of how data is obtained or amended.

The view is responsible for generating the output that gets sent to the browser by the component. It calls on the model for any information it needs and formats it appropriately. For example, a list of data items pulled from the model could be wrapped into an HTML table by the view [4].

Since Joomla is designed to be highly modular, the output from the component is generally only part of the complete web page that the user will ultimately see. Once the view has generated the output, the component hands control back to the Joomla framework which then loads and executes the template. The template combines the output from the component, and any modules that are active on the current page, so that it can be delivered to the browser as a single page [5].

To provide additional power and flexibility to web designers, who may only be concerned with creating new designs rather than manipulating the underlying code, Joomla splits the traditional view into a separate view and layout. The view pulls data from the model, as in a traditional MVC pattern, but then simply makes that data available to the layout, which is responsible for formatting the data for presentation to the user. The advantage of having this split is that the Joomla template system provides a simple mechanism for layouts to be overridden in the template. These layout overrides (often called "template overrides" because they form part of the template, although actually it is the layout that is being overridden) are bundled with the template and give the template designer complete control over all the output from the Joomla core and any installed third-party extensions that comply with the MVC design pattern [6].

IV. PSEUDO CODE

The steps involved for developing a MVC Component of Joomla

- Step 1: Development of basic component.
- Step 2: Adding view to the site.
- Step 3: Adding menu to the site.
- Step 4: Adding model to the site.

Step 5: Adding a variable request in the menu type.

Step 6: Using the database.

Step 7: Basic backend.

Step 8: Adding language management.

Step 9: Adding backend actions.

Step 10: Adding decorations to the backend.

Step 11: Adding verifications.

Step 12: Adding categories.

Step 13: Adding configuration.

Step 14: Adding ACL.

This Job Portal Website project consists of 5 modules:

1. Job Search for website viewers: The job Category should be mentioned properly. It will show all the list of jobs.
2. Communication of ATS with Joomla: ATS will be having all the details about jobs and the ATS will be an API. It will act as a database for the job portal.
3. Upload resume: The candidates should upload their resume.
4. Apply Job: The personal details should be mentioned properly. Applicants can apply for a desired job.
5. Job Status: The job type should be mentioned properly. it will show the openings and also lists all the available jobs.

V. SIMULATION RESULTS

Code Snippets

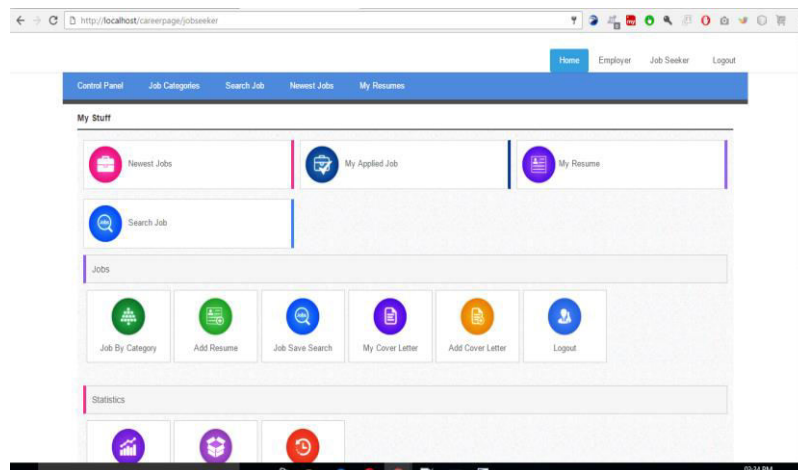
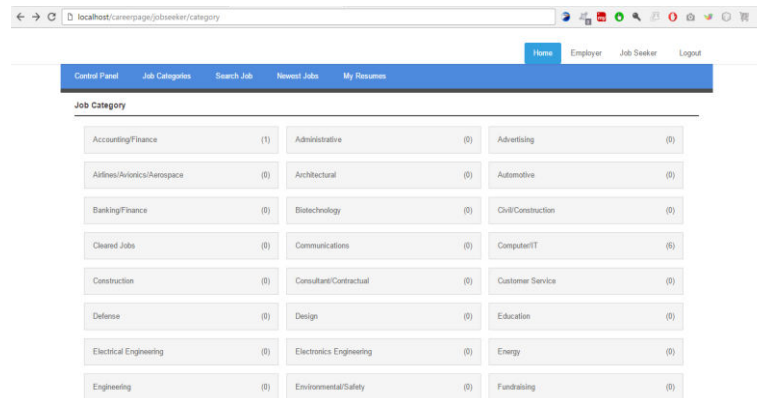


Figure 1: Code snippet showing all the functionality of the job portal web page (Home page).



Job Category		
Accounting/Finance (1)	Administrative (0)	Advertising (0)
Airlines/Aeronautics/Aerospace (0)	Architectural (0)	Automotive (0)
Banking/Finance (0)	Biotechnology (0)	Civil/Construction (0)
Cleared Jobs (0)	Communications (0)	Computer/IT (0)
Construction (0)	Consultant/Contractual (0)	Customer Service (0)
Defense (0)	Design (0)	Education (0)
Electrical Engineering (0)	Electronics Engineering (0)	Energy (0)
Engineering (0)	Environmental/Safety (0)	Fundraising (0)

Figure 2: Code snippet showing the Jobs listed by Category. The Candidates can choose from the list of their requirements and interest.

VI. CONCLUSION AND FUTURE WORK

Application Tracking Systems have huge demands among corporates because of the different favorable circumstances of utilizing them. You also can settle on a carefully tailor made or a customized solution for streamline your recruitment procedure. Utilizing an ATS framework can likewise help you understand significant savings in the long, keep running as your administrators would never again need to hire a reputable and experienced recruitment agency. Implementing an ATS, you may likewise need to employ a respectable and experienced candidate. This Job Portal project has benefited on all areas of the Company, like Significantly Higher Productivity, Faster Time-to-Fill, Improved Compliance, Standardized, Automated Process, Better Candidate Experience, and Higher Quality Candidates. From a technical point of view the barriers are low as online programming will wipe out the expenses related with internal IT training and software updates are incorporated with minimum cost.

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